

Proposed Study of Local Diagnosis,
Farmer Groupings, and Coordination of Services.

I

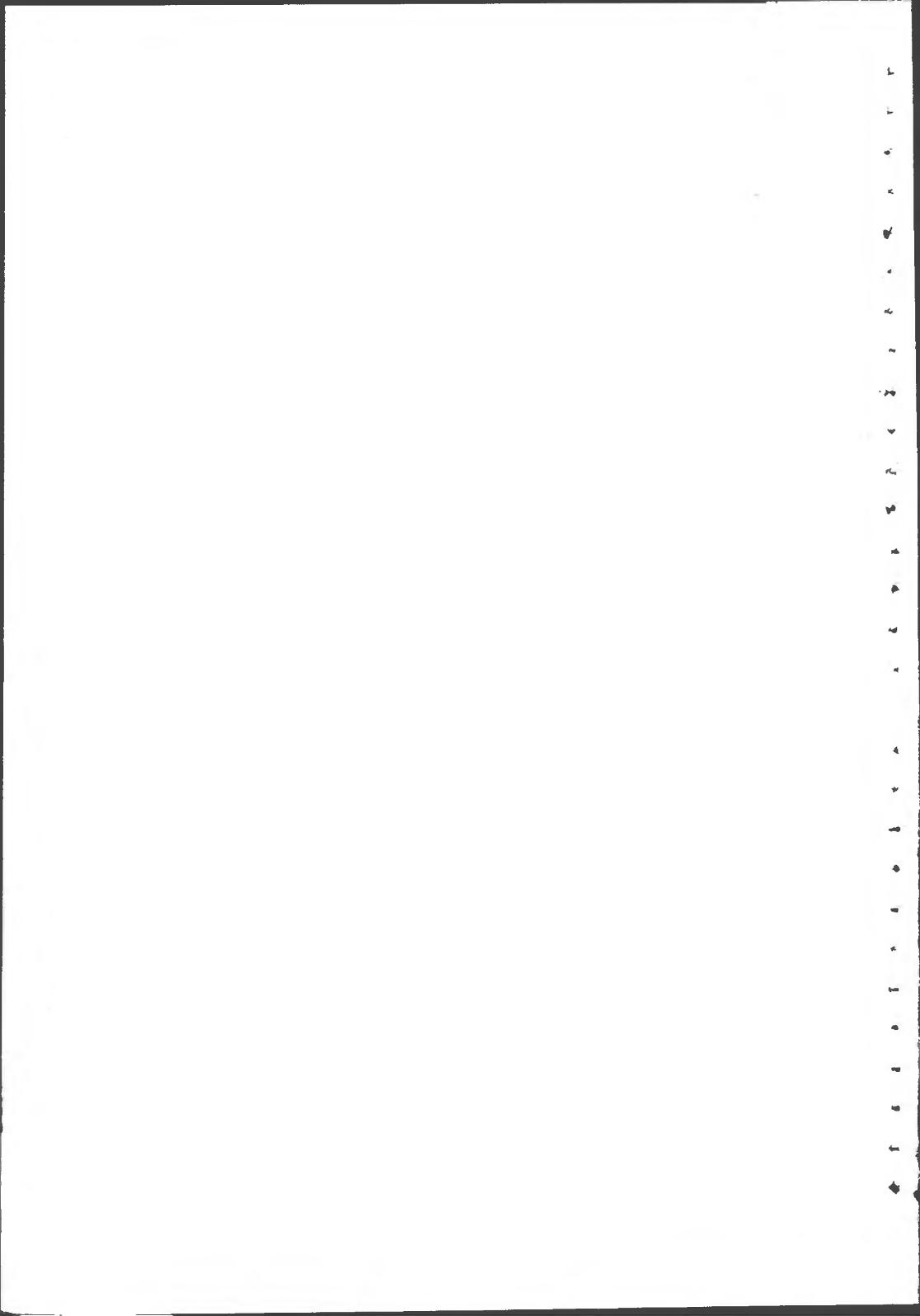
One major focus of the Research and Advisory Unit at ODI will be on the point of contact between field services and farmers. The problems involved are partly technical, partly social, and partly administrative. In order to get past wide generalisations, the work will be divided initially into three sub-subjects; but it could easily branch out into at least two more. It is a single field, because the sub-subjects are intimately related; but the sub-division is useful because it will tend to attract involvement of people with special interests in a particular aspect, and will help in grouping relevant material. 'Social' is used in its full implications, to include some economic elements concerned with the structure and functioning of local societies, and of groups within them, and more political elements affecting the distribution of local power and of local land-tenure. 'Technical' is used to include agricultural science and ecological factors.

The three first subjects are:

1) The diagnosis of local technical and human potential

One of the most common causes of failure or partial failure in agricultural programmes is that the development package offered to farmers is either not practicable, or not profitable to them, having regard to their total farming system (equipment available, labour, rotations, cash flow, consumption pattern, tenure etc.). The element of profitability has been mainly a field for agricultural economists (e.g. mixed cropping versus pure stands, relative costs and earnings from extensive versus intensive methods). Less definitively economic is the question of risk and risk-aversion, particularly where staple food crops or high cash inputs are involved. Consumption pattern may be relevant where a new crop or method is suggested; for example, short-straw varieties reduce cattle fodder or thatching, machines instead of cattle reduce milk and dung, pure stands may reduce dietary variety through the year, additional labour requirements may exclude social "consumption" (weddings etc.) or preclude profitable off-farm activities.

Practicability relates most often to investment and to labour supply, particularly labour-peaks. Investment refers to necessary infrastructure - water-control and drainage, fencing, storage, road access, land-shaping. Labour supply difficulties usually crop up when changes in planting, weeding or harvesting dates are altered by new crops (or varieties), new rotations, or an additional crop.



"Human potential" relates to social structure and mores, including the pressure of community values on the individual and the degree of dependency of individuals on dominant individuals or groups within the community; it depends also on levels of commercial sophistication.

It is clear that at least some of these factors may be critical in considering what improvements to output, incomes, and welfare could be made in "an area".

The basic proposition, to be tested in this study, is as follows:-
"Before a programme is drawn up for a given area, a reconnaissance of the area and a diagnosis, discussed with farmers, of what is practicable and profitable must take place."

How large "an area" needs to be studied for programming purposes - the farm, the village, a group of villages, a "Block" (India) or micro-region (Mexico, IBRD project) of 50,000 - 100,000 population? This will partly depend on both ecological and social factors. On the technical/ecological side, natural divisions would appear where the plain gives way to hills; between irrigated and rainfed areas; by major differences in rainfall, soil and vegetation. On the social side, the line where one "Tribe" (Africa) or markedly different cultural group gives way to another. Thus a degree of uniformity of possibilities over a fairly wide area might exist where both ecological and cultural characteristics are similar (e.g. in parts of the Gangetic plain, parts of African savannah); on the other hand, there can be marked differences, both technical and social, even within an area as small as a "Block".

A different approach is to define the area for study by the lowest point where minor programming and servicing activities can be focussed, which may be at the "Block" or Micro-region level, allowing for minor differences between constituent villages. In practice, this may have to be the programming area. Note that a further issue of still smaller service centres for farmer-contact is also certain to arise. Such centres need to be within walking or bicycling distance of the majority of farmers - say a 5 mile radius:

How is diagnosis to be done? It involves two main factors - consultation with villagers - listening rather than telling - and skilled technical and economic appraisal; the technical element will involve agronomy (including animal husbandry), and probably some engineering experience (water, roads/bridges, land conformation). It will often involve a decision whether investment must take place before farming changes are practicable or profitable. This investment may be physical or administrative (e.g. land consolidation).

Severe problems of personnel and training arise. Even India, rich in personnel if not in rupees, could not put a team of economist, agronomist and engineer into each of 5,000 "Blocks". Can existing Extension staff be trained to do this work if supported, ad hoc, by more specialised skills for particular purposes? Could Universities do a limited number of depth studies, modified locally by Extension staff, or by mobile teams? How long would either intensive or superficial diagnosis take? How much authority needs to be delegated to what level? What addition or alteration to training is needed? How much can local consultation achieve? What is the contribution of agricultural research stations?

These are some of the questions with which ODI work will be concerned.

2) The Grouping of Farmers

Both the evolution of local dynamic action and administrative needs point to the need for some collaborative, group effort by farmers. Formal Cooperatives have been widely suggested as the solution. But they have had very mixed success, either economically (bankruptcies) or socially (domination by local power-holders). There are many examples, all over the world, of success in the operation of small groups, of 20, or 50, or 100 farmers, as contrasted with large Cooperatives with several hundred members at Primary level.

Is there a sequence from small groups to larger federations of groups? How are small groups formed? Are groups most effectively formed round a single facility (pump, store, dairy) or a single difficulty (flood control, access, disease-control, marketing, transport)? Is group-formation best approached through existing "leadership" or through general meetings? How is this ascertained? In what circumstances are "model farmers" or "progressive farmers" useful for diffusion, or divisive? In what circumstances do elected local committees or institutions, or Party cells, appear to work efficiently or inefficiently?

Note that farmer groupings may arise almost directly from diagnosis. If a particular constraint is clearly identified, a grouping to overcome it by collaborative action may be an obvious outcome. Note that there is here a side-turning into an extra sub-subject - Extension training and methods.

3) The Local Grouping and Coordination of Services

This is an important sub-problem of the total issue posed by field administration supervised by a row of separate Departments. It is never fully cured either by inventing super-Ministries of Rural Development or by Coordinating Committees in the central government, although the latter may be helpful. Nor is it solved wholly by tiers of "coordination"

at Provincial, District, and sub-District level. Three main issues are involved. First, the degree of delegation of executive and financial discretion allowed by each department to low levels; second, the relation between specialists (e.g. engineers) and generalist "coordinators"; and third, the choice between consultative and authoritarian coordination. These issues, often confused, are separate. The issue is closely paralleled by the problem of very large industries involving both large size dispersed units, and high specialisation, and requiring quick locally adapted decision-making. The fact that in agricultural projects it may be solved by a Project Manager, often supported by external agencies, may not be helpful. The problem can arise within 3-tier elected bodies, (e.g. the Indian 3-tier Panchayat system, or the Kenyan Provincial and District "Development Committee" system) just as it does for the central bureaucracy.

There are many cases of experiment, and room for comparative assessment here. The issue is closely connected with 1) Diagnosis and 2) the size and coverage of farmer groupings, as well as with the use of elected Councils at various levels; problems of elected local bodies represents another side-turning.

II

Two general points may be mentioned. First, the work is concerned with whole-country systems, not primarily with Projects, to avoid the trap of non-replicability of Projects while allowing their possible use as experiments. Second, it will be coloured by earlier work of the Reading-ODI programme, which paid particular attention to three factors - the differences in organisation which are implied by different levels of development; the criteria for choice of institutions; and the concept of sequences in technical and institutional policy.

III

Method of Work

This study is being initiated through the "network" approach upon which the ODI Research and Advisory Unit is based. This preliminary paper is being sent to 30 or 40 individuals who, we believe, are specially concerned with the three topics mentioned. In fact, some may be particularly interested in only one or two topics, and sub-groups will probably emerge.

We would be particularly grateful if recipients would, in the first instance, write to us with any of the following types of comment - or all:

- 1) Comment on the general formulation of subject matter.
- 2) Indication of the respondent's special interest in one, two, or three subjects.

3) Information on:-

- a) Other individuals with special - not general! - interest in any topic, who should be consulted. Individuals could be executives, consultants, academics, members of donor agencies, specialists.
- b) Any particularly relevant and challenging document, article, case-study, report, or experience. We are not, of course, asking for large lists, bibliographies etc., but simply for a few, or even one item which the respondent feels to be of special interest.

4) In regard to special subjects:-

A. Reconnaissance/Diagnosis

Feasibility is the key issue i.e. numbers of staff, at what levels of skill, for how long. Distinction between local staff and specialist support. Mobile support?

B. Groupings

- a) Critical limit to size of small groups?
- b) Leadership?
- c) Continuity of effort?
- d) Social repercussions?

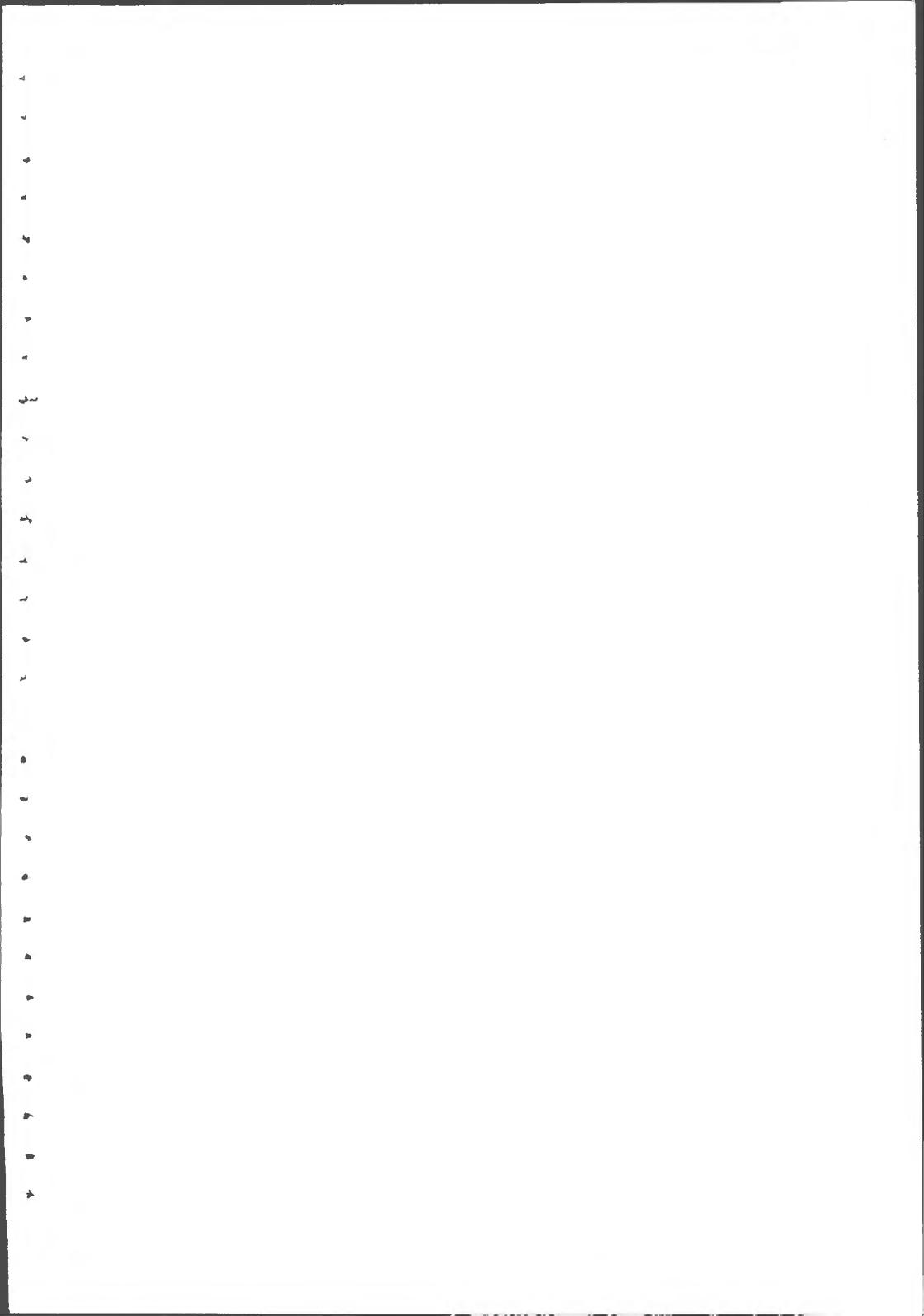
C. Coordination

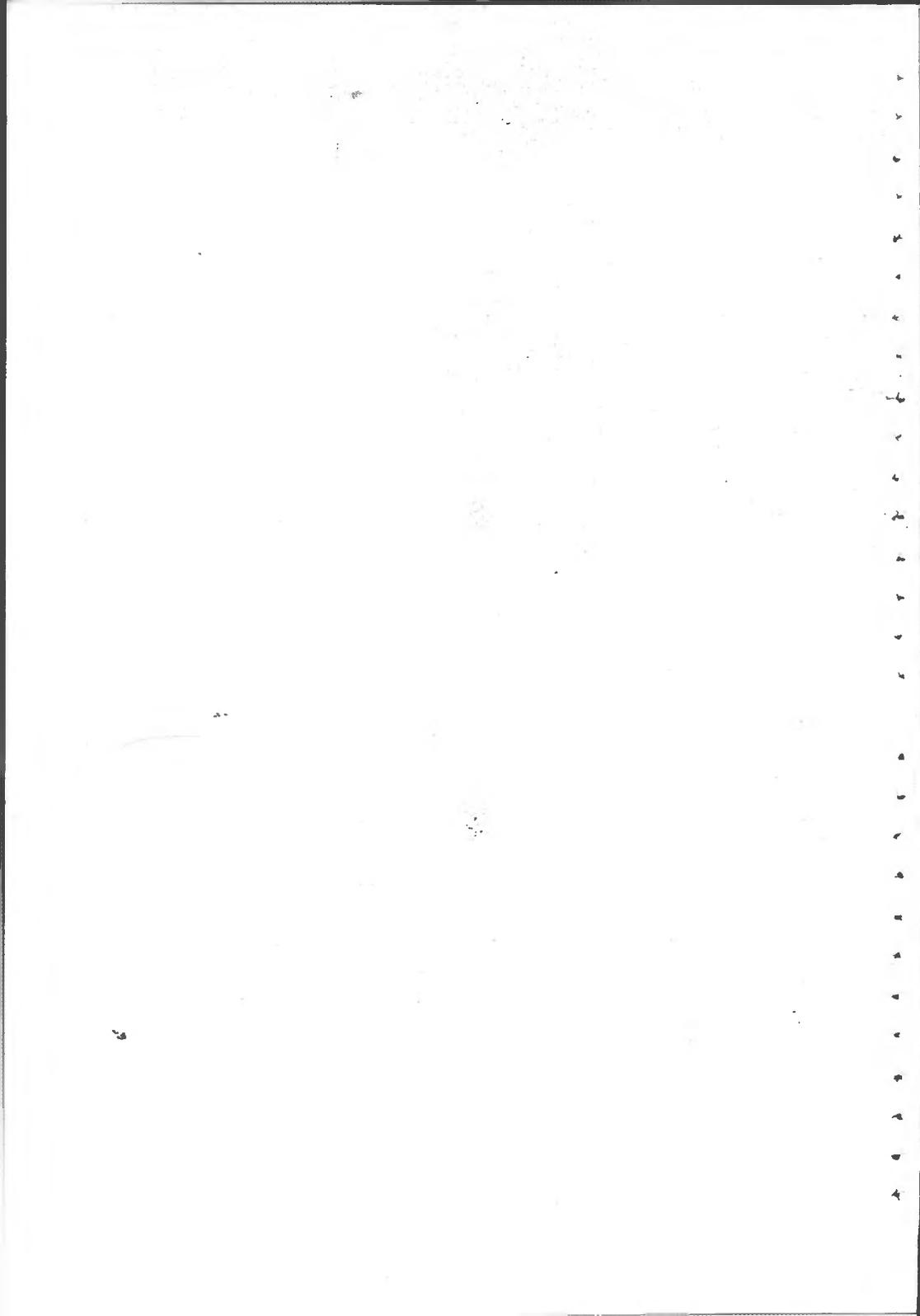
- a) Critical literature?
- b) Relevant Management Theory?
- c) Sociological comment?
- d) "Situational" Management - criteria for adaptation of management structures to technical and human situations?

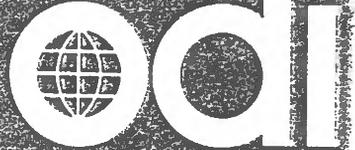
IV

Finally, we hope that this will not be a one-way research traffic. ODI has already done some work on these subjects, and will do more. But when we receive responses, we hope to move towards a) local discussion meetings b) draft reviews of "the state of the art" on particular topics c) full-blown hypotheses - "lines of guidance" - which will be circulated to correspondents.

We hope that correspondents will agree that on all three subjects no comprehensive, evidence-based doctrine at present exists, and that a more rigorous and widely based attack on these subjects could be of importance for the implementation of development.







OVERSEAS DEVELOPMENT INSTITUTE

AGRICULTURAL ADMINISTRATION (RESEARCH AND ADVISORY) UNIT

PAPER No. II

LOCAL DIAGNOSIS - FARMER GROUPINGS: COORDINATION OF SERVICES

I. INTRODUCTION

1. We have had a most valuable response to Paper No. I under the above heading which was sent out on 20th June. We are extremely grateful, not only for suggestions but for names of contacts, documents and references to activities. This letter, and the document attached to it, is designed to inform correspondents of the main comments and suggestions we have received, to indicate what reformulation is necessary, and where any conflicts of opinion arise, and to raise issues of the best direction of future work.

2. The main comments have been almost entirely analytical (in part, semantic). This is as it should be, since the first step in this process is to reach a formulation of propositions which is reasonably accurate and watertight within its assumptions. But it only goes part of the way. If this research is to have more than academic interest, its final presentation must be modified in three ways:-

- i) It must pass a test of feasibility as a recommendation to policy-makers and executives. We have, so far, much too little material as to the real possibility of using the suggestions in the field (financial costs, manpower, demand on management).
- ii) It must be presented in shorter, simpler terms (though known to be based on detailed analysis and evidence), so that it reaches the form of a policy recommendation which can be readily handled in the policy-making process.
- iii) Some at least of the assertions upon which it rests must be supported (proof is not possible) by more detailed field evidence. It must, however, be said that the present propositions do rest on conclusions reached by a considerable number of widely-experienced people as distillation of the experience in the field and of their knowledge of reported 'cases' in the development literature.

3. These three targets give some indication of the direction of future work, which will later have to be translated into action. They are put as a prologue to the following document to anticipate three very possible and reasonable criticisms. First, that what is proposed is, perhaps perfectionist and unrealistic in real life; second, that administrators and executives would not wade through so much hair-splitting; and, third, that it is inadequately supported.

4. It may be as well to put down, in the baldest, over-simplified form, the central propositions underlying this work.

- 1) "Before an agricultural programme is drawn up for a given area, a reconnaissance of the area and a diagnosis, discussed with farmers, of what is practicable and profitable, must take place."

Out of this proposition a host of questions arise. What kind of reconnaissance and diagnosis, by whom done, at what cost in time and money, how related to other programmes, how discussed with which farmers, to whose benefit, how related to existing national policies, with what relationship to technology and research, etc. etc. It is to these questions that the analysis is addressed.

- 2) "In relation to the active involvement of farmers a much wider range of possible grouping and institutions, including very small and informal ones, should be considered; with particular relevance to the inclusion of small/poor farmers, and with reference to their current capabilities and to sequences in their possible future growth and needs."

A similar set of questions arises from this proposition.

- 3) "In order to achieve optimum fit between local agricultural programmes and local potential, considerable authority for local programming must be delegated to local levels. Further, since there must be a degree of integration between agricultural and other social programmes, the wider planning process must give an opportunity for such integration at local level.

This proposition raises a number of issues on planning and on administrative structure. It is probably the most difficult and least analysed of the three propositions.

5. Between these bare propositions and the pages of detail which follow (which might one day become a teaching or training syllabus, but certainly not a policy document) lies, we hope, some intermediate level of guidances on policy choices which might well be illuminating and useful to decision-makers.

II. COMMENTS, SUGGESTIONS, REFORMULATIONS

A. Some General Issues

1. Problems of Order

Several respondents emphasised the inter-relation of the three subjects, some indicating that a systems approach, putting relationships at the centre, is what is needed (Gotsch, Bessell, Stevenson). We are well aware of this issue, but are currently thinking in terms of analysis of individual aspects; synthesis will, hopefully, come later. A second problem of order concerns the choice of approach - from central government down or from local situations up. We have almost wholly

¹ A list of respondents quoted is appended.

chosen a bottom-up approach, partly as an antidote to 'centrism' (Chambers) and partly because it seems more logical to identify what is needed locally first and later to consider what central decisions are needed. Admittedly, this gives the appearance of neglecting the manifold constraints from central policies and administrative regulations under which local executive staff labour. In some degree this omission will be remedied at the end of the analysis, in terms of recommendations on how these constraints can be loosened by central action.

2. Realism

This problem of top-down constraints (Plans, policies, politics) is one of two major issues of realism, the other being the feasibility of such refinement in local planning, which was mentioned in the Introduction. One respondent (Hyden) suggested that it might be more profitable to concentrate research on ways of improving the top decision-making process. There were further suggestions that too much emphasis on management and institutions might lead to neglect of the real clients - ie, farmers (Hyden); to neglect of spontaneous private enterprise and initiative (Thornton, Lawson); and that too much emphasis on studies and surveys might lead to neglect of implementation, unless the 'studies' were done by the implementers (Watts) - three useful warnings. As to the major issues of central constraints, it is only possible (in this work) to try to maximise improvements within what latitude there is; to criticise development orthodoxies and mythologies, upon which decisions are often based; and not to underestimate the room for manoeuvre and improvement of systems which does exist in many countries.

3. Local Political Influences and Interest-conflicts - Who Benefits?

Perhaps the greatest insistence among respondents was on this issue (Sarua, Carey-Jones, Harris, Joy, Biggs): many felt it was the crucial issue from which analysis should start. Seen from the centre, Sarua spells out one dilemma very clearly:-

".....conflicting interests between the rich and the poor. The available institutional finance is pre-empted by the medium and bigger landlords. If special institutions are created only for the small and marginal farmers, firstly they may not be viable, and secondly, they are not consistent with the requirements of the area-based agricultural programme. A common institution with a commanding voice for the small and marginal farmers, though desirable, may not work in practice unless some safeguards are there. These safeguards need to be spelt out."

This dilemma is put in terms of one possible solution - the creation of a national agency or programme for small farmers alongside a more general programme (the 'area-based agricultural programme'). There may be an alternative - indeed, this document is mainly discussing such an alternative - by which the 'area agricultural programme' is itself built up from smaller local programmes, based on local diagnosis and programming in which the 'who benefits?' question has been specifically asked and, as far as possible, answered in a way which includes the small man's interests and capacities as a major concern. We shall return to this issue.

¹ R.C. Chambers, Managing Rural Development, (Uppsala, Scandinavian Institute of African Studies, 1974).

4. Methodology of this Research

A question was raised (Miller) about the methodology of this research work itself; should we not develop a design for testing the hypotheses which are coming forward? We now have notice of this question, and will have to answer it; but we would prefer to deal with it at the next stage, where the question of methods of future work will have to be faced squarely. At this stage we would only indicate: 1) that strict testing or 'proof' may be not only impossible but inappropriate, and 2) that, insofar as the test is largely the test of experience, the material for it largely exists in the recorded experience of the last 20 years; and that additional tests will appear as and when programmed and projects which coincide with the approach which we have suggested themselves undergo the hard test of practice. It is partially true that our suggestions are based more upon a record of failure where other guidelines are used than on evidence of positive success of what we recommend, save in relatively few cases. In the main, we are suggesting, for test, ideas which can only be established or discredited in action.

5. SEMANTICS AND ANALYSIS

5. A good number of semantic/analytical points were made. One or two are minor. 'Whole-country Programmes' was simply a short and bad way of implying the normal administration of the Ministry of Agriculture's efforts, of various types, over wide areas of the country not covered by specially organised and financed 'projects'. Again, 'credit' is almost meaningless unless defined by long, medium or short-term, by institutional or private, and perhaps by 'subsidised' or 'unsubsidised'.

6. More important is the dissection of 'diagnosis' into its elements. Röling suggests: 1) Determination of needs and problems; 2) Diagnose - ie, identify causes of needs and problems; 3) Identify solutions; 4) Test solutions for relevance. Variants include: 1) Survey; 2) Diagnosis; 3) Design. A fairly full range would be: 1) Survey; 2) Identify problems; 3) Analyse causes; 4) Design solutions; 5) Pilot test and appraise; 6) Plan a programme; 7) Implement; 8) Evaluate; 9) Modify (Joy, Carey-Jones, Collinson and work of Chambers and Belshaw).

7. Two short comments on these semantic points. First, they only matter if separate identification of an element in the process either shows that this element is normally missing and should be included, or that it will be handled by a different person or type of skill. For example, many of the facts and some of their causes may well be obtained by consulting local farmers, whereas elements in solution or design are likely to need considerable expertise. Second, many elements, separately named, are in fact dealt with by a single mind almost simultaneously. A skilled agronomist will see the fact, know its technical cause, and go on to possible solutions. This is only mentioned because the impression of complexity is much reduced if the thought-process is seen synthetically and not discretely.

8. A word is needed about the phrase 'identifying technical and human potential'. 'Potential' is only realised (*mise en valeur*) if there is a solution, technical or social (Röling), or if a solution could be found by research (mainly technical), investment (often infra-

structural), or social action.¹ Carey-Jones points out that people react to opportunities offered, so that the offer of a new opportunity may change the attitude identified in a pre-offer-survey - this is a dynamic, not a static process. Collinson emphasises that 'diagnosis', as used, spills over into planning and into implementation, since a technically and socially possible 'solution' is incomplete unless both the marketing and the supply and service functions are, or can be made, adequate to complete it. 'Tractable and profitable' in the first main proposition implies all this.

C. OBJECTIVES

9. A number of comments (Biggs, Carey-Jones, Joy, HARRISS) emphasised strongly the need for clarification of objectives, before the processes of diagnosis and programming take place. Is the emphasis on production and incomes, or on welfare (consumption)? On small farmers only, or including marginal farmers, landless labour, and other 'poor'? On employment? Who benefits, who loses from proposed solutions? Some of these issues are discussed under the heading Planning and Integration in Section B below. In fact, the original propositions were based primarily on the increase of small farmer production and incomes, both as a pre-requisite for welfare, consumption and employment and as a means both of improving the situation of at least one very large rural group and of assisting national output and resources.

D. DIAGNOSIS

1. Survey and Identification

10. There is a very large literature on survey, including the District Planning literatures, not to mention the even larger literature on research methodology (interview, sampling, statistics, etc.). The problem for this work is to narrow the focus so sharply that we confine our concern to our own specific objective, ie, that of improving the local programming for local agricultural development. The need for such narrowing is heavily emphasised in another way - that the main constraint which must be faced by any suggestion which has any hope of influencing policy is the constraint on staffing, expertise and finance if the processes of diagnosis and programming are to form part of normal agricultural administration.

11. Comments from respondents, although pointing in certain useful directions, did not reach down to details either of content of survey or of staffing. That surveys should be 'operational' rather than 'academic' (Carey-Jones) has implications for relevance; if to that is added the constraints on staff and time, it is obvious that neither the full social survey nor the full farm-management study are on the agenda. On farm-management Collinson's book (especially pp.21-124) is particularly helpful on surveys in traditional agricultural situations, with a ray of sunlight in his observation that similarities in the assets and problems of traditional agriculture make it easier to identify 'typical' situations than it is in developed commercial agriculture, where farm-by-farm consultancy becomes necessary. The book as a whole naturally considers far more detailed work than we can consider for widespread local diagnosis.

¹ A.T. Mosher's useful distinctions between immediate and longer term potential are also needed here.

² M.P. Collinson, Farm Management in Peasant Agriculture, New York and London, Praeger, 1972.

12. As to the range of the survey/identification, the technical side will certainly require an informed judgment by one or more staff with locally relevant training (agronomy, livestock, engineering) at higher level than the junior Extension staff. It may, depending on the amount of earlier data available (eg, soil survey), require simple testing at doubtful points. As to the economic judgment, again a skilled assessment is needed (labour, costs, timing, prices; Joy quotes a case where it was found impossible for the farmer to execute the production plan recommended by the Extension officer), but one which may have quite wide applicability in areas of similarity in production type and size of holding. As to the social judgment, local information may be of key importance; but it must include necessary life-support activities (non-farm) and the role of women (Bunting), both of which affect both what is practicable and what is economic. Something more will be said below (Planning and Integration) about nutrition and health. As to discussion with farmers, Collinson emphasises that to ask the right questions requires expertise, while Pickering emphasises the vital information which local farmers and officials can provide; some further work is certainly needed (Leach) on the balance between consultation and expertise.

13. The need for altering local conditions, as found (research link, tool technology, infrastructural investment) was stressed (Johnston, Collinson et al). This would be identified in outline at the survey stage but would require further investigation before the final design/programming stage.

14. Many projects are preceded by initial survey, often of a more detailed nature than could be replicated: yet why is it that results in the subsequent programme are not always good? (Leach, quoting the University surveys in support of the Kenya Special Rural Development Programmes). This is a valid question, which perhaps the further evaluation of S.R.D.P. (Dr. Peter Hopcraft, IDS, Nairobi) may answer. There are obvious answers - eg. that government did not follow survey findings - but there may be other answers, in the relevance of the information recorded, in the divorce between surveyors and implementers, or in lack of imagination in subsequent programming.

15. For the scale and range of the survey process has to be, and in practice will be, narrowed by some idea (Carey-Jones) of what a possible solution might be; and this idea will be generated in the course of the survey, and will tend to focus questions to farmers and to exclude irrelevant information. This imaginative factor may well require non-local staff - Harriss stresses that the bureaucratic position, training and motivation of local junior staff unfits them for this, supported by Winkelman ("the motivation of bureaucracy a primary constraint on development"). See also 'Staff and Training' below. Refer also to the ASAARD Programme (J.C. Mathur, FAO, Regional Office, Bangkok), where senior officials are brought into direct dialogue with both farmers and local officials. This programme is under test in 6 Asian countries; separate details will be forwarded in a later document.

2. Design - Programming

16. The initial, identifying part of Diagnosis is already slipping into the next stage - design and programming of solutions. Some testing of ideas generated will be necessary (Watts), including testing of the economic element, not only costs and benefits to farmers, but also to government

(Carey-Jones), including recommended investment costs, if any. Solutions may be staged, to avoid too big a jump for farmers (Stevenson - "the best is the enemy of the good", and Carey-Jones). At this stage design is slipping in turn to implementation, and there was unanimity that the implementing staff must be heavily involved at the design/programming stage, and that Research staff should be closely involved as well, both on agronomy and on other forms of technology.

3. Area

17. In the choice of size of area emphasis was laid in two directions. First, the importance of identifying differences between areas (Harriss) and types of farming system (McCállum). Second, the possible pre-dominance of a technical factor, eg. irrigation, forestry conditions (Pickering). On administrative grounds, it was agreed that the main planning unit and source of senior expertise would be at a higher level than the largest area for effective contact with local farmers for local programming. Service centres might be below that level. The raw material for District planning would be those ideas from local diagnosis which had weathered the necessary tests, both agronomic and economic (Carey-Jones).

4. Staff

18. Several respondents pointed out that senior expertise would not be needed permanently in local areas, but only at critical moments of survey and design/programming. This would include senior technical staff, fully trained agricultural economist, occasionally sociologist/social anthropologist in an operational role. Two respondents (Watts, Collinson) suggested that the survey/design team might actually operate from a Research Centre, meeting executive officials in the field. No suggestions were made as to time to be taken, or the balance of skills in the diagnosis team, or the balance between implementers (local and full-time officials) and 'consultants' (borrowed official or research staff). These are major issues, both of cost and of effectiveness, and will have to be faced. Training of staff is dealt with below; several respondents complained of lack of emphasis on this in our first document.

18A. There is no need for many words on training. Since a largely new approach to local areas is involved, emphasising local differences, the needs of small farmers, fuller consultation with farmers, support of possibly quite small groups, and participation both in local survey and the design of local programmes, courses for all departmental staff at field level will be needed, to explain and to ensure full comprehension of the type of approach needed. Short seminars, in which both different types and different levels of staff take part together (ASARND Programmes) may well be extremely useful. It has been found valuable to take the higher levels of staff from different areas (from the junior level) so that junior staff are not tongue-tied by the presence of their own immediate superiors.

19. There seems, in fact, to be some measure of agreement on three points. First, some experienced staff external to the staff of the area concerned - from District or above, from research stations, from University - will be needed to provide a new look, stimulus, imagination, and relevant expertise. India has Agro-Economic Research Centres, linked to both the University and the Ministry of Agriculture; other countries may need to use or found a similar resource, or perhaps to attach more social scientists with an agricultural bias to their technical Research Centres. Second, the local knowledge of farmers, both about their society and about their farm, must be more sensitively and intelligently used. Third, for this purpose a good deal of simple retraining of Extension staff (of all types) will be needed as to the quality and style of their approach to local communities.

D. GROUPS AND INSTITUTIONS

20. A warning not to neglect local initiatives and private enterprise in the preoccupation with management and institutions, has already been mentioned. Groups may have been formed traditionally (eg. credit and savings), or be formed spontaneously now (Bunting mentions some West African farmers who have formed themselves into small Limited Companies). In some areas voluntary bodies have established organisations which could be better used (Tatts). Texier has made a massive survey of pre-Cooperatives, para-Cooperatives and other semi-formal groupings all over the developing world: we hope to delve further into this work, with his assistance, and report further on it. Further warnings are not to create groups 'for their own sake' (Tinkelman) - ie, for administrative convenience alone, or for any but a concrete common interest or task - and not to believe in any one 'best form' of grouping (Joy), but only forms, which may vary much, to meet particular situations and needs. For some types of crop (tea, sugar, tobacco, etc.) farmers may be related directly to the processing and marketing unit rather than to each other in an institution. Groups for rehabilitating steep eroded slopes through forestry (Pickering), groups for pastoralists (Leach), irrigation groups (and many more types) may each have their own form corresponding to their particular needs and opportunities. The sphere in which group formation is a particular problem, and where it has too often failed (at least, to help small farmers) lies in those very large areas of semi-subsistence cereal farming so widely spread in Asia and Africa - areas where, at first sight, nothing in the crop or in the environment seems to point decisively to a focus for group action, and where groupings (most often Cooperatives) have been formed largely for government's convenience in the distribution of inputs and credit or the bulking of surpluses for procurement.

21. In this sphere, where group formation has to be stimulated and supported, several useful comments were received. There are problems of legal personality (Carey-Jones), of political/social safeguards against domination (Sarma, et al.). For example, why should not small informal groups be 'captured' by the rich and powerful (McCallum)? Would it be possible to spread technology especially suited to small farmers, round which their own organisation might grow (Ziggs, Johnston)? Should officials always take the initiative, to prevent pre-emption by local 'leaders' (Carey-Jones)? Several correspondents emphasised continuity-group formation is not a single act but should lead to a continuous process of gradually expanding action (Harriss, Carey-Jones), and problems of maintaining momentum after the first obvious tasks are completed will always be present. Several comments (McCallum, Bessel) stressed the need for better assessment of the management capacity of farmers, especially in the early stages; and the record (eg. in East Africa) of the quick collapse of many Cooperatives the moment that official managerial support is withdrawn reinforces this comment. Certainly, the imbalance between what is in fact expected of farmers in managerial sophistication and what they could reasonably be expected to do needs redress. The argument for small groups and simple, only gradually expanding, tasks, with continuous support, seems to be strong: the Daudzai Project (Peshawar) will have valuable lessons on this, as the work of their village groups expands over time. Alas, a comparative natural history of group development (in this sphere), and a social theory to match it are still far ahead of our present state of knowledge.

E. PLANNING AND COORDINATION/INTEGRATION

22. Although we have a good degree of confidence that the basic propositions on Diagnosis and on Group Formation are sound¹, they have to be related to a far wider context of central administration and planning. Into this complex, confused and heavily documented field² we can only enter marginally and very tentatively at this stage, mainly in relation to comments on our own document, which itself touched it very lightly.

23. Perhaps the key word here is integration rather than coordination. 'Coordination' conjures up spectres of generalised arguments concerning authoritarian versus consultative methods, the former facing the rocks of Departmental sovereignty, the latter sucked into the whirlpool of endless, time-consuming coordinating committees. While 'integration' has suffered from attempts to tackle every aspect of under-development simultaneously, and from being a widely spread fashion, it goes imply, not so much an administrative structure as an intellectually digested ^{to} approach to the various aspects of rural development (agriculture, health, nutrition, etc), a planning and administrative approach which avoids clashes of departmental action in the field due to lack of such pre-digestion - particularly as to objectives. What action has to be 'coordinated' may be very much less than what thinking has to be integrated. (Chambers has written well on 'coordination'; Carey-Jones in these comments stresses that things which do not need administratively coordinated action need not be administratively coordinated.)

24. The issue of integration comes up as we consider both the process of diagnosis and programming (is it to cover all departmental subjects or only agriculture?), and as we consider how locally devised programmes are to be fitted into the wider agriculture policies and programmes which 'come down' from the centre (one vital question is whether they should 'come down' or 'go up to', and to what extent).

25. As to the extent of integration, Carey-Jones for example, while agreeing that both Welfare (schools, clinics, etc.) and agricultural production must be considered together at the planning stage, emphasises that, given a choice, local organisations will tend to demand welfare. Joy, also emphasises that, in the planning and programming discussion 'the whole spectrum' of departmental interests must be included: otherwise, the agricultural programme and the nutrition programme (for example) will in fact contradict each other. It is in the digestive process (planning) that objectives must be reconciled: in the final programming and implementation each Department may be able to administer its own part. Joy's concern is that the planning process, at the local level in the face of real situations, should be so revised that it is able to integrate departmental objectives.

26. None the less, elements of coordination, as such, are needed at field level. Here the experience of 'Area Coordinators' in the Kenya Special Rural Development Programme is relevant, and we enter the field of staff management (RSLing, and the Chambers/Belshaw' work on Programme

¹ We received great encouragement in finding several recent documents produced by USAID (J. Green and S. Butterfield) which had reached so many of the same conclusions on these subjects quite independently.

² A very large, heavily referenced, document will soon emerge in the form of a study of agricultural planning by Albert Waterston supplied by USAID (Jerome French), which covers a great deal of this field.

³ See Paper by D. Belshaw "Improving Management Procedures for Agricultural Development", 2nd International Seminar on Change in Agriculture, Reading, 1974.

Implementation and Management). Some comments point to the recognised need for Project Managers in Projects (also in the IADP, "Green Revolution", Indian experience) with an implication that something similar is needed in currently non-project areas. Watts suggests that perhaps all agricultural development areas should progressively become projectised).

27. If we bear in mind: 1) that those who devise local programmes (though with some help from external expertise) should be those who will have real responsibility for implementing them, and will therefore have a real interest in joint (coordinated) effort, and 2) that administration has not in the past been recognisably a management activity, but largely a regulative and financial one, we are led to a concept of a planning and management team at the District level (though under administrative regulation), with the closest relation to the final implementing teams at sub-District level. The raw material for District planning will come from the sum of sub-District diagnosis and programming suggestions, in which some District staff will have personally participated. This would have the advantage of minimising the impact of the disease of 'Planning without Implementation'.

28. Several respondents emphasised a 'systems' approach for plotting the complex of relationships between different actors and activities and this suggestion is obviously valid and useful to those who find this a helpful tool; we are at present concerned more with the content of lines and arrows of a systems chart than with its form.

29. In conclusion, what is being suggested in this Section really recapitulates our earlier decision to approach this subject 'bottom-up' rather than 'top-down'. This is largely a corollary of our strong conviction that agricultural and rural development (which exists, in fact, only among farmers and villagers - the rest is administration, 'paper, talk), to the extent that it has failed, has failed because top-devised programmes have not suited small farmers in particular. It follows that emphasis on building up both the planning and the implementing process from below, with the dynamic behind it which only farmers themselves can provide, is a more sensible method of starting analysis of structures and functions. This approach will certainly involve major devolution of authority, a major change in the training of staff, and a much closer linkage with research, social as well as technical, and with the institutions which do research. If the organisation up to and including District level can be got right, so that the programmes really reflect the needs and capacities of the bulk of farmers, the analysis of higher structures, and the essential contribution from the centre will fall into place relatively easily.²

F. PROGRESS - FUTURE WORK

30. This document is, despite its length, limited in many ways. It only pretends to be partly a record of comments - some individuals may wish to know what others have said - and partly an attempt to divide up the subject better and to include more points where further analysis is needed. References to published work and on-going studies may be better circulated in relation to individual sub-topics, as each is tackled in greater depth. However, if it does move forward in the formulation of problems which are researchable (though not in providing the needed material for answers), it may be of some use. We hope it will be accepted in the modest way which is intended.

¹ R.C. Chambers, *op.cit.*

² This section on Coordination does not deal with outgrower systems or special 'authorities' (e.g. Gezira, the new Indian Area Irrigation Authorities).

31. It may be useful to suggest some topics in which further library and field research is clearly needed, and which OMF, with assistance and collaboration, should undertake. Such work should probably include the following elements:-

- 1) Better records of the experience of comparatively short surveys by a mixed team - strengths, weaknesses, time required, quality of personnel. Surveys here refer to pre-project or pre-programme investigations, related primarily to agricultural development, and emphasizing small farmers.
- 2) Records of the durability and performance of groups which started as informal or semi-formal small groups for various purposes (eg, irrigation).
- 3) Records of performance of organisations specifically directed to small farmers - eg. the Small Farmer Development Agency and the Marginal Farmer and Landless Labour Agency in India.
- 4) Experience of District and sub-District Planning (cf. the Paper to the 2nd International Seminar on Change in Agriculture by Andrade and Fisher¹), with special reference to agricultural planning, and to relations Centre-District.
- 5) Experience of the posting, functions and success of social scientists in technical research institutions, and of the links between work on farming systems and technical research.
- 6) Various methods of overcoming the problem of 'legal personality' for relatively informal groups.

These represent only a few outstanding issues in which a good deal of scattered experience exists and in which comparative study would be extremely helpful.

32. While OMF staff will be doing some field work over the next two years, most progress in these fields will have to come from reports both of development action and of research done elsewhere. It may be that our next communications will be primarily in the form of references and information of this kind. To improve these, we depend very greatly on correspondents, who have already contributed much.

Guy Hunter

9th September 1975

¹ C. Preston Andrade and H. Benjamin Fisher, "Pilot Research Project in Growth Centres: An Experience in Micro-Regional Planning in Rural India". (Ford Foundation, New Delhi, India).

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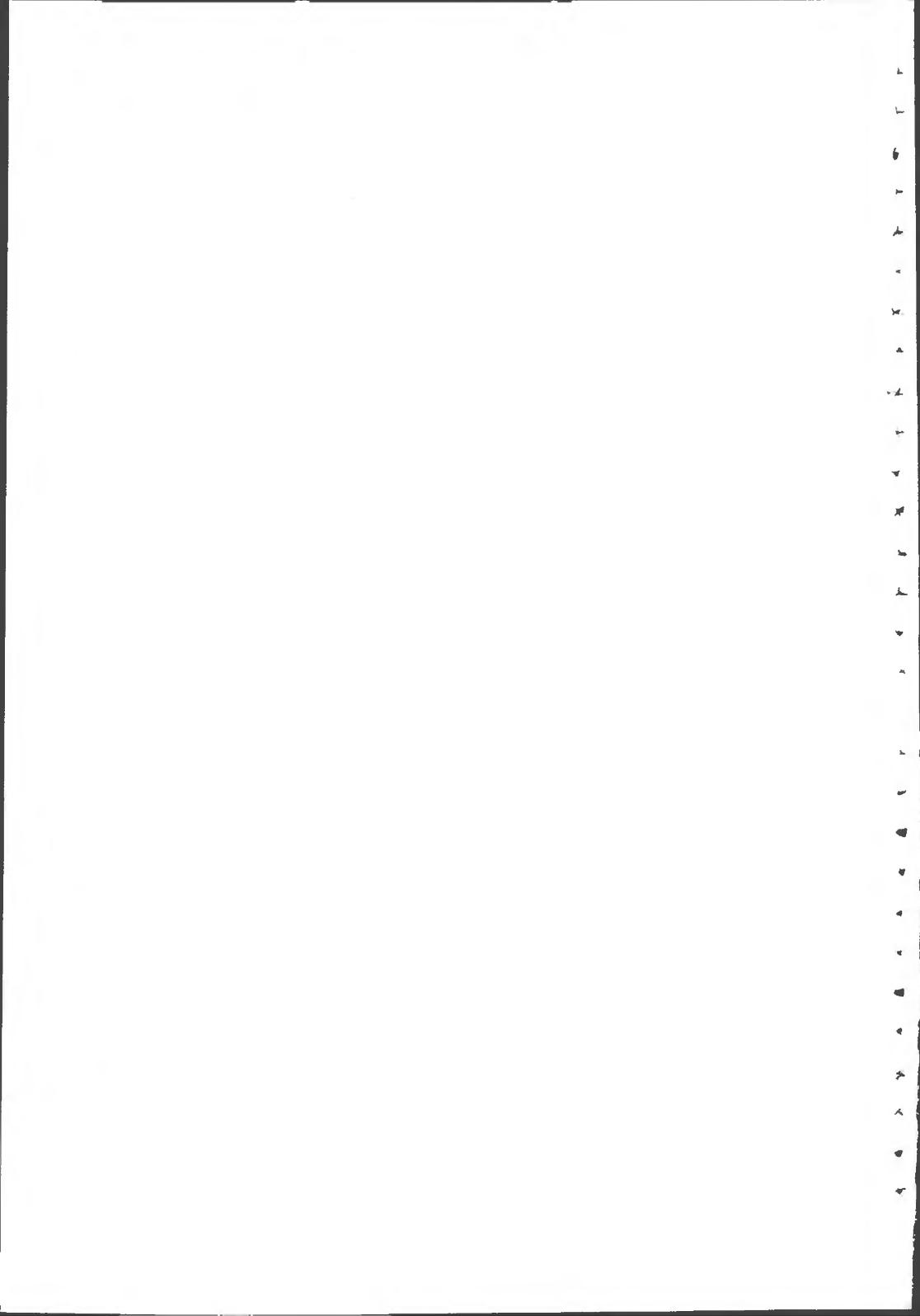
AGRICULTURAL ADMINISTRATION UNIT

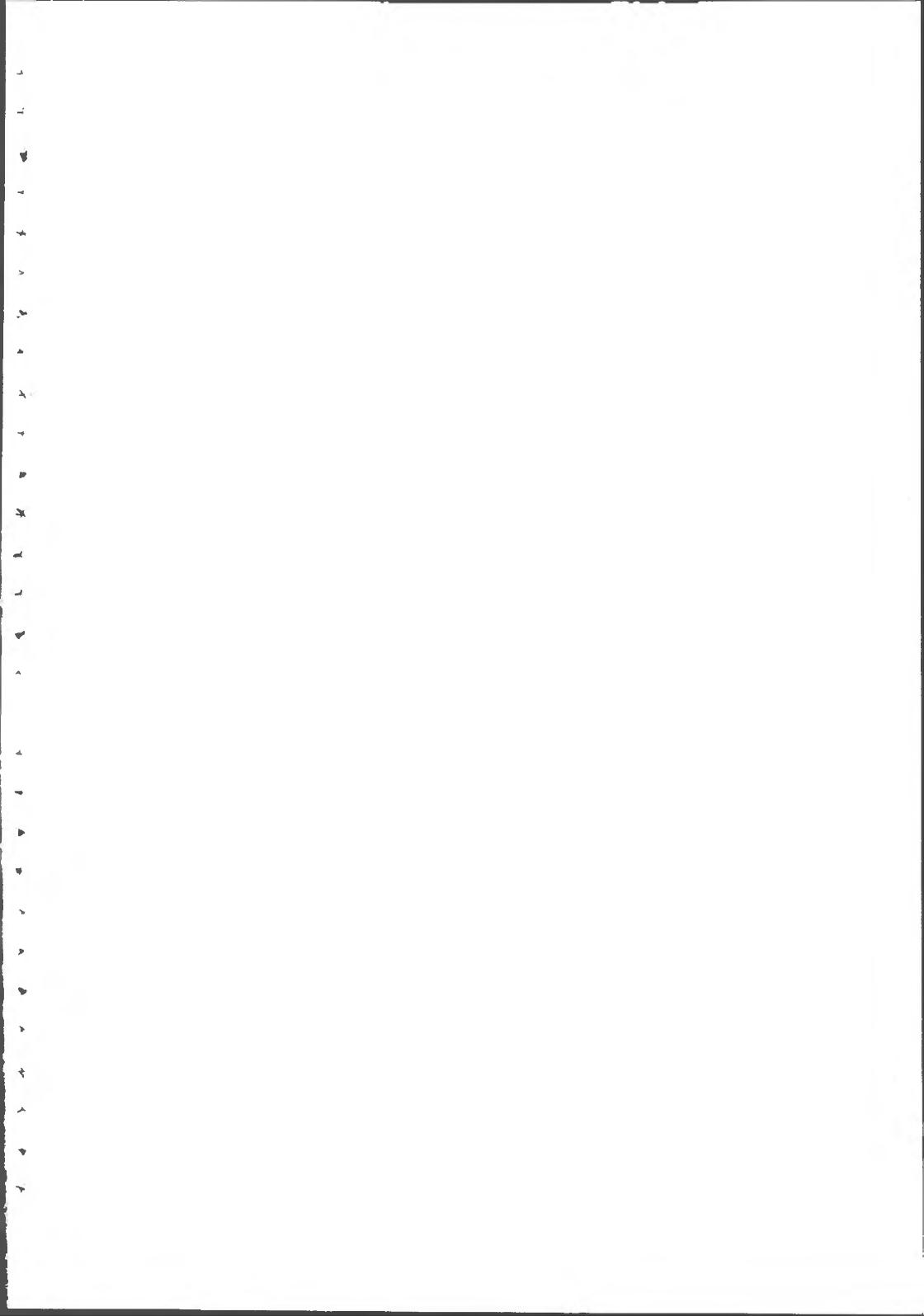
1. The issue of Paper II on Diagnosis, Farmer Groupings etc., although it was mainly a summary of comments on Paper I, also produced a number of new comments. Among them were several detailed comments on the whole question of consulting farmers as part of the diagnosis of potential in local areas. Some of these comments were so good, and the subject both so important and so controversial, that we felt it was worthwhile to prepare and distribute the attached Note on this quite narrow topic. It is largely composed of a few extracts from letters, with a short introductory note and final comment.
2. It is quite clear that 'diagnosis' and 'survey' are intimately connected to local 'programming' and 'planning'.* It is hoped that the next Note from here, probably a longer and more difficult one, will be one on surveys as a basis for planning. This is not likely to be issued before the early Spring.
3. We are well aware, that at this stage of the "Network", which is a stage of more careful and precise formulation of an approach to topics, ODI gains most, while correspondents have the trouble of writing considered comments. We have two hopes. First, that there is, nevertheless, some interest to correspondents in seeing what other competent people say. Second, that at a later stage, we shall be able to circulate more evidence - i.e., records of how certain things have worked in the field - than is yet possible.
4. I am sorry this is rather longer. Most of it is refreshing thoughts from others. Comments welcome, but not compulsory!

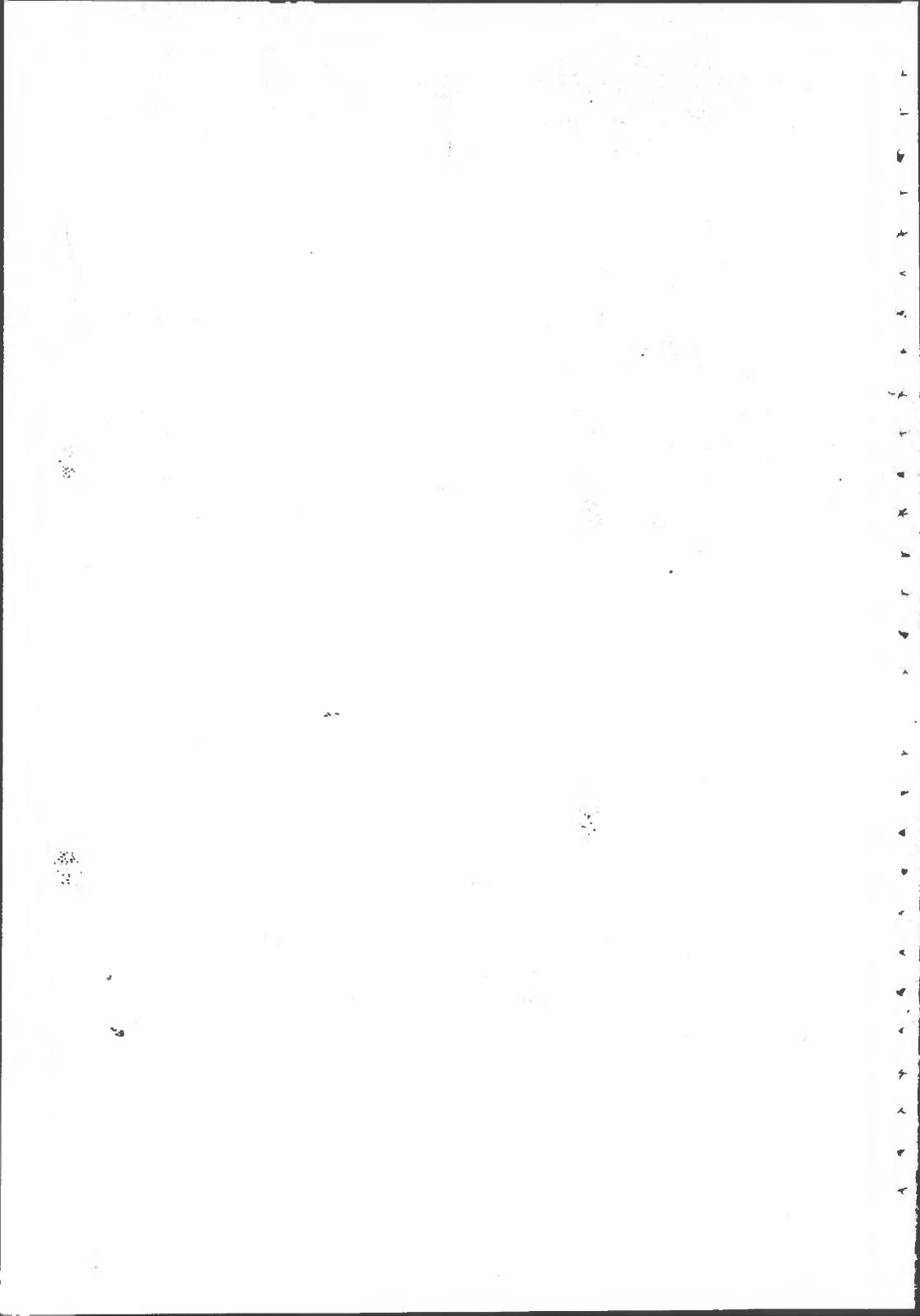
Guy Hunter

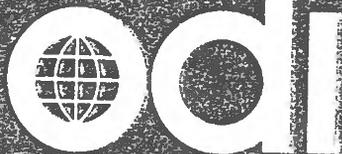
* As before, 'programming' is used for the actual local programme suggested to farmers, after consultation: 'Planning' for the wider process of integrating plans for resource allocation etc. in the local area.

December 1975.









AGRICULTURAL ADMINISTRATION UNIT

LOCAL DIAGNOSIS, FARMER GROUPINGS, AND COORDINATION OF SERVICES NETWORK

PAPER III

CONSULTING FARMERS

I Introductory

1. A very brief mention of the need to consult farmers, as part of diagnosis, was made in Paper II (para. 12 p.6 and para. 19, p.7). But there is more to this question than meets the eye, and there is some controversy, I think more apparent than real, among correspondents.
2. There is no controversy about the fact that farmers have something useful and even vital to say - to wit, their first-hand knowledge of where various shoes pinch them (shortage of labour, time, cash, access; inefficiency and untimeliness of supplies and services; landlord pressures; irregular supply of irrigation water; irregular maintenance of pumps, etc. etc.; peculiarities of their soil - or environment - or parts of it; social restraints and so on). The problem centres on how to get this information, how to get only useful information; and who is to get it.
3. Note that the preceding paragraph refers mostly to difficulties. It is also widely agreed that to ask a farmer "What do you want?" in an open-ended way results in demands for schools, clinics etc., or simply a shopping list of everything he would like to have if he was richer and had more and better land. It is possible that a question on "What succeeds best with you?" might have, occasionally, surprisingly worthwhile results.
4. There are broadly two schools of thought about how to get information from farmers and who should get it, and a third sub-school. One school feels that this requires skilled staff. A good economist, or agronomist, will be able to ask key questions, and leave out unnecessary or unprofitable ones. Further, a good deal of imagination is needed to spot a possible, quite new solution to a local problem; some correspondents feel that existing junior field staff are so conditioned to think only in terms of the official "package", and to obey instructions, that they will never show the power of spotting an alternative which isn't "in the book". Carey-Jones, for example, suggests that first a skilled person must have an idea of what might work, and try it out on the farmers, even to the point of field pilot action, and collecting comments, difficulties and farmer reaction generally. This school of thought as a whole is apt to imply a visiting team of skilled diagnosticians; and the result would begin to move towards a proper "survey", with the dangers of a fairly long time period, expensive in trained personnel. The issue we face then will be the minimum period over which a useful skilled assessment can be made. Collinson (see below) has suggested 2 months as feasible. But here we run into "surveys and planning".
5. The second school would put more emphasis on using existing, necessarily fairly junior field staff to obtain farmer opinion, on four main grounds.
(a) Those who get the information should be those who will be involved in executing the eventual programme. (b) There are not enough experts, and they take too long. (c) They have greater difficulty in getting real contact

and frank responses from farmers. (d) The process of consultation is not "one off", but, ideally, fairly continuous, because the situation is always changing and programmes need equally constant adjustment.

6. The third sub-school believes that the only people to whom farmers will talk freely and frankly are their fellow farmers; so that the task of getting farmer-information is really a task of evolving farmer-groups and thus to a light degree institutionalising the existing informal flow of farmer cross talk and mutual influence.

7. The question of who gets what kind of information depends largely upon the answer to a prior question - to what use will the information be put? If the answers are needed as part of the data for a farm-management analysis of what cropping patterns are a) feasible (labour constraints, tools, etc.) and b) optimal, in terms of 1) returns to labour or 2) returns to capital (mainly land) and inputs, then the questioner will have to have had at least some training in agricultural economics. If, on the other hand, the answers are needed, and are sought in virtually every Block, simply to elicit fairly simple facts - "When is your labour peak?", "Do you ever employ hired labour?", "Does your land get flooded in summer?", "To whom do you sell crops?", etc., so that palpable mistakes in the programming for the area can be avoided, then it might well be possible, with some re-training, to use existing junior field staff, with some more expert support when difficult issues arise. This contrast would lead on to a distinction between 'proper' farm-management advice, of perhaps the 2 month variety, probably carried out in sample Blocks in similar "crop ecological zones" (L.H. Brown, quoted by Deryke Belshaw), and quick local consultation with farmers in any and perhaps every Block, which should be a continuing habit of action, which can be done by local field staff once they get, or can be given, the knack of it.

8. This preliminary note oversimplifies the contrast between 'schools of thought' and does less than justice to the thoughtful and more balanced material from correspondents. This note will therefore abandon the format of Paper II, and give direct verbatim extracts from a number of correspondents, which have the much greater impact of first hand, individual views and style rather than emasculated summarisation.

II Quotation

A. Some Questions Near the Subject

From Discussion Paper No. 1, U.N. Asian Development Institute (Report of an Expert Group Meeting, December 9-13 1974. Published June 1975, U.N.A.D.I., P.O. Box 2-136, Bangkok, Thailand.)

1) Dr. P. Wignaraja (Institute Director)

"Should not the use of 'barefoot' consultants who understand the new development objectives replace the 'old' type of consultants and be the agents for the introduction of appropriate technology?

What innovations are needed in rural institutions, which are required continuously to stay in touch with the people and also provide the right inputs at the right time?

Since there is a need for systematising the approach to taking more 'informed decisions' and 'calculated guesses', how can a reporting system be designed with careful identification of only the essential information required?"

2) Amartya K. Sen

"The concentration on aggregative economics - reflecting the influence of important events of the thirties - has begun to weaken in recent years. For the developing countries the shift in the focus to technological and institutional 'details' is long overdue.

The intended focus on 'integration' in the December meeting is okay, but one hopes it will not provide the excuse to gloss over detailed technological and institutional considerations, so often neglected in planning in its concern with macro-economics, or with multi-sectoral aggregative models. The most serious problems lie not in the 'grand design' but in what has the superficial appearance of 'details'.

3) Yusuf J. Ahmad (A nice thought)

"Many practitioners are unhappy about pilot projects which they regard as development models pre-conceived by foreign experts and imposed on an alien surrounding from outside. It is no wonder, in their opinion, that such projects are easily rejected by the social body in much the same way as an organ transplant is rejected."

and after "It is essential, therefore, to take projects to the smallest administrative levels possible in order to ensure that the lowest income groups were involved. A second constraint on the size of projects lies in the fact that motivation and ability of individuals executing projects are critical to success, thus imposing a ceiling both to expansion and to replicability of initially small projects."

4) A.Z.M. Obaidullah Khan (A Vision)

"The vital element in the development plan is the mobilization and training of field workers. The village field worker must belong to the village whose development role should be part of his daily life. Then we can have trained paramedics, para-agronomists, nutrition workers at a higher, say, country level again coming from that area. What I am suggesting is a bottom-oriented consultative pattern of organization of development services rather than a top-oriented compartmentalized scheme."

5) Ian Little

"Who initiates? Who designs? Who implements? How far the farmer, and how far the agricultural department, development-authority, the consultant etc.? Is it really correct that development activity always needs to be approached in an integrated manner, with effective co-ordination of the essential economic, social, political, technological and administrative elements, and the timing of the various actions?

Is this idea of a rationally concocted package, inevitably designed and imposed from above, right? Is it redeemed by adding "there would also need to be a great deal of involvement etc.?" Can people get involved in something that is cut and dried?"

and "I am asking "May not the project approach integrate what should essentially be a fragmented process?" Why should not a road here, a ditch there, a distribution of government land in one place, a scheme to consolidate in another, a change in relative prices in one country, more extension in another, etc. be right? The end result should be 'integrated': but that does not imply that the approach - what is provided - should be."

3. From Paul Devitt (Extract from Letter)

1. "Problems of a different order are diagnosed at different levels of the problem-solving structure. As I understand the origin of your Proposed Study of Local Diagnosis, it concerns the ineffectiveness of most of the present diagnostic methods to get to the roots of the practical difficulties faced by farmers and to prescribe real and durable cures for them. In many cases this may be because, in the absence of effective diagnostic and prescriptive procedures at the village or farmer grouping level, diagnosis has to be made at too high a level, whence it is often simply impossible to treat the specific ailments with specific remedies. and where diagnosis and prescription are undertaken at a high level the costs in terms of manpower are usually very high and cannot be sustained outside a project situation.

2. High level diagnosis of low level problems tends to preempt local diagnostic capability. The preemptive effects of high level prescription and implementation have often been noted. (Cf. Little, (5) above, "cut and dried",

3. Equally important is the time lag involved when diagnosis of farmers' problems is made at a level too remote from the farmers. It usually takes so long to investigate, diagnose, prescribe, and administer the remedy to perceived problems that the nature of the actual problems originally needing treatment may have changed in important respects. This is especially true of local social and institutional problems which tend to change more suddenly and unpredictably than technical problems.

4. A further problem of diagnosis at a level remote from the farmers is that it becomes difficult to set up a sufficiently sensitive and direct means of communication between the farmers and the diagnostician to avoid psychological alienation of one from the other. The farmer readily falls into the role of 'patient', the passive object of the diagnostician's activity, and efforts to engage the participation of the farmers in a mutually consultative relationship are not easy to sustain.

5. If 1 to 4 above are more or less true the primary diagnosis of farmers' problems should take place at a level as close to theirs as possible, and as far as possible by the farmers themselves. At this level not all problems can be diagnosed, and even fewer can be treated, and those which exceed the capacity of the local diagnostician should be passed up to a higher and more technically competent level. In this way problems pass through a kind of screen at each ascending level and are also modified as they pass from one level to the next. The higher levels are inherently unable to produce effective and durable solutions to low level problems, and vice versa. An ideal structure might not only grade problems in the manner suggested by the screening metaphor, but would also interpret problems differently according to the perspective from each level. For example, a problem of low grain production may be seen as due to low prices at the village level, poor road communications at the provincial level, and of import tariffs at the national level. The diagnosis of the problem is therefore different at each level and so is the prescription for a remedy. But such a structure can only function effectively if each level is doing the work appropriate to it. Institutions at different levels should communicate and cooperate, but they cannot substitute for one another.

6. In most of Africa it is the local levels of diagnosis (and related activities) which are the weakest. Most of the energy which is mobilised from within and also from outside the majority of African countries is directed towards the higher administrative and executive levels. Like heat, energy in Africa seems to flow most naturally upwards, and it needs an immense countervailing force to get it flowing downwards again. In most places this force is simply not available. In practice this means that even though in some cases the energy to diagnose, prescribe and implement may be available at the higher levels of government, there is too little manpower, transport and perhaps determination to have a significant and durable effect on the rural scene as a whole. But there is obviously an enormous potential energy locked up and presumably frustrated among the farmers. Thinking

in terms of energy for problem solving, and indeed for purposeful work, it must surely be true that in all African countries the vast proportion of it resides in the farmers themselves, and yet we hardly know how to liberate it."

"The main point of these observations is, I think, that although we and others like us, who are not peasant farmers ourselves, should seek all means to improve our diagnostic ability, we can never hope to achieve a situation, in any country, where all or even most diagnosis of farmers' problems is provided by some kind of state service. In order that governments play their role in helping farmers with their problems it is, I believe, essential that farmers are encouraged and educated to play their role. These roles are complementary and non-substitutable."

"... In general it seems to me that in many parts of Africa local communities have lost, or are in the process of losing, the capacity to 'think' as a group - that is to learn by trial and error and to apply their shared experience to their changing situation in a productive way. Thinking about practical agricultural problems tends to be done by individual farmers, who are often hampered by lack of knowledge of their economic environment and its potential, or by officials and others (like us) at some remove from the scene of action. We need to help develop the means to enable farmers to think together to apply the solutions. I'm not suggesting that it used to be common for African farmers to solve their agricultural problems as a community, but the rate of change was less in days past and the options fewer. I think one of the reasons why agricultural cooperation is difficult to achieve is that although communities handled some judicial and political problems as a community, most economic problems were family matters; today a wider basis of cooperation in agricultural problem solving is needed."

Editor's Note

The last quotation chimes in my mind with some remarks of H. S. Frankel

"... to recognise that different countries have a different language of social action; and possess, and indeed have long exercised, peculiar aptitudes for solving the problems of their own time and place; aptitudes which must be further developed in the historic setting of their own past to meet the exigencies of the present and the future."

(The Economic Impact on Under-Developed Societies, Oxford, Blackwell 1953. See also my own article, ODI Review No. 2.1974).

C. From Dr. M. S. Jodha (Extract from Letter)

"This brings me to the real problem of how to do diagnosis and programming, or more precisely who should do it. At present the diagnosis (whether it could or could not form the actual basis of local programme and administrative action is a different thing) is generally done in the following ways:

- a) Ad hoc research studies by universities and other organisations.
- b) Feasibility and evaluation type of work for specific areas or problems done by research consultants on behalf of the programme sponsoring agencies.
- c) Pooling of area level data with explanatory notes prepared on ad hoc basis by block or district level people on receiving instructions from higher authorities.

As you already know studies of type (a) are so numerous and yet seldom used by policy makers unless there is good rapport between the research

operator and policy makers. Moreover, diagnosis in many of these studies is rarely designed so as to form the actual basis of the local programme. The indifference of academic researchers to real issues make many of these studies operationally irrelevant.

The diagnosis provided by category (c) is evident in a number of master plans, resource inventory surveys and various district reports prepared for different purposes. One could get details of all sorts ranging from soil types and water tables to land holding size and important festivals in the area. If one looks at them from the view point of project reports, they mostly do not appear more than detailed shopping lists. For example, some of the reports presented to the World Bank to facilitate pre-investment appraisal of the situation in connection with assistance for 'Drought-Proofing' of drought-prone areas (six districts) had to be revised or re-written several times before they could give a meaningful idea of the situation.

I find it very difficult to agree with any proposal which as a rule makes a block level (or in some cases district level) administrative system responsible for making an operationally meaningful diagnosis and then establishing local programming. The reason is that unless thoroughly trained or their perception is changed they find it difficult to conceive of anything called diagnosis or local programming as you understand them. They can definitely complement the work by others but on their own, they may prove inadequate.

Moreover, differences in human potential within a community are not unique features of rural communities alone. Those who earn their bread in the name of farmer (as agricultural administrator, extension worker or researchers) vary so greatly in their perception that the same thing is judged and understood quite differently by different groups. The differences (in terms of depth) so clearly visible in the project proposals and progress reports about Lead Banks, SFDA, DPAF etc., from different districts despite uniform central guidance clearly illustrates the point.

Probably, faced with the limitations of methods of diagnosis covered under (a) and (c) mentioned above, more and more project operators are resorting to diagnosis (and in some cases local programming) through technical consultants [Category (b)]. Partly in response to the increased demand, numerous consultancy shops (?) have been established in recent years. They are prepared (if not equipped) to undertake any problem for study ranging from loitering habits of public school boys to economic feasibility of Gobar gas plants. Consultancy has become a real commercial proposition and some of the academically respectable institutions (partly to sustain their relevance and partly to meet financial crises) have joined what is no longer a select list of consultants. Some of the organisations have good complement consisting of different subject matter specialists ranging from geologists to anthropologists. Some of them seem to be doing a good job in terms of producing often quoted reports also. But one limitation I have noticed in several cases is that diagnosis is fairly good as far as the agro-biological-physical parameters of the situation are concerned. The moment it comes to the human factor - which is most crucial as far as the operation of changeable agro-biological physical variables are concerned - many of the consultants start faltering. They resort to data collection through the people who neither have ample perspective nor time to do an adequate job of understanding the system. Computerised quantitative results supplemented by neatly written tour impressions constitute their reports. Having earned their consultancy fee they have no stake in the project. If their suggested programme fails to work they are not answerable. On the contrary they may ask for another consultancy on why the project failed. The programme operators partly to save their skin may agree to second round of consultancy. In the process only consultancy shops gain. One way of improving the situation is to associate the consultants with the follow-up action and making them at least partly responsible for the consequences of their recommendations. This may sound harsh but this seems to be the only way of making consultancy more realistic, responsible and purposeful.

I have also to make a few comments about the two most frequently mentioned points namely:

1. Discussions with farmers and
2. Local programming for local agricultural development.

If by discussions with farmers we mean formation of our objective judgements about the situation after closely observing and understanding the field level situation, I have nothing to say against it. However, if the point of 'discussions' with farmers is taken up literally, which is quite likely in view of continued repetition of the slogan, it may have several undesirable consequences. I will explain the point simply by giving a few illustrations:

- a. One way of 'discussion with farmers' is conducting an 'opinion survey' as has been done by several research institutions including Agro-economic Research Centres, NICD, etc. With such an approach the opinions of farmer (i.e. answers casually given by farmers to pestering investigators) about ranchayat Raj, C.D. Programmes, Cooperatives etc., never matched with the actual performance of the farmer vis a vis the programme, about which he gave opinions. Such results may help producing bulky reports - describing numbers in words, or may make headlines in the inside pages of newspapers, but they hardly help in diagnosing the situation.

This is because what a farmer tells may differ from what he feels, what he tells may differ from what he means, and what he means or understands (and tells) may differ from the objective realities of the situation. Moreover whatever a farmer may reply is quite often a function of both the form and style of question as well as who, in whose presence, is asking the questions.

- b. Another method normally adopted by specially appointed fact finding commissions etc., to elicit farmers' views is to call the farmers to furnish their opinions or interviewing farmers within their villages. Anybody who knows rural India, knows it beforehand that what category of farmers will come forward or will be brought forward by block or revenue officials to give views and what will be the class bias of these views. Moreover, despite awakening or politicisation of rural areas in parts of the country, my latest experience suggests that the smallman for reasons of lack of trust in outsiders etc., still gives (if he gives at all), his views after consulting the village influentials. Many of the small people do not give interviews to investigators unless the investigators have first interviewed the big ones in the village.

Thus in the ultimate analysis, 'discussions with farmers' would mean discussion with influential or 'better-off farmers', because this is the group through which most of the researchers, politicians and administrators normally know the 'rural situation'. How far the goal of rural development for rural poor could be achieved through local planning based on the views of only those who can express views is anybody's guess.

Of course rural rich can plead for rural poor if it directly or indirectly serves the former's interests. They may (they actually did) recommend house-sites for the rural poor because by providing these landlords will get compensation for a plot on which rural poor is already living and who cannot be ejected, they may plead for liberal institutional loan to the poor because it will help recovery of rich man's old loans to the poor; they may plead for employment guarantee scheme because it may ensure leakages for the rich. One may multiply the examples if required."

The two long extracts above are full of meat, and range fairly widely. They are supplemented below by some shorter quotations and references under slightly narrower subject headings. These have been very roughly divided into those who emphasize the need for skill, and research, and imagination, and who doubt the ability of the local field bureaucracy to provide them (School 1); and those who emphasize involvement, with retraining, of the local staff and the onus on farmers (School 2 and Sub-school 3). Note, a slight ambiguity in the word "implementers" = 1) Those who implement programmes locally as junior officials, or 2) The farmers who actually do the farm production. This is the shadowy line between School 2 and Sub-school 3.

Note also that the emphasis on skill tends to go with those commentators who tend to emphasize "survey", and "planning" in diagnosis and to de-emphasize the less formal "operational reconnaissance" and "programming" element.

D. The Need for Skill (Partly School 1)

1. From Leonard Joy (Extract of Letter)

"I think ultimately the answer is that one has to do it in the way that you say by listening to farmers, then I would say, in addition, by thinking it through with the farmers. I remember a particularly instructive two days with senior extension officers in Bengal where first of all a farmer explained what he did, day by day through the cropping calendar, and then the extension officer told him what he should be doing and we then tried to work this out day by day through the cropping calendar. In this process it became absolutely clear that the farmer could not sensibly do what he was being advised. This was, of course, because of timing constraints. In other situations, however, considerations of uncertainty would be brought out or perhaps problems of access to resources and so on. Again, what I think is required is case study examples of how you actually go about doing the job in particular situations. These will have to demonstrate how you choose the class of farmers that you are concerned with; how you listen to them in order to get ideas about what is relevant to improving their farming situation; how you propose specific measures - new seed, fertiliser and cultivation practices, credit, marketing and so on; how you examine what difference this will make to them and how they might initially, at least, change their behaviour; how you assess what the impact of the measures will be on other classes of farmers, and perhaps on landless labourers, on marketed surplus and so on, and how you move from there to the design and implementation of specific operations.

You will see that in all these cases, my own tendency is to try to demonstrate how one actually does things in particular situations. I think what one wants to do, ideally, is to have 'a thinking man' convening a team of 'practical men' tackling practical problems and thinking through with them their approach and the implications of their experience."

2. From Michael Collinson (Extract of Letter)

"I must just enter a plea with you not to dismiss the need for detailed investigation work too lightly. (Your comment on my book at the bottom of page 5 of the paper) I should like to make three points and then outline why I see a need for fairly full investigation. First the three points:

- (1) Methodologically there are possibilities - in at least some farming systems - for data collection techniques that reduce the manpower and money requirements of full, formal surveys. Some evidence is evaluated in Chapter 14 of my book.

- (2) When one looks at the survey "preparation and design/appraisal and negotiation sequence presently followed on IBRD projects reaching only two or three thousand farmers which can take well over 18 months - there may be time to do full surveys for rural development planning. I have designed, supervised collection and tabulation and analysed seven farm surveys in the course of project planning in various contexts, each survey taking between one and two months.

Note The further sections of this letter lead to an important proposition that, since the field staff, to do proper individual supervision/advice, could not effectively cover more than 20/25 farms (an impossible ratio), reliance must be placed on diffusion of profitable innovations between farmers themselves. To invent, test, and put forward such innovations requires the skilled, though quick (2 month) survey suggested above. This combination (skill-diffusion) is a mixture of School 1 and Sub-school 3; presumably puts local field staff in a mainly servicing (not diagnosing) level; and does not specify organisation of farmers for diffusion, though presumably includes it where suitable.

3. K. Pickering emphasises that, in certain situations, technological considerations, which are quite complex (combination of anti-erosion measures combined with income-maintenance in this case) may be decisive in diagnosis.

E. The Need for Research

4. From O.B.O. Antonio (Extract)

It is without question that diagnosis has to precede agricultural programmes. Unfortunately when this is done, it is often carried out only haphazardly and sometimes not at all because the experts "know it all". In most cases, the issues are started as to preempt diagnosis and only the results or conclusions arrived at by 'experts' are of interest (at least until recently) and no one takes the trouble to analyse, much less diagnose. In some cases, the problems are not even stated with any clear objective for diagnosis.

More often than not, the more appealing and exciting part of most programmes is "recommendation for development", because governments, research workers and even "experts" are always eager to show that something is being done. With this occupation, there is little time devoted or considered worthwhile to first build up a body of basic information and knowledge about the problems, the people, the area, and the interrelationship of the array of systems involved to develop agriculture. Farmers are rarely if ever consulted. Secondly, we've neglected the need for a solid base of continuing research and experienced personnel; the type of research; who to do what; training for identifying and analysing the appropriate questions, financial and other inducement for keeping good staff on the job long and consistent enough to focus on national priorities. Well, where will the answers come from? In the past we rely heavily if not solely on books, published papers, suppositions and assumptions that are hurriedly (sometimes less so) put together largely to get another "brilliant" but non-operational publication. "We are more textbook-tradition bound than ever before!"

On Realism: (P.3 of Paper II)

"The fault I think is not really a question of planning "topdown", but that planning is deficient and misleading. Reversing the order "bottom-up" is not, to my experience, necessarily going to bridge the gap. What is needed for both "top-down" and "bottom-up" planning is an efficient research body to handle the question of continuing assembly and analysis of vital agro-economic and social information for planning, coupled with relevant training, and further research."

and ... "In a nutshell, I am saying that we know very little about how things are done and are changing in agriculture and the economy. Unfortunately, instead of finding out the how, and why, we are trying to find answers to undefined problems and this preoccupation preempts attention from the key problem of establishing a body of well trained personnel and useful research institutions that will be ready to face the task of the future in providing answers for the development "take-off" phase."

5. From J. E. Bessell

"Some developing countries depend on expatriate farm management personnel for the nucleus of their farm extension research services. Most of the contracts for expatriate personnel are short-term (up to three years) and usually only attract those who are newly graduated. Consequently, such personnel find themselves in a difficult situation due to:-

- (i) a lack of trained supervision for their own research,
- (ii) a lack of experience in research design,
- and (iii) a lack of knowledge of local conditions.

The first year of the contract is spent becoming familiar with local conditions, the second collecting information based on inadequate research design while the third is spent incompetently analysing data and attempting to write their report. Young nationals of a country sufficiently developed to maintain their extension research services without expatriates still find themselves in a similar situation. One way of overcoming this waste of time, money and people is to appoint a controller who would be responsible for research design and subsequent analysis of a team of young research workers."

F. Local Staff - Problems

Apart from the remarks in H.S. Jodha (above) several authors stress the difficulty of heavy reliance on local field staff e.g.

6. From K. Davey (Extract)

"Secondly who should carry out area diagnosis, etc.? The very flexible and responsive attitudes for which you rightly call, need great self-confidence. There is security for the extension staff in the preconceived, packaged "wisdom" received from on high, however wrong-headed it may be. One has to be confident of one's professional ability and tenure to listen as well as utter."

7. From John Harriss (Extract)

"The basic proposition as it is set out on page 2 is not helpful: presumably what is intended is to establish guidelines on how diagnosis can most usefully be carried out, including ways in which to group and organise the staff that will be required. Particular emphasis is given to the need to consult with villagers; but if the diagnoses are to be other than 'one off jobs' this will mean mobilising villagers on a continuous basis. Indeed approaches both to 'Diagnosis' and to 'Coordination' seem to hinge around the role of the people themselves: are they involved actively or not. Without the element of involvement the approach to diagnosis that is suggested seems rather 'static'."

8. From Q.B.O. Anthonio

"In most developing countries, priority is on individual progress and promotion. Hence, the individual, as to be expected, opts for the line

of least resistance with the consequent neglect of the major time and labour intensive surveys required."

Note

In addition, K.A.P. Stevenson and Don Winkelman raise questions on the motivation, competence, and constant transfers (also R. Chambers) of local field staff. There are also political dangers where staff and local magnates get together, as many correspondents point out.

G. The Need for Participation of Implementers (Mainly Schools 2 and 3)

The Paul Devitt extract, emphasising the type of contribution which can come from different levels (e.g. village-District-Centre) is a salutary warning against generalisation. But the final weight of his thought emphasises the psychological gap "officials-farmers" and what might be called "assisted self-adjustment to change" by farming communities.

9. From R. W. Chambers (Extracts)

"Is it necessary, in any one situation, to have a preliminary idea of what sorts of diagnoses and prescriptions can be acted on? In one place, the choice might be limited to varieties of one crop, or more generally cultural practices. In another there might be a chance of influencing agricultural research. In another, ploughing or water lift technology might provide an opportunity (e.g. if there was an intermediate technology development centre within range). This raises the question whether there are different levels of planning - shorter-term specific planning (crop varieties etc), and longer-term strategic planning (developing new technologies altogether, changing land use, and so on). Perhaps in practice it will be necessary to decide which of these one is primarily or exclusively concerned with. Local-level staff could work on the first; but probably not on the second."

"Finally, with diagnosis again, the idea of sequence. Let staff start on the simplest/safest thing (as in CD theory), and gradually build up confidence and competence over the years. Let the first thing also be quick-acting, so that they see results. How does this narrow the choice of prescriptions in practice?"

"Old chestnut. Continuity of staff in field posts may be a necessary precondition for good work in diagnosis and implementation by them."

Note

On the first of these quotations from Chambers, compare Ian Little (UNADI quoted above).

9A. A note rather on the same lines about interviews based only on essentials comes from Gilbert Etienne:

"Interviews should not be too long or too complicated. Particular attention should be given to crucial issues only, technical and economic, to emphasise cash expenditures for agriculture and return incash from sales, in order to see if the farmer is viable or not, enjoys some net cash income. It is safer to have less but good interviews than masses of unreliable data collected by people not interested in such studies!"

10. The Need for Continuity

See also John Harriss (above, para. 7)

From H. S. Carey Jones (Extract of Letter)

"There seems to be a suggestion here that by taking an inventory, as it were, one will come up with answers to the question "what to do?" in any area. This seems too static (and the diagnosis could be endless - a mass of information would be needed). The local technical and human potential will respond and react to some extent to the opportunities that are made available to it and so will change. (Even the word "diagnosis" suggests some malady that can be cured if its cause can be discovered.)

11. From Dr. Eduardo Virone (Oral Communication)

To avoid both the 'static' effect of 'one-off' surveys (Harriss) and to cover the observation (Carey Jones) that farmers react to change and new opportunities, Dr. Virone, has suggested that an Extension adviser should not only be learning about an area but, simultaneously, suggesting improvements, even though minor, so that farmer confidence grows steadily as the advice proves useful. Survey, informed discussions with farmers, and suggestions to them should run alongside each other.

12. Differences within the Rural Community and Between Communities.

Finally, several correspondents (Biggs, Carey Jones, Harriss, Collinson, Joy and others) emphasised both the different situations and interests within the farming community (large, small, marginal, landless "farmers"), political tensions between them, differences between neighbouring communities (e.g. population characteristics, water supply (Harriss), and cultural differences (tribes, areas) which may alter responses. This point emphasises the need for local assessment, and sensitivity, though it makes no judgment between highly trained and junior local staff.

III Comment: Application

Comment

1. It is encouraging that there is such considerable overlap in the foregoing quotations, although each author makes his points in his own way; for this implies a good deal of independently-reached consensus. But the consensus is not mainly a consensus about policies, it is a consensus about difficulties and even failures. Perhaps in this concluding Note we could search for policy-applications, steering between the Scylla of sole reliance on experts and the Charybdis of hopeful reliance on unaided farmers.
2. Of the need for expertise these can be no doubt. Someone with adequate agronomic, or ecological, or engineering knowledge must look at the physical potential of an area; and someone with economic training must assess feasibility and profitability of a suggested programme. Further, we must not under-emphasise the need for a sense of security, the need for imagination, and the need for at least some detachment from local political pressures, all of which are often hard to find, for obvious and not discreditable reasons, among junior local staff.
3. Alongside this must be put the advantages of stressing local staff and local farmers:- 1) Experts visit, but local staff (should!) stay and provide some continuity. 2) Economy in personnel/time. 3) Non-preemption by higher level decisions. 4) Less psychological alienation with junior

staff, none at all if farmers themselves are finding their own solutions, though with help (not instruction!).

4. Devitt, and perhaps Chambers, suggest some positive view of this dilemma, Devitt in suggesting a division of levels at which different types of decision are made, each level having a unique, non-substitutable contribution to make. Chambers suggests a 'short-term-longer term' division as between local and higher decisions, although he would probably not consider this the only division.

5. This type of answer may also help to avoid difficulties in the 'barefoot versus expert' controversy. Barefoot economists, sociologists, engineers may be there to make fairly immediate and obvious comments and suggestions, experts to deal with more difficult, possibly longer-term decisions.

6. A further suggestion, in the same attempt to accept both the arguments, may be to use experts for sampling situations within a crop-ecological zone (though the human, cultural and political ecology will also need care). While junior staff, barefoots; and the farmers themselves will have to fill in the idiosyncratic details of each part of the (superficially) similar zone.

7. A good deal more attention will have to be paid to the simplification and careful sifting of questions asked of farmers, so that they are 1) relevant to programme design 2) minimal in numbers for the purpose intended - i.e. a local programme, which may here be distinguished from a less local Plan. The questions for a 2-month farm-management sampling survey will, in this context, be far more numerous and skilful than the minimal questions for all local areas.

8. On consultancy, Jodha has covered a great number of the needed warnings.

9. Research may seem to be out of place here. It is included in this Note because current programming may be tempted to rely too much on earlier, badly sighted surveys; and because many projects start by initiating 'research' of the types which Jodha, Bessell, and Antonio, each in a slightly differing but mainly supportive way, so strongly condemn. There is little doubt that fundamental rethinking and redesign of operational agricultural research is urgently needed.

10. Application

Is it possible now to move towards positive recommendations, arising from this analysis? The shape of organisation and division of function which emerges (in my view) from the above argument would go somewhat like this:-

a) In a given crop-ecological zone there is a need for at least a sample area, both technically and socially as representative as possible, to be professionally studied, from about four points of view - crop and/or animal potential; farm-management analysis; engineering/investment possibilities; social/political structure and functioning. Caring expatriates, this would seem to be a function which could be fulfilled, in varying proportions according to circumstances, from a University with a strong agricultural component; from a research station with a strong farm-system component; from government staff (e.g. agronomist, engineer, probably from at least District and possibly higher level) or from a "planning-research" staff at District or above, where such an organisation exists. This sample study would be not unlike a pre-project study where it is properly done, fitted in, as Collinson says, during the negotiating period of an externally financed project. Such a study would use any useful material from previous studies (e.g. soil survey, if it exists).

b) For any given area in the zone (of about 'Block' size, e.g. 10x12 square miles), preliminary survey and consultation would be at junior field staff level plus stimulation of farmer discussion, in any appropriate grouping, emphatically including small farmers. One major point would be to spot how

the area differs from the results of the deeper sample survey. Points too difficult for this local team to solve would need assistance from higher levels.

c) Field staff, in consultation with District, and with any District planning staff which may exist, would then join in the decision on a tentative programme, and would be responsible for continuity in close touch with farmers, and for feed-back and modification over time.

d) It is not altogether clear where the "barefoots" fit into this. The word might mean a) men or women trained originally in a discipline, who have a strong operational rather than academic bias, built up increasingly by field experience; or b) the brighter members of junior field staff, given extra training in the elements of farm-management, or in the ways by which to obtain minimum essential information. It is perhaps important that "barefoot" should not remain a vague expression designed to fill a need for a man who is a combination of Joy's "thinking man and practical man", and at the same time thick on the ground and very modestly paid. Such animals, outside occasional voluntary organisations or young, often expatriate, graduates eager for practical field experience, are in fact rare. The barefoot economist or agronomist or engineer is more probably two men - a retrained junior field man with access, for advice and supervision, to an experienced professional.

11. Policy Implications

The following points, in total, look rather numerous and formidable. In fact, some governments already cover some parts of them, and in any case no administration would tackle all simultaneously.

a) Staff for (say) District*-level proper (sample) survey.

In most countries, there is a weakness here. The main operational field staff (e.g. District Agricultural Officer) have not the time for such detailed work, although they should always be consulted in it. Some resource of fairly mobile staff could be built up:-

- 1) In Agricultural Universities, or faculties, or "Agro-Economic Research Centres"(India).
- 2) In major Agricultural Research organisations, by developing a strong farm systems unit (especially economic and sociological) alongside the exact scientists. Such a unit would have a sandwich job - partly in research and partly in field survey and consultancy working with the operational government officers.
- 3) As a mainly operational diagnostic and consultative team within the administrative unit at District level, closely linked to a District Planning organisation, where it exist. I (personally) would strongly stress that such a team should be directly under the Administration, not under a non-operational "Ministry of Planning" at the centre.

The recommendation here is that, whatever the choice of administrative placing of such a team, the whole training and attitude towards operational research needs radical revision, to avoid the obvious failures pointed out by Antonio, Bessell, Jodha, most of which spring from the mechanical academic tradition, over reliance on 'enumerators' and statistics, Ph.D. work etc. The link with operational and administrative needs, whether between a Research Centre, a University Department, or even an Agro-Economic Centre, needs to be far more strongly stressed; probably young men should be recruited to any of these centres after at least 5 years practical field experience within the government field staff.

* District might be Province or Region in some countries. I am using Indian language - i.e. a District covering about 1-1½ million population.

b) at the field level, the most obvious needs are

- 1) Revision of field-staff management (Belshaw/Chambers work in Kenya)
- 2) Altered training for Junior Field Staff, especially in the capacity to listen to farmers; in whatever can be taught about ways to stimulate farmer organisation; and in how to ask minimal useful questions, and what those minimal questions are likely to be. Elements (only) of farm management principles should be in every such course, if necessary to exclusion of some technical detail taught in so many training courses for junior extension staff, most of which is forgotten 3 months later, and would need reference to a fully trained agronomist in any case.

c) The other changes, mainly concerned with the Planning function, go beyond this Paper to a subsequent Paper on Planning.

12. Final Comment

I am constantly worried, as pages of detailed consideration of relationships and functions mount up, that our joint endeavour to refine thinking, to seek the detailed concepts behind "consultation" or "barefoots", will reach some razor-edge distinctions, pitfalls on either side, on which no real-life government policy can hope to balance. Administration is always a rough and ready compromise, constrained by expense, the quality of personnel, the need for simple, administrable rules and discipline; are we in fact demanding far too high a degree of exactitude from a blunt instrument?

The only grains of comfort are:-

- 1) Those who give advice had better think through, to the last inch, what they mean by the glib phrases they use, before they use them.
- 2) Those who do, rather than advise, had better know the pitfalls, even where they cannot altogether avoid them.
- 3) The remarks of Amartya K. Sen (p.3) that "the most serious problems lie not in the "grand design" but in what has the superficial appearance of "details", and "the focus on technological and institutional details is long overdue".
- 4) Finally, in the fact that each country Administration faces different problems, has already advanced far in one direction, yet may gain from analyses in another; and that while wholesale reform will never happen all at once, some path towards a more effective system can perhaps be followed over the years. Goodness knows, the mobilisation of a peasant economy is not to be done in a day or even a decade, and although we still face a daunting level of failure, comparing 1950 with 1975 there are, here and there, highly significant elements of success in this, perhaps both the most difficult and the most important field of development.

ENVOI (Courtesy, Stephen Sandford)

An answer from a farmer who was consulted:-

"These are my sheep. They are not the concern of Government but my concern. Whether they live or die is of no importance to anyone but me; and even with me if they die I shall still live."

From "A study of Farm and Livestock Systems in the Central Highlands of Ethiopia". Prepared by Noel J. Cossins and Bekele Yemerou for the Provisional Military Government (Livestock and Meat Board) 1974.

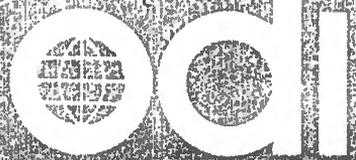
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GR/JS.

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6 AGRICULTURAL ADMINISTRATION UNIT

LOCAL DIAGNOSIS, FARMER GROUPINGS, AND COORDINATION OF SERVICES NETWORK

PAPER IV

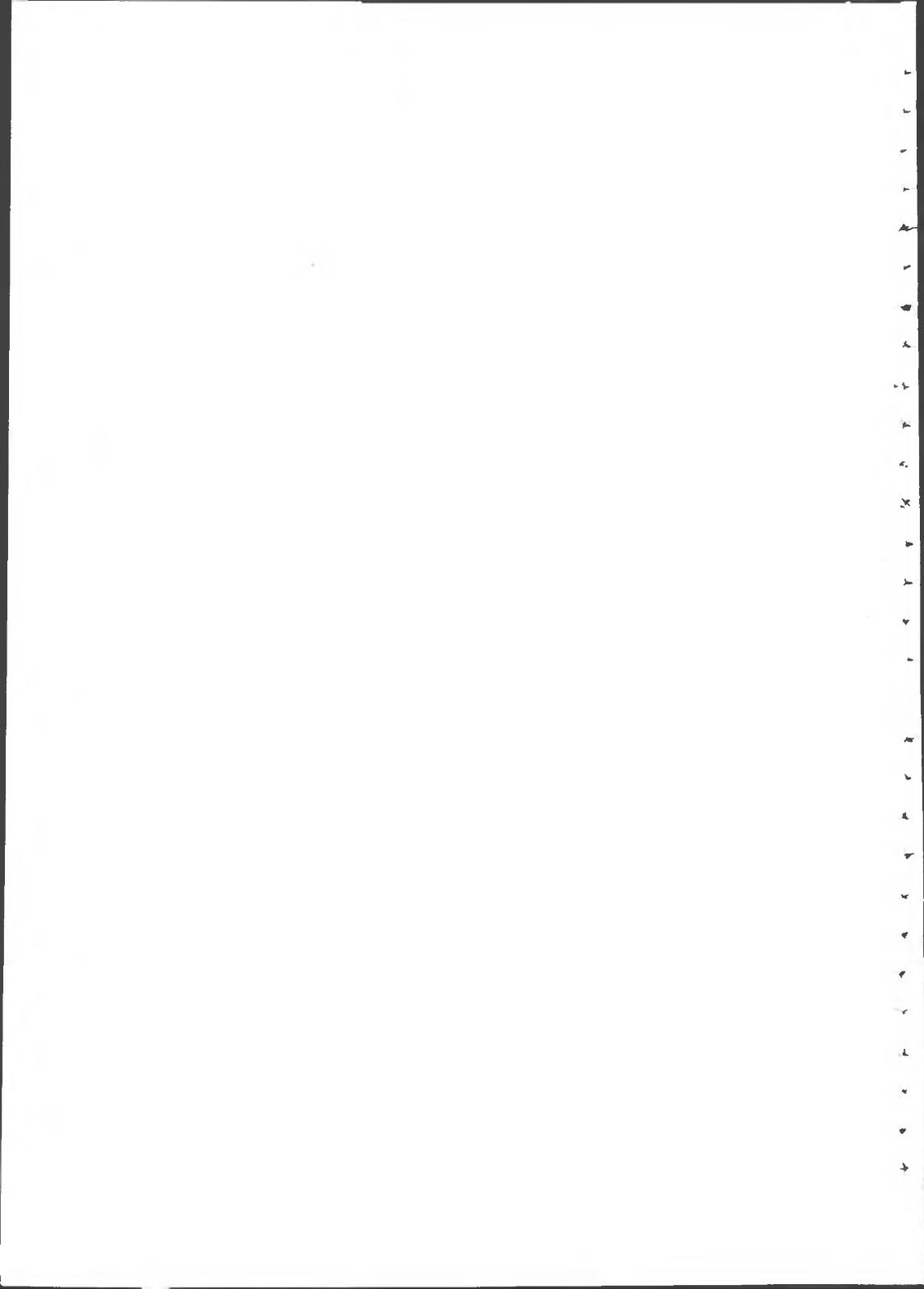
FARMER AND COMMUNITY GROUPS

by

Guy Hunter and Janice Jiggins

I INTRODUCTION

1. There has been much written, over many years, about groups of farmers or of farming communities - about the need for them for administrative purposes, about the value of them for mobilising effort and initiative, or for expressing aspirations, or for giving reality to democratic principles. Such groups include Cooperatives, Farmer Associations, Irrigation Groups, traditional and new Credit or Savings Groups, Development Committees, Panchayats, Brigades and Teams, Self-Help Groups, Ujamaa and other communal groups, and many more. One has only to look at this list to see how different they are in type, in the connection within which they arise or are formed, in function, and in main objective.
2. For they include single purpose and multi-purpose groups, traditional and modernising groups, self-managed, and totally externally managed groups, ideologically inspired or pure productivity groups, groups continuously active or only appearing for special functions, groups structured in tiers and hierarchies or individual and self-sufficient, groups organically linked to single technologies (e.g. growing tobacco or rubber), and groups with wide, semi-governmental purposes (such as Panchayats).
3. Little has been done, at least in the context of agricultural development to analyse and categorise this diversity of groupings, which has little in common but multiple membership and a rural context, and particularly to categorise them in ways which might be useful in design and administration of rural development.
4. This paper is a modest attempt to start such analysis and categorisation, illustrated from field experience and drawing upon the work of many scholars and the evidence of many field reports on projects and on semi-spontaneous development. It will benefit greatly from both criticism and further illustration by members of the Network.
5. Because this is a paper about groups, it does not imply that groups should be formed or encouraged in every situation, as it were 'for their own sake'. Nor does it intend to lead to any one orthodoxy or solution about 'the best' type of group. On the contrary, the emphasis is on diversity and (except in the context of a dominant, single-solution ideology), on a certain degree of informed opportunism. What it does seek to do is to inform opportunism, by analysis of what can be hoped from certain types of grouping in relation to environment, function, technical opportunity, purpose



or ideology, administrative and managerial relationships, sequences of growth and change, the internal psychology of groups, the effects of external pressures on them.

6. Certain common themes will underly most of this Paper. First we start from an assumption that Governments wish to institute change ("development", "modernisation", "productivity", whatever). Second, that there is a constant tug of war between the desire for security, and the desire to grasp opportunity. Third, we must take into account a spontaneous (i.e. non-governmental) entrepreneurial element which may show itself in society at any time.
7. Finally, since we are dealing with multiple factors, the main divisions of subject matter below are not mutually exclusive, because they will not lie on the same plane; they are more like cross-sections cut through a single rod vertically, horizontally, and at intermediate angles, showing different shapes and, perhaps, different elements of texture. It will be necessary, therefore, to make a single, coordinated set of conclusions at the end.

II CROSS-SECTIONS

A. Traditional Attitudes and Groups

8. It may be as well to start at the early point of what is in some ways a transition through time, remembering that traditional attitudes, even only as trace-elements, may persist, and even flare up again, long after the dominance of a traditional way of life has given way; remembering also that we are perforce in the 20th Century - long after the heyday of isolated and "pure" traditional societies.

9. 1) Survival for all: Fear of Change

One quite common factor in traditional societies, whether in Africa or Asia, is that the culture decrees that all members have a right to survival. So, if some have land and some no land, the latter will be assigned (or assign to themselves) some service function (including warrior status for men) for which food is provided. The Indian Jajmani system, in which village servants are paid, perhaps annually, in grain, is a classical example; anthropologists could provide dozens more. The fear of losing through change this right to survival for all members is splendidly illustrated from "Behind the Walls":

"But this we do know: the old order has served us well for centuries. It has provided a task for everyone who is born into it. And it has provided for the carrying-out of every task needed for village self-sufficiency, by men trained from childhood. If the change once begins, how far will it go?"

10. Modern agricultural development proposals (outside countries with a fully communitarian policy, e.g. Ujamaa in Tanzania, or the pattern in Mainland China) tend to offer a "package" to individuals, although they may suggest group action for securing credit, inputs, or marketing. They may also tend to criticise what they call dependency (e.g. of smallholders, sharecroppers, tenants on large farms, or, at the extreme, bonded labour). But in doing so they may raise in many minds a gnawing fear that, while luckier individuals may benefit, the less well-placed and the service dependants will lose the social security of a system in which rights and duties are prescribed in a way that all survive - however meagerly. Davy*** writes of members of traditional societies in West Africa "investing in social relationships rather than in goods, equipment or land" as a form of social insurance against bad times. Scarlett Epstein**** has emphasised the same point from Indian studies, stressing the climatic uncertainty which constitute risk, and the social regulation (e.g. caste) which may pin

* So normally referred to: e.g. barbers, and what might be called service trades.

** H. and C. Wiser: Behind the Walls (University of California Press, Berkeley) 1963, p.119

*** E. G. Davy: "Drought in West Africa", A.H.O. Bulletin, XXIII, 1st January 1974, (Geneva).

**** T. Scarlett Epstein: Economic Development and Social Change in South India (Manchester University Press) 1962.

individuals in service or other activities which exclude them from a share in profitable agricultural packages. Many other observers have helped to explain apparently extravagant social expenditure, often leading to indebtedness, by the same desire for social insurance. An unusual and striking example where the tension between traditional, though limited security, and non-traditional individual opportunity is actually institutionalised comes from Fiji, where there is a special name for members of society who deliberately elect to contract out of communal social obligations (e.g. unpaid village communal chores), and thereby relinquish all claims to communal support - they become "go-it-aloners", for better and for worse*.

- 11. Many authors have observed that the transition from mainly subsistence to more market-oriented production is seen as a security risk. Harton** has noted faster adoption of improved strains of reliable indigenous varieties as against HYVs, despite the latter's higher potential; Knight's*** study of the Nyiha in Mboci (Tanzania) stresses the additional dependence on uncontrolled external factors which accompanies a move to cash cropping.

- 12. Moreover, a traditional system may be valued and loved. Some hill peoples of Assam**** regard it as shameful to sell food - food which is a necessity of life and must be (and is) shared freely, in times of shortage, by those who have with those who have not. They resist "packages" aimed at producing and selling surpluses of staple foods. Again, Turnbull***** from Africa - "We no longer have any reason for living, because we have been forced away from the way of our ancestors, and we lead other men's lives, not the lives of our fathers". A very similar outburst is quoted by Gaitskell from the Gezira scheme:*****

"We hate these straight lines, we would rather be hungry once every few years, with freedom to range with our cattle unconfined, than have full bellies and be fined if we stray outside these horrid little squares".

These values and emotional attachment (no pejorative implication - emotion is a "reason for living") are one side of the tension, to which the economically rational fear of servants, share-croppers, tenants must be added.

- 13. It may be that group formation helps to allay those fears: "there is safety in number"; more than safety perhaps, emotional comfort:*****

"But we need the strength of the family to support us. We do not trust the outside world, and we are suspicious of each other. Our lives are oppressed by many fears. We fear the rent collector, we fear the police watchman, we fear everyone who looks as though he might claim some authority over us; we fear our creditors, we fear our patrons, we fear too much rain, we fear locusts, we fear thieves, we fear the evil spirits which threaten our children and our animals, and we fear the strength of our neighbour".

The conclusion from this would be that group formation in societies where tradition and risk-aversion is strong should seek for, and stress, the

*"Social services may be commuted under certain conditions by a cash payment, - an administrative endeavour to replace by money the services lost to the community when they are not performed".

G.K. Roth: "Native administration in Fiji during the past seventy-five years". Occasional Paper No. 10, Royal Anthropological Institute, London 1951.

**C.R. Harton, in C. Dalton (ed): Economic Development and Social Change (New York, Natural History Press) 1959

***C. G. Knight: Ecology and Change (New York, Academic Press) 1974

****Personal Communication from R. M. Maldivipur

*****C. Turnbull: The Lonely African (Garden City, New York, Anchor Press) 1963

*****Quoted in a memo by M. F. Clarke, in A. Gaitskell: Gezira (London, Faber and Faber) 1959. p.202

*****Behind Mud Walls p.122

added security of group action; further, it may be unwise to let fall criticisms of what may seem an unjust or unprogressive social pattern, or to urge 'liberation' from it, unless positive methods of liberation are near and sure, and also include a substitute for the security which the old system offered to weaker members.*

14. 2) Existing traditional groupings**

Traditional groups for common action often have: 1) a very specific structure, e.g. an age-set, a sub-clan; they almost invariably have 2) a specific function - house-building, path-clearing: and they are often not continuous but intermittent, coming together when the particular task arises. It has almost always proved difficult to change either their composition or their function, or to use them as a continuously active group for agricultural development. There are, however, some groups which have a "modern" function and are continuous, among which could be included Credit/Savings societies, (chit clubs (India), esusu societies (Africa), a variety of (often Church-related) social security groups (Ethiopia), such as funeral clubs). These can indeed be harnessed for rural development, in a wider sense, and can sometimes extend their range of action. Many externally planned projects (e.g. C.A.D.U. in Ethiopia) have over-looked this tissue of social action, or consciously dismissed it as irrelevant to modernisation. At the opposite pole, such projects have also tried to use the more structured and intermittent groups for different and continuous functions. On the whole, traditional groups tend to be concerned with social rather than agro-economic functions (cf. Paul Devitt, in Paper III). One reason may be that certain social achievements (building a school or a protected water supply) seem far simpler to achieve and to meet direct need, as against programmes of agricultural improvement, which are harder to understand, involve risk, and (also!) have so often been seen by villagers to fail, or to increase the workload without a proportionate income gain.***

15. On the whole, we would be inclined to think that: a) Extension or project staff should be well aware of what groups exist, with what structure, for what purpose; b) with a very few exceptions, of which savings groups may be one, traditional common action groups are not easily harnessed for anything but their traditional function and certainly not easily transformed into formal co-operatives; but they may be nudged into a new direction; c) some of the most successful modernising groups (discussed later), may be spontaneously formed but are not traditional. Co-operatives are usually neither spontaneous nor traditional.

B. Total Communalism **** or Multiple Function Groups

16. Starting, as we have, from traditional groupings, we have strongly emphasised specific functions for which groups, usually only part of a whole community, may be formed. There is, however, the alternative approach, of which Mainland China and Tanzania are usually quoted as

* "Political will at the centre may not be enough. Even a highly efficient Administration may not be able to give reality to the reforms at village level, where quite junior officials are faced by the determination and resourcefulness of a dominant landlord class and by the fear and insecurity of an illiterate and unorganised peasantry, fearful of losing the security of a bad system without cast-iron assurance of protection if they oppose it." G. Hunter: Modernising Peasant Societies (Oxford University Press, London) 1969 p. 150

** There is a considerable sociological literature about the transition from traditional to modernising organisation. We have summarised some of the most recent and relevant work, with particular reference to the contrasts between traditional groups and modern Cooperatives in annexe "A". For those who have the interest, this annexe, and Annexe "D" on the work of Judith Tendler in Ecuador, may be worth treating as an extension of the main text.

*** Rasmussen R: "Social Emphasis on People's Priorities in Rural Development; Studies in Kenya". Agricultural Administration, Vol. 2, No. 4, October 1975 p. 263 - 84.

**** We have avoided "Communism" since not all countries following communalist systems are "Communist" e.g. Tanzania.

examples, in which to a greater extent all land is regarded as for common use by local communities, all incomes accruing from it are shared, and the local community is regarded as a single group (Ujamaa) or a group in a hierarchy of functional groups (Team, Bridade, Commune). The word "all" must be qualified in China by the small household plot, and by exceptions, both local and national, in Tanzania where areas of land have not been included in the Ujamaa common area.

17. These total solutions involve total Land Reform and pooling of holdings, and thus cut the various knots of fragmented holdings, unequal potential in different local plots (the "spottiness" of natural resources), and various forms of private dependency (tenancy, share-cropping, etc.).* They also greatly facilitate technology (tractorisation, new irrigation layouts, pest-control, and various economies of scale). Certainly in China, they also facilitate agricultural planning (since cropping areas can be decided from above), and also incomes policy (since criteria for income distribution from common effort can be used to give varying income levels for work and to distribute part of the total to the aged, children, other dependents, taxes and development finance.) Tanzania has not gone so far in either planning or economic control. Indeed, in many areas there still appear to be tensions, familiar from Russian and other communalist experience, between earnings from the private plot and work on the common plot for a share of the common product. Further, it does not seem that the same degree of close direction and supervision is given to the Ujamaa villages, nor the same planning of local investment and supplies of inputs.
18. This paper is not concerned to argue for or against major political solutions of the communalist type. At this point only a few comments are needed. First, whether in China or Tanzania, the communal solution is not traditional - quite the reverse; if the Chinese system is sustained for another generation, common work and regulated income distribution may become a "tradition", which will need detailed studies which have not yet been made. Second, a half-way solution in Tanzania is proving very difficult. Goran Hyden** has recently pointed to the stresses which can arise from the contrast in rewards between, say, the mechanic employed within the commercial economy of Tanzania and the rewards offered to the mechanic as an equal share, based on work hours, with all the other labourers (for they are not exactly farmers) on the common plot. It would certainly seem that, in the Tanzanian case, Ujamaa agriculture may work well for a bit: but that as the economy becomes more specialised and less subsistence, and as division of labour increases (more clerks, drivers, technicians, Cooperative managers, craftsmen, etc.), so an Ujamaa economy will be harder to hold together: in a word, economic and developmental success might either swamp the Ujamaa or require a full-scale Maoist revolution in the main national economy. Thirdly, it can be observed that millennial propaganda in societies which have not had a major revolution, and in the absence of any enforceable plan for the use and distribution of resources, is likely to add to, rather than alleviate, rural frustration: it is the peasants who suffer most from premature and ineffective movements of this kind.
- C. Groups in a Gradualist System

19. We may put aside temporarily full communalist systems and consider the variety of groups in gradualist systems - i.e. those in which rural people have not been compulsorily organised into fixed patterns for most main purposes and where a great variety of groups may exist, formed spontaneously or by persuasion, inducement, or more or less indirect pressure.

* Note, however, that fragmentation of holdings sometimes operated to give farmers each a patch of good and a patch of poor land. Traditional arrangements sometimes also work like this: e.g. the plot boundaries in Kisii District radiating from hill top to valley, or the Kikuyo (Kenya) plots running down from the ridge to the stream. A similar pattern can be seen in Wiltshire chalk-ant farms with plots taking in a) some water-meadow, b) some arable, and c) sheep pasture on the high ground.

** C. Hyden: "The Struggle for Success in Rural Cooperation: the Case of Kabuka Mjani Ujamaa Cooperative Society" (University of Dar es Salaam) 1976. Mimeo.

20. 1) Some distinctions

It is at once necessary to define "Groups" more closely: it is a vague word, deliberately used in the title of this Paper, since we have assumed a need for some form of grouping for administrative convenience or for corporate expression of needs and desires, or for democratic management. Categories are necessary because it is clear that the origin, size, structure, functions and purposes of a "Group" profoundly affect its style of behaviour and its relevance for different functions.

21. It is proposed to consider three main headings:

- a) Small groups, formed for specific, sometimes single, functional purposes. "small" implies a range of roughly 10-100 members.
- b) Larger, or "secondary" organisations, often with 500 or more members (e.g. a large Cooperative)*, usually multi-purpose, often part of two or more tier structure.
- c) Elected Committees (e.g. Panchayats), representative, usually with a wide range of functions, often with a semi-governmental or administrative role, usually in a tiered structure. Such committees often have more widely-defined concerns than the development of agriculture alone.

22. 2) Small groups

As we have seen, small groups, in great variety, have been evolved in traditional cultures, usually for specific tasks, in which the group has a clear common interest, sometimes intermittent, often loosely structured, often not part of the hierarchy - e.g. housing groups, small primary Cooperatives, wood-carving groups, etc. Often they are characterised by informal, personalised management, sometimes mainly by consensus. They may include big as well as small farmers.**

23. We can attempt some list of the advantages, sources of strength, durability, and also of weaknesses of such groups. For example, in an irrigation group, or a milk-producing group, the technology largely dictates what has to be done and when; the size of the group is limited by the physical boundaries of the system (irrigation outlet, milk collection centre); the benefits are obvious and shared by all; there is not much reason for conflict with other groups; the organisational and behavioural demand on members is relatively simple; dependence on officialdom may be limited to one or two specific services; membership is defined by those using the facility. The group's small size favours cohesiveness, and may even be strengthened by the existence of an external "enemy" - e.g. African cotton-growers versus Asian ginners (Mwanza, Tanzania). Organisational simplicity may avoid exploitation by a formalised "management committee" (e.g. the small groups in which Comilla farmers were organised, hamlet by hamlet). It would be easy to write down a set of antonyms, with reference to large, multi-purpose Cooperatives, where most of the directness and cohesiveness is apt to be lacking.

24. The literature is, unfortunately, very vague about the origins of such groups. In some cases it is clear that a single man took an initiative; in others statements such as "a group was formed", or "farmers formed themselves into a group" leave no clue as to how, by whom, in what sequences this critical event took place. Equally unfortunately, particularly in "success stories", we have an encouraging

* Note that Cooperatives are not taken as a discriminatory category at this point - they could exist as small groups, or as larger organisations, or as a sequence from small to large.

** i.e. we are speaking, with reference to farmers, of small groups of farmers, not exclusively of groups of small farmers.

account of group formation and valuable successes in village or area X in 1971 - 3; but is it still there? Has it grown in numbers and success or disintegrated? In consequence, perhaps our most reliable information is constantly drawn only from the % of schemes which have been studied over five or ten years - at least, or revisited after that sort of interval. We are left with categories of 'spontaneous' (including traditional), 'catalysed by an external individual' (e.g. an Extension worker), and 'semi-imposed by external authority'. It is probable, but by no means certain, that the durability of groups tends to be higher when original dependence on external support or pressure was low (i.e. when self-management starts at a very early stage), except where external support (including paid management) is continuous over a considerable period. There are certainly many cases among Cooperatives where an officially-backed group collapses as soon as official support is withdrawn.

25. The weaknesses of small groups tends to show up if numbers increase sharply, or complexity and ambitiousness of the task increases, so that informal or face-to-face management structure and cohesiveness is weakened. That such groups are strong in informal leadership and weak on formal management structure, and in relationship with the outside world (government and major institutions) is fairly well documented (the need for 'brokers', the need for financial competence and accounting).*** This can be partly paralleled from studies in industry, where small, insulated sections or departments can generate high morale, which is destroyed by merger or major expansion, or 'rationalisation'; even a change from small rooms (groups of a dozen) to large, open-plan offices on conveyor lines can have devastating results on industrial or commercial morale: the same can be true of mergers of military units.

26. Pride of achievement is also a great consolidator of groups, and this is an argument (where an official policy is involved) for assigning in early stages simple and fairly easily achievable tasks which can show early and visible effects, i.e. to build groups round such tasks.**** The opposite is apt to happen: because a task is difficult (i.e. credit recovery, marketing) a Primary Cooperative, often very weak in management, is set up to deal with it.

27. These paragraphs lead naturally to the question: what is the 'right' level of external interference (usually called 'support')? This is a question which can only be answered in very general terms. First 'support' can be defined as 1) requested or essential services from the external economy, on offer but not insisted upon (e.g. credit, fertiliser, infrastructure), and 2) internal management support (provision of secretary, of close supervision, or strong influence in decision-making). It is fairly clear that efficient services are usually helpful. But when it comes to management support it seems probable that half-measures are usually unsuccessful. Either the group is self-managed, or the authority concerned should decide, in effect, to manage it, and to continue to do so. Excessive supervision (e.g. by a Cooperative Department, or by a Federation or Union of its primary societies) usually kills the dynamic of the group. There is much evidence that primary Cooperatives (Kenya, India) resent the contributions paid to higher tiers and the rules and supervision imposed upon them. They lose the sense of self-management and responsibility.*****

* Holmquist, P.: "Mbatwa Farmers Cooperative Society and the Cooperative Farming Experiment in Kisii District, Kenya". Staff Paper No. 106, IDS, Nairobi, July 1971.

** Mbugua, E.S.; Schimherr, S. Nyeth, P.: "Agricultural Extension and Farmers' Training". Chapter Eight, in "Second Evaluation Report on the Special Rural Development Programme". IDS, Nairobi. In preparation.

*** Sylvester, A.: "Helping the Thailand Smallholders: FAO Blazes the Trail". Civilizations. Vol XX, No. 2, 1970, pp. 212-225.

**** P.G. Bailey: Caste and the Economic Frontier. (Manchester University Press) 1957.

***** P.C. Eatherley: "The Sever da Vouga Project, 1967-70". Shell International, 1972.

***** E. Karanja: "The Problems of Amalgamating Cooperative Societies: the case of N. Tetu." Staff Paper No. 97, IDS, Nairobi, April 1971.

and, C.G. Widdstrand (ed.) Cooperatives and Rural Development in East Africa (Africa World Press, Inc., New York) 1970.

28. Group leadership may come: a) from within the group; b) from an individual within the society, but with some extra qualification (education, technical skill, devotion, larger resources). Example of b) which I have personally noticed recently include a Catholic priest, a school teacher, a Gandhian disciple (Mabhai Desai, outside Poona), a retired veterinary officer, a large farmer, an ex-sergeant major. It is possible - though this should be treated with care - that such local outsiders make acceptable leaders because they are outside the rivalries and suspicions of equals in the group.* Groups may be started (but not led) by local officials, suggestions from a V.S.O. or Peace Corps worker, Oxfam or some other voluntary agency, a Church, or simply three or four enthusiasts who take an initiative but accept other leadership in order to gain recruits or influence. Leaders of the b) type may continue for some time, since they are an obvious choice as "broker" when more external contacts are needed, and also may have resources (storage, equipment, transport) from which the group may benefit. Paternalism is neither dead nor useless in many parts of the developing world, though eventually the "children" grow up.

29. Finally, it is worth stressing again the variety of types, sizes, functions of informal groups, and also the number of occasions when a common pattern of development action can arise without the necessity for any formal group. The "outgrowers" in a tea, tobacco, sugar, etc. scheme producing to a central factory and serviced from its management, may not require formal associations, where a Company or Board is the managing agent; or, where the factory is Cooperative-owned and managed, they may only have a shareholder function and an occasional vote for Committee membership. Similarly, common use of a water source may involve a group, or may simply be done by water-buying arrangements. Credit, which is often very individual, may be organised through a group, but may also flow from agricultural banks direct to individuals, who are in any case usually personally liable for repayment. The argument for small, semiformal groups is essentially opportunistic and flexible; and this in situations of such social, technical and economic variety and diversity, is three-quarters of its strength. The requirements of the crop (or water supply for crops), density or sparseness of settlement, the nature of the processing unit, the marketing system (monopoly or open local market), the degree of risk, the requirement for quality (e.g. uniformity); the need for regularity of supply, seasonality, may each have effects on whether a group is needed and, if so, of what size, what continuity or intermittence, with what formal structure and management competence. Mistakes are far more likely to be made by insisting on a particular structure (e.g. the Cooperative), or size (theoretical but not always significant economies of scale), or membership (e.g. excluding large farmers), or simply by neglecting the potential of unorthodox or very lightly-structured arrangements, including private commercial arrangements as against formal semi-public "institutions", whose rules and required procedures may be inimical to a rather hesitant and inexperienced membership. We assume here that the objective is not ideology but success.

30. 3) Larger, or secondary organisations

There appear to be rather a large number of occasions in agricultural development when an enterprise of some apparent potential is successfully launched, well rewarded for a year or two, and then disintegrates. This can certainly happen where a small, loosely-organised group is emboldened by success to launch into larger operations requiring more complex financial and administrative control. There would appear to be a moment when the two best choices are 1) to persuade the group to stay at the level which it can manage, or 2) to launch a larger, or secondary organisation, which will necessarily be more formal and may involve adding a superior tier to the structure. Thus, at Comilla, the Cooperative Union was in fact needed, and extremely useful, when the small primary groups, stimulated by Akhter Hameed Khan's philosophy and action needed a better contact with the external economy.**

* e.g. In England, the squire is chairman of the village cricket club, because the builder, primary teacher and grocer do not trust each other. Cf. remarks quoted by Arthur Gaitskell in his account of the Gezireh scheme: "the local villagers' first reactions to promptings towards responsibility had been 'You decide for us. We will only quarrel among ourselves.'" p. 309

** Akhter Hameed Khan: "Reflections on the Comilla Rural Development Projects", OLC Paper No. 3, March 1974.

31. But we have chosen a dangerous example in mentioning a Cooperative. For while the successes of an outstanding Cooperative Union usually are described in terms of the range of excellent and useful services it provides to its Primary Society membership (e.g. credit provision, a rice mill, storage, custom service for tractors or spraying equipment, a transport service, etc.) the really important pay-off from the venture is in the formation of the primary societies. Thereafter, the superior services are to be judged not by whether they are Cooperative, but by whether they are efficient and competitive. For we must keep an eye on the ultimate aim of the whole effort, which is not a rich and successful Union but enriched and satisfied members at village level, and the "superior" services can come from a variety of sources - from a Union, certainly, but also from a Company, a Marketing Board, a Corporation, a Bank, or even from an efficient Extension service. The criterion here is neither democracy, not self-management, nor socialism - for all these are much better expressed, in a face-to-face way, at the Primary level.* The criterion is efficiency - getting supplies to the farmer in time, providing credit or storage, paying a good price promptly, using capital reserves for wise investment, surviving through bad years as well as good ones, controlling bad debts.**

32. Thus, at the moment when Primary or small groups need more external contact, better management, more structure, the Cooperative method (and there are variants within this method) must certainly be considered very seriously. But it should not be an automatic choice, since many alternatives are available. Managerial efficiency and services to farmers should be the main criteria by which choice is made.

33. Among larger organisations we should place the Taiwan Farmer Associations, the Malaysian Farmer Association schemes, the "Markaz" organisations in Pakistan, the Farmer Service Societies adopted in India for service to the small groups formed under the Small Farmer Development Agency.*** The last-named, which are a Cooperative variant, are appointed rather than elected, with 50% official membership and a paid secretary, accountant and clerk. Both in Malaysia and Taiwan the Farmer Associations are considerable, multi-tier organisations, officially instituted. Although the Taiwan organisation is in a free-enterprise, capitalist context, it bears many of the marks of the mainland China system in its comprehensive and planned policies; it is an example - not necessarily to be copied in other conditions - of what can be achieved by a firm, officially engineered programme which has struck just the right balance (for the capacities of both government and people) between self-management and central direction and support.

* This seems to neglect the profit argument - that Cooperative profits go to the membership, not to private pockets. But in fact both Cooperatives and private merchants retain much of their profits for investment, and the distributed profit, which may look large in a single pocket, looks very small indeed when divided among 1,000 members, and may almost be cancelled out by the higher overheads and lower efficiency which tend to characterise amateur Committee management. If this were not so, farmers would not so often prefer to sell privately rather than through Cooperatives. See Annexes for further discussion and references.

** See C. Midstrand, in C. Midstrand (ed): African Cooperatives and Efficiency (Scandinavian Institute of African Studies, Uppsala) 1972, for a distinction between "efficiency" and "effectiveness". Efficiency, the more important measure, relates to analyses of productivity (how efficiently a cooperative serves farmers' needs); but much cooperative literature confines itself to discussion of "cooperative effectiveness", defined as achievement of cooperative goals (often measured in terms of membership, credit advanced etc.)

*** For a brief description of the S.F.D.A. etc. in February 1976, see our report sent out in March.

34. We will leave assessments to the last section of this Paper.

35. 4) Elected committees

Some countries have given considerable weight, for a variety of reasons, to locally elected Committees, through which the governments' rural development programmes can be implemented at the lowest level. The 'Basic Democracy' systems under Ayub Khan, where the final unit was a group of villages; the Tanzanian system (Village Development Committees much based on T.A.N.U.)*; some elements of the Egyptian system; the Indian Panchayat system (Village, Block and District) - these are all variants.

36. 'Basic Democracy' died in Pakistan, and now seems to be being replaced by Service and Marketing Centres (Markaz), not wholly unlike the Indian Farmer Service Societies; and our impression is that Village Development Committees in Tanzania slowly are being replaced by a) TANU branches; b) Cooperatives, and c) the Ujamaa Village System, which is more of an executive organisation than the original V.D.C.s. While the Basic Democracy and the Tanzanian systems both in effect rely on a universal Party to give leadership and initiative, the Egyptian system is more of a dirigiste, post Land-Reform mechanism mainly run by officials, though Cooperative in form, to implement central government policy. Local Cooperatives in Egypt do not decide policy, do not operate within an encompassing ideology, and have rather limited functions.**

37. The Indian system is notably different in intention. In the first place, it was intended to be free of Party politics, and elections are not fought under Party labels (though in fact by now highly Party-political). Secondly, it had a number of objectives which do not lie easily together. One was to de-bureaucratise administration by giving considerable initiative and responsibility to locally elected non-officials - thereby causing officials to serve two masters, the Committee and their departmental superiors. Another was the more classical Local Government philosophy, of giving to Local Authorities a large chunk of governmental responsibilities in their area; and the three tiers, of which the District and Block Committees are quite powerful, presumably were instituted for this purpose. A third, in some conflict with the ban on Party politics, was to extend the democratic process and general political education right down to the grass roots of society.

38. The Indian system has worked very differently in different States. It might reasonably be said that the village Panchayat does give an element of face-to-face democracy, but that, whether as Local Government or as Development, the three-tier system as a whole has, in the main, been over-shadowed by the technical, planning and financing elements of the governmental development process, which continuously strengthens the influence of Departments, technicians, and bureaucratic regulation. Above all, the system has not often shown itself capable of Agricultural management in the field, of the energetic use of farmer groups and organisations, partly because that field has been pre-empted so heavily by the very powerful Cooperative organisation, which has retained an almost total independence as well as a semi-monopoly of farmer group organisation.

39. On the whole, in a highly technical, planning-conscious, centralising epoch, the freely elected three-tier democratic government experiments do not seem to have much future in lds for development purposes, and seem likely to be replaced by organisations like the Markaz or the Farmer Service Society, or, in communist systems, by the variants of the Maoist rural organisations. This does not exclude some form of Local Authority for minor regulative, social service, and taxation purpose.

* Tanganyika African National Union - the One-Party Organisation in Tanzania. See H. Bienen "The Role of TANU and the 5-Year Plan in Tanganyika". No source given. Mimeo. n.d.

** See Paper by El-Kammash to the Second International Seminar on Change in Agriculture at Reading University, September 1974. Report and Summarised Papers published as C. Kurrer, A.H. Dunting, and A.F. Bottrall (eds): Policy and Practice in Rural Development (London, Croom Helm) 1976. The El-Kammash paper is available also in duplicate from ODI, London.

D. Opportunity and Organisation

40. We may seem to have assumed that the chief need of development is better structures of organisation, and that opportunities for development are universally available if only the "right" system of organisation were available - we might even be accused of Popery.* In fact, the difficulty of identifying opportunity, and the question of finding an organisation suited to the opportunity which has something extra to and different from a good organisation chart or systems analysis** is the main underlying theme of all these Papers.

41. Development opportunities have presumably always seemed to be scarce; and the more that have been found, the greater the excuse for supposing that by now, in a given area, they have all been used. Yet we can be sure that in twenty years' time thousands more opportunities, great and small, will have been identified in every part of the world. The recipe for finding opportunity is like the road sign: "Stop! Look! Listen!" Stopping means that you must stay or be in quite a small area long enough to know just what is (agriculturally and socially) going on. Looking is more difficult, since it requires imagination, and all of us most of the time have eyes and see not. For looking creatively at what seems to be an unchangeable situation (poor soil, little water, distant market, or whatever) requires the power to imagine what it would be like if one factor were changed - put in a well, a fence, an animal, a tree-crop, forestry, a craft (e.g. North Thailand villages or akamba carving in Kenya) - and the whole picture may change. I need not expatiate on "Listen!"***

42. The foregoing paragraph belongs to our earlier Papers on diagnosis. But it is relevant here, for two reasons. First, because opportunity comes before organisation. Many of the failures, including the group systems which have failed, are due to the fact that no real opportunity had been perceived; and opportunities are hardly ever created simply by forming groups large or small, self-managed or administered. Sometimes the failure to "Look" is social; quite a few of the Small and Marginal Farmer schemes recently visited in India could have been put in 15 years ago. But the schemes were, in those cases, for Harijans and Scheduled Castes, and the Extension services (as Ascroft and Leonard have noted in Kenya****) simply do not "see" a considerable portion of the small and poor farmers. Sometimes it is due to lack of technical experience and imagination. But whatever the cause, a feasible and profitable programme should come, in time and in importance, before a detailed organisational decision.

43. This leads to the second reason. The organisational choice will often have to be shaped by the nature of the opportunity seen. It is, in our view,

* "For forms of Government let fools contest: whatever is best administered is best". Alexander Pope.

** The "extreme" lies in motivation and dynamics (self-management), without which nothing flows along the arrows of the chart or system.

*** See, for example, Ardener's account of Cameroonian banana production, started by hearing a farmer say that banana used to be grown in the area. S. Ardener: "Banana Cooperatives in the Southern Cameroons". Conference Series 6, Nigerian Institute of Social and Economic Research, December 1958.

**** D.K. Leonard: "Organisation Theory for Agricultural Development Agencies: An Analysis of the Management of Kenya's Extension Agents." Rimeo 1974

Ascroft, Haling, Keriuki, Chege: "Extension and the Forgotten Farmer: First Report of a Field Experiment". IDS (Nairobi), Bulletin No. 37, Wageningen 1973.

rare that a full-scale Cooperative will be the right first answer, for reasons given in discussing small groups. But it may be needed as a second-stage, larger type of organisation which can lift a small success into a wider sphere of marketing and investment. It is also, we believe, relatively rare that heavy crop-season credit will be the right solution in the first stages of exploiting opportunity, mainly for the risk-aversion reasons given in the first section of this Paper on traditional attitudes. To put it another way, there are so many social, and technical, and tenurial, and micro-economic reasons why an abrupt step into capital-intensive production methods can be - has been - extremely risky for those who bear the risk - the farmers. Longer-term credit, for investments which alter a factor in a previously stalled situation, may indeed be frequently necessary; but this is another way of saying that investment probably antecedes organisation, and, in some cases, government may recover the investment by making the farmer pay for it. These remarks are added to give one more push at the (now tottering) idol of "Crop season Credit and Cooperatives" as the two cure-alls for agricultural advance, useful as they may be in a closely defined range of situations.

III SOME CONCLUSIONS

44. General

The main general themes which have run through all sections of this Paper, whether dealing with traditional or with already modernising communities, are:

- 1) The tug-of-war between security and opportunity, and the gradual building of some form of social security to replace subsistence through group action supported by State services.
- 2) The vagueness in definition of words such as groups, democracy, participation, self-management, and the need to relate these to situation, technology and social timing.
- 3) The specificity and variety of functional tasks and situations, matched by the specificity and variety of development opportunities, in place and in timing.* An 'opportunity' is only real if it can be used within a total, current situation.
- 4) The need for organisation - in this Paper, the nature and use of groups - to take account of this functional variety, and of the social and technical sequences in a major transition.
- 5) The fact that the identification of real opportunity and of related investment precede the final choice of organisational method.

45. Groups

Groups have certain characteristics "of their own" (group psychology), on which we have touched very lightly, perhaps inadequately. It is probably safe to say that certain quantitative jumps in size produce a qualitative change in style and behaviour. We have emphasised the potential for cohesiveness, morale, pride in achievement, and values attached to independence (self-management) of small "groups", defined as 10 - 100 members. There is probably an even stronger emphasis in the range 10 to 20, illustrated in so many situations (games, platoons, teaching, work groups); but in all cases function and situation, and ease and frequency of meeting, may modify the result. In consequence, we have emphasised the small group, with precise and limited function, common interest, and light formal structure as of high potential in the early stages of social modernisation. Such groups have some similarity to traditional groups in their limited, sometimes intermittent function, and in the wide variety of functions and situations in which a group of this type can be used. Although similarity and acceptability of background is probably necessary for easy working, maximum homogeneity in group memberships is certainly not required, and indeed some variety in skills is probably useful; some form of social distance or neutrality (e.g. education or experience) may well be desirable in the group leadership.

46. But although the small group has advantages, it is also weak in management and usually in external contact, and this shows up when success leads to larger enterprise requiring both. Here the "larger (or "secondary") organisation" steps in. In terms of socialist China, it is perhaps significant that the smallest unit (the Team) has shown up best in morale, and the Commune (? tiers higher) in management; possibly the intermediate level (Brigade) is neither small enough for one nor large enough for the other. It is not, in our view, necessary that the larger organisation should bear the same form and title - e.g. a Cooperative Union above a Cooperative Primary. For what is required of the higher stage is service and management efficiency, rather than morale or democracy which are better achieved in the smaller unit. There are alternatives in private enterprise, in parastatal organisations, and in government-run service centres for performing these service and business-management functions. Attempts by the secondary unit to merge small units, or to regulate them (as against serving them) usually have adverse results, especially in morale.

* H.P. Collinson: Farm hand count in peasant agriculture: A Handbook for Rural Development "Planning in Africa" (New York, Praeger), 1972

47. It is reasonable for reasons to demand that we should come off the fence, after such a long balancing act. So, very briefly, our main conclusions on group use, where groups are needed, would run roughly as follows:-

1) At the primary (and sometimes initial) level of organisation, we see most virtue in the relatively small, single-function group, strictly related to a specific opportunity, where success may be minor but fairly certainly achievable. We think that this should be, wherever possible, self-managed (the wind of leadership bloweth where it listeth) and closely supported (but not directed or dominated) by services. If a Cooperative is chosen or required, it should be of this nature (single-purpose, function-oriented, with minimal imposed rules, with membership limited by function).

2) At the secondary level, efficiency should be the dominant criterion, and there are (see above) a considerable range of variants in the tool kit. Choices between them will depend upon the particular function (crop-production - what crop? What technical constraints, what processing/marketing channel? - animal products, irrigation, etc etc). It will also depend upon the nature of the primary groups to be served, and on a decision on the degree of management needed. The Farmer Service Society, with a considerable external management input, lies between totally managed systems (Company, Corporation, Board, etc), and the totally elected Cooperative which has dangers both on the management side and on the political distribution of power and benefits in some societies. We regard Cooperatives, at both levels, provided the warnings at each level are heeded, as a valid but not an invariable choice.

3) As regards wider-function elected Committees, in tiers, we are inclined to think that this is essentially a political choice, and that, outside fully communalist societies with monolithic direction, such systems are not likely to be developmentally efficient, mainly because of (a) the high technical element in development, (b) the multiplicity of functions and (c) the multiple, and not always mutually consistent expectations which such systems are called upon to fulfill.

48. We have distinguished total post-revolution communalism from the variegated chequerboard of more gradualist systems, which are themselves in a transitional political process, in many countries towards a more equitable spread of development benefits. We have not attempted analysis of the fully communalist systems, mainly because the same detailed evidence has not been gathered, or at least is not easily and reliably available. In the case of the gradualist system there is a sporadic, uneven, multi-fronted struggle to advance. Each step, opening up new vistas of possibility, exposing new tensions and sometimes exacerbating old ones, will lead where it will lead - in some cases to revolution itself, in some cases to accelerated reform.

49. Such a process requires much patience and faith. It also - and particularly if it takes place as we have suggested, by gradual steps, locally adapted - will put a great strain on donors. For the temptation to back generalised theories and the ambition that 'our' project should succeed, embodied particularly in project staff anxious for their personal success and reputation, will not easily accept the modesty, opportunism and patience which is the necessary attitude for such work. It is admittedly difficult, when a donor is investing a large sum, to resist the temptation to insist on close supervision; to demand that only the very best of local officers should be used (if necessary, robbing other Districts for them); to use local committees, set up to ensure democratic involvement, chiefly for collecting credit debts or administering unpopular regulations - a mistake often made by colonial governments operating 'indirect rule'. But all these actions weaken local responsibility and initiative, and endanger the future, not only of the project itself but of its replication in other areas. These limitations do not apply much to major infrastructure - dams, trunk roads, etc. - which may well be designed and built by foreign aid; but they apply in full force to the small-scale social and agricultural development which should be the pay-off from such schemes. Increased effort by donors to bring development directly to the poorest sections will therefore imply a radical change in

the donor approach to such field work.*

50. We are unfortunately short of detailed and precise accounts of just how small groups emerge, and we only have sparse evidence of the value attached to self-management, usually in the negative form of complaints against "interference" by a higher tier in the hierarchy or by officials; these are certainly widespread. We could argue that if the task or situation is such that an external managerial input is essential, then it should be decisive, continuous and efficient, not intermittent, complaining and merely regulative.
51. We are also sadly short of natural history studies of groups, and any attempts to study the subsequent progress of groups of which only the successful start has been recorded would be extremely welcome. Help on these subjects would be greatly valued.
52. Finally, quite a large number of recommendations and policy directions are implicit in the analysis of this Paper. They are not listed formally here because we recognise that comments will no doubt suggest reformulations. It is important that what is actually recommended should have behind it the largest possible element of consensus and of information, in which the Network is rich.
53. In due course we shall hope to publish significant comments, and, at that stage, perhaps some shorter and more crisp summarisation and Guidelines. Comments are welcome on the whole Paper, and in particular information and comments on the following issues:-
- 1) The detailed process of original group formation
 - 2) Effects of size.
 - 3) Leadership
 - 4) Durability - life history of small groups.
 - 5) The degree of external supervision, interference, management which is desirable (in what circumstances).
 - 6) The relationship between small groups and "superior" organisation. Should these be regarded, not as superior, but solely in a service relationship?

G.H.
J.J.
April 1976

* See S.H. Dutterfield: Draft Summary Statement of a Practical Agency Approach to Rural Development, Mimeo, AA/A 28.2.75; and J... Green: Towards an Agenda for Social Science Research Supportive of the Effort to Reach the Rural Poor, Mimeo, AA/TS, 4.4.75, for suggestions to alter AID's efforts in this direction. Both documents are of the greatest interest.

** One of the major (and unfulfilled) demands of Australian Aborigines in early settlement schemes was: "to farm land and sit down on it like white people, and manage we ourselves." B. Barzack, in Penny and Epstein (eds): Opportunity and Response (Harst and Co., London) 1972.

ANNEXE A

SOME MAINLY SOCIOLOGICAL NOTES AND REFERENCES ON COOPERATIVES

1. There is a mountain of publications on Cooperatives, ranging from promotional material, through field reports and case studies to critical academic analysis. This Note only adds a little elaboration on the sociological side - i.e. the nature of Cooperatives as institutions in developing countries - to the statements and references in the text. Most of it refers to two publications based on East African material and on two more general studies:
 - 1) Cooperatives and Rural Development in East Africa. Ed Carl Costa Widstrand, Scandinavian Institute of African Studies, Uppsala (Africana Publications Corporation, New York, 1971), referred to as "The Uppsala Seminar" below.
 - 2) Efficiency versus Distribution in East African Cooperatives, Goran Hyden, East African Literature Bureau, Nairobi, 1973.
 - 3) Two Blades of Grass: Rural Cooperatives in Agricultural Modernisation, Ed. Peter Worsley (Manchester University Press, 1971) referred to as "The IDS Seminar" (original Papers), or Two Blades of Grass (published book)
 - 4) Rural Cooperatives as Agencies of Change (Volume VIII of the UNRISD reports on "Rural Institutions and Planned Change", (Geneva, 1975), referred to as "UNRISD".

To keep this Note even reasonably short we have had to eschew all but very short verbatim quotation. But for those interested, but also pressed for time, there is a 10-page Summary, with more quotation and comment, available from ODI.* and also a review of "Two Blades of Grass".** These preceded publication of 2) and 4) above, but cover much of the material.

2. Perhaps even more material would not help much. For two things stand out in this subject. First, the amazing unanimity of almost every objective evaluation of Cooperative functioning in ldc's, and the almost equal similarity of findings from all over the world; and, second, the pitifully feeble influence which these findings have had on government policies, except in India. This massive evidence that, except in a limited range of circumstances, Cooperatives are not likely to achieve both the economic and the social objectives set for them (at most, one or the other) has not deterred governments, even today, from establishing them and expecting both across the board. It is significant that, in 1975, faced by the UNRISD Report, the International Cooperative Alliance, largely supported by ILO and to a lesser extent by FAO, simply refused to accept the evidence,*** drawn from three continents; and they had presumably also rejected the evidence of the other three (earlier) publications mentioned here. Evidently, many more failures are needed, and the final criticism is likely to come, not from academics, but from disillusion among the farmers themselves, which is already growing, and from the success of variant approaches.

3. Traditional, Capitalist/Individualist, and Socialist Attitudes: Transition: Solidarity and Faction

(a) Traditional Phase Perhaps the principal sociological findings concern the nature of traditional forms of solidarity (or cooperation) and the abruptly different nature of the attitudes and performance which are expected of Cooperatives, as modernising institutions, by those who institute them.

* "Cooperatives: Effects of the Social Matrix" (duplicated), Guy Hunter ODI, 1971

** Published in The Journal of Administration Overseas, July 1972

*** e.g. an ICA comment: "Only 4 of the 14 Asian Cooperatives were classified as "high impact". The ICA wondered what prompted the inclusion of the other 10 in the study. UNRISD, p. 30.

Dore! points out that traditional communal labour groups are not normally whole community groups but are formed, in various sub-groups, for specific, usually intermittently occurring tasks. He further adds that "the cohesiveness and the authoritarianism are inextricably combined in the traditional structures, and destruction of authority patterns is likely to lead to break-down in solidarity too."

Weintraub** notes that traditional solidarity is needed to give coherence at the outset of 'osh-vim formation, to hold sub-groups within a larger grouping; it may then either lead to faction or be replaced by a modern and different type of whole-group solidarity, if the timing and occasion is right.

Hyden*** stresses that traditional solidarity is aimed to meet collective need (e.g. path-clearing), not at a way of securing individual economic benefits by common organisation. Hyden**** further points out that "the horizontal ties of economic interest" (e.g. between farmers in different communities but with similar interests and constraints)" "have not replaced the vertical ties of social obligation based on such units as clan, village, etc." Hogot-Adholla***** notes that not only are Cooperative tasks different in kind from traditional collective tasks but represent an expansion of scale. He concludes: "There is no direct continuity between autochthonous cooperative forms and modern marketing Cooperatives".

Hyden moreover questions the Western assumption that Africans do not want "big men" to lead them, or that riches are unjust; on the contrary, "big men" succeed, and Africans want to compete, get out of the herd, and succeed. They do not believe the view that one man's riches make another man poor.***** It is for this reason that Africans tend to follow "people with a wider view and experience of the world outside the local rural community. To this category belong teachers, priests, traders, administrators and politicians.*****"

For variety of scene we need only add a word from Pacific studies - "I am not aware of any traditional authority structure in the Pacific which could be carried over intact into Cooperatives"***** "The organisation and functioning of traditional communitarian institutions are so fundamentally different from modern structures that they cannot be considered as part of the same continuum.*****"

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- * R.F. Dore, in "Two Blades of Grass", p. 49
** D.O.V. Weintraub, *ibid* (e.g. p. 136
*** Goran Hyden in Efficiency versus Distribution, p. xiii
**** Uppsala Seminar, p. 65
***** S.E. Hogot-Adholla, Uppsala Seminar, p. 36
***** Efficiency Versus Distribution, p. 51 Hyden's view, based mainly on East African experience, would not necessarily be true of other societies.
***** Uppsala Seminar, p. 65
***** R.G. Crocombe in Two Blades of Grass, p. 190
***** Quoted by Thomas F. Carroll, Two Blades of Grass, p. 218. Texier's massive review of forms of pre-Cooperative on a world-wide basis (1 copy) is available only by visiting ILO.

b) Transition - Individualism - Socialism We thus have a situation where the imposition of a modern Cooperative on a society used to quite different forms of common action but also beginning to modernise, results in dominance of the Cooperative by "bigger" men of one sort or another, who are either economic or political entrepreneurs.

This is put succinctly in UMERISD: "What often happens in practice, when Cooperatives are introduced into rural areas characterised by dependency relations is not replacement of dependency by self-reliance but perpetuation of dependency in a other form, under the Cooperative or a new dependency system in which the State becomes the new patron!" Myrdal states the same in more political form: "the Cooperative fails to incorporate a frontal attack on the existing inegalitarian power structure. Indeed, it aims at improving conditions without disturbing that structure".**

This issue is taken up by J.S. Saul, *** P.S. Cohen** and Lionel Cliffe.****The essential point is that the attempt to introduce Cooperatives on top of many forms of traditional society becomes a first step towards an "individualist" or "capitalist" or "entrepreneurial" society with emphasised local inequality. Hence one conclusion - that the social revolution must precede Cooperatives if they are to be egalitarian or democratic in an egalitarian sense. Hence the remark of Saul that perhaps "socialism is necessary to Cooperatives rather than Cooperatives to socialism:"

In fact, in this situation, three choices may be available: a) to insist on social revolution; b) to accept the entrepreneurial result, in the hopes of later social evolution towards democracy; c) to seek, by less formal groupings and initiatives, to shift traditional forms of common action into new activities. Thomas Carroll***** hints at this: "In Vicos the gradual, adaptive and sensitively administered techniques of modernisation took advantage of already existing joint activities. This was achieved by utilising the available community structure in building and reorienting its functions rather than by adding new institutions."

It is this third choice to which our text adheres, for two reasons. First, to avoid either revolutionary Utopianism or a bland acceptance of continuing dependence. Second, to make better use, without imposing a precast formula, of the real wealth of traditional institutions which does often exist. "Recent field investigations around Shinan (Shantung) revealed that in 27 Districts there are 18 types and 57 kinds of traditional cooperative societies. Their purposes, include cultivation, marketing, loans, savings, general labour, self-defence, famine prevention and mutual help for weddings, funerals, care of children, band music, common temple worship and travel".*****

It is perhaps necessary to underline one point even more heavily. Neither the text nor these references are hostile to Cooperatives as such. There may well be - indeed, there are many proven cases - where, in a much more advanced stage of commercialisation (e.g. in the modern Punjab) Cooperatives fill a highly important role. The whole stress here is on the illusion that they can simply be: a) imposed on b) a society still primarily guided by traditional attitudes c) at once. We give the last word to a very widely experienced author, and one who worked for a life time

* UMERISD, p. 30

** C. Myrdal, Asian Drama, p. 1335, quoted by UMERISD, p. 72

*** Both in Two Blades of Grass

**** In the Uppsala Seminar

***** Two Blades of Grass p. 222

***** C. Shillinglaw, writing a rural survey in the 1930s, in Two Blades of Grass, p. 142.

on Cooperative development - "Success of Rural Cooperatives (in India) presupposes a modicum of social equality, political democracy, and economic viability among villagers. Today, Cooperatives are being asked to create their own pre-conditions, to reconstruct village society, so that ordinary peasants can make effective use of the cooperative method. This is too much to expect. To rush ahead prematurely with Cooperatives is to invite failure and to give Cooperation a bad name."*

c) Size of Group "Effective participation decreases sharply with increasing membership. The economies of processing and marketing need an expanding scale, while effective participation needs a drastically decreasing scale."** This point really needs no more references. It is a fairly obvious pointer to the difference in quality between the small, primary group and the necessarily wider scope of a secondary organisation.

d) Government Interference. There is again little need for references to confirm that much interference from above, whether from a Cooperative Union on a Primary, or from Government on either, usually results in "indifference and apathy and... a feeling that (the members) cannot influence decisions about their own Cooperative or their own future."***

* Daniel Thorner, quoted by URRID, p. 111

** Carl Edstrand, in Uppsala Seminar, pp. 241-250. See also the notes on Judith Tendler's Latin-American studies.

*** Carl Edstrand, id p. 237 See also Hyden, passim

ANNEX B

J. Tendler: Evaluation of Small Farmer Organisations; AID Project Report No. 1, Ecuador, July 1975, mimeo.

Tendler's excellent report contains much thoughtful comment, and interesting examples of variants in small farmer organisation. Just a few points will be summarised here under five heads:-

1. Aid Agencies' Approach

- a) Aid agencies tended to adopt the 'numbers' approach to small farmer organisations, judging success by such indices as dues intake; agencies tended to concentrate on achievement of institutional goals, rather than development efficiency.
- b) Many agency expectations were unreasonable or contradictory; e.g. that cooperatives could "democratise" the countryside (unreasonable because cooperative benefits are exclusive to their members; because coops are best viewed as selective instruments of change, not as universal instruments of democratisation); e.g. self-sufficiency goals and "termination of support" dates (self-defeating because institutions, members, and external contractors giving the support all stand to lose if these goals are achieved).
- c) Agencies seemed to be committed to emphasising "agricultural credit provision" to the neglect of other objectives. Credit unions, which could provide attractive, secure interest, accepted non-member deposits, were dispersed, unpretentious, and used locally-known officers, successfully mobilised rural savings, but were no good only in so far as they were seen as vehicles for credit.
- d) Tendler questions "the almost universal belief of AID and other coop promoters in the goodness of aggregation [resulting] from one of the basic justifications for cooperatives: that they enable small individual producer units in banding together, to achieve economies of scale in production or marketing." "The implicit assumption of US coop thinking was that scale economies went on forever, from local to regional to national to international groupings." Aggregation was not always economically justifiable; aggregation and geographic extension nearly always reduced effective primary member participation.

2. Single-function, Infrastructure Group

Among other examples, Tendler describes the success of small irrigation groups formed and operated by the farmers themselves. Members are responsible for the design, construction, maintenance and operation of their schemes. The groups are self-financing. They came into being, without external prompting, to tap the many streams flowing through the highlands; they control approximately half the water distributed to all agriculture in Ecuador, at lower cost than the government water agency. (The government water schemes, though technically sound, had administrative difficulties which meant that they often failed to deliver water, though the structures existed.) The technology of water distribution dictated what had to be done and when; group size was limited by the boundary of the system; no difficult demands for inter-group co-operation arose.

3. Groups as an Organisational Form

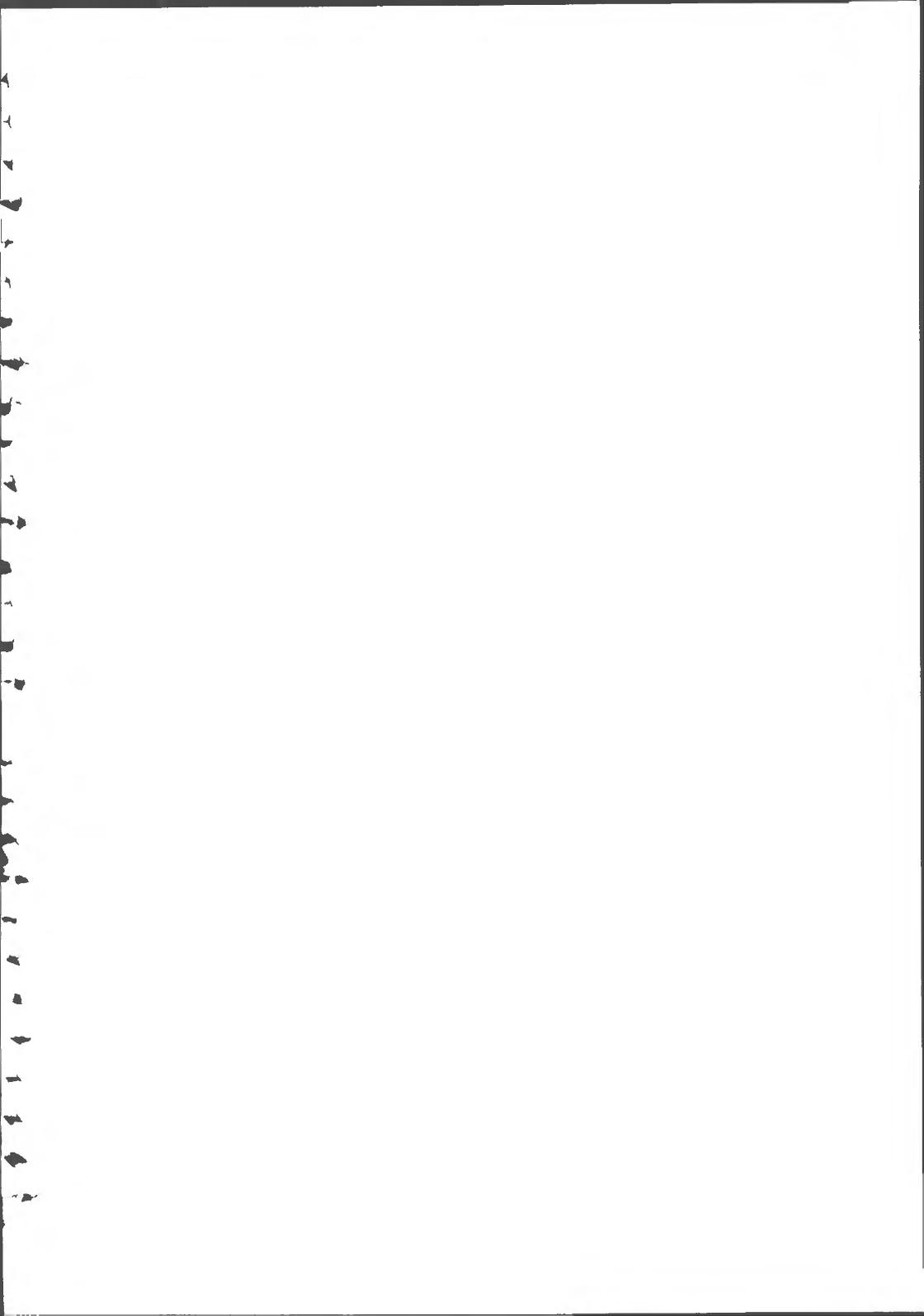
Tendler argues for experiment in non-cooperative forms of small farmer organisation, on the grounds: "It cannot be overemphasised how alien and difficult a form of organisation the cooperative is to impose on peasant society; it is justified only if the goals to be achieved can best be met with this organisational form." She argues that cooperatives should be used selectively; in many cases, organisations which require less in terms of organisational behaviour were more appropriate.

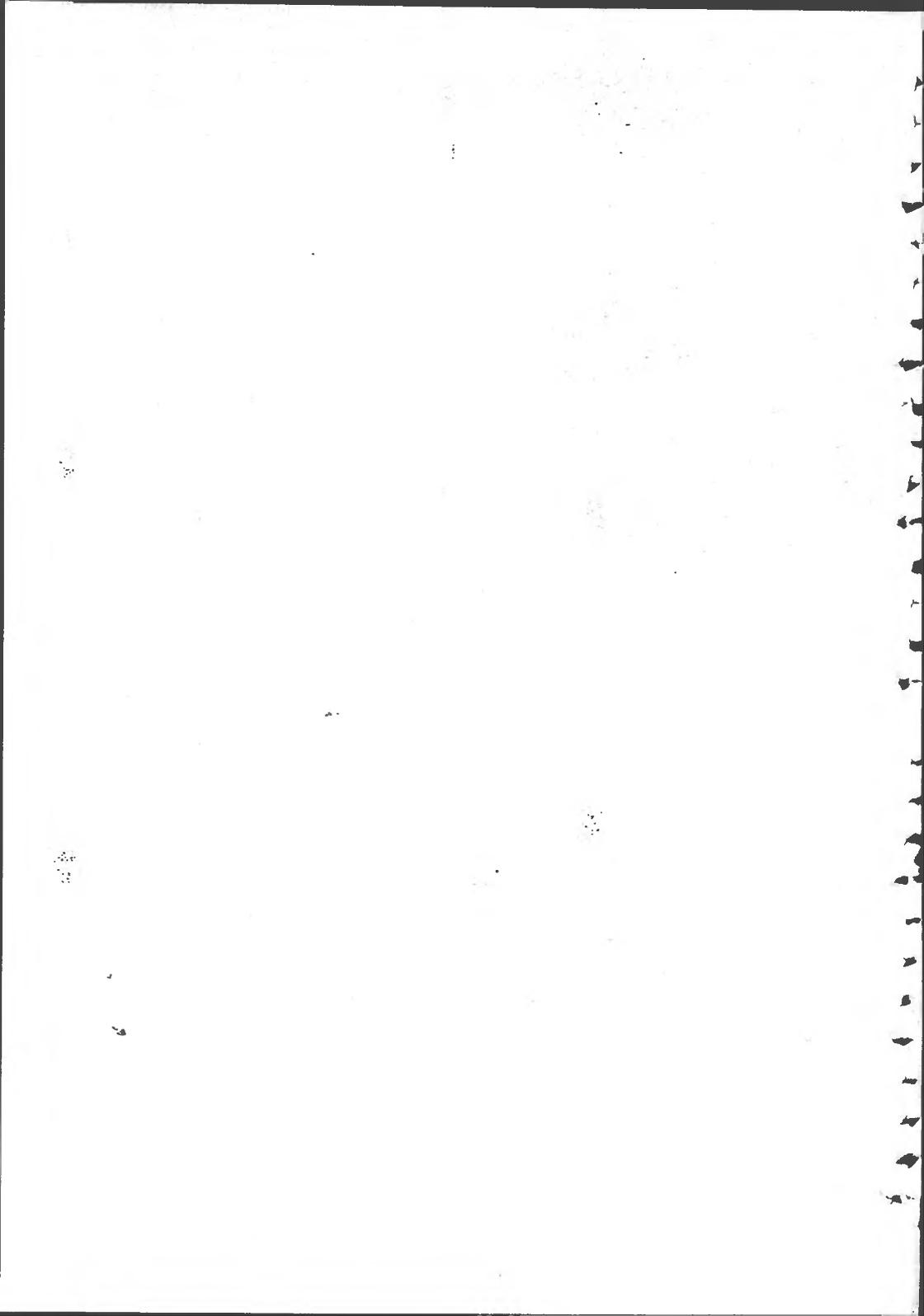
4. Role of Non-Cooperative Groups in Small Localities

Tendler found that some organisational forms, such as credit unions, far from seeking to overthrow local hierarchies, "empowered local elites in a way that made it to their interest to channel benefits to small farmers." The tiny geo-political area of most credit unions meant that local elites had both the position and incentive to act as brokers for the poorest farmers; they fulfilled a vital role liaising with the various town bureaucracies (which otherwise the peasant could not afford the time or money to approach, nor possessed the contacts, influence, or know-how to do so). Local "big men" had an essential role as mediators: groups which used them could bring about a highly decentralised disbursement of development inputs. Such groups were, of necessity, conservative, "establishment" organisations; they were accused by radicals of pre-empting support which might otherwise be drawn into political action for significant structural change and agrarian reform.

5. Role of Cooperatives

The Report in many places indicates reasons why the coop approach is "unworkable as a global strategy for small farmers". Much of the coop literature fails to realise that government sponsorship and subsidy account for much of coop organisations' success, rather than the cooperative form itself. In many coops, over 50% of sales income arises from non-member purchases; though unplanned, non-member involvement often makes a significant contribution to coop success. The Report notes the initial incompatibility of the demands of commercial professionalism in coops, with the winning of the allegiance of peasants, and mentions (cf R.F. Dore) the "institutionalised suspicion" built in to many credit-extending operations. The Report urges that coop planning be highly selective and specific. Experience suggests that some coops should be planned with short life-expectations.





WHEAT IMPROVEMENT CENTRE - EAST AFRICAN REGION

by

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INTRODUCTION

CIMMYT's mandate is a responsibility for the improvement of maize and wheat by breeding better genetic material. It serves national research programmes by providing them with improved material to work with and by training nationals in breeding and agronomy procedures.

CIMMYT's economic programme supports its programmes in maize and wheat. Because economic conditions are specific to particular regions, this support is mainly at the adaptive level in the nationals receiving CIMMYT improved materials and using CIMMYT's training facilities. The primary objectives of the economics programme are to aid national research programmes to use CIMMYT materials and other materials being tested, most effectively and, in the longer term, to feed back results to CIMMYT, thus broadening the information base for decisions on the future orientation of CIMMYT breeding programmes.

CO-OPERATION BETWEEN NATURAL AND ECONOMIC SCIENTISTS

The need for co-operative, interdisciplinary efforts by natural and economic scientists is based on the fact that the farmer himself takes decisions on what he will produce and how he will produce it in the light of the full set of circumstances in which he finds himself. This set of circumstances includes both natural conditions of climate and soil, and economic conditions of market opportunities and growing costs. In order to produce appropriate, improved technology the design of experimental programmes must reflect both the natural and the economic circumstances the farmer faces in taking his production decisions. Interdisciplinary co-operation is seen as particularly vital in producing technology appropriate to small farmers. Large farmers have the resources, contacts and capacity to review research results for themselves and select improved practices they feel to be appropriate. Small farmers are most often offered recommendations which have been selected for them. It is vital to small farmer development that the recommended technology, on which extension, credit and marketing services are often based, is appropriate to their circumstances and therefore acceptable to them.

Past efforts at co-ordination between natural and economic scientists have been largely limited to ex post criticism by the economists that the technology produced from the experimental programmes is inappropriate to the needs and circumstances of the farmers. A striking example is the introduction of Deltapine varieties in a cotton growing area of Turkey. (Reported by Kiray and Hendricks.) Deltapines gave very significant yield increases over the local varieties and had desirable fibre characteristics. Seed issue was controlled by Government and Deltapine was substituted for local varieties. The effect was extreme; a change in the structure of the agricultural community. A high proportion of the smaller farmers in the area could not earn enough from the new varieties and were obliged to work part-time only, for the larger farmers. In time, the larger farmers bought up land from the smaller farmers and significant numbers were made landless labourers, with much poorer living standards than they had previously enjoyed. To most developing countries, this would be seen as a highly undesirable result, and it was created by the introduction of a new variety which was inappropriate to the economic circumstances of the small farmers in the community. The key characteristic which created this situation was later

diagnosed by economists as its habit of maturing in a very short period. The old, local variety had matured over a six to eight week period, allowing a considerable spread of picking labour which the families of the small farmers could cope with. The new variety matured within seven to ten days, and only those farmers, the larger ones, with cash to hire labour, could cope with the picking. The larger farmers hired the families of the smaller ones who were forced out of cotton production and lost their main source of cash income. This is an example of both the introduction of new technology inappropriate to the circumstances of small farmers and of the essentially ex post role which has characterised the efforts of economists to contribute to technological innovation. With an ex post contribution, the damage has already been done, in this case to community structure, and scarce research manpower and funds have been wasted by mis-allocation. Given an ex post approach, economists must inevitably be critical of natural science research. This has itself created ever greater barriers to closer co-operation between natural and economic scientists, with essentially the same object, to serve the farmer.

CIHMYT scientists have evolved an ex ante procedural sequence through which natural and economic scientists can co-operate to reflect both the natural and economic circumstances of the farmer in the design process of the technology, that is in the orientation and content of experimental programmes. They believe that ex ante co-operation, by these procedures, will greatly increase the probability of the resulting technology being accepted by farmers. This will increase the extent and rate of adoption of the technology and hence, the rate of agricultural development particularly among the small farmer population. Given its mandate CIHMYT is particularly keen to see these procedures adopted in adaptive research programmes on maize and wheat, however, the approach and procedures are relevant to all crops.

A SEQUENCE OF PROCEDURES FOR A CO-OPERATIVE EFFORT BETWEEN NATURAL AND ECONOMIC SCIENTISTS IN THE DESIGN OF APPROPRIATE TECHNOLOGY BY AGRICULTURAL RESEARCH.

The aim of this sequence of procedures is to bring to bear the full set of farmers' circumstances, natural and economic, on the orientation and content of experimental programmes. The sequence is repetitive; two cycles allow a successive refining of the natural and economic data base on farmers' circumstances and an improving relevance of the experimental programmes to the situation of the farmer. The sequence would be appropriate for scientists working from a centre with responsibility for agricultural research in a region with a 'target population' of farmers in varying agro-economic conditions. Maize is used as an example crop to set out the interactions between natural and economic scientists.

1. The breeder and the agronomist specify the critical aspects of maize physiology in terms of moisture, plant food and vulnerability to pathogens. With the help of specialists; pathologist for diseases, entomologist for pests and soil scientist, they relate these requirements to available knowledge of conditions of climate, soil, pests and diseases in the region.
2. The economist specifies critical aspects of maize as an economic crop for both subsistence production and for sale. He relates these to available knowledge on marketing and methods of maize production in the region.
3. From these two sets of information, the region is divided into zones between which natural or economic conditions show a significant variation. This is an initial agro-economic zoning of the target population into domains for which, because of their variability, different experimental programmes are justified, and within which a variation in recommended improved technology seems probable.
4. Using the two sets of information on natural and economic factors to frame a questionnaire, the economist mounts a preliminary survey of the

region covered by the centre. This preliminary survey is descriptive rather than quantitative and has several objects:-

- (a) To verify or modify the initial characteristics and boundaries of the initial recommendation domains;
- (b) To describe how farmers in the region presently manage their maize crop and how their management of other crops in the farming system influences their maize. Description will focus on those natural and economic features identified at steps 1 and 2;
- (c) To allow informed decisions on sampling procedure and data collection techniques in future, more detailed and more quantitative surveys.

Depending on the size and apparent complexity of the region, this preliminary survey will take between one and three months.

5. Natural and economic scientists discuss the implications of the preliminary survey:

- (a) For research priorities: Given a shortage of research manpower and funds, it will be important to decide which domains should be given priority in experimental programmes and in more detailed survey work. Judgement will perhaps be based on the numbers of farmers growing the crop in each domain, the importance of the crop to those farmers and the acceptability of amalgamating domains to be covered by the same experimental work and survey if variability between them is not of a critical nature.
- (b) For the experimental programmes:
 - (i) Specification of breeding criteria, important to local, zonal conditions. For example, present methods of harvest, processing and storage will have implications for desirable features in any new variety. An economic evaluation will indicate the costs associated with modifying present harvesting, processing and storage techniques, or the losses associated with putting a relatively poorly adapted variety through the existing techniques.
 - (ii) Identifying a framework for the experimental programme. For example, for zones in which farmers grow say, 80% of their maize with other crops in mixtures, an explicit decision is required whether improved practices should be sought within the framework of crop mixtures. The economist will evaluate the importance of the practice to the farmer, the natural scientist will evaluate its symbiotic effects through relationships between plants and soil and water. It may be decided that mixtures are crucial to soil conservation and to preferred food supply patterns, and that the experimental programme should be done within this context. On the other hand, it may be decided that mixing crops is an historical hangover, with no relationship to present natural or economic circumstances and no symbiosis.

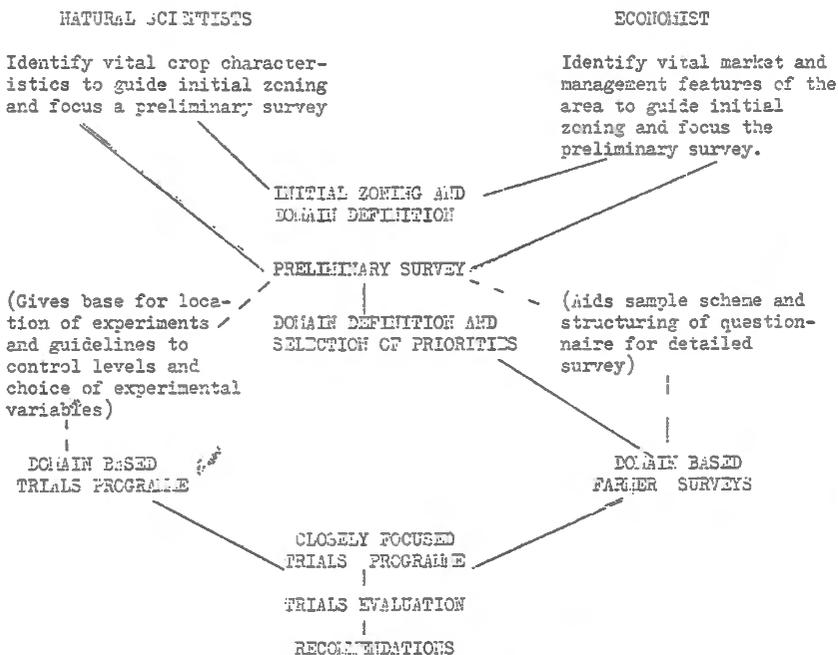
In such a case, the decision would be to break down the practice of mixing crops, and the experimental programme would be done in a context of pure maize. Whatever the decision, it is important that the appropriate framework for the experimental programme is given explicit consideration and not be allowed to be settled by default.

- (iii) Specification of soil type and topography characteristic of local farmers' maize plantings as a basis for location of experiments.

- (iv) The selection of experimental variables for factorials. Experimental design allows only a few of the variables affecting plant growth to be examined. It is clearly important that the variables examined are those which the farmer will be prepared to adopt under the circumstances facing him. For example, if his present time of planting of the maize crop is dictated by major economic considerations - critically important labour inputs on other crops is an example - it may be necessary to accept his time of planting as a constraint on the experimental programme. If so, time of planting will not feature as an experimental variable in the programme.
 - (v) A corollary to the selection of experimental variables are decisions on the levels of non-experimental variables. For those non-experimental variables in which changes in levels would have a dramatic effect on farmers' management routine and resource-use pattern, a prima facie case exists for holding these at farmer level in the experimental programme. For other non-experimental variables of little significance to farmers' management routine and resource-use pattern, changes from that level currently used by the farmer may be easily justified. Co-ordination between the agronomist, providing information on the likely responses to changes in levels of variables, and economist, providing information on the significance of changes in level to the farmer, is vital in deciding levels of non-experimental variables.
 - (vi) The description of current farmer management practice provided by the preliminary survey provides a basis for control treatment in the experimental programme.
6. A second cycle of survey work will follow in those domains given a priority for research effort. A more detailed survey will focus on those facets of maize and farm management, felt to be critical both to improved maize technology and to the farmer in his decision making, which were highlighted in discussions on preliminary findings. Where necessary, the survey will measure resource use and productivities to allow more quantitative economic evaluation of alternatives. Discussion of this second, domain based, survey will allow a closer focussing of the experimental programme.
7. Detailed survey work would be extended to other zones in advance of wider coverage by experimentation, as manpower and finance for expanded research programmes became available. It would also provide a data base for the economic evaluation of research results from the experimental programmes as a basis for the selection of recommended practices.

This procedural sequence is summarised in the diagram below:-

DIAGRAM: SUMMARY OF A SEQUENCE OF INTERACTIONS BETWEEN NATURAL AND ECONOMIC SCIENTISTS IN THE DEVELOPMENT OF A PROGRAM OF AGRICULTURAL EXPERIMENTATION.

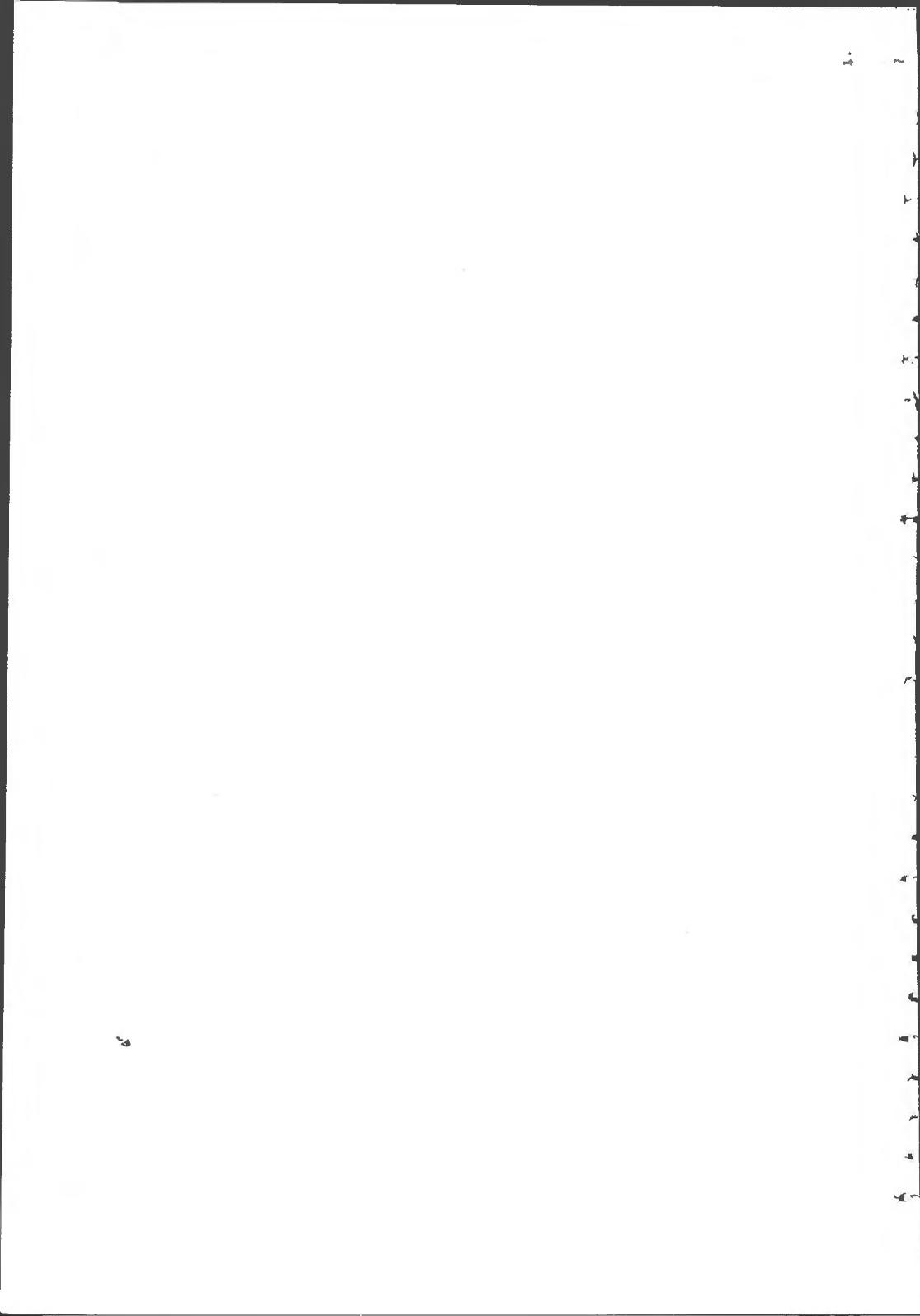


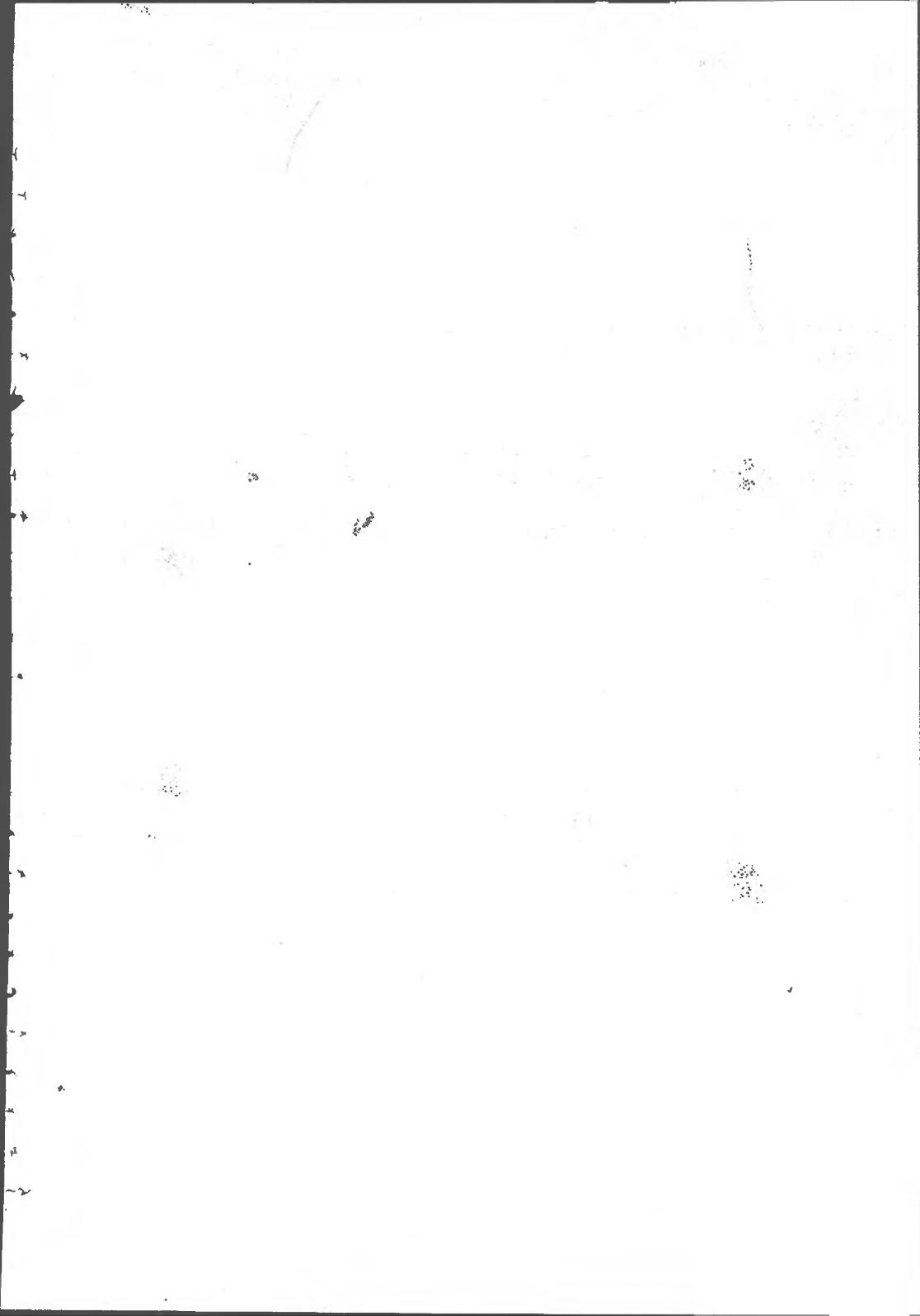
THE METHOD OF OPERATION OF THE CILLYT ECONOMICS PROGRAMME

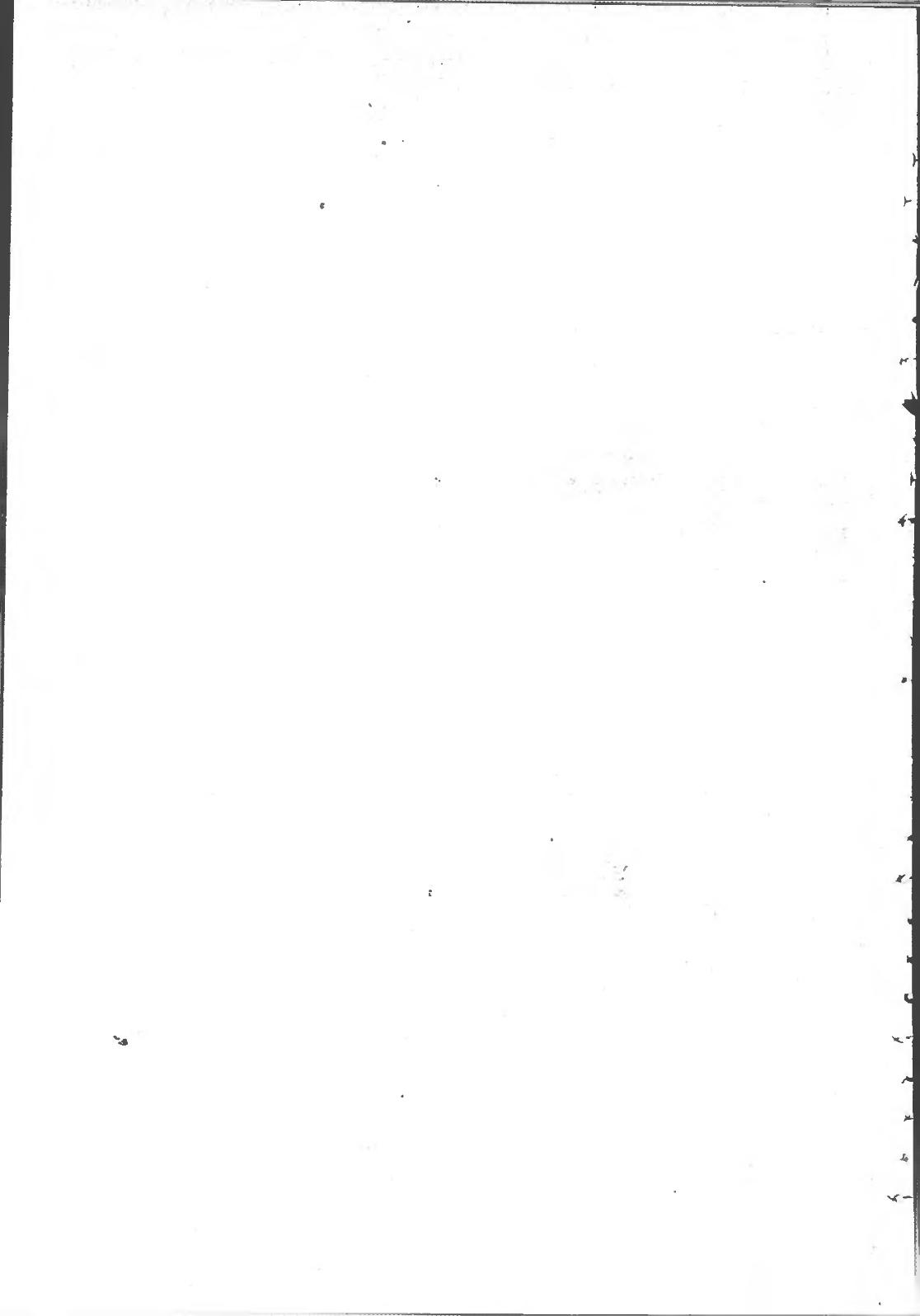
CILLYT fully appreciates the scarcity of research personnel and funds. The initial and very limited effort in each country is a result of an interest expressed by administrators of national agricultural research programmes. The aim is to convince natural and economic scientists and research administrators in each country that this interdisciplinary approach has considerable potential benefits. Benefits measured in terms of the efficiency of agricultural experimental programmes in producing technology which is appropriate for, and therefore acceptable to, small farmers.

Given interest by research administrators, CILLYT's economist works to bring together local professional staff in a small, pilot research project to demonstrate the usefulness of the approach. CILLYT provides professional advice and supplementary funding where required. The belief is that if the demonstration is convincing, a demand for this approach will arise amongst research workers and a willingness to supply funds and manpower to it will arise on the part of research administrators. By co-operating with interested local professionals in the demonstration project, rather than using its own staff, CILLYT seeks to create an awareness of the approach services.

As already noted, the benefits to CILLYT are more effective adaptation of improved genetic material with which it services national research programmes, and, in the longer term a feedback of results from the work to aid orientation of its own breeding programmes.







PROGRAMMES FOR SMALL AND MARGINAL FARMERS

GUY HUNTER

I. INTRODUCTION AND DESCRIPTION

1. The purpose of the visit was to see on the ground the progress being made by the Small Farmer Development Agency (now combined with the Marginal Farmers and Landless Labour Agency), as a check on the very contradictory accounts which have appeared from time to time in development literature outside India. I must at once express my great gratitude to the Government of India and the Ministry of Agriculture and Irrigation in particular for their help and kindness in arranging for me to visit Districts in four States (Haryana, U.P., Andhra Pradesh and Karnataka) and to the States and District Officers concerned who made excellent arrangements for me to see all that I wanted. A diary of visits etc. is appended. In brief, I saw schemes in Gurgaon District in Haryana, Fatehpur District in U.P., several parts of Nalgonda District in Andhra Pradesh and in two Districts in Karnataka, from Bangalore and from Mysore, in all of which the S.F.D.A. Programme was running. In addition I had four days of consultations in Delhi; two days in Hyderabad with the State Government and ICRISAT, brief discussions with Government, University and the Institute of Social and Economic Change in Bangalore, discussions with the Reserve Bank and the State Bank of India in Bombay, and a full day of discussions with the Centre for Agricultural Management (Indian Institute of Management) in Ahmedabad.

2. Structure

The S.F.D.A. is a scheme financed by the central Government of India and executed by the States in a number of Districts.* It has not yet been decided whether, when the Sixth Plan starts in 1977/8, central sponsorship will continue (with funds tied to the Projects), or whether it will be transferred to States, in which case additional funds will be allocated to State development budgets which, however, would not be tied to the projects. The main structure at State level is that the Deputy Commissioner** (Divisional Commissioner in Karnataka) is normally the Chairman of the S.F.D.A. Managing Committee, with the addition of a Project

* In some cases, parts of Districts. The number of Districts concerned has risen to 160 in the Fifth Plan period.

** or 'District Magistrate', or 'Collector'.

Director and small staff; the field work is carried out through the normal Extension staff (strengthened to I.A.A.P. level).*

3. The first task of a District S.F.D.A. is to identify a target figure of 50,000 small or marginal farmers, including some landless labour, to whom the benefits of the various special schemes can be directed. The main weapon of the S.F.D.A. is then brought into play - to wit, a more generous, quicker, and less strictly regulated supply of credit, given either through Cooperatives, sometimes directly to individuals, and sometimes through Farmer Service Societies (where they have been established), for a variety of investments. The Farmer Service Societies, a new institution recommended by the National Commission on Agriculture, are, in effect, Cooperatives with a nominated management (officials and non-officials) into which local Cooperative units are merged, and which have a paid manager, nominated by the Banks, and accountant and clerk.

4. Content of Schemes

The principal credit schemes (there are a number of minor additions) are:

- (1) Provision of tube wells, or deep wells, and pumps. These may be small, irrigating only 5-10 acres according to intensity of use, or 'community wells' commanding 25 acres or more, and therefore serving 15-20 farmers. Loans are from Rs. 9,000 to Rs. 50,000.
- (2) Provision of a cross-bred milk cow (or buffalo) and calf, associated with a milk collection centre, chilling centre, and final processing and distributive centre. These schemes, modelled largely on the Amul Dairy (Anand, Gujerat) provide for weighing and simple fat-content testing at village level, and fortnightly payments to individual producers after deductions. The cow and calf cost about Rs. 2,000 to 2,500.
- (3) Provision of sheep units (in some cases, 30 sheep and 1 ram, in some only 10 sheep and 1 ram). The loan is repayed by later sales of lambs, and in some cases wool. Loan per unit of 30 Rs. 3,000. To give an idea of scale, so far, 2,242 units (66,620 sheep) have been distributed in Nalgonda District of A.P.
- (4) Some pig or poultry units, involving construction of a concreted sty or deep litter poultry house.

* Intensive Agricultural Area Programme, i.e. half the additional staff allocated to Intensive Agricultural District Programme areas.

(5) Provision of two ploughing bullocks. Loan about Rs. 2,000.

Obviously, in the case of irrigation, a programme of improved seed, more intensive cropping, use of fertiliser and pesticides is tied to the provision of the water source. In the milk schemes an improved cow-stall, with concrete floor and asbestos roof, is included in the investment.

Among the minor schemes are included artisan training, agriculture, tobacco barns, market yard improvement, establishment of perennial fruits, rural works employment schemes, improved implements and tractor custom services. There is also a low-cost housing scheme, in permanent materials, mainly for labourers.

Obviously, the irrigation schemes and major livestock schemes do not easily apply to landless labourers, for whom either employment creation or subsidy occupations (e.g. training for handicrafts) or small animals, may be possible. In some cases land is provided, either from unused Government land or land surrendered under Land Reform legislation.

5. Finance

In the background of the schemes are lines of credit from IBRD and I.D.A., channelled through the Agricultural Refinance Corporation to the Commercial Banks, Cooperative Banks and the Land Mortgage Banks. After the necessary margins the loan is charged to the farmer at 11½-12½%. Although this is well below what would be the rate for private borrowing (probably around 25% from banks), almost the whole of it is 'in kind', i.e. the actual well, pump, cow or buffalo, building, fertiliser, etc., so that there is little or no opportunity for re-lending at higher rates or other abuses of the credit. There is also a 25% subsidy (this comes from S.F.D.A. funds, and is the principal way in which S.F.D.A. money is spent) on the main capital cost - e.g. the S.F.D.A. pays Rs. 500 and the farmer Rs. 1,500 for a Rs. 2,000 cow and calf. In all the cases which I saw repayments were high, and there is, in addition, a 4% risk fund, and a contributory insurance scheme (voluntary, and not always used by the farmer) against the death of a cow, etc. Neither the Reserve Bank nor the State Bank appeared to be worried by these arrangements at present, and indeed were more concerned to find viable proposals from the field on which loans could be made. Except in Gurgaon (where repayment on milk was 100%), the schemes which I saw had not succeeded in using their full allocated budget. The livestock loans were mainly on a 3-year basis, but the more expensive irrigation loans were on longer repayment terms (10 years plus). In the case of irrigation the permissible limits of the loan,

previously confined to a multiple of existing land values, had been raised by assessing the land on its future potential as wet land as against its very low dry land value. My impression, confirmed by a branch bank manager, was that loans were being given much more on a personal assessment of character, farming performance, and 'intention to repay' than on the previously rather rigid rules which excluded many small and almost all marginal farmers.* There seemed to be no doubt that, provided the farmer used the loan properly, and excluding catastrophes, there would be no difficulty at all in repayment from additional income generated. For example, a farmer selling 7 litres of milk per day at Rs. 1.6 per litre (and retaining 2 litres for family use) would earn about Rs. 1,200 - Rs. 1,600 net per annum after paying instalments and cost of concentrates for the cow. The main dangers on the livestock side are inadequate feeding (in some, but not all cases a mill producing feed cake was handy) and the risk of disease - see below. Similarly, additional income from irrigation easily repays the loan at 12½% interest. On dry land in Mysore District a pump may make the difference between Rs. 300-400 income from an acre of rainfed millet and well over Rs. 1,500 from the same land double-cropped. Irrigated sugar (Bangalore District) was giving a net profit of Rs. 3,000 per acre.

II. IMPRESSIONS

6. I must state at once that a 4-week visit, and the sight of about 20 village schemes, is an absolutely inadequate basis for making firm judgements: for this reason I have headed this Sector 'Impressions' rather than 'Evaluation'.

7. Nevertheless, I must also say that my main impression was clearly favourable and encouraging. I wish to emphasize this at once, because all sorts of minor doubts and questions will be raised below; but they should not obscure the main issue - that the schemes have proved that something can be done, and is being done, to bring a substantial income-gain to very small farmers, many of them also harijans.

Perhaps the most positive factors are: 1) That small farmers are being identified; the attention of both Extension staff and Banks is being directed straight at them; and the measures of staff success is not the number of acres under new technology (easily achieved through bigger farmers) but the numbers of small farmers involved. 2) That through groundwater use (and some lift-irrigation) and through a largely new interest in animal

* Small = 5 acres. Marginal = 2½ acres and below. Larger units in dry land.

husbandry, a profitable package for small men has been evolved, even within mainly rain-fed areas (a great contrast with the delta and major irrigation emphasis of much of the Green Revolution). 3) The combined efforts of the S.F.D.A. and the Banks is either putting new life into sluggish Cooperatives, or, by individual access or through Farmer Service Societies, is cutting through some of the difficulties which in the past made it difficult for small men to 'get into the act'. Quite a number of problems are going to arise in future, but the value of the start is not to be overshadowed by them.

8. Scale and Possible Constraints

1) Finance. The schemes at present have a target of 50,000 identified small and marginal farmers per District - about one-quarter of all farmers in populous districts and perhaps one-third to one-half in the less populous. About 150 out of about 365 Districts in India are covered, at present, and the target of 50,000 beneficiaries is not reached in all of them. There is obviously a long way to go before the schemes make a really substantial contribution to the huge number of small farmers in India. But, provided that the loans result in substantial production increases from existing land resources (good repayment will be one measure of this), and provided that the market (e.g. for milk in areas far from big cities) continues to expand, there is no reason to fear inflationary effects; the 3-year loans are turned over pretty fast. Indirect effects on full-time employment are not likely to be very large, but there will certainly be effects on fuller use of family labour throughout the year, and on some of the lowest incomes.

9. Scale and Constraints - 2) Personnel:

I have little doubt that the successful small schemes reflect much closer support and monitoring, both by Extension-cum-S.F.D.A. staff and by Bank staff than could, at present, be applied generally. At present, on the S.F.D.A. side, there are two processes of identification - first, identifying the constituency of small/marginal farmer; and, second, identifying precise points where a scheme can be started with good prospects of success. For example, on the irrigation side, this may involve finding: 1) a piece of land, predominantly held by small farmers, or vacant (Government or 'Land Reform' land) which - 2) has groundwater or other irrigation potential, without - 3) breaking the rules as to spacing and volume of groundwater use. Similarly, with milk schemes, proximity of a market and investment in a chilling plant serving a major dairy plant are both needed.

10. One may notice in passing that this effort to identify very local potential is an encouraging step towards a much more flexible and devoluted

- 3 -

system of 'diagnosis' of specific local opportunities (in contrast to 'across the board' centrally devised packages), which is a present subject of O.D.I. research.

11. The result of this hand-picking of schemes is, however, inevitably very spotty, and there is a tendency to concentrate on certain villages and very small schemes, and even to talk of 'model villages', e.g. one just outside the District H.Q. at Halgonda. In this case Rs. 300,000 (about 216,500) had already been loaned to one village of about 2,000 inhabitants, and it was planned to raise this to Rs. 1,000,000 (£55,000) - mainly in milk cows. There is always a danger with 'model' schemes that the expected diffusion to other villages will not take place, because others feel that this is a specially favoured Government demonstration which they could not expect to have.

12. This tendency also reflects a quite natural policy of the Banks to adopt a limited number of areas close to a specially staffed Bank branch. For example, the State Bank of India has established 'special Agricultural Development' branches with additional technical staff and additional field officers for assessing credit openings and monitoring accounts, with a norm of 500 accounts (or about 10 villages) to each field man.

13. While it is reasonable to regard all this as the natural and sensible way of starting with pilot areas and some concentration of effort, success will entail plans for recruitment and training on a massive scale, with a temptation to lower the intensity of monitoring which might have extremely bad results.

14. In any case there are in the wind proposals for intensifying Extension staffing and training, notably one put forward by Mr. Benor a Consultant to IBRD, which is particularly related to extension based on water outlets in irrigated areas (e.g. in Chambal District, Rajasthan). While the Government of India will, no doubt, make its own adaptation of such proposals, particularly in areas where both farmers and Extension staff are fairly sophisticated, there seems little doubt that the well-known weaknesses of a service in which an Extension Officer may have to cover 1,000 farmers, without personal transport other than a bicycle, will have to be remedied if a major impact on the relatively neglected small farmer sector of the farming community is to be made.

15. Administration - Special Agencies and Normal Administration

Three major special agencies, all new within the last four years, are now operating in considerable areas of India - the S.F.D.A., the Drought

Frone Areas Programme, and the Irrigation Command Area schemes. Administratively the most radical are the Irrigation schemes, since the 'Command Area' administration takes over virtually full responsibility for Agriculture and Rural Development in the area under a chief executive officer, sometimes with authority over more than one District (or parts of a District). There are obviously problems, too detailed to describe here, concerning the relationships of the 'normal' District and Block administration, with its staffing at District, Block and village level, which is in intimate relationship with the elected Panchayat system at each level, and the new Command Area administration. S.F.D.A. and D.P.A.P. are more auxiliary to the 'normal' administration, though even here the S.F.D.A. staff in some areas feel that progress is slowed down because the Block staff and V.L.Ws* have so many other tasks to cover.

16. While there appears to be a policy that where a major agency (e.g. Irrigation Command) is functioning, it will carry out the functions of S.F.D.A. too, this^{was} certainly modified in U.P. where an existing S.F.D.A. would continue to handle the credit etc. functions, even though a new Command area would be entering the District. Unfortunately, I did not investigate D.P.A.P/S.F.D.A. relationships.

17. But in any case, as the agencies extend over wider and wider areas (some States intend to have S.F.D.A. in all their Districts), a more general issue inevitably arises - will the special Agencies continue to work in parallel with 'normal' agricultural administration, or will 'normal' administration be jacked up to include the special special Extension-cum-Bank relationship which, with the element of subsidy, of risk insurance, and of people-and-project identification, is the chief characteristic of S.F.D.A.? There may well be differences between States here, especially if central sponsorship gives way to State financing and responsibility. Shri K. Subramanyam (Secretary for Agriculture, Andhra Pradesh) raised some of these issues of keeping administrative lines simple and clear in a valuable contribution to an ICRI&T Training Seminar while I was in Hyderabad.

18. Research and Local Programming

There has been considerable activity, focussed around the Indian Council for Agricultural Research, in definition of 9 major agro-climatic and agricultural zones in India, and already these major divisions are being subdivided into sub-zones for agricultural**crop and animal production policy (for example, in work done by the Agricultural University in Bangalore).

* Village Level Workers.

** Includes animal husbandry.

I hope to receive from Bangalore some further details of this sub-zonal work. The work of ICRISSAT's economic team on farming systems also has a significant relationship with this. Over a long horizon there could be an exciting prospect of a much more locale-specific system of devising agricultural programmes for local use. The fact that S.F.D.A. staff have had to look so hard at extremely local possibilities, and to choose the most suitable tool out of their armoury of subsidy and credit schemes, is clearly relevant here. Two major issues are raised. First, the extent to which technical/scientific research stations can direct their work more to filling particular technological gaps or requirements in typical sub-zones; second, the source, quality, recruitment and training of social science staff (not only agricultural economists, but also some with a rather wider sociological training) who could become the diagnosticians, and the link between field technical staff and research staff. It struck me in passing that the Agro-Economic Centres, attached to a dozen Universities, could contribute in this field, by moving, at least to some extent, from fairly academic ex-post evaluative work* (for which the Plan Evaluation staff is also available) to something nearer to ex-ante analysis of potential (human and economic as well as technical) upon which production and credit programmes should be devised for local (sub-zonal) situations. It might also be desirable to recruit some young academic staff direct from Universities for, say, 4 years of executive experience in field administration (in order to experience operational and administrative problems, not merely academic techniques) before posting them to District planning or programming responsibilities. I understand that D.F.A.P. areas are already beginning to recruit an economist as part of each area team.

19. In relation to research and technical solutions, I would like to add one gentle reservation about one particular aspect, or attitude, of the S.F.D.A. schemes and personnel. As I have said, the dominant emphasis is on credit. But there is a danger in believing that money, in the form of credit, is the great cure-all. In fact, technology, and indeed simple good husbandry and good farm management are ultimately much more important. Without them, water will be wasted, cattle will die or give very little milk. It is vital that the dramatic results of some kind of credit scheme should never be allowed to overshadow the importance of the technical and management side.

20. Cooperatives

While there are a number of outstanding successes of the Cooperative system in India, it is my own personal view that across-the-board reliance on the 3-tier Cooperative system in India as the preferred method of

* M.F. Collinson has observed that ex-post evaluation always tends to breed resentment between social science and field or research technical staff.

delivering credit and inputs, and of marketing, has been the most important single cause of delays and untimely services, credit-overdues, and ineffective coverage of the full farming community, to the detriment especially of the small and marginal farmers. I might mention the latest (July 1974) Reserve Bank report on overdues of Cooperative Credit Institutions, and the endless and still continuing complaints of late deliveries of inputs, ineffective marketing, and partial coverage of membership. In view of the deep and continuing commitment of Indian policy to the Cooperative tool, it may be useless and even provocative to make this statement, although I believe it to be true.

However, for many purposes some grouping of farmers is necessary and administratively convenient; and no doubt such groups will continue to be called 'Cooperatives'. It is rather as to the nature of the grouping that S.F.D.A. experience seems to have something to contribute. A group of 140 farmers all using a milk collection and chilling centre (e.g. Gurgaon); a group of (mainly Harijan) farmers on 40 acres of Government land managed collectively with two wells and a good cattle shed provided on credit (Walgonda District); a group of small farmers on irrigated (Land Reform) land (two examples in Bangalore District) and two smaller examples in Mysore (one of them mainly horticultural) - these small, function-related groups seem likely to have a coherence, a knowledge of each other, a limited but effective point of group activity which is wholly lacking in the larger multipurpose, several-village Cooperative, in which membership is induced by Government for administrative convenience. The close and speedily working relationship between these small groups and the Bank/S.F.D.A. alliance seemed to me to be working far more quickly and effectively, and getting service and credit to the smallest of farmers without severe difficulty and with excellent (so far!) repayment records. To some degree this Bank/S.F.D.A. alliance (and the Farmer Service Societies where they exist) seem to me a valid and highly significant alternative to the older Cooperative system where that system is failing, or near-failing, to give results.

It should be mentioned here that S.F.D.A. has power to subsidise staffing of existing Cooperative Societies, and no doubt in some cases this will revive them. This is a large subject, which cannot be extended here; but O.D.I. is at present doing detailed work on Farmer Groupings and we hope to contribute some more solid comparative work in the near future.

22.

GENERAL CONCLUSIONS

1. I was greatly encouraged by the notable, though local, successes of the S.F.D.A. schemes. If it is not impertinent to say so, I think the Government and States of India deserve especial congratulation for launching, financing and staffing such schemes, explicitly and successfully directed to the poor section of the farming community, a policy which has been constantly advocated not only by the World Bank but by a consensus of development-oriented agencies, and to which very few Governments have responded on anything like this scale.
2. The identification, both of people and of very local projects, seems a very strong point in this scheme, and of equal importance is the speeding up of credit machinery through the S.F.D.A./Bank alliance, through Farmer Service Societies, and through those Cooperatives which are capable of successful response.
3. The animal husbandry schemes seem of great importance, both for income and nutrition. The sole reservation which I have concerns the capacity of some borrowers to feed their animals (particularly cows and buffaloes) to a level which maintains health and milk yield (there have been too many deaths in some areas), particularly where concentrates have to form a large part of the food. A much stronger emphasis on fodder crops, which is supposed to be there, is clearly needed.
4. The major issues will be of scale and coverage and of administrative integration of the special agencies into the general administrative framework.
5. There are extremely interesting problems of research policy in relation to local programming and zoning, and massive problems of staffing, both for the Extension Services (of all Departments) and for the Banks. One would suppose that training effort, and decisions on status and salaries, need to be taken urgently, within the next year, if the expansion of the schemes is not to be gravely held up.
6. A further favourable point which has emerged from the S.F.D.A. schemes lies in the strengthening of Cooperative management, whether by the staffing of new Farmer Service Societies, or by the subsidy which S.F.D.A. is able to give towards provision of a paid secretary to societies which can be made viable and even efficient by this staff help. There is also some sign of the Banks taking over credit responsibilities from non-viable Cooperatives. Although this has caused some protest, it is a policy which may have to be pursued with some determination if the small farmer development

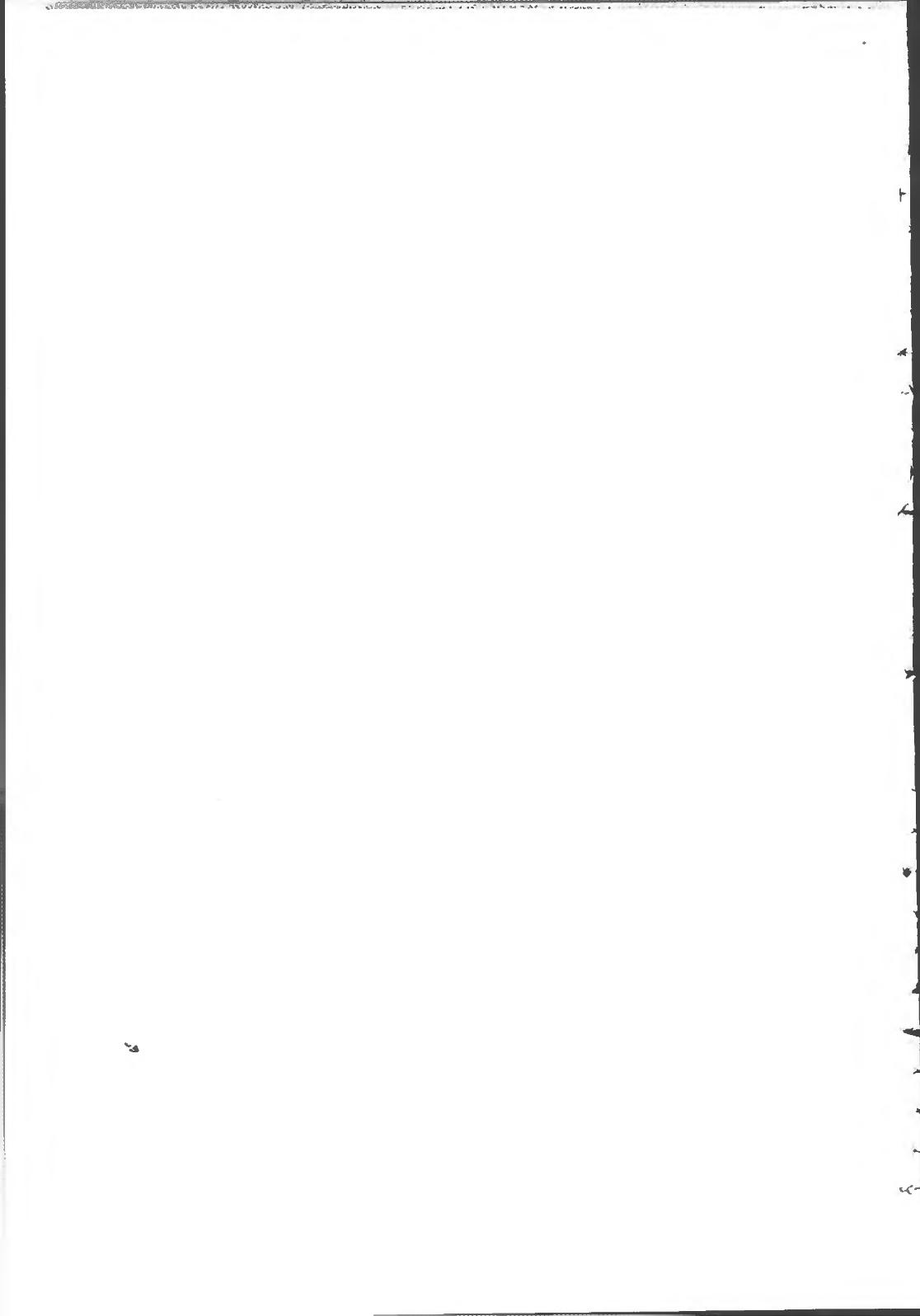
- 11 -

is not to be gravely delayed in some areas. Overdues in societies taken over will remain on the books of Cooperative Banks, for collection if possible, but they will not continue to hold up the issue of credit for viable projects to customers in good standing.

7. Finally, while the S.F.D.A. is dealing with farmers, and some newly settled farmers, the landless labour (and bonded labour) issues, which are essentially employment rather than small farming issues, do not seem to be appropriate to, or easily handled by, agencies which are so heavily tilted towards crop and animal production, and which use credit for agricultural investment as their leading tool and cutting edge. It is true that some landless labourers can be turned into (probably marginal) farmers where Government or 'Land Reform' land can be used to settle them. It is also true that, at least in theory, a labourer can continue as a farm labourer and yet keep a milk cow, milking early in the morning and in the evening, while the family look after the cow during the day. But if all animal food, whether concentrates or fodder, has to be purchased for cash, this is a very risky proposition. Further, an agricultural labour force is needed, and the main issue is to find alternative, probably non-farm employment where the labour force is excessive and where land settlement is not possible. This leads into far wider issues of economic policy, including industrialisation and the development of more varied growth centres in rural areas - issues which go beyond the present scope and policy-capacity of the special Agencies.

March 1976.

GE/JS



APPENDIX

VISITS AND INTERVIEWS

Feb. 1st/2nd. Depart London, arrive Delhi

Interviews:

- | | | |
|----|---------------------|--|
| 1. | H. A. Agha | Additional Secretary, Ministry of Agriculture and Irrigation |
| 2. | D. Aurora | Joint Commissioner, Extension & Training " " " |
| 3. | R.N. Isad and staff | Joint Secretary, Extension & Training " " " |
| 4. | Dr. G.S. Kalkat | Agriculture Commissioner " " " |
| 5. | I.J. Haidu | Secretary, Rural Development " " " |
| 6. | Dr. Ananta Rao | Deputy Director General Indian Council for Agricultural Research |
| 7. | Dr. Reynolds | District Planning, Ford Foundation |
| 8. | B. Sivaraman | Member (Agriculture), Planning Commission |
| 9. | A. Srinivasan | Chief Credit Officer (S.D.F.A., D.P.A.P., etc.) |

Feb. 7th.

Visit Gurgaon District, Haryana.
See 1 individual and 1 Community Pump scheme, Milk Collection Centre and Chilling Centre.

Meet Project Director, A.D. Malik, and staff, and Water Engineer.

Feb. 8th/9th.

Depart by train to Lucknow, U.P. and arrive (9th) at Fatehpur

Feb. 9th/10th

Meet: J. Tripathi, Project Director, Fatehpur District.
R. S. Lal, District Planning Officer
B. Missore, District Magistrate and Chairman S.F.D.A. District Cooperative Officer.

Meeting of all District Block Development Officers
(Short address and questions)

District Irrigation Engineer
Branch Manager (State Bank of India), Fatehpur
Chairman of Khsetra Committee (Block Panchayat)

General Meeting, Farmers and Block Extension Officers.

Visit: 3 villages (Horticulture with Pump: Buffalo Milk Schemes, etc.)

Feb. 10th/11th Overnight to Delhi

Feb. 12th. To Hyderabad, A.P. a.m.

p.m. To Bhongir, Nalgonda District

Meet: Project Director, Damodar Reddy, and all Block Officers for discussion.

Visit: 3 village schemes (Pumps and wells, Milk Cattle, Sheep Units) and Village Meeting with field staff. (Pillaipalli)

Feb. 13th. To Walgonda: Visit 'Model Village' (Milk cattle, plough bullocks, pumps, sheet units). (Marriguda)
Visit Community land, pumps and milk scheme. (Indalcor)
Meet: District Commissioner and Chairman, S.D.F.A.

Accompanied throughout by Project Director and by District Staff, and by A.R. Marayanan, Manager, Canara Bank, Walgonda.

Feb. 14th/15th. (Sat. & Sun) Meet: J.M. Ryan, Economist, ICRISAT.

Feb. 16th. Interviews (Hyderabad):

K. Subramanyam, Secretary (Agriculture) Government of Andhra Pradesh.

Deputy General Manager, } State Bank of Hyderabad
Chief Credit Officer }

H. S. Jodha } Economists, ICRISAT.
G. von Oppen }

Dr. D.A. Shirazi, Director, Animal Husbandry, Ministry of Agriculture

S. Rama Rao, Joint Secretary, Ministry of Rural Development and Forests.

A. R. Vithel, Secretary, Finance and Planning, Government of Andhra Pradesh

Feb. 17th. Depart for Bangalore, Karnataka.

a.m. Meet Raja Rao, Project Director, S.F.D.A. Bangalore District.

p.m. Field Visits

See Sheep Unit owners.
Milk Cattle scheme (Father Konreddy, leader)
Pump and horticulture (4½ acres)
Figgsery scheme

Meeting Farmer Service Society and see Cattle and Milk Collection Centre, Hesaraghatta.

Visit Indo-Danish Cattle-Breeding Centre, Hesaraghatta. (Red Dane cross).

Feb. 18th.

a.m. See 2 Irrigated small farmer land settlements with H.Y.V. cropping, Bidadi.

See Byramangla Cooperative and meet Members. (Irrigated sugar and other crops.)

See charitable and S.F.D.A.-supported Youth Carpentry Training Centre, Infant School and (not visited) hospital at Avalahalli.

p.m. Meet: Dr. H.R. Arikere, Vice-Chancellor, Agricultural University.
Meeting of Joint Technological Committee (University and Government)
(Short Address and questions)

Meet: Divisional Commissioner and Chairman S.F.D.A., Bangalore.

5p.m. Depart by road for Mysore

Mysore (continued)

Dinner with Divisional Commissioner (Mysore), S. Appaji
assistant to Commissioner, G. Quiser
Manager, Union Bank of India, Mysore (Host)
Project Director, S.F.D.A., Mysore, K.G. Bidappa.

Feb. 19th. Visit: Community Irrigation well, Malali (K.R. Nagar Taluk)
Discussion with beneficiaries, Hanasoga.
Community Irrigation well, Joganahally.
Return Mysore.

Dinner (at Krishnarajasagar) as guests of Cooperative
Bank, Mysore.

Feb. 20th. a.m. Visit and discussions with Managing Committee of the
Union Farmers Service Cooperative Society, Kadakola,
and visit schemes (community well at Kadanahally).

Lunch as guests of Farmers Service Society, Government Guest
House, Mysore.

2.45p.m. Depart for Bangalore.

5.00p.m. Discussion with Dr. Raghava Rao and Dr. Purohit, of the
Institute of Social and Economic Change, Bangalore.

Feb. 21st. a.m. Depart Bangalore to Goa
(Sat.)

Feb. 22nd. Goa
(Sun.)

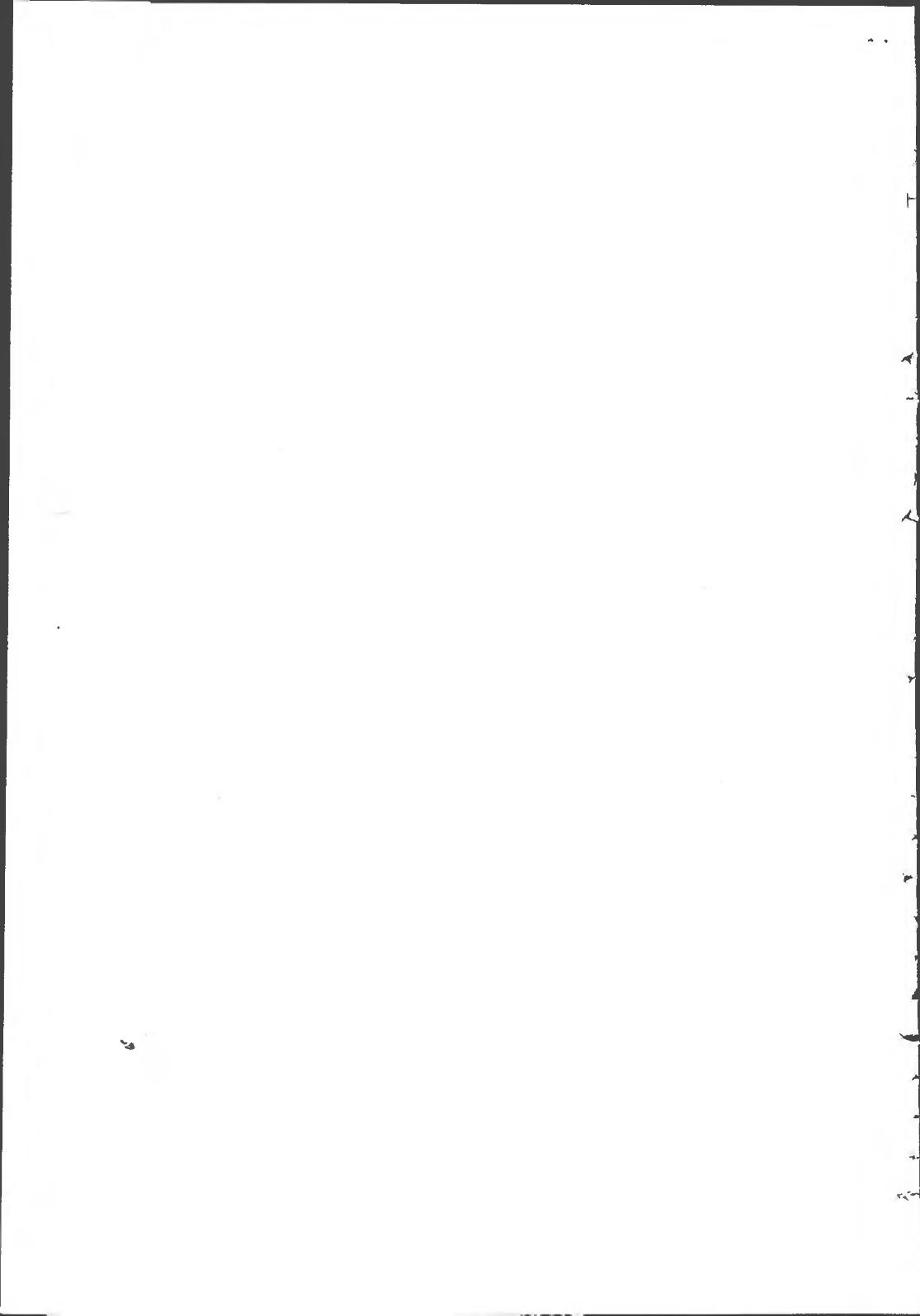
Feb. 23rd. To Bombay.

Feb. 24th. Discussion with Professor V.K. Jakhade, Economic Adviser,
Reserve Bank of India.

Feb. 25th. 6.45a.m. To ahmedabad all-day discussions with Dr. V.S. Vyas
and colleagues, Centre for agricultural
Management (Indian Institute of Management).

Feb. 26th. Bombay. Discussion with Deputy Chief Agricultural Credit
Officer, H.Q. of State Bank of India, Bombay.

Feb. 27th. Depart for London.



NOTES ON POVERTY-ORIENTED RURAL DEVELOPMENT

by

Paul Devitt

ODM, in common with several other Aid agencies, is re-thinking its development strategy. Recent official publications (1) and the establishment of a Department of Rural Development within ODM indicate a resolve to direct overseas Aid towards the rural poor. The analyses and diagnoses of Aid policy in relation to rural poverty so far published by the Government provide some insight into what happens to Aid in the upper and middle echelons of agency and local government bureaucracy and point to some causes at these levels of Aid failing to reach the poor. To do justice to the problem the discussion needs to be carried further, to the level of the village, and within the village to the poorer members of the community. These Notes consist of some preliminary thoughts on the nature and causes of rural poverty (Section A), some reasons for the difficulties most development programmes have encountered in reaching the poor (Section B), and some suggestions for poverty-oriented Aid programmes (Section C).

Section A. On the Nature and Causes of Rural Poverty

A.1. Rural poverty is not just a shortage of material goods. It is usually part of a syndrome which includes low status in the community, lack of influence, economic and political dependence, insecure or irregular sources of income, a limited range of economic and social opportunities (perceived or actual), little communication with or understanding of the world beyond the local community and a mistrust of its representatives, a tendency to associate innovation with high risk and to avoid both, and a preoccupation with immediate issues like hunger, shelter, tax arrears, and various carnal pleasures.

Poverty normally has the effect of narrowing the horizons of possibility. It saps energy, not only for physical work, but also for opening the mind to opportunities. The poor tend to inhabit a parochial, and culturally, as well as economically, impoverished and diminished world within their rural society.

To a greater extent than is generally believed there are rural cultures of poverty whose bounds are not readily visible to the stranger, but which are intensely real both to those whose lives are enclosed by them and to other members of the rural community. Depictions of the distribution of wealth in a village community will often follow a familiar parabolic curve, suggesting a continuity of economic and political opportunity. But in practice this may conceal well nigh impenetrable barriers between the economic, social and political world of the poor and that of the not-so-poor. There is often a fine but crucial distinction between families who live in the realm of dependency and those upon whom they depend. One facet of this boundary is that it constitutes an opportunity barrier. Opportunities made available to the community as a whole will permeate only as far as this barrier in such a situation, and this will seem to the majority of local people a natural and just circumstance.

A great deal has been written by anthropologists about patron/client relationships in traditional rural communities, but so far not enough attention has been paid by development workers to the implications of this concept. The idea that certain members of the rural community may acquire or have bestowed on them by hereditary right the duties and privileges of Givers, while others likewise have the role of Receivers, is very general, and is far from extinct in our own society. It is most obvious in societies where caste or aristocracy or a vigorous form of capitalism are prominent features of the social organisation, but it is also prevalent in less conspicuous forms in societies whose structural divisions are much less apparent, and where mobility between the categories is possible, as in many parts of Africa. This phenomenon has received far less attention either by anthropologists or development workers than it deserves.

(1) ODM An Account of the British Aid Programme
Cmd. 8223, Sept. 1975

ODM The Changing Emphasis in British Aid Policies:
More Help for the Poorer White Paper

To maintain the distinction between Givers and Receivers and to support its functions the Givers must have a near monopoly of economic opportunity and political influence, which are complementary to one another. This monopoly applies not only to the social and economic resources within the local compass but also to those made available from external sources. The Receivers qualify for a share in the available resources and opportunities by virtue of their allegiance to specific Givers, and what they get is generally more in the nature of largesse than of a contractual right. It is therefore profoundly disruptive to an established social order of this kind for Receivers to claim direct access to important or new resources as of right and unmediated by their patrons, the Givers.

This system of distributing the resources available to a community has been applied with many variations in most mutual advantage of Givers and Receivers. The former are expected to provide a minimum of material support, protection and leadership to the latter. The Receivers give their labour and cede any but minor claims to property and social influence to the Givers. But the satisfactory functioning of the system depends on a fairly high degree of local autonomy and self-sufficiency. The Givers must normally invest a high proportion of their resources in the local community and enjoy the loyal support of their dependents. For example, they must invest in land which the Receivers work and from which the latter draw a significant amount of benefit, or in cattle which the Receivers tend and enjoy a share of the milk, meat, draught power, etc.

The system weakens and lends itself to exploitation of the poor when the Givers find it possible and profitable to invest their resources outside the community, for instance by selling grain or cattle and investing the money in the bank; or when the Givers begin to look beyond their own community for a forum in which to exercise their social and political influence and from which to draw support and confirmation; and when they become increasingly independent of the cooperation of the Receivers, as when labour-intensive agriculture becomes mechanised, or traditional stock-keeping becomes commercialised.

Many rural communities have now entered this phase of disintegration of the old system of giving and receiving. Those better placed, as Givers, to make use of the new economic opportunities offered by commercial markets for agricultural produce, or by development programmes and projects, have remained poor, or, increasingly cut off from the resources of their patrons, have become more and more impoverished. Change in the structure of rural society, which determines the allocation of opportunity, has been relatively slow. The attitude of dependency proper to Receivers has remained, even if the object of dependence has been transferred from a local patron to the Government.

These observations on the nature of rural poverty, in so far as they can be applied to any specific rural community, offer a partial explanation of the discouraging results most rural development projects have so far had on poverty. They suggest a need for greater sensitivity to the predicament of the rural poor in each situation where a rural development programme is contemplated. (Gf. Section A.7. below)

A.2. One of the aspects of poverty is a characteristic psychology of defeat. When poverty is treated by a development agency as nothing but a material problem, relief normally lasts only as long as the aid continues, and an attitude of dependency is cultivated, or even engendered where it did not exist before. Dependency is the psychological antithesis of development, and poverty-oriented programmes are especially prone to create a milieu in which the poor are assigned and readily adopt a passive role, to which in many cases they have always been accustomed. Equally naturally, the development workers assume the responsibility for thinking, deciding, organising and providing most of the effort to initiate change, in fulfilment of the expectations of their sponsors. Structurally the relationship between Givers and Receivers remains much as it was in days of yore, but the traditional Givers have been replaced by an alien breed of hyperactive experts who see their relationship with the Receivers from a quite untraditional perspective.

The way is then prepared for a perpetuation of the attitudes of dependency and defeat on the part of the poor, and, in spite of the disavowals of project staff, for their assuming the role of patrons and dispensers of largesse.

A.3. Persistent poverty is as much a social as an economic phenomenon. In rural society the poor normally lack influence as well as possessions. They may therefore be incapable of modifying the social arrangements which prevent them from improving their own status or increasing their share of the available economic opportunities. They are often, as suggested in A.2. above, both psychologically and materially dependent on patrons, land owners, moneylenders, etc. Such relationships, where they are still intact, are often seen by the poor as a life-line, in which case they will not do anything which might weaken it. They may regard the possibility of a move towards economic independence by themselves as a threat to their status as clients. They may even avoid cooperating with an outside agency for fear of their existing patrons severing the sustaining bond on grounds of their unfaithfulness.

A.4. Poverty is often hereditary. It may be so in a formal sense, as when castes or rigid classes are allocated economic opportunities strictly in accordance with their position in the social hierarchy. Or it may be a natural result of a poor father being unable to help his children to get themselves established with land, cattle or other productive assets. Under such circumstances, where wealth and poverty are traditionally regarded as the proper conditions of certain sections of society, attempts to alleviate poverty may be seen by many people, and not only the rich, as a threatening disturbance of the social arrangements upon which many livelihoods depend. The better-off are likely to resist it, not unreasonably, as it often seems to entail (even if it does not do so in fact) the division of a cake of fixed size into more equal portions, resulting in an inevitable shrinkage of the larger segments. The same people may also resist change of this type because they fear it will deprive them of the labour of the poor, or at least drive labour costs up.

A.5. Poverty is sometimes due to sheer ineptitude, idleness or personal bad luck. Although there are many rural situations in which the allocation of economic opportunity is hierarchical and hereditary, there are perhaps as many in which able and determined people, beginning with nothing, can build up sizeable estates and elevate their social status and income by their own hard work and application.

The failure to recognise that some people are poor, not because they are discriminated against by an unjust society, or because they had a bad start in life, but because they are bone idle or stupid has resulted in much unnecessary frustration for development workers.

A.6. Rural poverty is an elusive problem. The poor are often inconspicuous, inarticulate and unorganised. Their voices may not be heard at public meetings in communities where it is customary for only the big men to put their views. It is rare to find a body or institution that adequately represents the poor in a certain community or area. Outsiders and government officials invariably find it more profitable and congenial to converse with local influentials than with the uncommunicative poor.

Unless paupers and poverty are deliberately and persistently sought, they tend to remain effectively screened from outside inquirers.

A.7. The nature of rural poverty is doubtless a fitting topic on which to build a sizeable research industry. The results of academic research into this subject have, however, been neither copious nor very useful so far. This very fact could lend weight to an argument in support of spending large sums of money earmarked for development on gathering the data which is thought to be necessary to enable practical work to begin.

Understanding is certainly needed, but it is best acquired in the course of a day to day dialogue between practical action and results. The psychological, and invariably the chronological, gaps between research, report-writing, report-reading, policy-making, planning, recruitment and implementation are usually so great that only the most tenuous relation between the original research and action at the village level can exist.

The people who need a working understanding of poverty at the village level in a specific situation are those who are on the spot, working towards its alleviation. Their understanding, their capacity to become identified with the human situation and to become effective in alleviating some of its suffering will grow out of their daily experience, out of their own failures and accomplishments, and not out of reports written by long-departed researchers.

If reports have a function in promoting understanding of what to do about rural poverty, it is as a means of sharing the considered experience of one who has already done a job in one place with those who are toiling elsewhere.

In poverty-oriented programmes (though not necessarily in all development projects), reports are not an essential prerequisite for the release of funds and the initiation of practical action. The success of such programmes depends on choosing the right people to send into the field, sensitive people with a facility for learning on the job. These rural development 'General Practitioners' will need open minds and hearts and eyes and ears much more than reports or qualifications to carry out their work.

SECTION B. On the Ineffectiveness of Development Projects in Reaching the Poor

B.1. One of the lessons of experience is that there is no single approach to the alleviation of rural poverty which is always and everywhere preferable. In some circumstances highly specialised, technically complex and intensively administered schemes have apparently attained their objectives and benefitted many small farmers. In others, sectoral programmes, such as public health, nutrition, rural roads and village water supply projects have greatly contributed to the quality of rural life. And innumerable small grass-roots community development type schemes have provided local amenities and elevated local self-esteem.

External aid has been an essential component in many of these ventures, but at present aid agencies in many countries are concerned that their efforts to tackle the growing problems of rural poverty have been less effective than the situation demands. There is a remarkable degree of unanimity among agencies that a new approach to overseas aid is needed, and that what is called rural development may be highly effective in meeting this need.

RD is variously defined, but the intentions are generally the same. The World Bank defines it as -

..."a strategy designed to improve the economic and social conditions of life of a specific group of people - the rural poor. It involves extending the benefits of development to the poorest among those who seek a livelihood in the rural areas."(1)

ODM's definition is broadly similar -

..."the improvement of living conditions in rural areas, through the increased productivity of agricultural and related enterprises and, if it is to benefit the lower income groups, the equitable and fair distribution of the wealth so created, taking into account the need to maintain a balance between individual consumption, investment and improvements in communal social services."(2)

Despite the qualifying 'if' in this passage, it is clear from the text that the improvements to be brought about are in fact intended for the benefit of the rural poor.

(1) World Bank, Rural Development: Sector Policy Paper, Feb. 1975

(2) ODM Comd. 6270, p.16

B.2. The recognition of rural poverty on a vast scale is not new. It was prominent among the concerns of local administrators in colonial times, and 'community development' was a term used for one kind of approach to the problem. Many other approaches have been used, including settlement schemes, credit schemes, cooperatives, thrift and loans societies, mass literacy campaigns, etc. They have all enjoyed mixed success, but the prevailing attitude towards them is, if not disparagement, at least a desire to concentrate this rather motley experience into a single, coherent attack on rural poverty.

One result of this determination has been the 'integrated RD project' approach which is now being applied with great vigour and at vast expense in a number of countries (e.g. Lesotho, Malawi and Nigeria). This type of scheme rarely has the effect of 'breeding' development, which is a fundamental objective of the approach advocated in these Notes. Although it is too early to pass any final judgment, it appears unlikely that such integrated projects will be capable of replication by local initiative, since their cost and complexity are too great to be borne except by aid agencies. Even if the integrated projects were to provide a practical answer to rural poverty in certain circumstances, there would remain a great need for the low-key approach advocated here.

B.3. To effect positive change in a situation of rural poverty invariably needs large amounts of effort. The question is, where is that effort, or energy, to come from, and whence the energy to continue the work after the project has terminated? There are certain circumstances in which a 'big push' from an externally aided project will overcome the inertia of rural stagnation and enable the local economy to propell itself thereafter. This approach is normally inappropriate to area level RD programmes, because the high-powered methods for effecting rapid change under project conditions are often difficult for the local community to sustain, in which case the impetus provided by the project dwindles, or the local government is obliged to devote a disproportionate amount of its scarcest resources to keeping the movement alive.

The assumption made here is that the major proportion of the energy, in terms of material resources, labour, decision-making and organisation, and even the application of technical skills, should come from the local community. The function of external aid is to stimulate and supplement local effort, but in no case to supplant it. This makes it imperative for local effort and initiative to set the pace and direction of development, and for external planning and assistance to be kept to the necessary minimum.

B.4. The amount and kind of inputs to a rural area should be sensitively adjusted to the capacity of the local economy and administration to absorb them. Too much innovation too soon, or innovations which, however technically necessary, are perceived by local people to be inappropriate to their needs, are not conducive to development. On the contrary they are likely to swamp local initiative (especially among the poor where initiative is nascent anyway) and to create a situation in which the local contribution to the development effort is patently insignificant in relation to that being poured in from the outside. Many projects begin with massive inputs in order to get the ball rolling, and thus alienate themselves from most of the people, especially the poor. It is suggested here that inputs be very carefully matched, in amount and type, to the capacity of local people to integrate them into their way of life. As development proceeds this capacity will increase, but the rate at which the development of local capability is proceeding should determine the volume and complexity of inputs. Perverse effects will result from trying to build up local capacity too fast, as indeed from trying to force local capacity to grow by pumping in innovations. Development has its own natural pace: it can be encouraged and stimulated, but not force-marched.

B.5. An important objective of RD is to foster or generate local progressive movements which are self-regulating and self-propagating. There appears to be an inverse relationship between the scale and complexity of development programmes on the one hand and their capacity to regulate and propagate themselves on the other.

One of the most serious failures of our present approach to RD is the low rate of natural reproduction of projects. Much of what passes for spontaneous reproduction is mere replication, which involves doing virtually the whole project all over again in a different place. There is nothing wrong with replication

per se, especially when it involves technically complex, high-input, concentrated projects. But it is quite inappropriate for poverty-oriented programmes whose impetus is derived from the growth and maturation of energies already present in the community, but latent. Replication is also impractical here because of the diversity, immensity and the general distribution of poverty.

Many projects have very little capacity for self-regulation, generate hardly any energy of their own, and depend on continuous stimulation and regulation from outside. One of the perennial problems of RD projects is therefore the complex and usually inefficient bureaucracies they require. This is, however, an artificial problem induced by the prevailing megalomania of development planners. Healthy RD movements, like healthy organisms, are self-correcting or self-regulating. But this depends on their capacity for self-control never being overreached by their size. Hubris in development planning, as in all mythology, leads inexorably to the Fall.

Small undertakings which are well within the capacity of ordinary people to understand and participate in, have a good chance of appealing to neighbouring communities and thereby of propagating themselves. They breed the confidence and the competence to keep things running in spite of set-backs. A helping hand from outside encourages and strengthens local resolve; but an effort by outsiders to turn it into an ambitious project smothers the incipient indigenous enterprise and, if pursued, renders external control funding and fuelling essential.

3.6. Development almost everywhere is retarded by deficiencies in intermediate level staff. Able and ambitious local officials, including those trained as counterparts to expatriate project staff, tend to get promoted away from the rural areas to urban jobs. One of the reasons for this is that the training usually given to these officials is inappropriate to the job, which is often much more demanding of resourcefulness, patience and endurance than of technical or administrative skills. This is especially true of situations of rural poverty; it applies to a lesser extent where the local economy is more complex and advanced.

A high proportion of the local officials known to the writer have aspirations towards a life-style, income and type of work which are incompatible with development work among the rural poor. Most of their rewards for success and penalties for failure in their work come from their official seniors, and not from the local community, and hardly at all from the poor within that community. Success and failure are defined according to criteria set up by their seniors, which are not necessarily the same as those of the local community. This suggests the need for a different method of selection of local staff, from local people, who could be expected to remain in their own villages, working perhaps on a part-time basis, being trained in specific skills which are in immediate demand in the community, and answerable in the first instance to the people they are supposed to be serving.

How else do we try to stem the flow of brain and brawn from rural to urban areas? Rural life is becoming less and less appealing to many people. One of the most noticeable effects of school education is to foster discontent with rural life. Objectively as well as subjectively, it is likely that rural villages are becoming less culturally interesting and less economically rewarding places to live in than they used to be. Therefore the people with more initiative and energy tend to move away, which further erodes the cultural and economic life of the villages. It is a vicious circle, which is not broken by trying to make up for the loss with officials transferred from elsewhere. A contribution towards reviving village life could be made by employing and training more local people to fulfil specific local needs.

3.7. Professional people may experience a dilemma when working on rural RD programmes. The expert works among and ostensibly for the welfare of the rural peasantry, who typically did not invite him in the first place, have very little idea of what he is there for, or how his work relates to their needs. But the expert works for a large organisation which has employed him for his professional skills, and expects him to demonstrate his competence in this specific field. His problem is therefore an exaggerated version of the indigenous local official's in that both are required to satisfy largely incompatible sets of demands from different quarters.

There are no experts in the alleviation of rural poverty. St. Francis of Assisi had no degree in sociology or economics. Compassion for human misfortune, a good ear for hearing and a willing pair of hands for helping are the necessary attributes of the rural development GP. The expert stands in the same relation to the rural development GP as does the specialist to the medical GP. His role is to attend to specific problems after local expertise and the GP's repertoire are exhausted. His treatment should be addressed directly to the patient himself. Thus, it would be most useful if the visiting expert were to report in the first instance to the local community itself, and if many people there are illiterate, it is up to him to convey his findings and advice in other ways, by talking, drawing in the sand, and by setting the example of what to do with his own hands. If his advice needs money, materials, machines and skills to implement, he should help the community and its GP to prepare a request for these things to the government or aid agency.

B.8. Much RD research is carried out for the benefit of planners who are remote from the scene of action and who are in fact unable to use most of the research data for the practical purposes of assisting the poor to develop. Most RD planning is carried out at a great distance from the poor farmer, so that the efficacy, and in many cases the appropriateness, of the plans are considerably diminished by the time they are implemented. The closer to the level of the poor farmer the decisions are made, the less the need for research and central planning - two activities which absorb large amounts of time, money and skill.

If the nerve centre of a RD programme is remote from the scene of action, an elaborate and usually inefficient system of communications and feedback is required. Maintaining this system and correcting its deficiencies can absorb a major proportion of the resources devoted to a programme, while at the same time it tends to preempt local initiative and fails to activate local effort. The assumption that the planners and aid donors need increasingly detailed information to enable them to identify, plan, implement, cost and evaluate programmes is due to a reluctance to accept that our own scientific and systematic approach may not be conducive to fostering self-sustaining development among the rural poor.

B.9. In many rural areas external resources such as technical and administrative skills, machines, fuels, chemicals, etc., are difficult and expensive to obtain. A reliable supply of these can sometimes be guaranteed by an efficient project administration, but once that has departed the supply very often fails, causing the work of the programme to disintegrate. Repeated experiences of this kind suggest that an essential component of a RD programme is the fostering of independence and self-reliance. Taken to its logical extreme, such a policy would place an insuperable constraint on development, but interpreted intelligently it provides a useful guide to the direction as well as to the pace of development.

For example, agricultural minimum packages containing seed, fertiliser, insecticide, etc., may produce good results even for small farmers as long as the supply and distribution of the materials is organised by a project or programme. But can the local extension service, or local traders, or any private or public institution maintain a reliable supply after the programme has terminated? It is often assumed that this is easy to arrange, but in practice the results are discouraging. Many RD and agricultural projects depend heavily on increased yields from chemical fertilisers, but few countries have the resources to produce their own. They are therefore dependent on external supplies which show every sign of becoming increasingly unreliable in the future. Already chemical fertilisers are subject to dramatic and unforeseen shortages and price-rises, and the poorer farmers in the remoter rural areas (i.e. those who can afford or obtain any fertilisers) bear the brunt of these fluctuations. Is it reasonable to encourage such farmers to adopt a style of agriculture which depends on such an unreliable resource? An Agricultural system which is geared to the use of chemical fertilisers, may actually be inferior to the traditional system when the fertilisers are not available, or cannot be afforded, or are delivered too late. Many of the HYVs currently being recommended for use by small farmers are unsuitable for use without fertiliser, although in some cases the seed itself, without chemical fertiliser, may give a worthwhile improvement in results.

If fertiliser and modern seed are subtracted from the package of recommended inputs, not much is left. But other avenues, which have been remarkably neglected, could be opened for investigation, as is suggested in Section C.

B.10. There are some rural areas in which agriculture contributes a relatively small proportion to the average family's income. In Lesotho, for instance, in the Thaba Bosiu RD project area (IBRD), a recent survey showed that the average farm household received 6% of its total income from arable agriculture, 13% from livestock, and 50% from off-farm sources. This is an extreme case, but it emphasises the need to find out whether the rural poor of a potential project area do in fact see agriculture as their economic mainstay before mounting an agricultural project. It may be that projects in other areas of the local economy are regarded as more important and will therefore attract greater interest and popular participation.

It is often the case that the poor people in a rural community have a significantly different economy from the rest. People with no land or no livestock are obvious examples, but in many parts of Africa there are no clearly defined classes of landless or stockless people. Here the economy may appear to be mainly arable or pastoral, but a large proportion of the poorer families may derive most of their income from other sources which are much harder to discover. In these cases the answer to poverty may not be to help the landless to acquire land, and the stockless to get stock, since there may be good reasons why such people could not manage these assets, initially at least. The most appropriate and effective solutions will emerge from the consciousness of the people concerned, especially in the early stages of externally assisted rural development. The time for a more rational and perhaps more radical approach to the problems of material deprivation is only reached at a maturer stage of development.

SECTION C. Some Suggestions for Poverty-Oriented Development Programmes

C.1. These Notes are concerned mainly with RD at the village level because: a) it is the level most often neglected, although often alluded to, in discussions of rural poverty, and b) it is the level on which RD begins.

This bias towards the lowest level is not meant to imply that activity on higher levels is irrelevant to RD. Each organisational level has its appropriate concerns and activities. The village, the district, the province, and the state have their own responsibilities, which overlap, but which are basically non-substitutable. It is no more possible for the planner in the capital city to design a programme of rural development in a specific area than it is for small farmers in that area to devise a national agricultural policy. Neither is near enough to the ineluctable facts of the situation to deal effectively with them.

It is therefore necessary for the area planners and the state planners, and whatever other planners there are above the village level, to try to provide an environment which is conducive to development at the village level. But this should not be mistaken for development itself. One of the reasons for the present re-think of RD strategy is the realisation that however necessary these supra-village activities are they are not helping the poor very much. Nor can they reach the poor simply by lowering the aim of the developmental battery and sighting on a new target.

The rural poor are generally playing a passive role in development at present. The priority is therefore to develop their capacity to assume responsibility for their particular level of activity. Area level and state level planning are in this sense subordinate to village level planning, because mutual consultation and cooperation cannot begin until the poor are ready to think and act on their own behalf.

C.2. The rural poor generally face insuperable obstacles to their development as human beings and as communities. Even in their limited capacity as producers of economic goods, they are often oppressed by a network of interlocking barriers. In this restricted space opportunities for the normal gratifications of life and for exerting some degree of control over one's economic destiny are almost absent.

In these circumstances it may seem that a carefully planned, liberally funded and efficiently run 'integrated development programme' is what is needed. When the litany of the woes of the poor has been recited in justification of such action, and the catastrophic consequences of neglecting the situation have been calculated, and the incremental misery consequent on rising population and declining yields has been determined, donors are disposed to act with purposeful resolution. We define our objectives and lay our plans in logical sequence, allowing for a certain amount of flexibility and local consultation. Whatever the merits of such a positive approach to the problem, it is not development and it is not normally conducive to development, for its primary intention is not to evoke from the local people a spontaneous response to hitherto unperceived means of meeting their needs. Rather its intention is to convert people to the acceptance of a preconceived plan of action and to enlist their energies in a concerted effort. This kind of approach, through rational decisions directed towards a defined objective, is suitable for situations of great urgency, such as wars or floods, where immediate danger supplies the emotional fuel for strenuous action and where the prospect of an imminent and disastrous end is a powerful incentive for the general acceptance of plans laid down by a central authority. As long as the plans are clearly directed towards a satisfactory conclusion to the emergency, and are effective, most people will accept them. But emergencies cannot be protracted indefinitely without some weakening of the general will to cooperate with the authorities. The poverty of the rural poor is not for them an emergency: for most it is a way of life. The information that there will be a real emergency in a decade or two if nothing is done now has very little emotional impact on people whose attention is focussed on personal survival for this day or this week.

The attention of very poor people is seldom engaged in the clarification of social or personal objectives unless these are felt to be imminent and attainable. Poor people tend to have narrow horizons; distant aims and alternative modes of existence usually appear remote and unreal. The real problems, to which nearly all available physical, mental and emotional energy are given, are those which are here and now. This appears very clearly in the books on the 'culture of poverty' by Oscar Lewis. It can be verified in any African village.

The first stage in development could be regarded as a growing realisation by individual people that although the total context of the poverty which envelops them is at present unalterable, there are ways in which each person can begin to tackle his own immediate problems more effectively, help his neighbours to deal with theirs, and receive help from them. One man cannot pass through a hostile country alone; nor can many if each travels alone; but together they can reach their destination unharmed. So if people are disposed firstly to identify their own most pressing and immediate personal needs, secondly to see how far their individual priorities coincide with the priorities of others, and thirdly to muster their individual and joint resources and energies, new opportunities begin to open out.

In fostering this awareness of new possibilities, and in facilitating the cooperation of individuals and groups who previously had avoided common undertakings, the GP has a crucial role. The position of the outsider, the marginal man, in traditional communities has been the subject of an impressive body of anthropological research over the past decade or two (1), and it is highly relevant to rural development.

The outsider who has a sufficient understanding of the local community to participate in its affairs is not subject in the same degree as locals to the parochial jealousies, factional antagonisms and conservative influences as are the indigenes. He is outside the long-standing feuds among local groups and can, if he is skilful enough, foster cooperation among them without compromising himself or causing either party to lose face. As an outsider he is likely to be less subject to the local prejudices about what is or what is not possible and feasible, and he may perceive opportunities which had lain obscured from local awareness by long habituation. And because of his nebulous status in the local social structure, he has more room to manoeuvre and to communicate not only with members of the local community but with external agencies and officials.

(1) The writings of Frederik Barth and Clifford Geertz are among the best known in this field.

This Kissinger-like role does not necessarily demand the superhuman intellect and ubiquity of the American statesman. On the contrary, it depends on the GP remaining settled and becoming known and trusted by the local people, for unless he wins their confidence they will not grant him the support he needs to become an effective catalyst for their energies.

To release the energies of the poor, and to deploy them in the service of development, RD programmes must address themselves directly and immediately at those grave and constant concerns which evoke the strongest emotions. Only these vital and burning issues command enough energy to produce effective action in the lethargic atmosphere of perennial poverty. Their specific form differs from one community to another, and may change over time. Therefore no masterplan based on a theoretical understanding of the major emotive concerns of the poor will command real popular support. For RD to become a living and self-propagating movement it must be rooted in the deep convictions and practical commitment of ordinary people. It cannot be planted there as a prefabricated structure and still live. Therefore it must grow from the seed in the soil where it will eventually bear fruit, and it is as a sower of seeds and a nurseryman that the GP finds his most necessary role.

As the capacity of the local people to see beyond the immediate imperatives of their own poverty increases, enabling them to set slightly more ambitious targets for their endeavours, RD planning on a larger scale (e.g. of integrated projects) may become feasible. Whether and when this point is reached depends mainly on the changing attitudes and capabilities of the local people. Change is likely to be slow and unpredictable, and at times capricious, and attempts at directing the pace and orientation of attitude-change from the outside are likely to produce perverse results.

C.3. The GP is typically a young expatriate (1) and (2) recruited by the agency funding the RD programme and approved by the local government. He is to find quarters in one of the villages where he is working and is to reside there. He is allocated an area small enough in size and population for him to become personally acquainted with members of at least a third of the local households within his first three months. 500 households would probably be a maximum.

Several GPs, say from three to six, would be appointed to adjacent localities, which together would form a responsible local economic or political community. The area served by this team of GPs should therefore constitute a convenient unit for 'area planning', which might be undertaken at a later stage, if the initial phase of development had generated sufficient local capability and participation.

Administrative responsibility for the team of GPs could be assumed by the district or provincial arm of the Ministry concerned with RD. But professional supervision would be provided by an experienced expatriate RD worker employed by the aid agency for this purpose. He would be responsible for two or three teams of GPs and their areas.

The following paragraphs outline the practical means of setting up and operating such a programme.

C.3.1. In many low income countries rural poverty is found nearly everywhere. It is therefore not particularly important where one starts a poverty-oriented RD programme. One might wish to avoid places where a peasant rebellion is brewing, or where household incomes are known to be uniformly high in relation to the rest of the country, but apart from such fairly obvious deterrents one could as well begin work in one part of the country as in another.

Apart from a preliminary reconnaissance by a supervisor, no feasibility studies are needed, no prior research and no reports. The main determinant of where to start will be the preferences of the local governments.

- (1) Men and women are equally suited to this kind of work in most places. The masculine pronoun used henceforth is intended to include women.
- (2) Editorial Note The words 'outsider' and 'expatriate' will need careful definition, which may alter in different circumstances. An 'outsider' may be a compatriot, but from outside the village. An 'expatriate' must mean a foreigner, and often has the connotation of "from the previous colonial power". While the author may be right in thinking this necessary in some countries, many people would doubt if this would be wise or acceptable in many others, e.g. Asia.
Many variations are possible

C.3.2. The supervisor should establish a base in a provincial town where the offices of the local arm of the relevant Ministry are located. Within that province, or district, he should choose, in consultation with local officials and authorities, one or more well-defined areas containing up to 3,000 households, or less where the population is sparse. Each area should be served by three to six GPs. The supervisor should consult with local chiefs and headmen, since their acquiescence at least is necessary for the programme to go ahead. If one chief is reluctant to cooperate, another might be found nearby, so that the area finally established is a continuous block, even if its shape may be very irregular.

C.3.3. It would be preferable, but not essential, to find some accommodation or a firm promise of it for each GP in the villages of the area. If this cannot be arranged in advance by the supervisor it will usually be easily found by the GP once he has arrived at the supervisor's base. At most he would have to have himself a local style compound built in the village where he is going to live.

The supervisor should have some spare accommodation at his base for newly arrived GPs and for those coming from the field to visit him.

C.3.4. There are many young people who have done service overseas in rural areas as volunteers, teachers, researchers, etc., and who have shown their capacity for getting on well with rural people and for sharing their way of life. Some young married couples, even with children, have spent what they regard as some of the happiest and most productive years of their lives in small rural villages. Such people would make ideal GPs. Many have been able to give themselves wholeheartedly to the welfare of the people they live with and to put their own professions, careers and financial interests aside. The simplicity and austerity of their lives has brought them close to the ordinary people of the villages.

These qualities, which are inherent in many of our own young people, are one of the most valuable resources for RD we have, and at present they are greatly underrated and underutilised.

C.3.5. When the new GP arrives at his supervisor's base he could usefully spend his first week meeting local officials and notables, looking around the area his team is to work, and getting his bearings in his own small constituency. If his compound has not been arranged he should find some temporary accommodation in one of the villages. He should assemble his equipment, stove, lamp, chair, table, etc.

Perhaps most important of all, he should get to know his supervisor and his ideas on the local situation and how to adapt to it.

C.3.6. The supervisor needs considerable experience of RD. He should also be gently disillusioned about grandiose schemes, since they play no part whatever in his present work. Ambitious men who are concerned to achieve tangible results in the shortest possible time would find the supervisor's job intolerable. He needs the patience to move at the pace of the poor, which is very slow indeed. He needs tolerance to endure the frustration of having to contain his professional standards in order to participate himself in the disorderly lives and feelings of the poor. He will often be cast in the role of personal friend and helper to his GPs, whose problems are likely to be more personal and interpersonal than strictly professional or technical.

The supervisor's work is primarily to support and guide his GPs, but he should not try to direct a programme of his own through them. The nature of the work is formless, planless and without preconceived direction, and this in itself will induce anxiety in some GPs, and some supervisors. But the supervisor should always stress, and show by his own example, that the work is to nurture and to husband growing forces, and not to become a motive force in one's own right. The distinction between this attitude and one of idle resignation is almost impossible to explain to one who does not intuitively understand it. The patience to wait attentively until the right moment for action does not come readily to most of us, but it is an essential attribute of those who work on poverty-oriented RD programmes.

C.3.7. In addition to working with his GPs, the supervisor should be in close contact with local government officials and traditional heads to ensure that GPs are working in harmony with the various branches of central and local government in that area.

This is not expected to be a particularly easy task since a programme with such a low profile, undefined ends, and oriented towards the least influential class of people is unlikely to appeal to many of the more hard-nosed officials.

The supervisor is also the link between the GPs and the development agency. If progress reports are considered indispensable, it is he who should write them.

C.3.3. It will take the average GP a good three months to settle down, begin learning the language, meet a reasonably wide range of people, make some friends, acquire a local interpreter-cum-assistant, and begin to feel at home. During this time he will create impressions among the people as to what he is there for. His role being unprecedented, people will not understand it at once, but the easiest conclusion may be that he is a soft touch for personal gifts, government aid or overseas assistance. Such a reputation should be resisted at all costs, as it is bound to put him in an impossible position. It is also very appealing to be able to pose, with some justification, as a friend of the poor. But such explanations are likely to produce unfortunate results, such as the enmity or indifference of the not-so-poor and the dependence of the genuinely poor.

It is remarkable how readily village people accept a stranger without asking searching questions about his reasons for being there. Most people are satisfied with the explanation that one has come simply to learn about the way of life in this place. Since that is perfectly true, no more need be said about poverty-oriented development or about possible aid from external sources.

If the whole programme can operate without a title, without noticeboards, and without any publicity whatever, so much the better.

C.3.9. After six months there should be some discernible movement in a previously static situation, or more positive signs of action in a previously slow-moving one. There should be some manifestation of a new spirit of self-reliance among the poor; some hint of purposive joint action towards the solution of even very minor problems.

If there is no sign that the GP's presence has had any beneficial effects, he and his supervisor should ask whether it is conducive to remain a little longer, or preferable to withdraw and start again elsewhere in the hope of finding a more positive response. There is no point in trying to galvanise the situation into movement if nothing is stirring of its own accord. It is better for the GP to move to a nearby locality, still adjacent to the rest of the team area if possible, even if that means leaving an untidy gap. His time will not have been wasted as the experience gained in the first area will give him a head start in the second.

C.3.10. One reason for grouping GPs as a team in one area is to open the possibility for planning its development as a unit at some later stage. Another is to afford GPs the opportunity to support one another in their work. Isolation would impose too great a strain on young people doing such an arduous job. Although each GP would have a primary responsibility for his own locality, he should be encouraged to participate with his fellow team-members in their areas. Developments in the various parts of the team area should preferably harmonise with one another and provide mutual support. Frequent meetings and practical cooperation between the GPs will be conducive towards this result.

A weekly formal meeting of team GPs and a fortnightly meeting with the supervisor is probably a minimum.

C.3.11. The GPs will need small trail motor-cycles and the supervisor a Land Rover.

C.3.12. In the initial phases, RD for the poor requires no technical or professional expertise. It is only when local groups have emerged and consolidated and have exhausted their own physical, financial and technical resources that expert advice may be needed before further progress can be made. If this is beyond the capability of the GPs, the supervisor or local government staff, a request can be made to the aid agency to provide an expert.

His work would be to initiate a new phase of development and not merely to write a report. The expert should act as a consultant directly to the local people, and not primarily to the GP, the supervisor, or the agency who employs him. His job is to provide sound practical advice, to demonstrate personally how his advice is to be carried into practice in the village, and to ensure as far as possible that the necessary supply lines, maintenance facilities, storage or whatever is needed for the innovation to function well and continue to operate after he has left.

Actually securing the adoption among a group of poor farmers of one useful innovation is far more difficult than writing even the most complex and professionally competent report for other experts. But in poverty-oriented development the established method of the expert reporting to HQ, and HQ, after much deliberation, issuing orders to someone else to do something in the field, is far too tortuous. A direct relationship between expert and farmer is needed. Only face-to-face will they learn anything worth knowing from each other.

The extension of technical improvements among farmers depends ultimately on people learning from their neighbours. Extension agents and experts can only initiate the adoption process. The expert himself can only work with a few people during the time he is present in the village, but he should try to leave those few with a thorough practical understanding of what to do, so that the innovation will be successful in their hands and interested neighbours can learn from their example and instruction.

The rural poor have found very little of value in our plans and projects; they cannot communicate with our professionals or benefit from the kind of technical and organisational expertise we offer. The deficiency lies in ourselves, as we have not learnt the art of listening to the inarticulate or of seeing what is unfamiliarly formed. To be of any use to the poor our experts must therefore learn from the poor about the realities of poverty. We cannot persuade ourselves any longer that our own specialisms exonerate us from the responsibility to speak and work with ordinary people. If our expertise has alienated us from the mass of humanity, it cannot be of much practical use to them, or even to us. By giving the expert the responsibility of addressing himself directly to the people in the village, an opportunity is created for mutual understanding and reciprocal benefit. Such a possibility is precluded by the present system of employing experts.

C.4. Initially, the main expenses would be the maintenance of the GPs, their supervisors, their assistants and their transport. Very little if anything in the way of capital investments would be required (1). Keeping expenses and inputs low until the programme is well established and rooted in the area has many advantages, one of which is that if the work makes no headway and the local people are unresponsive, it is relatively cheap and painless to withdraw and try elsewhere. In a fair proportion of the areas initially selected the work will probably be fruitless. It is better to acknowledge this after a few months and quietly go somewhere else than to proceed obdurately in the face of mounting resistance or indifference. This is difficult to do when intricate plans have been made, a five-year budget prepared, surveys done, international agreements signed, and a host of expatriate experts installed to work in a specific area, as in most projects. When obstacles arise here the tendency is to bulldoze, because the project must run on schedule. Most projects have an impetus of their own and cannot be deflected by the inarticulate murmurings of the poor. Too much money and too many professional reputations are at stake.

C.5. One of the gravest and most widespread problems contributing to the perpetuation and aggravation of rural poverty is the progressive decline in village amenities. The notion, which many old people will affirm, that village life in the 'old days' a generation or two ago was far fuller and more satisfying to the average human being than today, cannot be lightly discarded. There is no doubt that local customs and institutions which flourished some decades ago have almost everywhere degenerated, according to the subjectively evaluated experience of local people, and have not been replaced by new ones of comparable richness and vigour. With the advance of education, young people in most of rural Africa have come to regard agriculture, village life, and rural interests as manifestations of a backward and bucolic existence. Their hearts, and often they themselves, are elsewhere. The drain of brawn and brain and enterprise from the rural areas yet further reduces their attractiveness, and objectively detracts from the possibilities of finding a decent living there.

(1) This appears to coincide with the Select Committee's recommendation that ODM 'should show more willingness to meet requests for the payment of local and

The scale and extent of this impoverishment of rural life is so vast that a significant improvement cannot be accomplished by furnishing the villages with externally-provided amenities. The only alternative is for new opportunities for development, and especially for employment, to be generated in the rural areas. Two modest proposals follow.

C.6. This proposal follows from the question, in B.9. above: "Is it reasonable to encourage farmers to adopt a style of agriculture which depends on such an unreliable resource (as fertiliser)?" The answer is an unhesitating "No". One of the assumptions underlying these notes is that the essence of development is a movement towards self-reliance. Its antithesis is a drift towards increasing dependency on other people or on resources over which one has no control.

Most small farmers, everywhere, have traditionally sustained their yields by organic means, from local resources. With the recent increases in population some sources of organic material have diminished, while others have increased. Local sources of vegetation and arable land for various types of fallowing have generally decreased; but human wastes, and in some places animal wastes, have often increased but are not properly used in agriculture. This suggests a need to develop more efficient methods of using organic resources from within and around the rural village, and of using urban wastes in agriculture.

There are two fruitful areas of investigation here. The first concerns the possibility of establishing small village industries to collect and process local organic materials, including night soil, household refuse, animal manures and any locally available composting materials (which might be grown or cut for the purpose). This could be sold to local farmers, thereby helping to reduce their dependence on imported fertilizers, and diminishing the flow of cash out of the rural areas towards the towns. More local employment would result from this scheme and local spending power would be increased in proportion.

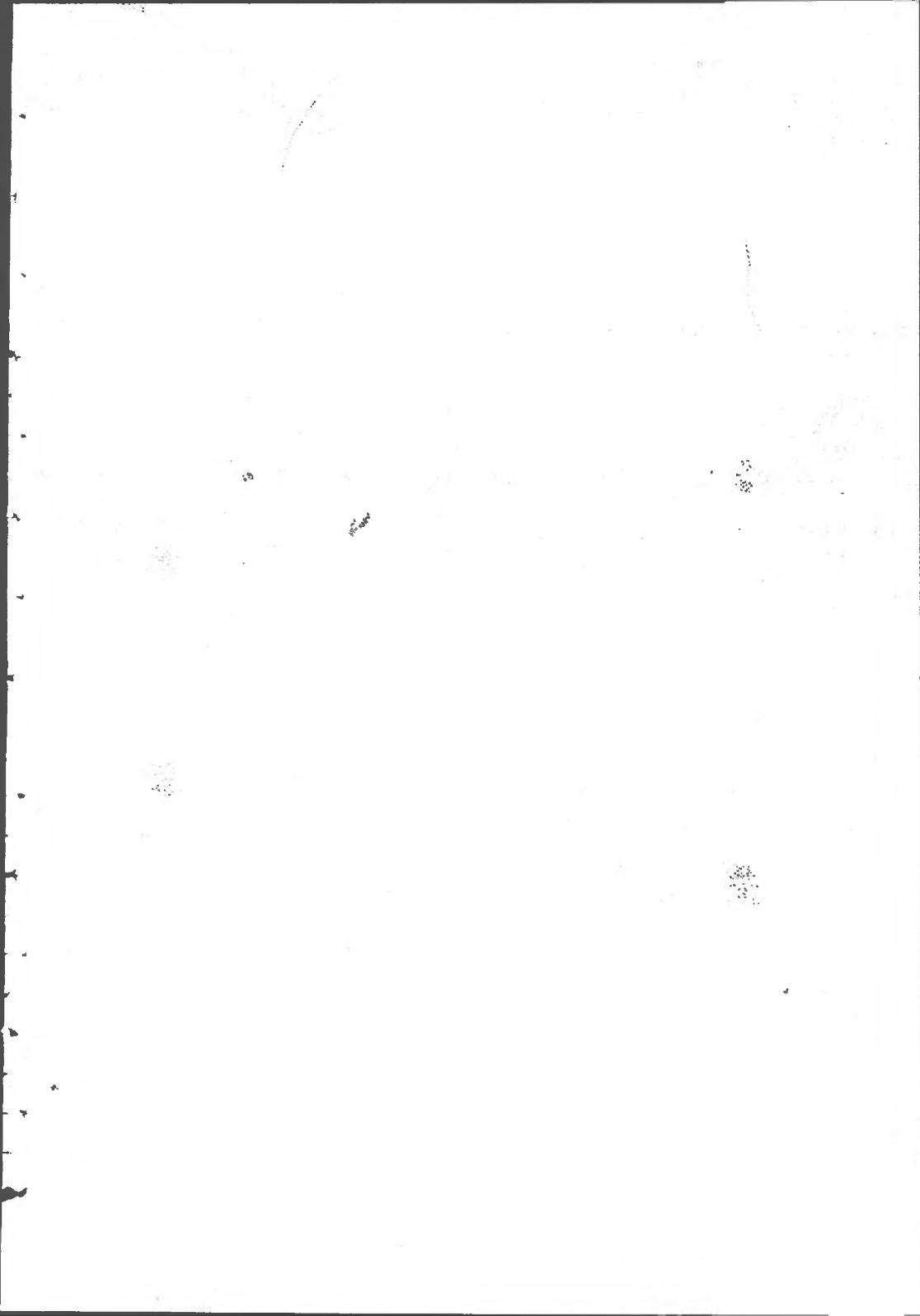
The second area of investigation is the processing of urban wastes. It is already a commercial proposition in this country and has been considered, at least, in some poor countries. Such an industry would help to solve some of the intractable problems of sewage disposal encountered by many towns, it would provide some employment, it would substitute a local product for an import, it would help to ensure a constant supply of fertilizers at prices at least partially within local control, and it would counterbalance the flow of agricultural produce from rural to urban areas with a supply of organic materials. It is even possible that the better organisation of organic waste collection and processing would contribute to public health.

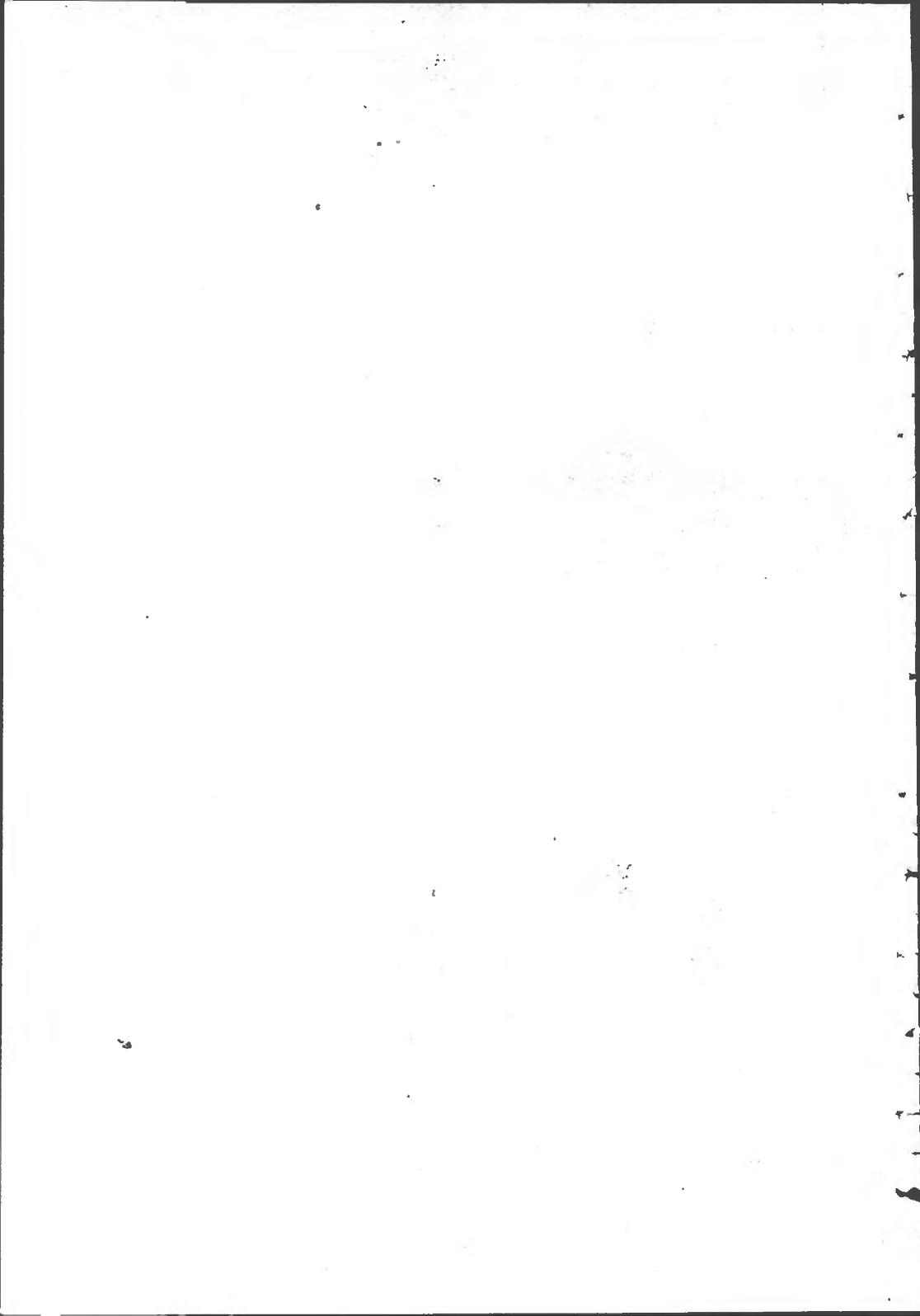
C.7. Fuel is generally scarce in poor rural areas. The quest for it denudes the countryside of trees and bushes, and manure that might have fertilized the soil is often burnt. Methane generated by the composting process referred to in C.6. could make a useful contribution to rural and urban fuel supplies.

Efforts to harness solar energy by means of simple devices are being made by numerous small organisations. Some of the results are promising but their testing under field conditions and their application to daily village needs have been retarded by the lack of money and sustained effort.

Both these energy sources could make valuable contributions to rural life as they reduce dependence on external resources and exploit local possibilities more fully. They would also provide some local employment and could stimulate other local industries which at present are unfeasible because of the lack of fuel.

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Agricultural Administration Network

1/77

AGRICULTURAL ADMINISTRATION UNIT

Agricultural Administration Network

A: The New Administration Network

There have been a number of changes in the AAU over the last few months which have led us to reconstitute the network Guy Hunter has been leading on "Local Diagnosis, Farmer Groupings, Planning and Coordination of Local Services", as the Agricultural Administration Network. It will continue to concern itself with the issues raised earlier and deliberately retains its non-technical, broad-based character, but it will also be considering problems arising in new fields of research presently being developed by Janice Jiggins and John Howell.

B: Staffing Changes

1. Since end-April 1977, Guy Hunter has become an "adviser" to ODI and has withdrawn from the day-to-day administration of the AAU. He continues to assist the AAU's research, however, and is currently working on a set of "Guidelines" - a State of Knowledge document and a Summary of practical experience over a range of rural development problems which aims to establish broad guidelines for achieving a particular category of small farmer development goals. He hopes that the document (including a Statement, the Guidelines themselves, and a summary of some of the main issues involved and conclusions reached) will find a wide consensus and have a positive impact on policy formulation and action; to this end, it is intended that the document should be 'launched' at a Conference in the Spring of 1978, and subsequently published.
2. In October, John Howell joined the Unit from the Department of Political and Administrative Studies, University of Zambia, where he was a senior lecturer in Development Administration. His Zambian interests included planning and decentralization, and he is currently preparing a paper on Agriculture and the State which examines agricultural policy in Zambia. Before going to Zambia John Howell worked at the University of Khartoum and over the past few years he has acted as a consultant to Hunting Technical Services in the Sudan particularly in the organisation of rural development in the traditional sector.

3. The Documentation Library in the AAU is growing apace and now forms a unique collection of published and unpublished work on agricultural administration topics. To be of greatest service to the many networkers who use it for reference and consultation, and to the members of the AAU, it needs more care and attention than Janice Jiggins is now able to devote to it, and we are looking at ways to achieve this. Networkers will be informed of the new AAU librarian in due course.

C: New Research

1. John Howell and Janice Jiggins are both interested in the institutional and organisational aspects of agricultural development, but at rather different levels and from differing perspectives. It might help the reader if we set out the complementarities and divergencies in tabular form, as follows:

Institutions and Agricultural Development

	<u>Jiggins</u>	<u>Howell</u>
<u>Common Objective</u>	The improvement of government performance in the agricultural sector through a better understanding of institutional and organisational potential.	
<u>Common Interests</u>	<ol style="list-style-type: none">1. Agricultural strategies and their relationship to institutional change.2. The impact of new institutions on agricultural development and farm systems.3. Agricultural technology and the design of institutions appropriate to the realisation of new or latent resources in the agricultural sector.	
<u>Divergent Institutional Interests</u>	Farm and community groups, delivery of farm services, tenure arrangements, any organised method for allocating physical and human resources (eg grazing rotations or labour sharing), local institutions relating to post-harvest technology, storage and marketing.	Central government organisation and planning, agricultural parastatals involved in large-scale production, processing and marketing, the coordination of government services at the province and district level, and the organisation of agricultural programmes and projects through special agencies.
<u>Common Institutional Interests</u>	Institutions of direct production and the organisation of farmer services at the sub-district level: problems and opportunities for the farmer (Jiggins), for government agencies (Howell).	
<u>Divergent Institutional Interests</u>	The way in which changes in institutions and technology follow, induce and interact at the local level in agricultural development.	The role of government in agricultural development, and particularly the organisational response (and capacity) of government agencies to the adoption of different agricultural and rural development policies.
<u>Area Interest</u>	Dryland farming in Africa and Asia with marginal resources and limited range of technological choice.	Countries which reflect different approaches to the role of public enterprise, party, district, and ministry organisation.
<u>Relationship to other work in AAU.</u>	Small-farmer groups and local diagnosis.	Administrative structure and co-ordination; organisation of programmes.

2. John Howell initially will be looking at the organisation and management of agricultural programmes: in particular examining (i) the institutional alternatives in implementing different types of programmes and (ii) the possibility of improving the quality of information available to decision-makers involved in selecting and designing organisational and management structures for programmes.

3. He defines 'agricultural programmes' in organisational terms: as a government initiative in agriculture which involves either a redeployment of administrative resources or the creation of new agencies to meet specified objectives for agricultural improvement. This could involve relatively small 'projects' (e.g. constructing dip tanks) or relatively large programmes which concentrate upon a particular sector of agriculture (e.g. setting up of credit scheme for small dairy farmers). However, the primary focus will be upon those programmes which involve a major investment in particular areas (e.g. Lilongwe), in a new strategy (e.g. Minimum Package Programme), or in a new crop/technology development (e.g. Groundnut Scheme).

4. Such programmes have rarely been launched entirely within existing administrative structures, but the range of alternative organisation extends from small project units within established departments to permanent new organisations. The research looks at this range of choice and by examining the success and failure across a number of different programmes attempts to assess alternative approaches to the problem of the organisation of implementation.

5. There are a number of general contentions that can be investigated: all of these arise from the various attempts to re-examine the 'problem' of implementing rural development programmes, and several contradict each other:

- a) the risk of low administrative performance is reduced if programmes are introduced gradually and experimentally through existing institutions rather than through a major initiative involving a new agency
- b) special agencies develop tendencies towards autonomy and over-management which inhibits the capacity for local self-management and curtails the initiative of existing departments
- c) programmes can be improved if more attention is paid in the planning stage to administrative capacity and if the 'resources' of individual departments can be strengthened for new responsibilities
- d) in most countries, the prevailing bureaucratic pattern of departmentalism, inertia, hierarchy and over-specialisation makes the creation of new agencies a necessary part of any co-ordinated rural development programme
- e) for effective management, programmes must be broken down into small, relatively self-contained projects which require as little administrative change as possible
- f) the problems of implementation of agricultural programmes are a result of insufficient and inappropriate staff training, and staff development is a condition of future success
- g) administrative performance is governed largely by the contingencies of local political rivalries and inter-departmental jealousies, therefore programmes should be designed to minimise the role of government institutions.

6. Several of these contentions emphasize the need for some sort of survey of administrative resources in development planning and a consideration of alternative institutional options in programme design. Ideally, this could take the form of a 'diagnosis' suggested by Hunter in an earlier Network paper for village communities. However, in practice, neither the time nor the expertise is likely to be available for such thorough work and, of course, the process of institutional choice is bound to be governed in part by contingent personal and political factors.

7. On the other hand, it should be possible to provide a rudimentary basis for supplying a more effective and practical administrative input into programme selection and design - without necessarily requiring either a new breed of all-purpose administrative consultants or the employment of exceptionally well-informed and perceptive local experts. Something more modest is envisaged which will provide guidance to the non-specialist working under pressure. For example, it may be possible to formulate

- a) a model for an administrative resources survey that could be undertaken during the planning stage. This might draw attention to the most critical areas for implementation, such as the budgetary process, personnel control or party-civil service relations
- b) a check-list for administrative feasibility could be prepared for the programme appraisal stage. This would avoid the danger of confining administrative feasibility to post-selection implementation recommendations and would thereby allow a restructuring of the programme itself if it was demonstrably lacking in organisational viability
- c) an ordered presentation of organisational alternatives (possibly as they effect different parts of the programme) on simplified measures of administrative benefits and costs (possibly on a decision-matrix) so that attention could be focussed upon a more rational assessment of what is likely to work.

8. Another task for improved decision-making would be to ensure that decisions on programme design are monitored, evaluated and, where necessary, changed. This could be done as an extension of (b) and (c) so that programme design includes the identification of management functions and responsibilities as well as the broader questions of institutional strategies. This would make it easier to identify (though not necessarily correct) those organisational problems that are often recognised only after a programme has ground to a halt.

9. This research does not intend to suggest that either feasibility studies or measures of cost-effectiveness can be anything other than rule-of-thumb. Their use would be to minimise the chances of decisions being determined by, for example, compromise between vested interests (within a government as well as between government and donor) or by impatience for radical structural change which, however necessary, may be impractical.

10. Janice Jiggins is working on a study of the way in which changes in institutions and technology interact and are induced at the local level in agricultural development. The study has three aims: (i) to clarify theoretical analysis and conceptualization of institutional change; (ii) to trace and analyse the processes of change with respect to institutional and technological innovation; (iii) to evolve operational guidelines for government institutional intervention at the local level in agricultural development.

11. The study is prompted (a) by the wide gap that exists between the theoretical understanding and framework of analysis used in the study of social institutional processes by sociologists and social anthropologists on the one hand, and by public administration students, historians, and political scientists in the study of institutions as instruments of public policy on the other, a gap so wide that few insights are exchanged or any kind of consensus developed about the nature, function and role of institutions and institutional processes; and (b) by the empirical record of "bad" institutional intervention and "inappropriate" institutional choice in agricultural development. The study is linked to technological innovation because, while very often agricultural development is depicted in terms of the delivery of technologies and know-how to farmers, others have pursued a concept of development which entails prior development of local organisational resources. Similarly, the processes of interaction between technological innovation and changes in social institutions have been described in a number of cases, but these remain isolated studies generating few prescriptive propositions beyond highly generalised statements.

D: Networking

1. Both John Howell and Janice Jiggins will be sending papers to the Agricultural Administration Network, and Guy Hunter, too, will continue to make an occasional contribution. We hope that you will find the new direction of research both stimulating and useful, and will continue to send in your criticisms and comments with as much vigour as in the past.

2. Until we are ready to circulate further discussion papers, there are two things we would like from you:

- a) annotated references to recent experiments in extension which you have found especially provocative and interesting. We hope to circulate a brief select annotated bibliography on recent extension work by the middle of next year.
- b) on the request of several networkers, Janice Jiggins has undertaken to coordinate ongoing work on "small farmer and other groups in agricultural development", taking further some of the issues only touched on in our Occasional Paper No. 1, Stimulating Local Development. The work will be sporadic and will last as long as networkers have an interest in continuing the study; it will probably be organised around occasional discussion meetings here at ODI based on working papers submitted by networkers. Anyone who would be interested either in receiving any papers we might eventually distribute, or who has, or will have, a paper to contribute, please let Janice Jiggins know.

E: AAU Publications and Attached Papers

1. For the record, ODI has now published two Occasional Papers, based on the work of this network:

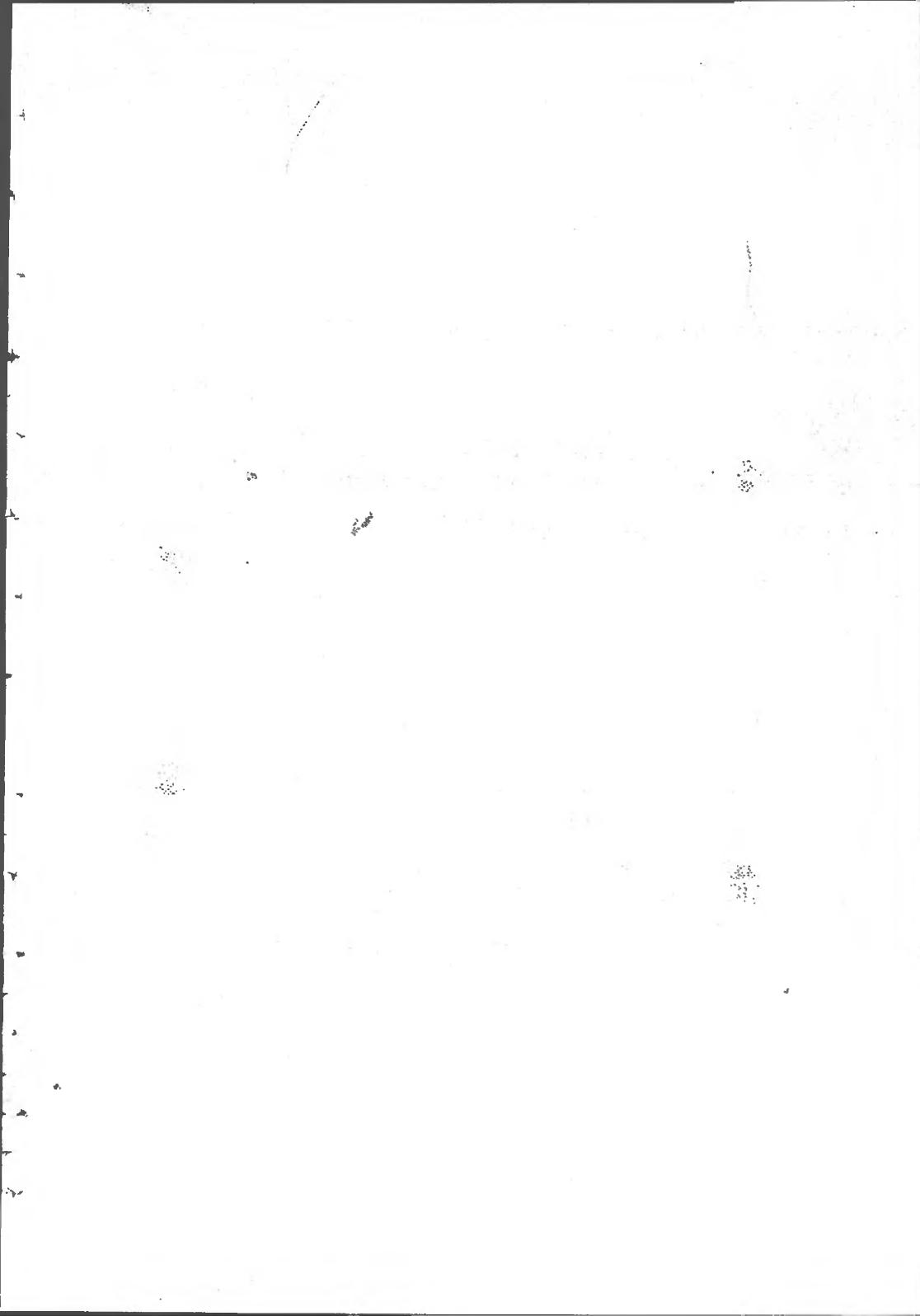
- No. 1, 1976 : Stimulating Local Development
- No. 2, 1977 : Extension, Planning and the Poor.

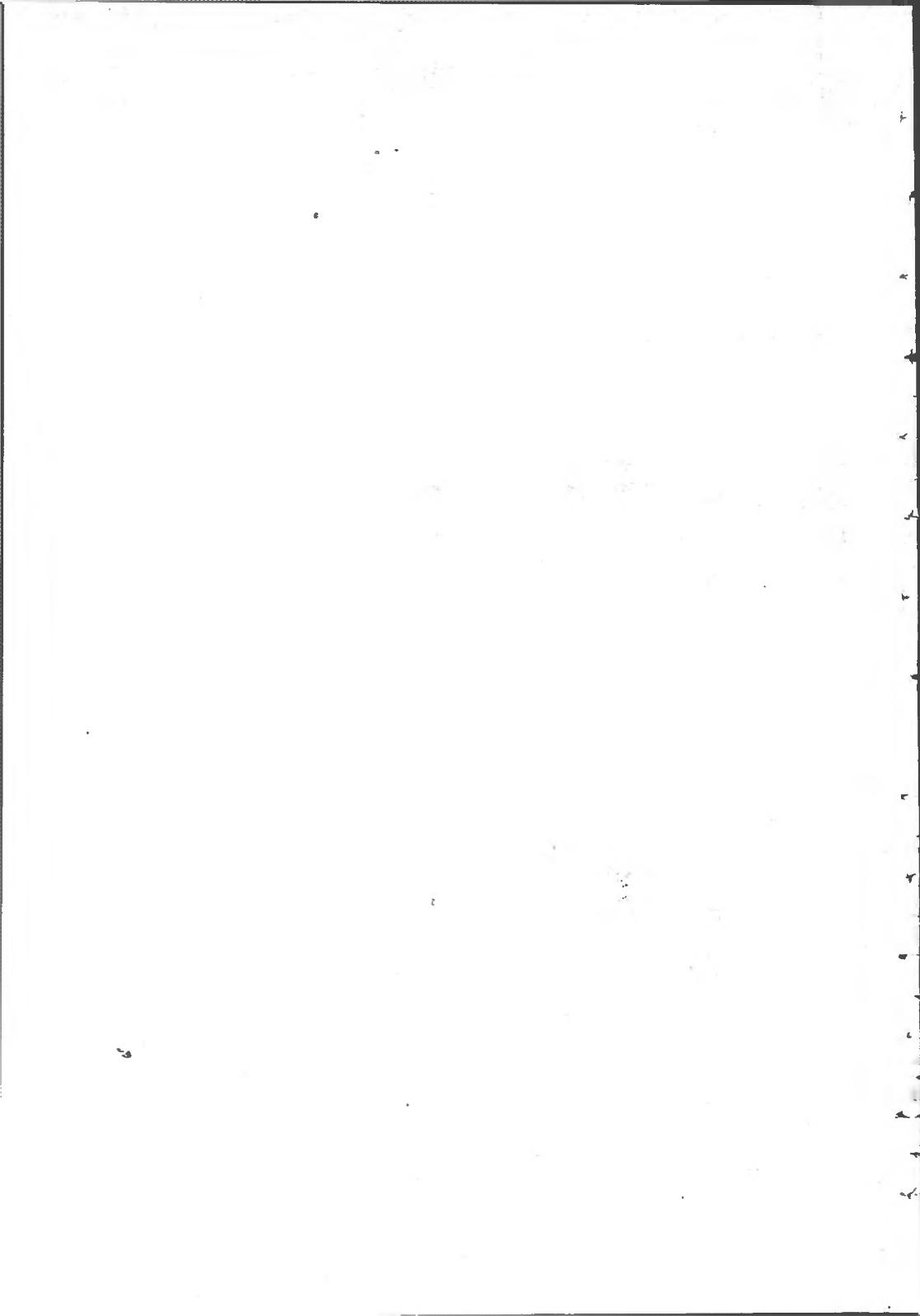
Priced at £1.00 each, they are available from ODI Sales, Montagu House, High Street, Huntingdon, Cambs.

2. We recently received papers from Niels Røling, Dept. of Extension Education, Wageningen, and from Mike Collinson, CIMMYT, Nairobi, which express somewhat opposing approaches to 'getting new technology to the small farmer', and we are circulating extracts for interest and comment. The third paper, co-drafted by John Howell and Ken Davey of the Development Administration Group at the University of Birmingham is a response to an earlier network paper by Guy Hunter on Planning and suggests a new approach to the study of District level planning. John Watson of DAG provided valuable comments on the Howell-Davey draft which is distributed as a series of points for discussion rather than a coherent 'paper'.

Janice Jiggins
John Howell
Guy Hunter

December 1977







P- ABDA

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Agricultural Administration Network

1/A
December 1977

Diagnosing the Need for New Technology

by

Dr. M.P. Collinson, CIMMYT, Nairobi, Kenya

Commonwealth Secretariat
Food Production and Rural Development

RURAL TECHNOLOGY MEET

Arusha - Tanzania, 29 August - 9 September 1977

1. INTRODUCTION

Although the scope of the Meet includes industry, buildings and transport, the emphasis is on equipment in agriculture. As this is my area of interest I will limit myself to it, though I believe the principles involved are more widely useful.

The catch phrase 'Intermediate technology' has gradually given way to 'Appropriate technology' with the realisation that simple machines can be just as irrelevant as sophisticated ones for problem solving. Although the new phrase is a conceptual improvement one can still question whether it is much more than a catch phrase. At the problem solving level appropriateness can only be judged in the light of specific local circumstances. We can never look at a piece of farm equipment and say it is or isn't appropriate without having a particular farming situation in mind, and what's more, without considerable knowledge of that specific situation. Nor can we look and say a piece of equipment is or isn't appropriate to a country's needs; we can only comment on a general level that it is likely to be more or less appropriate for a country with a lot of farmers using oxen for draught but we are still a long way from specifics and from problem solving.

Although the Meet is focused squarely on machinery and equipment, new technology for agriculture has its other side in new crop husbandry techniques, and here the concept of appropriateness is equally relevant. A husbandry package which includes dry planting, hybrid seed, high plant population, 100 kgs each of NPK, herbicides and insecticides is the plant scientist's 16 foot cut combine-harvester. Both are highly sophisticated, complex

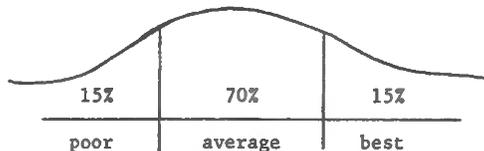
than others. An engineer is likely to consider a machine 'a good thing', a plant scientist is similarly likely to consider a high yield per acre 'a good thing'. But we are trying to help farmers who are neither engineers nor plant scientists, but whose nearest professional equivalents - like it or not and believe it or not - are economists. For a farmer a change be it a purchase of equipment or the adoption of a new crop husbandry technique, is 'a good thing' if it improves his income or, in some cases, makes it more reliable from year to year.

2. WHAT IS APPROPRIATE TECHNOLOGY

Perhaps I can offer a definition of appropriate technology as a change in managerial practice which meets a need in a specific farming situation. Such a change will only meet a need if:

- (i) Its introduction will increase farmers' incomes in a way which is consistent with their priorities.
- (ii) Its cost is within the capital investment possibilities or debt ceilings of farmers to whom it is directed.
- (iii) The repercussions it creates on the farming system are within the ability of the farmers to manage.

Two points should be made. First the emphasis is always on farming situations and farming systems. It is almost always inadequate to assess farm income improvement in terms of any single enterprise. Few farming situations are one enterprise managed in isolation. The way one enterprise is managed always influences management of the others. The second point is particularly important in examining how different development strategies will influence the appropriateness of a specific piece of equipment. It is the fact that in any farmer population managerial ability follows the normal distribution: the bulk of farmers are clustered around the average, while the tails of the distribution contain the poorest and best managers. Even among the majority in the middle there is a significant change from poorer to better; the cut off lines in the diagram are arbitrary and are included only to sharpen the discussion.



The best managers are those who make the highest farm incomes; they are able to handle more sophisticated management changes and to afford higher levels of capital investment. Clearly what are appropriate changes for the best managers may not be appropriate for the majority. As you see we are inexorably drawn into the political arena. Let's have a brief look at the main alternative development strategies.

3. FOUR DEVELOPMENT STRATEGIES WITH IMPLICATIONS

FOR APPROPRIATENESS IN TECHNOLOGY

- (i) For countries with a rapidly growing industrial sector, strategy is to release labour from agriculture to the industrial sector and to develop the better agricultural managers either as autonomous entrepreneurs or as collective farm managers depending on the political will. Larger scale machinery will be appropriate to such a strategy: how large will depend on the rate of development of the industrial sector and the land/labour ratio existing in the agricultural sector.

For countries with the problem of keeping an increasing agricultural population employed on the land at improving levels of income, there are three alternatives depending on the political will and the land/labour ratio .

- (ii) Countries with a very high land/labour ratio - that is plenty of land - can adopt Alternative (i): i.e. absorb the poorer managers as labour on large scale farm units or collectives dependent on the political will.
- (iii) Alternatively countries with plenty of land in which the political will is for equality will adopt a strategy for wide penetration of the farmer population by changes in technology. The political will may assert itself further by influencing the structure of agriculture towards communal farming by equals, but this in itself does not change the resource relationships of the situation. Large scale machines which subordinate farmers as labour are clearly inappropriate in these circumstances.
- (iv) Countries with an unfavourable land/labour ratio - a high density of population to be supported from the land - will need to ensure that changes penetrate well through the distribution of managers to the majority of the rural population if it is to be kept on the land. This is regardless of the political will and is a purely economic need. It does also satisfy the egalitarian criterion in development strategy and, as in alternative (iii) the political will may assert itself further by influencing the structure of agriculture towards communal farming. Large scale machinery which substitutes capital for labour is also inappropriate in these circumstances.

One should perhaps add two riders to these four alternatives. First that regional disparities in population density and in agricultural opportunities may favour the use of a combination of these strategies within one country. Second that communal farming, provided the changes in structure which it implies can be managed efficiently probably offers more scope for the variable use of appropriate equipment and machinery than individual small-holdings. However the underlined qualification is crucial given the shortage of experienced manpower in many developing countries. The question of changes in farming structure and the choice of agricultural techniques is a fascinating one and appropriateness is again central to it. Successful voluntary communalism is probably dependent on pre-identifying appropriate changes in technology which bring observable economic benefits to the farmers involved and are contingent on communal cooperation. Such changes can act as 'incentive pegs' to hang the coat of communal operation on.

I have tried to sketch out how development strategy, based on political will and national resource endowment, will influence the appropriateness of general categories of machinery. However I am sure that we all here see the key problem as identifying appropriate technology for the improvement of incomes of small farmers. Strategies three and four are perhaps the most relevant to us. With my earlier emphasis on the fact that machinery or equipment can only be termed appropriate with a particular farming situation in mind, I should like to go into this in more detail.

4. THE MARKET FOR APPROPRIATE TECHNOLOGY

At this Meet the Commonwealth Secretariat is building up the supply side of a market situation by exposing people to what is available worldwide, in the way of low cost machinery. It is important to stress that a market is established only when two sets of forces, supply on the one side and demand on the other, are brought together. Supply alone cannot solve problems, indeed supply alone can bring problems of wasted funds or the mounting interest and capital debts of the agency left holding stocks of unwanted and therefore inappropriate machinery. Nobody in their right mind would buy in stocks of a machine seen at this Meet for the first time unless or until they had, with some care, diagnosed a need and a level of demand for it.

However, demand estimation is difficult. One of the problems of developing agriculture is that communication and therefore market knowledge are highly imperfect. Small farmers cannot express a demand for an item of equipment they have never seen or tried. To undercut this problem most of us here, as government and agency officials, have to act as proxy for the small farmer in articulating the demand for a problem solving piece of equipment. At the risk of repeating myself we can only identify the need, and therefore usefully estimate and articulate the demand for such equipment, with a specific farming situation in mind. The linchpin of the sequence is identifying the need.

5. IDENTIFYING A NEED FOR EQUIPMENT AND MACHINERY

Identifying a need for equipment or indeed for other types of technology is a task for farm economists within the scientific research departments of Ministries of agriculture. With the scarcity of farm economists and the very large numbers of farms involved, an approach is needed that allows a progressive coverage of the sector based on an ordering of priorities, and which, at the same time, is relatively low cost. The key to such an approach is systems thinking.

Systems thinking: I noted earlier that farm enterprises are rarely managed in isolation. The farmer uses his resources of land, labour and capital to exploit the production opportunities available to him in a manner which satisfies his priorities. Because his resources are limited ideal management of each enterprise is rarely possible; demands for resources from several enterprises at once requires a compromise. The skill with which the farmer effects such a compromise is a measure of his management ability. The small farmer's priority is for a reliable and preferred food supply for his family followed by enough cash to meet his family aspirations. In this context appropriate changes are those which help the farmer to satisfy his priority for a reliable and preferred food supply more efficiently, allowing him to devote more resources to generate cash to meet widening aspirations for goods and services on the part of his family. Changes offered are inappropriate if they are outside the capacity of the farmer's resources, or beyond his management ability.

Zoning: Clearly the number of small farmers involved precludes an examination of individual needs. The grouping of farmers operating the same system with similar resource endowments - i.e. currently operating with the same technology and facing similar production opportunities and therefore having similar needs - offers a basis for a low cost approach to the identification of technology appropriate to meet those needs. At the same time the demarcation of these homogenous types of farming zones gives a basis for a policy decision on priorities. The size of the farm population in a zone would form an initial criterion for the allocation of priorities to the investigation of needs in each zone. This can be weighted and even reversed by other policy criteria considered more vital than sheer numbers. For example, criteria related to population pressure on the land, comparative living standards between zones or the possibility of the development of exports to aid the Balance of Payments may be overriding.

System evaluation: Using priority rankings to dictate the sequence of his work the farm economist, guided towards key management area by other agricultural professionals, investigates farming within each zone. Using systems thinking he seeks to identify:

- (i) What are the farmers' priorities and preferences and how are these satisfied from the system.
- (ii) What are the resource constraints within which farmers are operating.
- (iii) How far do farmers' priorities and resource constraints dictate the way they manage their enterprises in the system.

From this evaluation of the system the farm economist, bearing in mind the policy criteria used in zone ranking, draws conclusions on changes in management practices which could give higher productivity without contradicting the balance of priorities and preferences, and within the resource capacity and managerial ability of the typical local farmer. Justification for the introduction of new machines or equipment will be based on breaking bottlenecks in labour supply. Introductions should either allow an increase in farm size, or an increase in the size of labour intensive enterprises, or should lower farm costs, or finally should permit more timely operations giving higher yields, better quality of products or greater stability in the volume produced.

Verification survey: Where the system evaluation gives clear and readily verifiable results the work will take one month of professional time per zone. Where further verification of key factors is required a questionnaire is drawn up, based on the evaluation, and a single visit survey is carried out on a representative sample of farms in the zone. Such a survey including the data processing, analysis and reporting will take some six months of professional time per zone.

6. EVALUATING ALTERNATIVE SOLUTIONS AND ESTIMATING DEMAND

The identified development opportunities may have alternative technical solutions which will have differing economic and managerial implications when introduced into the farming system of the zone. The economist having identified the need, the engineers should specify the alternative technical solutions and the economist will evaluate them in the light of his knowledge of the farming system. Full quantification of costs and benefits will

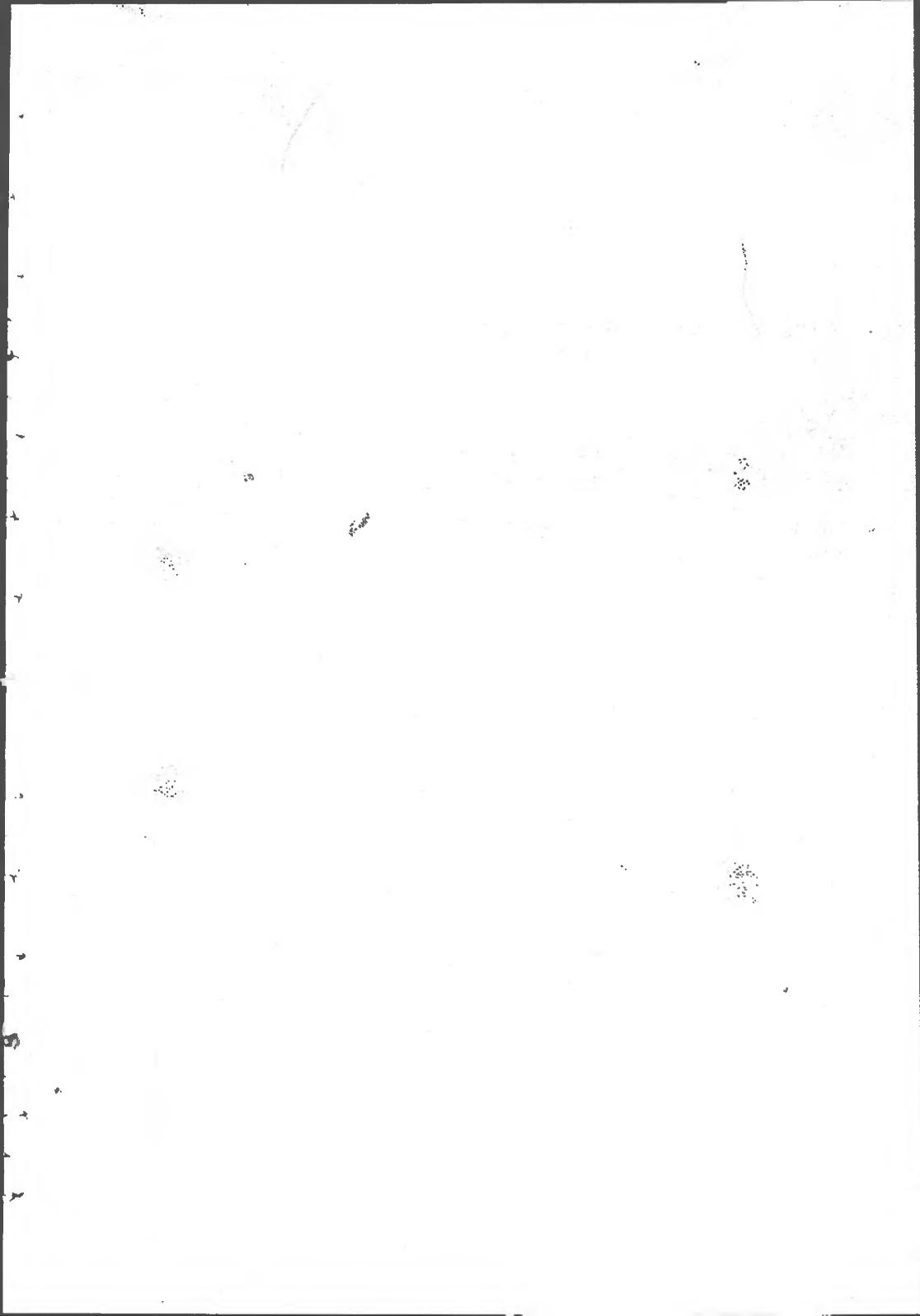
rarely be possible, evaluation will often be dependent on the economist's intuitive 'feel' for the system. He may be aided in evaluation by including questions in the verification survey which seek to test the farmers' reactions to possible solutions.

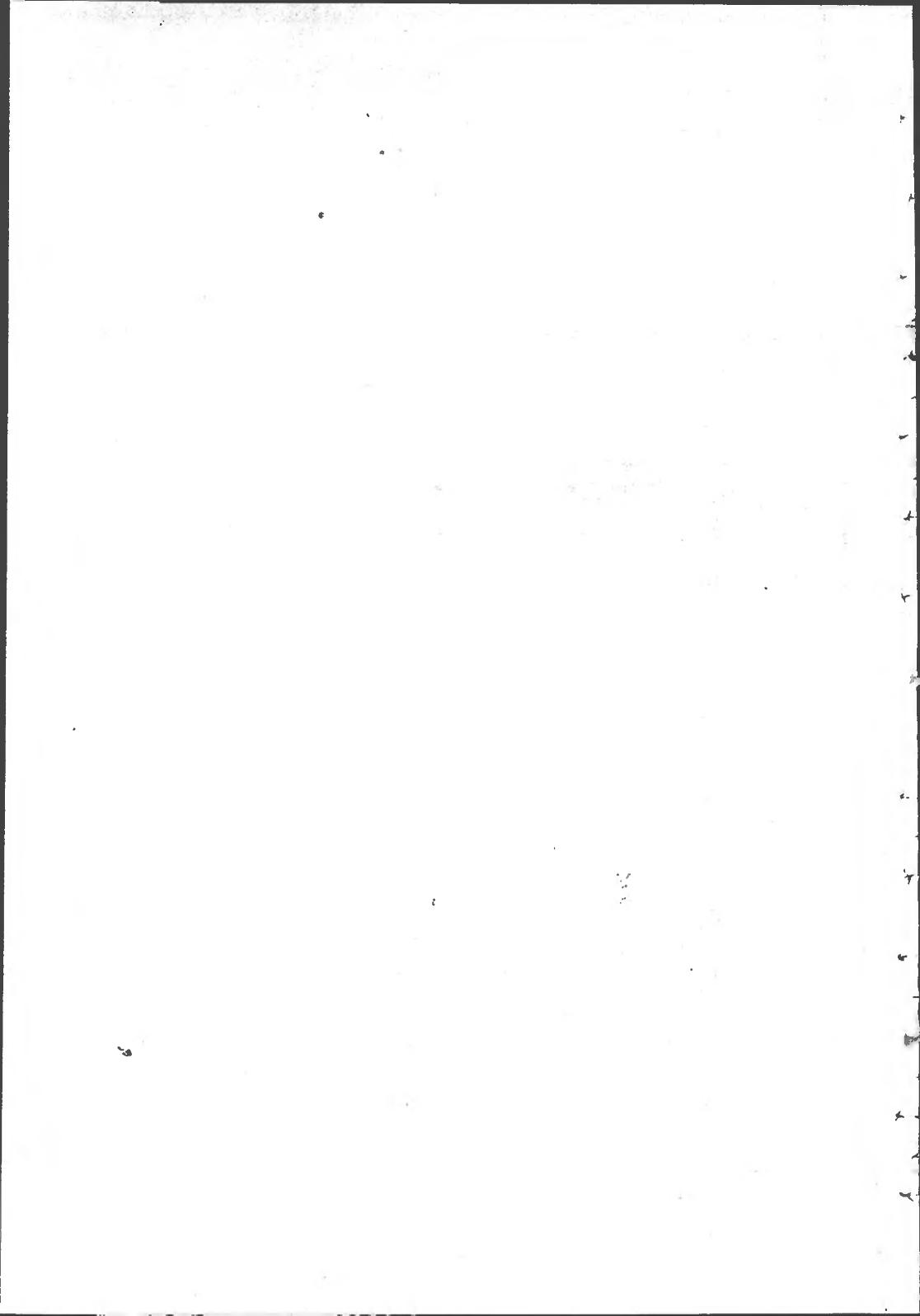
Test marketing of the alternatives likely to be most acceptable to farmers will be a pre-requisite to the estimation of demand, and perhaps to the planning and development of manufacturing facilities. The number of farms in the zone will place an upper boundary on total demand. Test marketing will help the estimation of an adoption curve for each solution, the shape of which will be determined by the profitability of the change to the farmers and the ease with which it can be absorbed into their system by farmers of typical, average managerial ability. The shape and time scale of the adoption curve applied to the total number of farmers in the zone will give estimates of demand levels over time, as a base for planning the level of supply required and assessing the viability of local manufacture.

7. RESUME

The point all this stresses is that demand is equally important as supply: without it no piece of equipment, or indeed no new technology, can be considered appropriate. In many respects with the introduction of new technology, be it in the form of equipment or crop husbandry techniques, there is a chicken and egg situation. Which should come first, demand or supply? Ideally both should come together but, given problems of demand articulation in the smallholder sector, to wait is tantamount to inaction. Can we now outline a practical sequence for action aimed at problem solving.

- (i) Maintain a broad inventory of technological possibilities: equipment and machinery in use somewhere in the world.
- (ii) Undertake orderly diagnosis of the needs of identified farming systems.
- (iii) Evaluate and test market possibilities for meeting those needs.
- (iv) Estimate likely levels of demand over time for the best possibilities.
- (v) Plan and, if feasible, establish a local source of supply as a rural industry.







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Agricultural Administration Network

1/B
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CONSEQUENCES OF THE "LOGIC" OF EXTENSION FOR ITS ORGANISATION

by
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These extracts are taken from the first part of a draft chapter on "Extension Management and Organisation" for a book to be titled "Extension Communication for agricultural development: a textbook for practitioners in developing countries", written by a team of people with Røling as editor. The paper deals with some of the implications of the "tools" used by a Ministry of Agriculture for its organisation and management. The paper draws on the principles of non-profit marketing.

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INTRODUCTION

The field worker's value derives primarily from what farmers can do. The extension manager's value derives primarily from what fieldworkers can do. Thusfar, extension education has focussed on improving the field worker's impact on farmers, but sadly neglected the extension manager. Very little is known, in terms of hard fact, about the management and organisation of extension, let alone that tested recommendations for improving it can be easily given.

Good management and organisation do not come from a bag of tricks. One does not become a good manager by studying principles, just as one does not become a good businessman by reading economics. But it helps to have some tools.

Organisational Implications of the "Logic" of Extension

It is impossible to specify THE organisational structure required for extension. For one, an organisation must always be based on the society in which it functions. And societies are very different from one another. Secondly, even the best expert in the field at present does not have all the answers. Finally, different organisational structures may lead to a similar result.

It is possible, however, to make a number of salient points about the structure of extension organisation based on the "logic" of extension work. The nature of an organisation is determined, to a large extent, by the task the organisation has to perform. The task of an extension organisation is to "produce" agricultural development. The extension organisation does not produce under its own control, except on some state farms. Instead, its job is to affect the decisions of small, independent entrepreneurs.

The farmers are NOT part of the organisation. They can always say NO if they do not like what the extension organisation wants them to do. One cannot order farmers to change except in special situations such as irrigation schemes where one has also the power to evict the tenants.

These fundamental givens about the extension profession have far-reaching consequences for the way in which extension operates. They make the extension organisation very similar to a marketing organisation. Like it, it must "analyse, plan, implement and control carefully formulated programs to bring about voluntary exchanges of "value" with target groups to achieve organisational objectives" (Kotler, 1975).

Like a marketing organisation, extension must be client- or target group-oriented and look upon the satisfaction of farmers' needs as the key to achieve organisational objectives. This is no plea for "spoonfeeding" farmers, nor a moral stance. It is a matter of fact, the logical consequence of having to use communication as a means for changing the behaviour of people who are not members of the organisation and not under its control.

This "logic" of extension has, in turn, a number of important consequences for extension organisation (van den Ban, 1971):

- (i) The extension organisation needs a large field staff and a network of small field offices to work closely with farmers. Even with the most sophisticated mass media, one still needs direct contact with the clients.
- (ii) The effectiveness of the field staff depends on: (a) the extent to which farmers trust the field staff and have confidence in them, and (b) the extent to which the field staff is supported by the creation of conditions in which farmers can implement extension advice.
- (iii) The field staff will need to make many decisions regarding extension strategy, tactics and operations on their own, even when programming at District or locality level sets out the broad outlines. Only in strict commodity approaches in which a whole extension organisation focusses on one crop or livestock, can a more centralised approach be effective.

- (iv) Since the work of the field staff is difficult to control and evaluate, their effectiveness depends to a large extent on their motivation, and on their understanding of, and agreement with, what is expected of them, and on the extent to which conditions are created in which they can work effectively.
- (v) To effectively influence decision making on individual farms, the organisation must be flexible and closely attuned to the (changing) conditions in the field. The changes promoted by extension must be realistic and beneficial to farmers, otherwise they will say "no".

This implies: (a) a consistent and reliable flow of information through upward communication channels, and the use of that information in policy decisions, (b) an agricultural research effort geared towards farm problems, (c) close integration between extension and other services, such as input distribution, and (d) some mechanisms for countervailing power or user control to ensure that decisions are realistic and beneficial to farmers.

- (vi) The extension organisation needs to be client-oriented. Hence supervisors and managers need a field worker orientation.
- (vii) Instead of centralised decision making, room must be given to allow field workers to respond to varying and changing local conditions. Instead of routines, one therefore needs flexibility and adaptability. Instead of authoritarian rule, the voice from below must be able to make itself felt.

These are seven consequences of its task for the structure of an extension organisation.

Why Extension is Not Organised According to its "Logic"

Most extension organisations do not follow the requirements implied by the "logic" of extension work. This is probably the most important reason why extension management and organisation often leave so much to be desired.

The extension organisation is usually part of a Ministry of Agriculture. And there is a world of difference between extension as a "pure", professional activity based on the principles and logic we have described, on the one hand, and extension as the work of a civil servant in a Ministry of Agriculture, on the other.

Looking at extension as a professional activity allows one to focus on the logical imperatives of having to make an impact with communication as one's chief instrument for bringing about change: organisational objectives can only be achieved through client satisfaction. If one looks at extension as the activity of a Ministry of Agriculture, however, one introduces a new perspective altogether.

Extension then becomes an instrument of central Government to implement national policy, often against farmers' interests. It is only one instrument, next to others wielded by the Ministry, such as price policy, enforcing rules and regulations, and so on. Yes, next to communication, the Ministry can reward and punish to create the conditions conducive to bring about desired farmer behaviour. Finally, a Ministry must conform to civil service regulations and, therefore, has many of the characteristics of a bureaucracy.

The typical bureaucracy has the following characteristics: Written rules determine which decisions officers must make in a given situation. Usually they dare not go beyond these rules. Every officer has one immediate superior, and knows exactly what he can do and not do. Usually he is loath to go beyond his competence. His duty is determined by his function in the organisation, not by his personal qualities or the problem at hand. He may refuse to do what is required because it is "not his job". Paper qualifications determine who fits into which function: a very qualified junior officer cannot be promoted if he does not have the required papers. The bureaucracy depends on procedure and routine. Non-routine decisions require time. Officers are afraid to take them. They prefer to "pass the buck".

Bureaucracies are top-down command structures with centralised decision making. They emphasise control to protect the disbursement of public funds, and avoid fraud, mismanagement and failure. Their strength is their machinery for allocation and restriction, based on rule and regulation (Jiggins, 1977). Fear of failure and misstep can create a preference for doing nothing at all.

Very often the basic philosophy seems to be that every officer and member of the public can be expected to be crooked, lazy or stupid. Thus the emphasis is on controls, checks and centralised decision.

Improvement of organisational functioning is often believed to come from better procedure, more control, more discipline, more authority and centralisation and harsher punishment.

It is obvious that bureaucracy is not the ideal basis for organising extension. In fact, it is most interesting to see how it is possible that anything gets done in a bureaucratic extension service.

Officers who really want to achieve something must spend many hours figuring out ways by which to "bend the rules". Administrators can often only be effective if they go "beyond the book". In a bureaucracy, many things get done because of informal relationships. Effective officers therefore spend a lot of time to get to know colleagues and superiors. One can hear them talking "who's who" most of the time. They will not introduce themselves by saying which work they do in which Department, but by saying from which village they come, which school they went to and by exploring whom they might know in common.

It is good to see so much evidence of desire to achieve results. Because of the mechanisms described, bureaucracy often does not do too much harm after all. But there are costs: the effort needed to bend the rules and go beyond the book. Also, the subtle systems for exchanging favors and squaring off "indebtedness", and the need to appeal to personal relationships, may undermine the organisation's integrity. Doing what is necessary to sustain a personal relationship often takes precedence over doing one's duty.

We emphasised the necessity of trying to reach organisational objectives through farmer satisfaction. A Ministry of Agriculture has, as its main objective, the implementation of Government policy. Can a Ministry satisfy both requirement at the same time? At first glance it seems impossible.

Policy may aim at feeding the nation, at providing cheap food for urban workers to keep wages low, at producing a specific commodity to keep a processing plant in operation, or at creaming off agricultural exports for the development of other sectors. Since agriculture is the main industry in most developing countries, it must produce the surpluses for paying development in other sectors of the economy. Fundamentally, national agricultural policy aims and farmers' interests are at odds.

One way out of this fundamental problem, and a strategy followed successfully by many countries, is to keep food prices attractive for wage earners, but to make a vigorous effort to allow farmers to produce more and thus to have higher incomes. This policy is based on:

1. agricultural research
2. agricultural education
3. extension
4. creation of the conditions conducive to higher production.

Such a strategy allows Government policy and farmers' interests to coincide ... for a while. In the end, the strategy may lead to a situation in which few farmers produce useless surpluses at subsidised prices, and this at great cost to the tax-payer, loss of employment in agriculture, high investment in machinery and heavy use of energy.

Although the strategy is thus not satisfactory in the long run, we see no alternative for developing agriculture, especially if agricultural production is in the hands of thousands of small independent entrepreneurs. It is the one way in which the nation's policies and the farmers' interests may be made to coincide. And coincide they must as long as farmers can say "no".

But can they really say "no"? What instruments can a Government use to affect farmers' behaviour apart from extension? It can:

- Ensure that inputs and materials required for agricultural development are available;
- provide credit and (crop) insurance;
- manipulate prices: regulation, stabilisation, differential payment for different qualities, speed of payment, subsidies;
- provide services: tractor hire, veterinary services, storage, repair, etc.;
- create infrastructure: transport, (irrigation) water, electricity, marketing facilities (such as co-operatives) and so on;
- regulate: protect farmers against middlemen, land speculation, usurpation by loan sharks, erosion, spread of pests and diseases;
- inspect: quality control, disease control;
- land reform: protect tenancy rights, redistributing land, registration, adjudication;
- provide equitable access to services;
- engage in special development projects on programmes to create favourable conditions through the instruments mentioned above in a short period.

If we look at these instruments, it is obvious that most of them aim at creating the conditions in which farmers will voluntarily decide to produce what Government wants them to produce (e.g. price policy) or conditions which enable them to produce what they wanted to produce anyway (e.g. land reform, credit, etc.). Only a few of Government's instruments require or allow coercion (regulation, inspection). Sometimes the use of coercion may be necessary for using other instruments (e.g. getting credit repayment, enforcing land reform, providing equitable access).

In sum, Government's main instruments for bringing about agricultural development seem to be:

1. Providing knowledge and skills through research, extension and education,
2. Creating the conditions in which farmers can and will voluntarily produce more, and
3. Coercion to enforce regulation and decree.

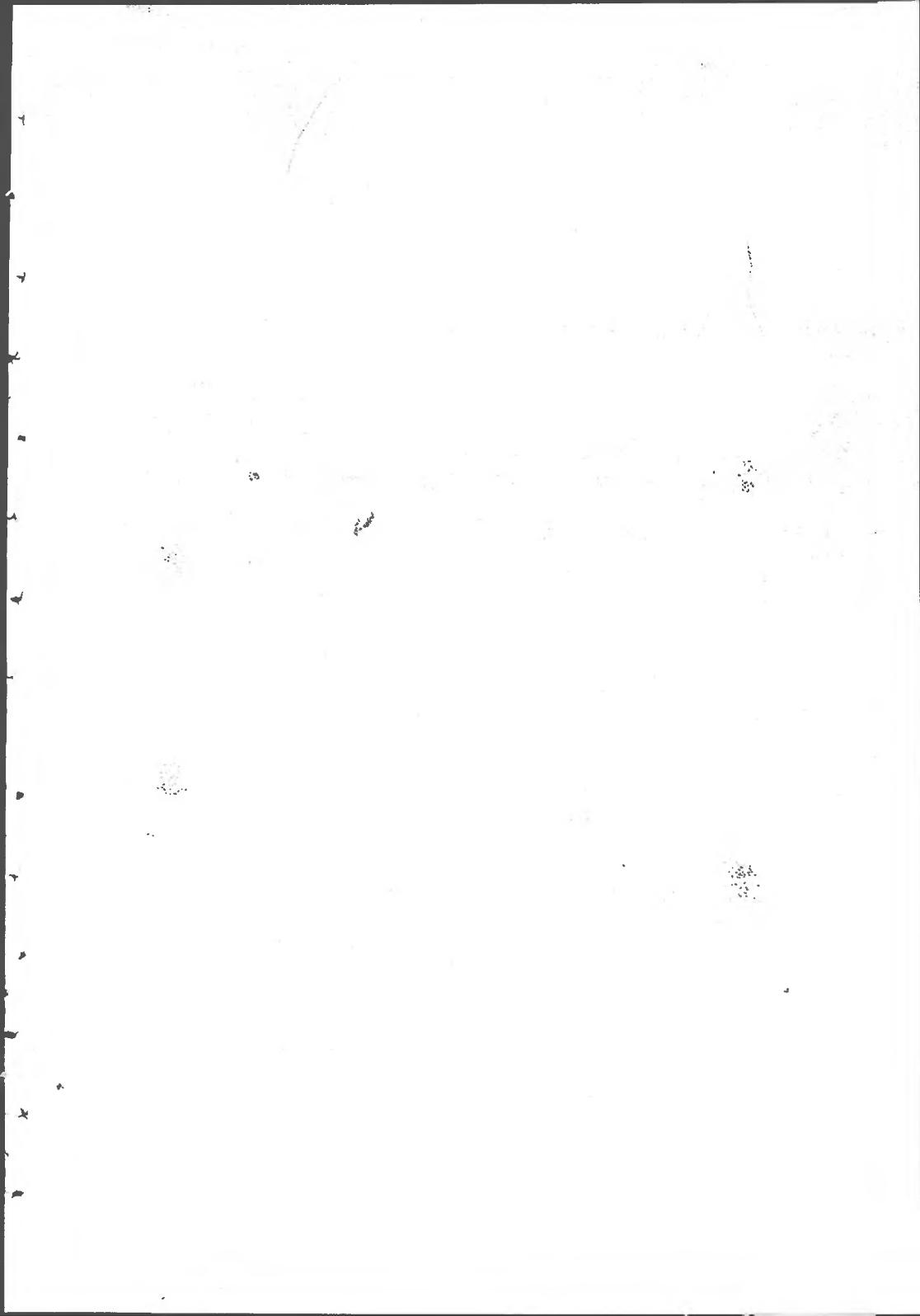
In fact, the power of Government to affect behaviour through creating conditions is so great that it can easily get farmers to move in a direction which is to their own detriment in the long run (soil exhaustion and erosion, over-production, malnutrition). Compared to this Government power, extension is only of secondary importance. As we have said before, extension can only be effective given that favourable conditions for farmers are, or have been, created.

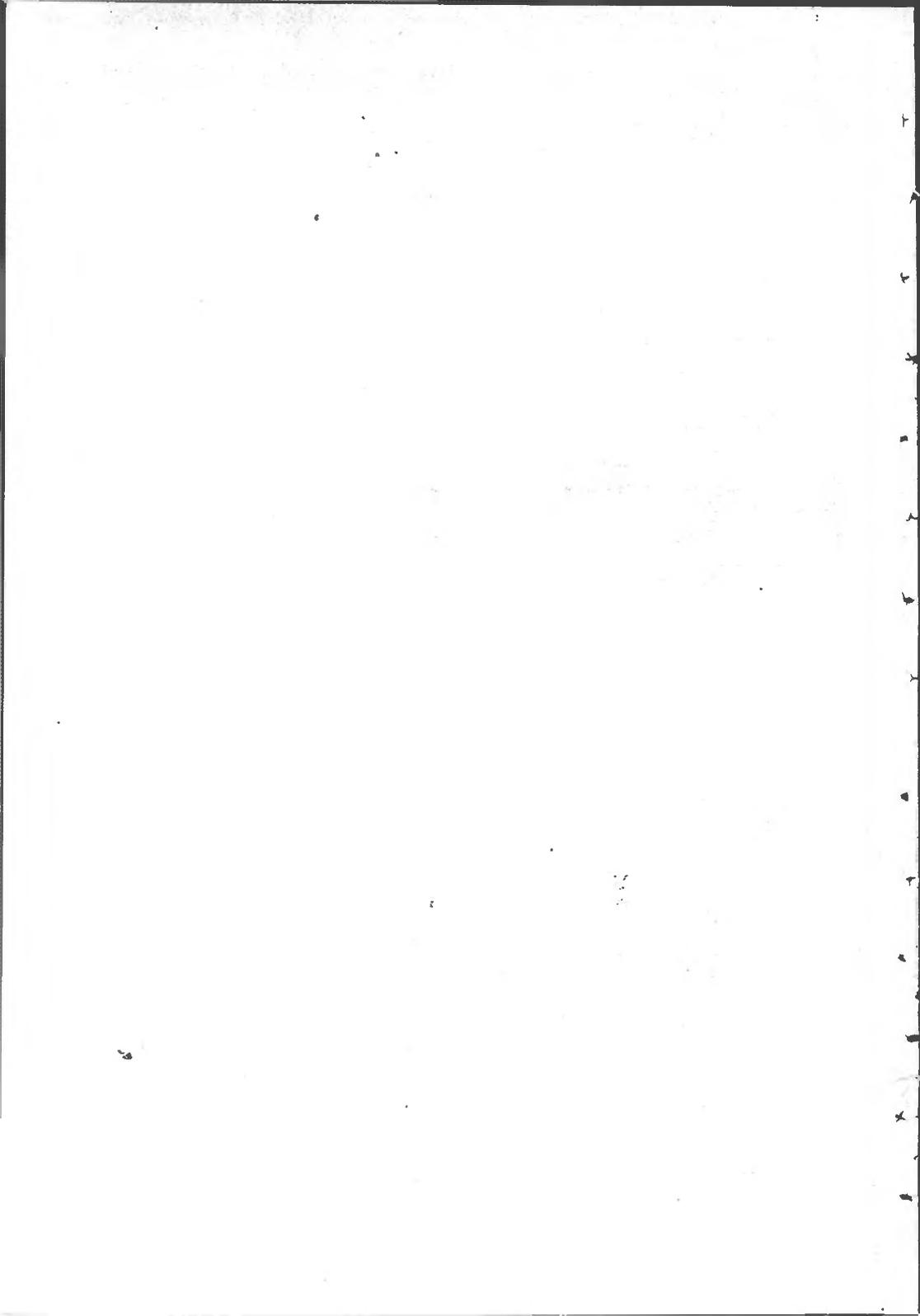
Compared to the power it achieves from creating favorable conditions, the power to enforce regulation and decrees is also of secondary importance. It is our impression that, notwithstanding the inherent weakness of effecting agricultural development through coercion, many Governments act as if its greatest power is based on coercion. Agricultural development is often pursued by command. Increased food production is decreed. Field workers are told to tell farmers to increase cocoa production. And when they don't, farmers are lazy or stupid or unpatriotic, while field workers have not done their duty.

Government can only effectively affect farmers' behaviour if it creates conditions in which farmers voluntarily decide that the behaviour expected of them is in their own interest, and if farmers are enabled to carry it out. Hence, farmer satisfaction with the organisation's offering and "voluntary exchange of values" must remain the basis of agricultural development. And that implies that the Ministry of Agriculture must look like a marketing organisation more than it usually does.

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Agricultural Administration Network

1/C
December 1977

Comments on District and Local-Level Planning

John Howell (Agricultural Administration Unit)

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The desirability of formulating district and sub-district plans for rural and agricultural development is fairly widely accepted among donors and ldc governments and there is a substantial record of attempts at institutional innovation in planning and implementation machinery. This evidence of relative success and failure in local-level planning in different countries and at different levels of administrative and economic development lends credibility to Guy Hunter's paper on Planning (AAU Occasional Paper No. 2) and justifies any grander attempt at detailed cross-country studies on more detailed aspects of district planning.

But despite this, there is a danger of District Planning becoming (like Rural Development itself) a Good Thing - that is, the measure of agreement on its value becomes so widespread that its precise meaning and purpose is largely unquestioned. It might be useful to clear the ground a little, and then sketch some of the landmarks for further investigation. 'Sketch' is deliberate: this is not supposed to make a great deal of sense.

1. What is a District Plan?

It can be a mixture of things, including:

- a) a spatial distribution plan for human settlement/infrastructure/social services and amenities;
- b) an economic production plan (agriculture, industry, tourism, etc.) for estimating the scale of public inputs needed to reach desired targets;
- c) a physical resource plan involving controlled use of land and water resources;
- d) a medium term investment/capital expenditure programme to finance infrastructure or services required by a spatial distribution plan (as in (a)) or the inputs required in a production plan (as in (b));
- e) a list of priority projects agreed upon by district-level officials, after some form of consultation with local representatives;
- f) a short-term programme of recurrent and capital expenditure (or annual budget) that has been approved at the district level in accordance with agreed 'objectives' of a district development strategy.

2. Why Have District Plans?

Again, a mixture of reasons including:

- a) more efficient use of government resources, on the grounds that plans drawn up at the district level are likely to have more informed diagnosis, a sharper realisation of constraints and a greater return on investment;
- b) transfer of resources, with district plans providing an opportunity for the allocation of staff and money to relatively neglected areas;
- c) better control over government agencies, with district plans 'co-ordinated' by new institutions and/or new procedures of programming which seek to reduce the fragmentation of field departments and to prevent a damaging process of hierarchical decision-making;
- d) more responsive government, with district administrators obliged to know their area better and to take into account wider (inter-departmental) and longer-term ('development' rather than routine) aspects of their work;
- e) more 'popular participation', with the planning process seen as a vehicle for raising civic awareness and a sense of local responsibility (for any number of sub-reasons including populist ideology, saving money, undermining bureaucrats, propping up the government).

3. 'Area' Plans and District Planning

Plans which involve comprehensive medium term location/production/investment programmes are often most successfully undertaken in the context of area transformation schemes, often with external finance and technical assistance, and sometimes via an autonomous area development organisation.

This type of one-off regional development plan is likely to undermine the prospects of improving, in the long-term, the capacity for district level planning and (in the case of the special area authority) the capacity for district level plan implementation. In practice, there is a difficult institutional choice between:

- a) working for long-term institutional improvements in the existing administration as a pre-condition for any plan implementation;
- b) disregarding existing area and functional boundaries in the interests of seeking an immediate impact through an organisation that single-mindedly follows plan recommendations;
- c) seeking a balanced approach that builds the strengthening of the capacity of local administration into the plan itself.

The latter approach (c) raises particular problems in the relationship between planning and implementation. In Zambia (for example) the Kafue River Basin has a number of competing development potentialities with the Zambia Electricity Supply Corporation, Nakambala Sugar Estate, Wild Life Department, cattle farmers, fishermen, industrial and urban water consumers all using the resources of the basin. Integrated and long-term planning is obviously desirable and there is a case for a Development Authority, of some kind, to do this. District level administration clearly could not cope. Yet if such a Development Authority has extensive executive as well as planning powers, district level planning, involving existing government agencies, becomes a largely irrelevant exercise. In Zambia's case this may not matter much as there is no clear rationale for district planning. But the general problem is evident. Area planning often demands area executive powers, these powers undermine district administration authority, and this inhibits district planning.

However, the special agency problem is unusual. The main problems are at the more mundane level where districts do not have sufficient resources to justify a major infusion of funds and personnel. They are poor, poorly-staffed, largely neglected by the central ministries and work within a social and political environment which is at best sceptical of any government attempt to instigate development in the district. It is to such districts that we address our comments on research.

4. Research Issues

4.1 What Sort of Plans are Likely to Work?

- a) The bulk of operational decisions that implement (or fail to implement) a plan at district level are short term and require action by a particular department. Longer term planning may be effective in respect of some individual services (e.g. education) or infrastructural programmes (e.g. rural electrification) but these are usually limited in scope, independently related to national sectoral plans and in terms of duration, funding, personnel etc.
- b) Much district planning is likely to be small-scale and incremental in character. Resources of money and manpower are rarely predictable much more than one year ahead; the data base is small (and the cost of extending it is possibly counter-productive); and environment change is rapid (e.g. changing factor costs or market prospects). In the more remote districts the contingent (sudden transfers, shortage of fuel, floods, etc.) becomes the norm.
- c) Where there is longer-term planning which identifies, for example, the potential for the development of new crops, alternative range management, or new land for settlement, it is often technical and complex in character and the field administrator is rarely able to participate in the planning process.
- d) Despite these defects in the planning process, it is clear that the most critical problems are not being solved because they are not susceptible to fragmented, short-term responses. Landlessness, low productivity of land and labour, the advance of the desert do not fall neatly into departmental portfolios or budgets based on annual operating estimates or lists of projects. The basic elements of planning - problem identification, setting of objectives, consideration of alternatives - are needed at district as well as national level, however crudely undertaken, particularly if development actions are to be based, at least in part, on local diagnosis. The need, therefore, would appear to be for a district planning process which does not make comprehensive decisions about detailed future action over a medium (say 5 years) period, but does
- (i) identify major problems facing the local community; and agree upon an outline of needs and resources;
 - (ii) formulate long-term priorities, e.g. opening up new areas of settlement, developing crops suitable for very small holdings, cottage industries, opportunities for landless labour, better distribution of services, concentrations of urban growth in particular centres, etc.;
 - (iii) involve all departments and agencies in reviewing and discussing these problems and priorities at regular intervals so that these may inform and influence sectoral short-term choices;
 - (iv) subject annual departmental estimates, project proposals and other short-term action plans to some form of scrutiny for consistency with these strategic priorities.

4.2 What Sort of Planning Institutions are Needed?

a) Are planners necessary? Planning Units at the district level can be criticised as (i) costly and time-consuming, (ii) insufficiently involved in day-to-day administration and (iii) reducing the initiative of de facto 'planners' in executive positions (e.g. DAOs). Planning Units may therefore restrict the potential for a district level planning process which is closely related to monitoring and implementation capacity.

b) The annual budgetary cycle is the most familiar planning device although it is often abandoned to routine clerical tasks. On the other hand, the set-piece half-yearly District Development Committee type of organisation rarely takes effective planning decisions.

c) Many important investment decisions at the district level are taken outside the normal institutions of district administration. Yet crop boards, credit organisations, research stations etc. are essential components of district level planning. A further difficulty of co-ordination arises where parastatal organisations have a different area management structure to that of the government agencies.

d) Even if implementing agencies are central to the planning process, the subsequent scheduling, monitoring, and co-ordination of departmental plans is unlikely to be sustained easily. Whatever the style of implementation (authoritarian district governor, elaborate consultative machinery etc.) only the modest programme management system is likely to work.

e) The constraint upon district level planning is often in staff attitudes and aptitudes. Involvement in planning bodies or decisions may offer little professional credit and can lead to over-commitment of departmental resources. In career terms, it is better to adopt a low-risk decision-sparing approach aimed at keeping the work of the department in good order, and avoiding possible conflict with senior levels of the individual ministry. For these reasons, district-level 'co-ordination', or planning, is unlikely to become operational through administrative fiat. Similarly, any sophisticated system of programming can run up against departmental obstruction and individual indifference. To appoint planners or to designate planning functions to specified officers is unlikely to be sufficient unless new planning and plan management procedures are introduced which are both practical and which offer career advantages to those who take their responsibilities seriously and incur professional costs to those who do not.

4.3 What Powers are Necessary?

a) The relationship between the central ministries and the district authorities is bound to lead to some conflict and confusion whatever its precise political configuration, but it should not be assumed that the centre is inevitably bound to frustrate district-level planning. By blocking funds, leaving posts vacant etc. the centre may make things very difficult. But as long as there is some degree of decentralisation (however compromised in practice), some sort of district level planning is feasible. Even irregular and non-executive district development committees need not be totally written off.

b) Collective (as opposed to departmental) control of expenditure at the district level is likely to be unacceptable in most ldc's but control over some proportion is a possible stimulus to planning. Block allocations or development grants have had a rather uncertain record however, and there may be a need to reconcile central control with certain aspects of plan expenditure at the district level. Similarly, permission for the district administration to switch expenditure in the interests of plan implementation may have to be closely circumscribed in

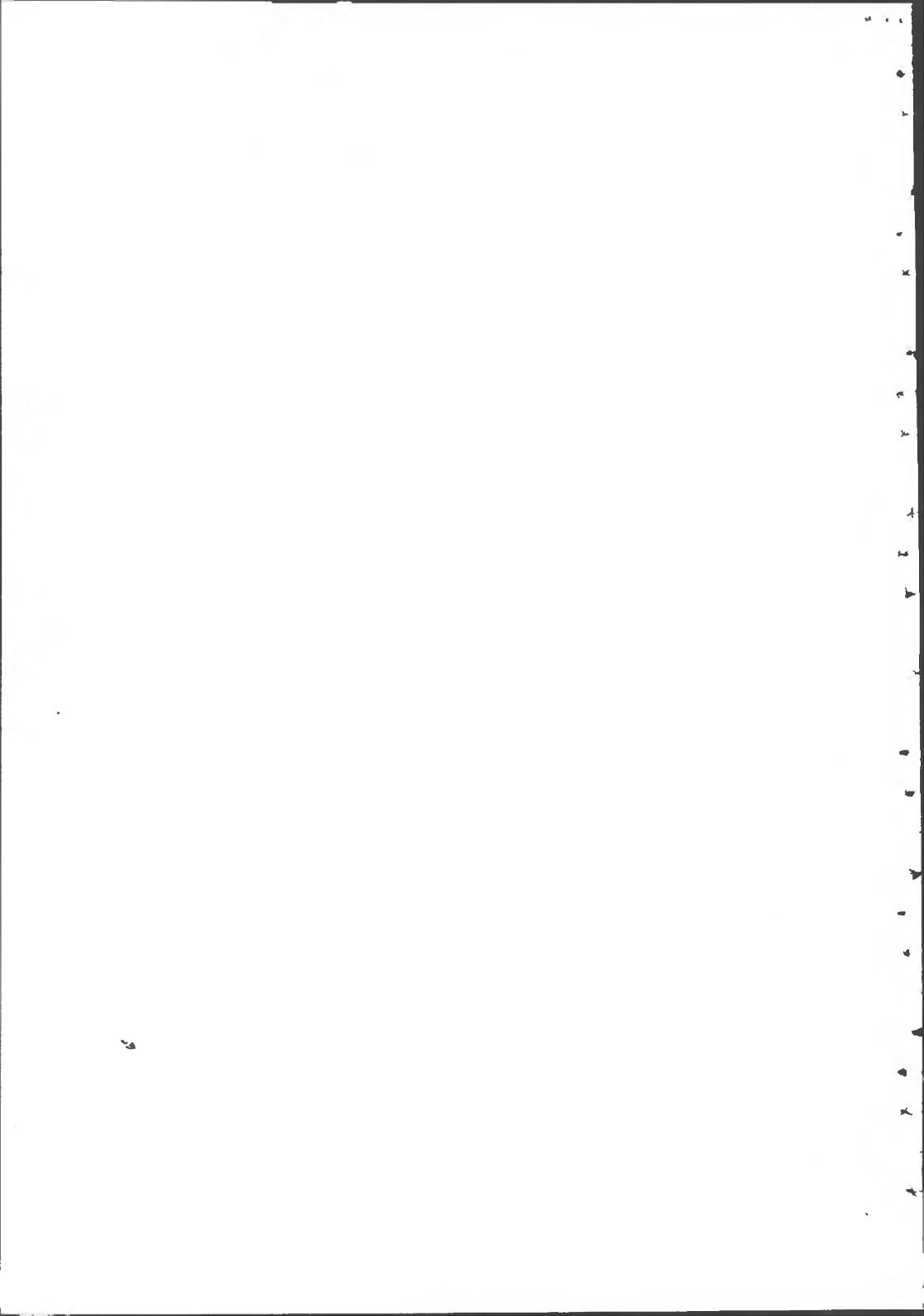
practice. Many centralising controls are the result of the accumulation of local improbity rather than innate power-hunger.

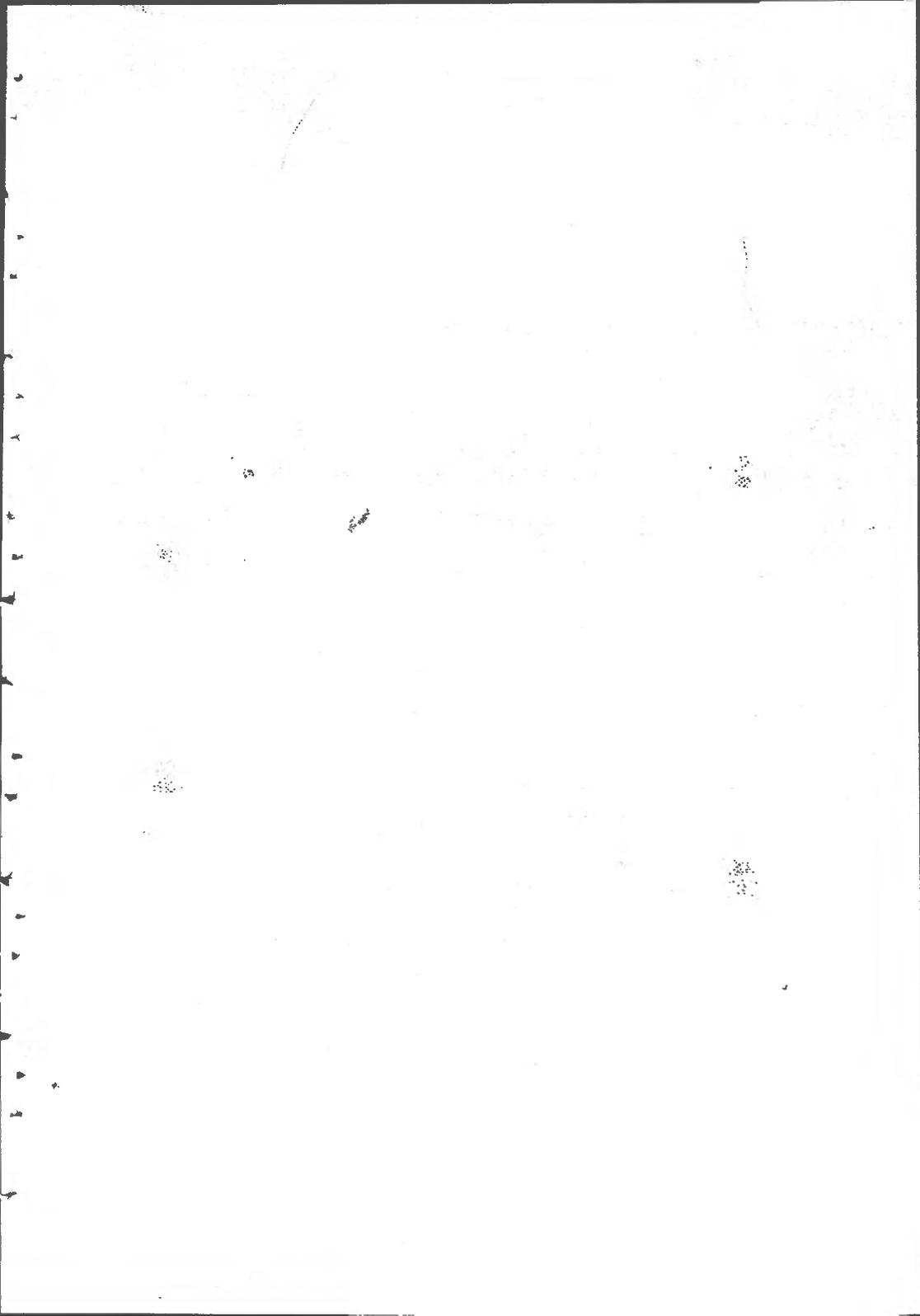
c) Local planning powers are often dispersed among local authorities, public boards, or individual ministers. Where, for example, land acquisition and control are a necessary component of district level planning, legal redefinition is often necessary. In some areas, of course, traditional land use and tenure arrangements need to be accommodated within district planning, but the socio-economic complexity of such arrangements rules out the possibility of attempting any general propositions on the distribution of district level powers between traditional and governmental authority.

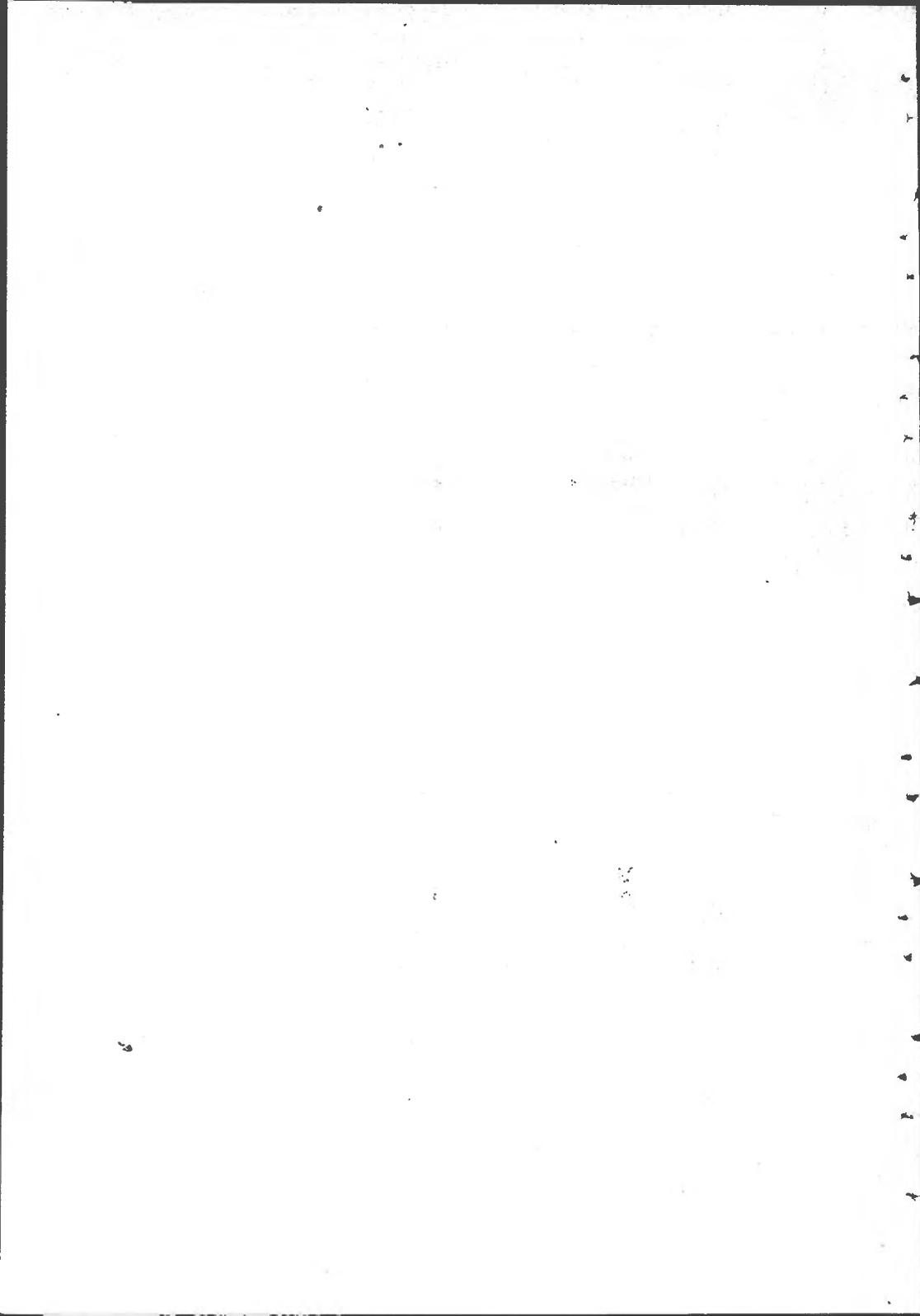
5. SUMMARY

Research in district-level planning could prove valuable if it contributes information on the possible conditions for successful plan formulation and implementation. This is less straightforward than it appears however. District planning is a very woolly concept and it often has several, possibly contradictory, objectives. The most useful approach to research is:

- a) to examine what sort of planning is feasible at the district level given the strong pressures towards central decision-making and the constraints upon district-level administration;
- b) to examine what type of institutional arrangements (including financial flows and management procedures) are likely to improve the capacity for district administration to plan and implement plans and
- c) to examine what is the minimum that needs to be done by the central government by way of decentralisation to allow district planning to become a reality.









Agricultural Administration Unit

1/78

AGRICULTURAL ADMINISTRATION NETWORK

NEWSLETTER

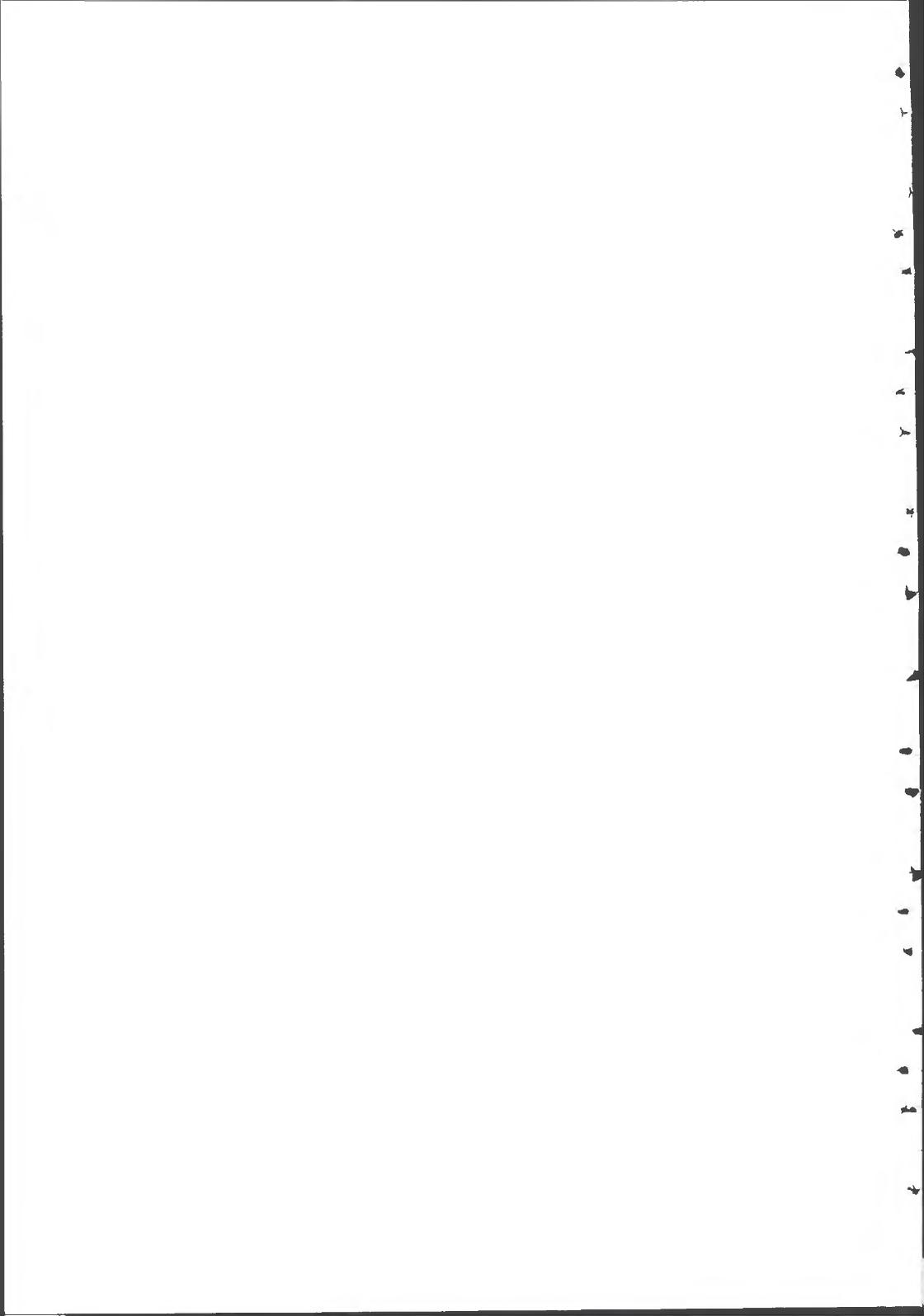
Apart from the Declaration, there are four papers in this issue of the Network Newsletter. The first two are a response to earlier papers. N.S. Carey Jones has been particularly critical of what he sees as the structural, or institutional, bias in some of the earlier papers and he suggested that we have been neglecting the processes of administration, and in particular the political context of decision-making. We asked Mr. Carey Jones to develop his theme further with particular reference to planning within agricultural ministries where he has substantial experience. We enclose a shortened version of his paper and we welcome comments. A fuller version, which includes a broader discussion of the planning process, will appear in ODI Review 2-1978. The other paper is a research note which we have compiled from information supplied by Professor Scarlett Epstein, who communicated her concern at our failure to discuss the issues raised by the position of women in rural development and we look forward with interest to the results of her own research programme.

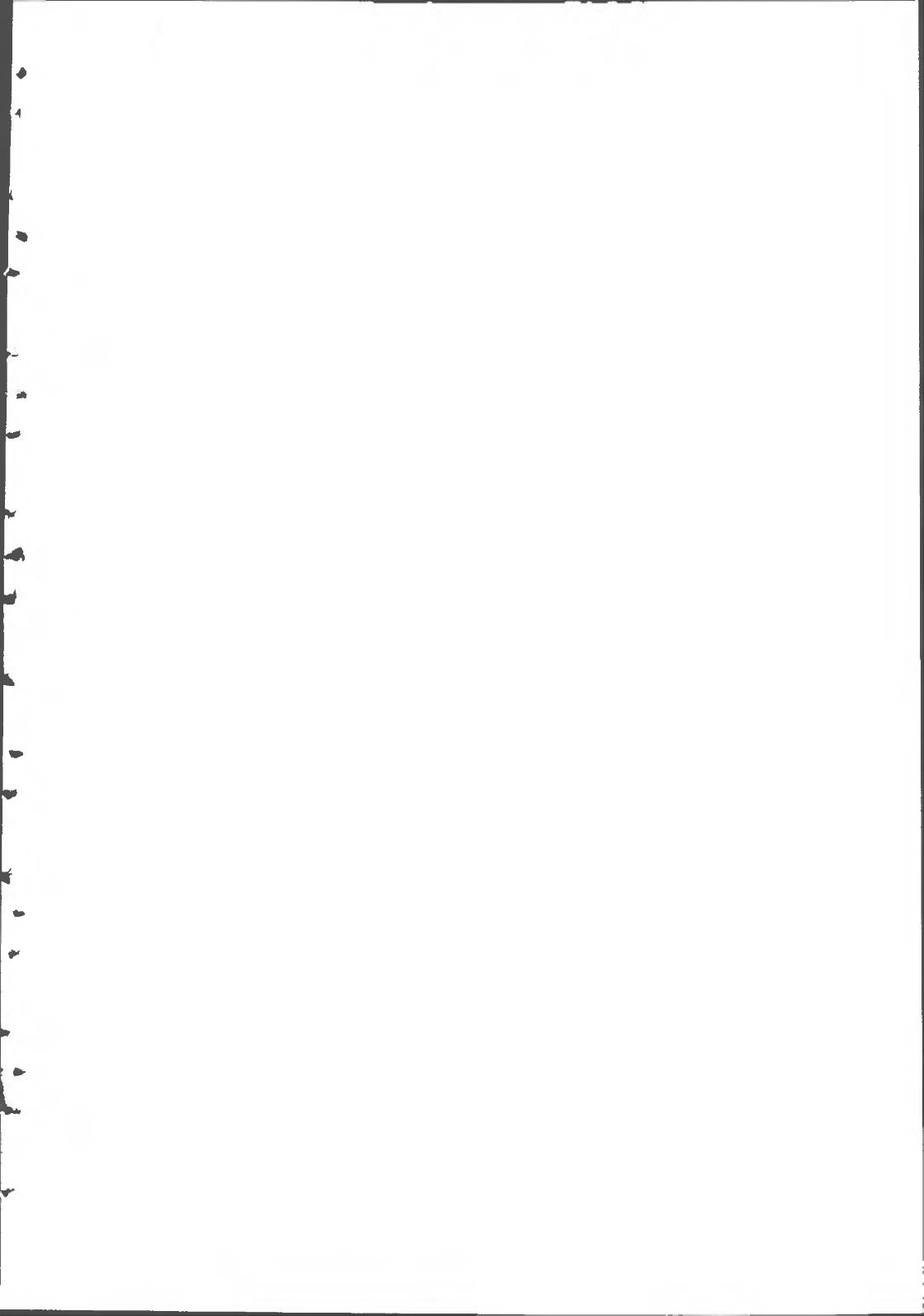
The two other papers open up a relatively undeveloped area of agricultural development programmes and management theory. Eric Clayton's paper is based upon a discussion paper prepared for an FAO Workshop on Agricultural Investment Projects which was held in Rome in January 1978. We also enclose a comment by John Howell which makes an attempt to grapple with some of the problems of methodology raised by Eric Clayton. We should particularly welcome any suggestions from network members on this particularly intractable subject of assessing management performance. Alec Baird's paper is a vigorous criticism of what he sees as the prevailing management orthodoxy in agricultural programmes; and also an advocacy of a new approach. The paper is deliberately contentious and we hope it will stimulate some rejoinder from members of the network.

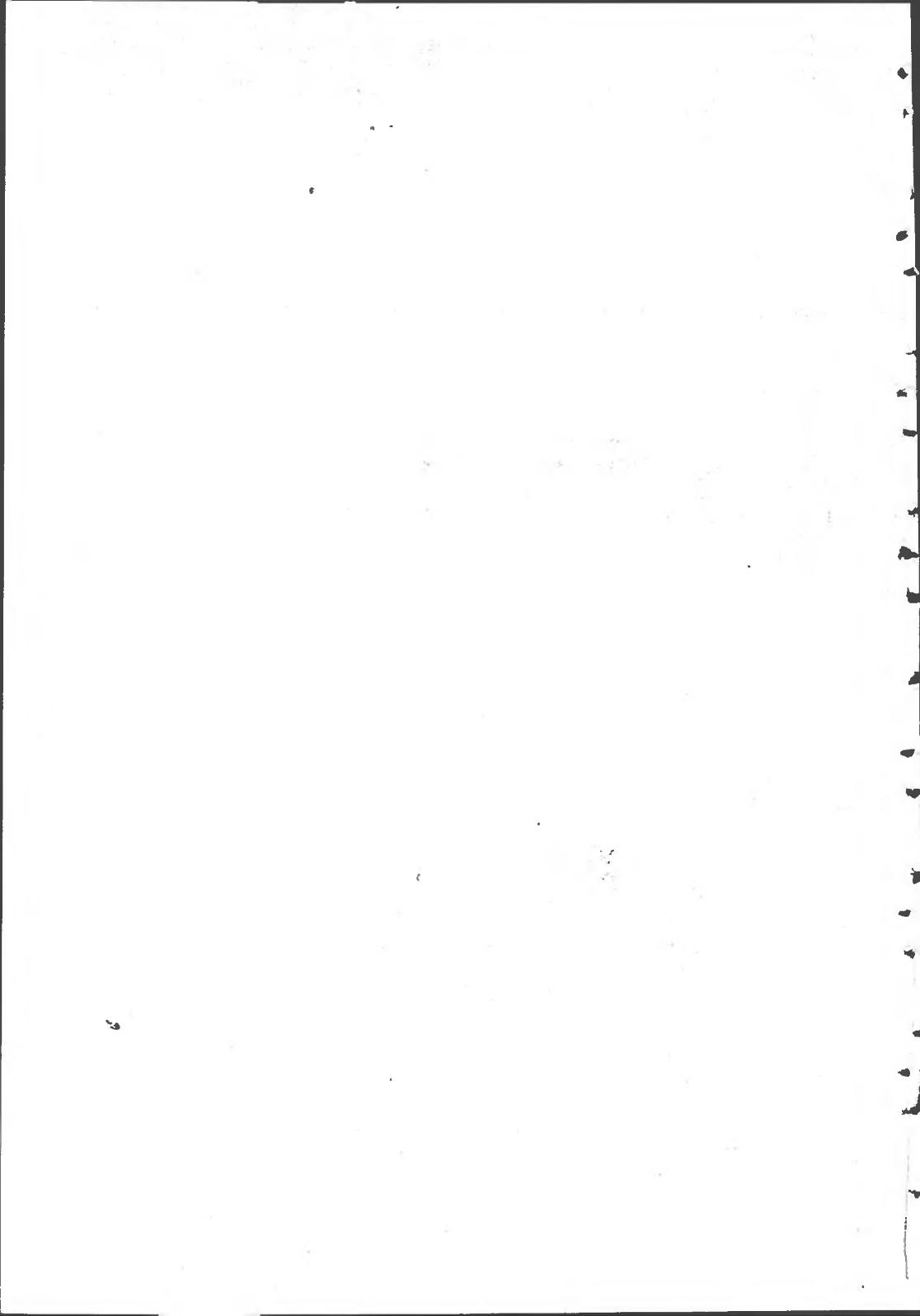
John Howell

Janice Jiggins

August 1978









Agricultural Administration Network

1/78/A

The Politics of Agricultural Planning and Administration

N.S. Carey Jones

The Politics of Planning

What are the influences that affect planning decisions? The political leadership of a country (whether it be a civilian or military group and however it has come to form the leadership) is concerned to arrange the distribution of resources in ways that will maintain or gain support, maintain political equilibrium and so maintain the system which it leads. Within the leadership are individuals who are concerned with the maintenance or advancement of their own positions. The distribution of resources is, for them, a means of patronage through which they can build up their own support and also keep at bay rivals who claim that they are not doing enough for their district, or their tribe, or some particular group of constituents. The political leadership as a whole will also be concerned with the patronage available to its members in order to maintain the unity of the leadership itself. A wise political leadership is also concerned to develop its country economically since this will increase the resources available for distribution and provide the leadership with more patronage (1). The leadership may be concerned to move resources to the areas or groups where its own political base is or to areas whose allegiance it seeks to win (2).

Similarly a minister of agriculture will seek to move resources into agriculture, not only to increase his own patronage, but, because, in a sense, farmers are the "constituency" of a minister of agriculture as industrialists are of a

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1. Cf the way in which the excessive concentration of control of resources in the Ministry of Commerce and Industry in Zambia, after the big nationalisation programmes, was remedied by the formation of ZIMCO to take over all industry under the President and parcel it out among various ministers responsible for subsidiary corporations. Similarly the concentration of patronage in the Industrial Development Corporation of Tanzania has been gradually reduced as successive parts have been hived off into their own corporations under other ministers.
 2. One may note, for example, Iranian resource transfers to its Baluchis who are open to subversion through Baluchis in Pakistan; Numeiri's transfer of resources to southern Sudan as the price of the allegiance of its leaders; the Philippine application of its land reform laws to its troubled areas - but not elsewhere; Ivory Coast's determination to demonstrate that it is moving resources into development in more distant parts.

minister of industry. They look to him to take care of their interests within the government. But this is not his sole pre-occupation. As a member of the political leadership he will be aware, or be made aware, of the demands being made on other ministers and will assess their affects on the position of the leadership as a whole (1).

It will be apparent that national planning is a bargaining process within the political leadership. If it is well done, then political equilibrium will be maintained. This is of great importance since political stability is a condition for development, though not a sufficient one. Development is not possible without it, although one can have political stability without development. It is right, therefore, that it should take precedence in the decisions of a government. Even what may appear as nonsensical economic decisions may, on this principle, be sound.

The Actual Planners

At the centre, then, the planners are the ministers. Access to the bargaining process by which planning decisions are taken lies through them. Demands and pressures come to them both from within their own ministries and from outside. The prime minister or president, although feeling some demands directly, has a more or less adjudicatory role between competing claims on resources from different ministers and will tend to take a national - rather than a sectional - view, besides having his own position to consider and his own support to win. This process will apply to the day-to-day decisions as well as the long-term planning decisions.

Where there is district planning, somewhat similar principles apply. The planners are the local heads of departments who receive demands from their own staff and from outsiders, particularly such outsiders as are admitted directly to the planning process by representation on local committees - local political leaders, etc. The adjudicatory role lies with the district officer (prefect, collector or commissioner, or whatever he may be called). He, however, depends rather less than the prime minister or president on those between whom he is adjudicating and rather more on his superiors. His role in the process is not developmental in itself but political. His business is to maintain political equilibrium in his district and to see that the decisions reached enhance and do not disturb the political system that he represents.

Foreign Influences

There is a further influence on the planning process, that of foreign aid-givers. These have their own ideas about economic, social and political development and their own interests. They can be seen as potentially disruptive; foreign "experts" are often viewed with considerable suspicion by governments and their staffs. In so far as the leadership of a country wants the resources that foreign aid bodies are ready to supply - and it will want them because they supply the leadership with more patronage to distribute - they will have to pay attention to the demands that the foreign bodies make on them, even to the extent

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1. In 1961 I presented the ministry of agriculture development plan to the development sub-committee of the Kenya cabinet. I was in the middle of my introductory remarks, explaining that the plan had been pared to the bone, that every penny was absolutely essential to the national development and that no cuts could be made without disastrous consequences to the country etc. etc. when my minister, with whom I had cleared it fully beforehand, turned to me and said: "You can cut out all that stuff. I've already agreed to transfer half a million to Education".

of accepting projects in which they are not really interested. In practice, however, this largely means using "planners" to dress up projects so that they appeal to foreigners and appear to meet their conditions (1). Usually the conditions are formal and theoretical, such as will enable a project to pass through the hoops put up by the experts "back home", since the foreigners wish to dispose of the money that has been given them for "third world development" and there is more pressure on them to find projects rather than to examine them critically.

There is potential underlying conflict between the political leadership of a country and foreign aid donors. The current emphasis by foreigners on the "poor" gives a little (but not very much) weight to the needs of the poor - as these needs are seen by foreigners. In so far as foreigners see these needs as demanding serious, or radical, changes in the system of local political, economic and social relationships, they can be in conflict with local demands that probably will have greater political weight. The result is what is seen by foreigners as administrative inefficiency in the execution of projects; but it is really due to the projects not having the weight of effective local demands behind them (2).

Ministry Planning at the Centre

We have already seen the role of a minister at the cabinet (or planning body) level. Here he puts up the plan for his sector and bargains with other ministers for his share of resources. In preparing his sector plan, the plan for his "constituency", he will receive competing demands for action between which he must adjudicate. It will be obvious that his criteria (however shadowy - "at the back of his mind") will be different from those of the people making the demands. I make this point because it is often the different criteria that are applied at the different levels of decision-making that cause frustration to staff and others further down the line. They will judge a project by the criteria appropriate to their level and have difficulty and often little sympathy with the criteria applied at higher levels. This frustration usually emerges in demands for greater autonomy. In general also, a minister will usually apply different criteria from his officials. The bulk of the planning work will be done by his staff: let us say, at this stage, the permanent secretary, as encompassing the officers of the ministry. The PS's responsibility is to bring together the various demands and to put them into shape. The minister's responsibility is to see that these conform to the political needs as he sees them.

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1. At a crude level, in Kenya, when visited by a Kuwaiti financial mission, we dusted off our shelves any projects that had any reference to Arabs and built up the (usually rather small) Arab element. When preparing projects for American aid we ensured that there were requests for (quite unnecessary) American "experts" (some of whom learnt their job with us) at a rate of so many experts per million dollars, because we knew the Americans liked a large demand for experts.
 2. Mihaly, in his Foreign Aid and Politics in Nepal, has shown how, in this much-aided country, foreign donors constantly complain of local inefficiencies but, if the King of Nepal wants something done, it is carried out with remarkable speed and efficiency. The implication is that the needs, as seen by foreigners (however correctly) are not the same as the needs as seen by the political leadership, which is faced with problems of a quite different kind.

District Level Planning

If there is "district planning", there will be the same bargaining over demands and matching them with resources. The DAO (or his equivalent) will have his own demands and plans and will fight for resources for them at the district level against other districts or services. This situation produces an obvious potential conflict over both responsibility for planning and responsibility for execution (1). We have already noted the role of the DO. His own responsibilities require that he is aware of and involved in the development decisions of his district. But does this mean that he should be responsible for them - the final arbiter? (2) There is also the question of the DO's competence, especially in districts where a lot of development is taking place, to take departmental decisions amongst many other duties. I would suggest that the proper answer to this question is that the DAO must be responsible, through his PAO etc. only to his own minister (who cannot carry his own responsibilities unless his staff is answerable to him). In the event of a conflict between the DAO and the DO which they are unable to resolve, then both should refer it to their superiors so that it can be settled at a higher level (perhaps even at ministerial level) where different criteria would be applied. (And at each level one of the factors will be the subsequent working relationships of the parties involved). The role of the DO would then be to "vet" departmental plans from his own (political) viewpoint and to seek to facilitate their execution by such means as were available to him. However, as new projects or activities create new problems and new circumstances, and as one ministry's activities affect those of other ministries, one will not be sure which activities a DO will facilitate the most.

If we can locate a DAO firmly in his own ministry, we can usefully look at the general principles of a ministry structure. This raises a critical question in administrative responsibility.

Responsibility

If one is setting up a new organisation to do something, one chooses someone that one can rely on to run it. He is then given responsibility for the whole outfit and for achieving the objective. It is obviously better to involve him at the planning stage: the plan is likely to work better if it is made by the person who will be ultimately responsible for carrying it out.

Since the head of the organisation cannot supervise every detail, he parcels out his responsibilities among others, and they in turn to yet others. At each stage the staff and resources required are assessed. If the man at the top has done this wrongly, not only is he at fault rather than others, but he must have flexibility to remedy the situation. This requires that there should be flexibility in the staff structure so that responsibilities can be rearranged. It also suggests that staff structure should not be too closely tied to job descriptions which hinder the reallocation of responsibilities: that is, a rank-and-man structure rather than a job-evaluation one.

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1. The DAO's preference at any time will depend on whether he has more influence with his ministry or with the DO and the local department heads and from which he is likely to get more resources and support.
 2. Some of the confusion that surrounds this problem seems to date from old colonial days when the DO was regarded as the local head of the government in his district and so the head of all departments and the channel of communication between a ministry and its staff.

Although the ideal situation is rarely attained, the principles remain valid: involvement of the chief executant-to-be (and, perhaps, other executants) in planning the organisation (or its reorganisation); careful delineation of responsibilities (not simply job descriptions); flexibility in staff structures to that responsibilities can be rearranged. Responsibilities should be defined in terms whereby it can be seen whether they are fulfilled or not.

Servicing the Do-ers

In a ministry of agriculture, the whole ministry shares the responsibility of the minister for agricultural development. It is important that this should be stressed for staff functions as well: accounts, personnel, stores, etc. These tend to follow their own courses and to seek their own perfectionism, often in ways that hinder operations in the field. Those who actually do the work - the "do-ers" - in a ministry are usually at the periphery of the organisation; field workers, research workers, marketeers, etc. The function of the non-doers - the administration of managers - is to facilitate the work of the doers. This requires co-ordination, direction, planning and all those things that go with management (looking after the doers, seeing that they have the resources to do the job, seeing that they do not waste resources or steal them, and so on, including ensuring that the organisation does not hamper their work, overburden them with returns and routines). In between the doers and the minister are usually several layers of authority, designed to carry out managerial functions at district, provincial and central levels. As the headquarters is responsible for total agricultural development, even if some of it is in the hands of parastatals, so the PAO is responsible for provincial agricultural development and the DAO for district agricultural development. To carry their responsibilities they must produce ideas, projects, plans, which become incorporated in the ministry plan and, through it, in the national plan. Of course, in the production of these there is much to-ing and fro-ing, both upwards and downwards between different levels and laterally between departments and between them and other organisations (within or outside the government structure). They are also responsible for executing these plans when they have been accepted. This means that the DAO is responsible, in his district, for getting any other agencies to perform in such ways as are necessary for his staff to carry out their functions. If he cannot do this himself (because, say, of insufficient status) he must get others, higher up in the ministry, including sometimes the minister, to do so. (And the minister would be justified in regarding him as irresponsible if he did not take this action when needed.)

Outside Doers

There is, of course, another kind of doer, outside the ministry, who is even more important than the doers inside: the farmer. When all is said and done, the ministry's object is to affect him, since it is he who produces the product and not the ministry (or the farm worker on the state farms). He has his own interests and preferences. Much of a ministry's activity and planning will be designed to persuade, induce and encourage him to do the things that the government desires and to create a situation where so doing will benefit him. The farmer, however, has a considerable amount of independence. Hence the need for the bargaining process with him which is usually called "participation": in effect, an exploration of the inducements that he will need to increase production or productivity, or means of overcoming the obstacles thereto.

The Nature of Agricultural Plans

A ministry of agriculture will, then, have a countrywide organisation, apart from special services within the ministry, or hived off to parastatals, an organisation that should be able to take in demands from all levels and execute such of them as are approved. From within the ministry and from outside the minister receives competing demands for activities and resources between which he must adjudicate, as his resources are not unlimited. One of the snags is that the minister may accept demands in which he is not interested or has little confidence. Besides, demands are likely to exceed resources, so that some will be included with insufficient resources, or with resources for other projects reduced. The ministry's programme will not often be grandiose projects (although these will catch the eye) but really some extra activities here or there, to carry out some new idea or some new approach, or to intensify the tackling of some problem. These translate into marginal additions to existing staff and resources. Activities of this kind are very difficult to present to foreign aid donors (or even to one's own treasury!). The aid-donors like projects which are identifiable and with which they can identify. So one usually has to bundle together a number of old and new needs and activities and call them a project, either on a regional basis or in relation to some new crop or technique (e.g. "the area special development project" or "the coffee development project") (1). This incremental increase in resources to meet new demands is, I suggest, the normal planning process, although demands for large amounts of resources will often require special organisations to be set up to handle them.

Flexibility vs. Specificity

The advantage of special organisations is that their objectives are much fewer and clearer than those of a ministry, which will have a mass of objectives and a multitude of activities varying from place to place. Any one of these may seem of greater importance at one moment than another and to different persons. One DAO's enthusiasms are not the same as another's (2). This, too, can be frustrating to those down the line from the DAO, as he is frustrated by changes above him. If, however, some new activity is translated into an addition merely to the DAO's resources, without a formal plan against which the activities can ultimately be measured, it will be possible for him to divert resources in the direction that he particularly wants rather than the way intended (or even,

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1. The much-praised Kenya Tea Development Authority is an example. The initial work - nurseries, factory and inducing farmers to plant - was done by the ministry through its normal organisation, with marginal additional resources. To expand it needed a lot of foreign money. To get this it was necessary to set up the KTDA with which the foreign lenders could be identified and with the management of which they could be associated. In fact, this was quite unnecessary and, if the money had been available otherwise, the development that took place could have been handled just as well by the normal ministry organisation.
 2. I used to travel regularly around Northern Rhodesia. The villagers used to find out quickly the foibles and enthusiasms of a new DO, knowing that, if they pandered to these, they would be left alone in other matters. In one district in one year the villagers everywhere were enthusiastically digging (but not using) pit latrines. A year later, pit latrines forgotten, under a new DO, they were busy forming dozens of cooperatives. Two years later the cooperatives had expired. I forget what they were busy on then.

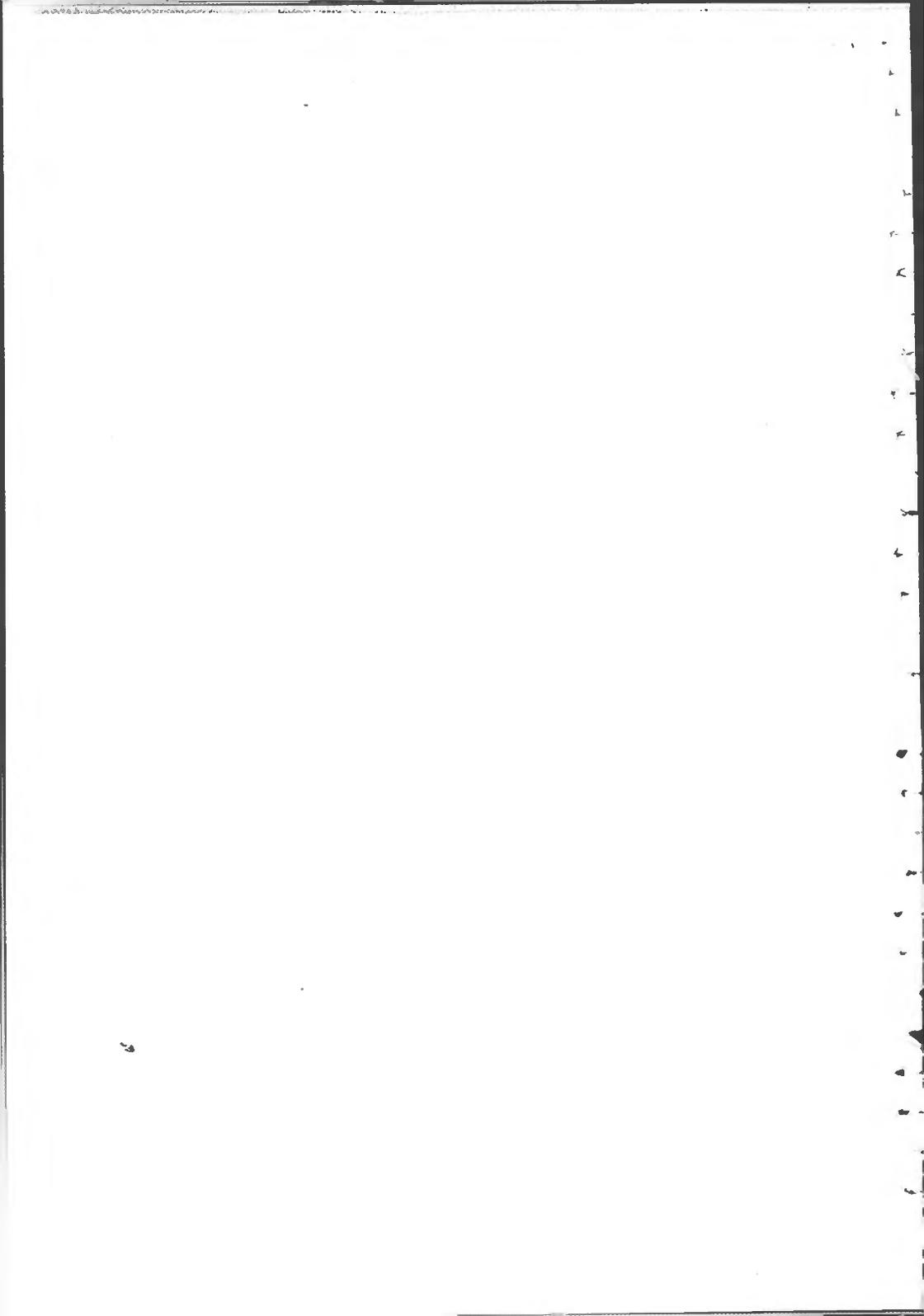
perhaps, divert them to his own personal use). This would seem to argue strongly for either (i) a clear district plan, expressed not only in terms of resources but in terms of measurable objectives as well; or (ii) programme budgeting of those activities that can be clearly separated from general activities; or (iii) setting up a special organisation to handle the activity. The argument against these courses is that they create rigidities and remove flexibility from the man who is responsible. He is unable to adjust his use of resources from one activity to another as opportunity arises or crises occur. Resources may have been allocated to an activity which turns out to be impracticable and cannot readily be re-allocated to other uses. The problem is easy to state, but difficult to solve. The flexibility that enables a good man to manage well actually enables a bad man to manage badly; a rigidity which prevents a bad man from managing badly equally prevents a good man from managing well (1).

Technical Planning

Planning, as commonly understood, implies the application of rationality (particularly as applied through sundry techniques of mathematical kind) to the taking of decisions. There are, in fact, fairly strict limits to the use of rationality, as we all experience with our own personal decisions in everyday life. With a single objective, one can use techniques to find the answer to a problem - "problem-solving". With more than one objective, one is immediately in the area of compromise, bargaining and "decision-making" (sometimes also, curiously, called "problem-solving"): deciding what weight to give to one objective rather than another, and often leaning heavily on those elements in a problem that appear to be measurable. Rationality can only play a minor part here, unless one starts from some theory of development from which one can deduce what weights to give to different objectives. What technical planners can do, in examining the ideas and plans of others, is detect incompatibilities between objectives, inherent contradictions, insufficiencies in resources, etc. This is a valuable function and it is useful to have someone who is not involved in the hurly-burly of bargaining to do this. They can, in this way, bring some element of rationality into planning. Apart from this, the role of technical planners at the centre is to stitch together the national, ministry or local plan and dress it up so that it appears rational, necessary and consistent (and any competent technical planner should be able to do this convincingly for almost any plan) to sources of foreign aid.

It is at the small-scale, or project level, however, that technical planning becomes very important. A project must be planned in detail, not only to assess the resources required, but to ensure its practicability. It is here that the techniques come in, to ensure that the project is well-designed to achieve its objectives, to assess when and whether resources are needed and will be available, and so on. Oddly enough, to judge by the litter of failed projects around the world, it is often at this level, where, technically, planning of a kind can be done, that it is not well done. (But, of course, one does not know whether this is due to bad project planning or to bad policy). One is still left with the doubt whether technical planners are needed at this level, rather than having the administrators taught the techniques.

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1. Arguments for more flexibility usually carry a hidden assumption that the man who wants flexibility is a good manager, an assumption that may not be shared by his superior officers who have to answer elsewhere for his performance.





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Women in Rural Development

Gwyneth Williams, ODI

Development depends on the full use of a poor country's resources. For most less developed countries people are the main abundant asset, and since women make up approximately half the population, and - as mothers - vitally influence each generation, they cannot be ignored in any serious development programme. Nevertheless, women have been persistently disregarded in rural development projects. The current concentration in LDCs is on cash crop cultivation, and the Group of 77 strategy is to give priority to commodity price stabilisation on world markets. So government support is concentrated on cash crops which are produced and marketed mainly by men, leaving little or nothing for food production, the sector in which women predominate. Yet cash crop prices are in many cases either falling or fluctuating wildly on world markets, while basic food prices are rising continuously. In many countries women dominate certain areas in the economy, yet most women are still denied access to the training programmes which would enable them to upgrade their productivity and skills.

Throughout the Third World women play a major role in traditional agricultural activities like subsistence food production, food processing and market trade. Development has often transformed these activities by the introduction of mass-produced foods and modern services. But the result is that men normally replace women when this occurs. So under some development programmes, for instance the introduction of tractors or where ploughing replaces long-fallow systems based on hand labour, male labour replaces female labour. The problem is that women are seldom trained in the use of modern agricultural methods or modern equipment, largely because of biased attitudes, so any gains they potentially could derive from development are usually pre-empted by men. As economic change takes place, the role of women does indeed change but often for the worse. Where you have agriculture which is not industrialised at all, where you have very little equipment, where the production per capita for the worker is very low, that worker is female. As soon as you have industrialised agriculture with tractors, with all the machinery which increase productivity, the women are edged out and men tend to become the producers.

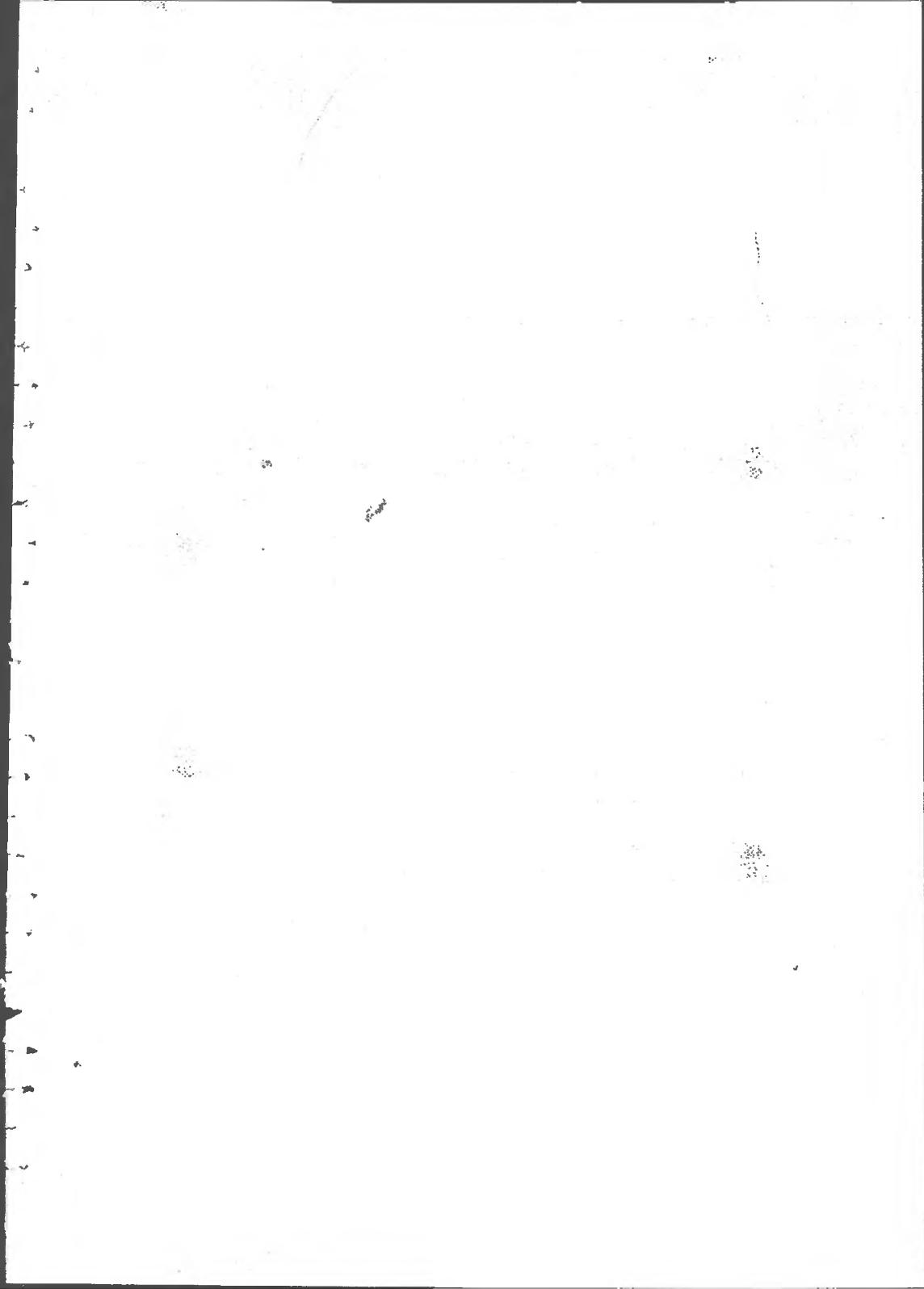
However, at last people are beginning to recognise the problem. We are in the UN Decade for Women (1976-85) and International Women's Year is just behind us (1975). Now, according to T. Scarlett Epstein in her foreword

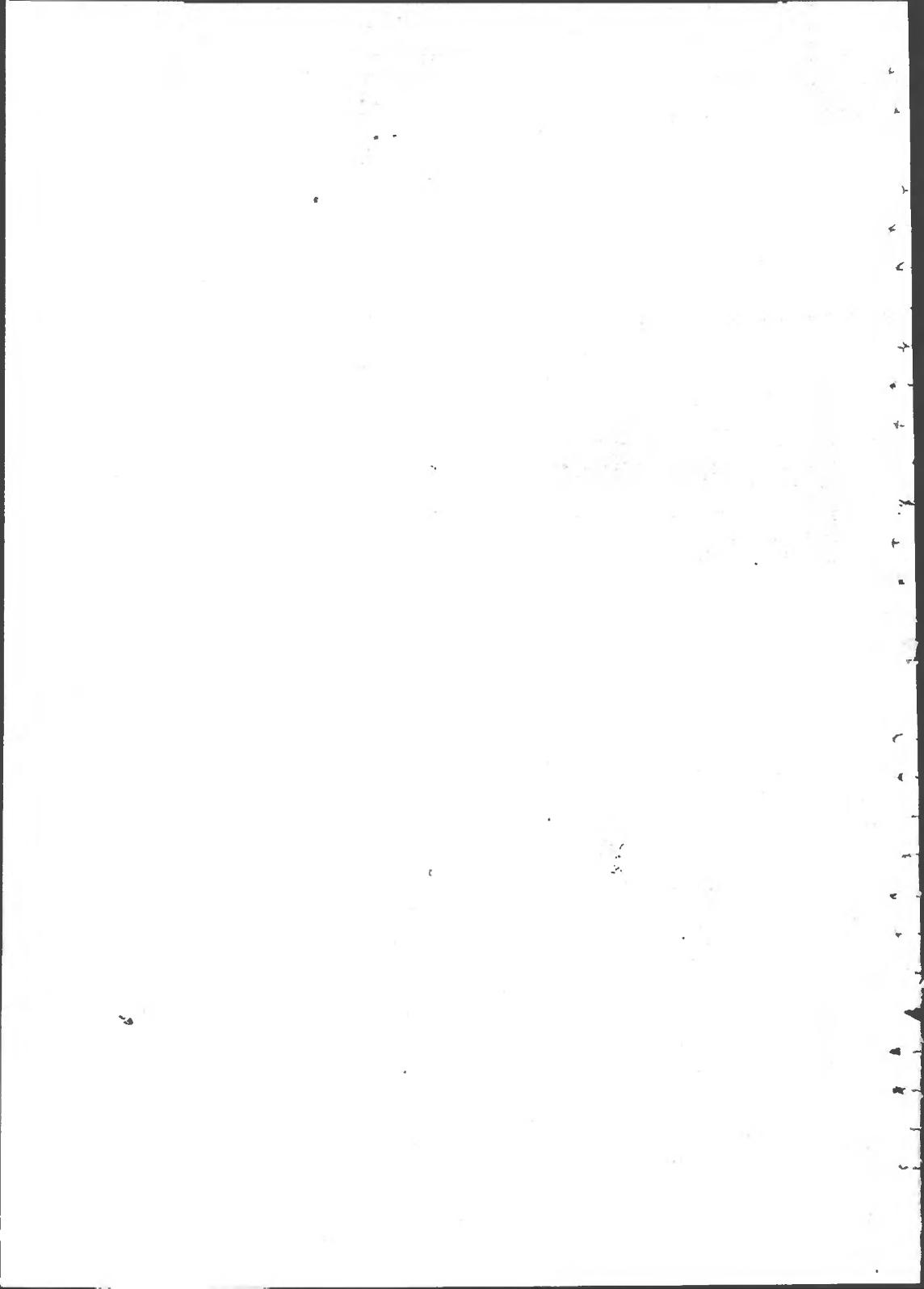
to the Special Number of Assignment Children on "Planning with Rural Women" (No. 38, UNICEF, April/June 1977), "Rural women need to be actively involved in shaping the future of their societies for the betterment of all concerned". This sums up the most important conclusion to emerge from a seminar at the Institute of Development Studies, University of Sussex, held to discuss how the involvement of rural women in development programmes could be increased and the quality of their lives improved. A bibliography was produced for the seminar offering a selection of over 300 books, articles and documents on the role of women in development (Nici Nelson: An Annotated Bibliography on the Role of Women in Rural Development, obtainable from Rosemary Watts, AFRAS, University of Sussex, price £4.00 plus postage).

Professor. Epstein is currently engaged in an Action-oriented Study of the Role of Women in Rural Development, based at Sussex University. The project is comparative, involving several Asian countries (Bangladesh, India, Indonesia, Pakistan, Sri Lanka). It is being conducted by social scientists and extension field workers belonging to the society under review and it includes an action programme. The impact of the action programme will be evaluated by the original researchers who will be well-placed to monitor local reactions since they are locally-based, and probably by then will have been accepted by the communities concerned. The heads of the extension services in the relevant countries are committed to the project and will organise the participation of extension personnel in order, ultimately, to train their own extension services in the newly acquired skills evolved as a result of the Action-oriented Study. Finally, each researcher will be involved in the development of the technology which is to be introduced, as well as in training the extension personnel.

The project aims at training researchers to collect detailed information on rural households in general and women in particular with a view to using this as a basis for suggesting more appropriate technologies together with institutional backing to help improve the quality of rural life, particularly among the poorest people.

As a preliminary to the study Dr. Nelson, Senior tutor on the project, prepared a paper "Why Rural Women been Neglected? A review of the South Asian literature" (forthcoming). This article not only reviews the available literature relating to rural women but also suggests some reasons for the paucity of data. Moreover, it stresses the need for more anthropological style studies to help fill the gap in our knowledge of the lives led by rural women. A series of about ten publications is planned after the completion of the project in 1981, including a Manual for Productive Extension Services focusing on Rural Women which will be translated into different vernaculars.







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Management Performance in Agricultural Projects

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Two necessary components of a successful project are:

- i) appropriate design, and
- ii) satisfactory management and control.

There are, of course, many other components influencing project performance, particularly exogenous factors, such as markets, prices, etc, which are outside the control of project management.

The aim of the project management and control system is to equate predicted with actual performance. Predicted performance defines specified project objectives and their achievement should be pursued, providing that the original objectives of a project are still valid. It is possible, for example, that over time the original objectives of a project no longer accord with current strategic objectives of government policy. These latter may place emphasis on a more equitable income distribution, employment generation or self-sufficiency which may not have featured in the original project objectives. Actual project performance is measured by objectively verifiable indicators which relate to aspects of project operation selected as a measure of overall project performance.

Evaluation of current performance is to maintain or improve efficiency of current project operation. Evaluation of past project performance is to identify serious deficiencies and prescribe changes in management and operating systems, where these are necessary. It has the additional purpose of providing experience for planning of other projects.

The maintenance of prescribed levels of performance and the achievement of explicit project objectives by a management and control system is considerably assisted if a project monitoring system is in operation. Project monitoring is a measuring and recording system of on-going project operation and performance. Its purpose is to assist project control and management and to provide a data base for project evaluation. For this to be achieved, the data provided by the system must be transmitted, in appropriate form, to the relevant department of the project management.

Project monitoring is relevant to two areas of project operation - the more obvious one of (a) technical performance, but also to (b) managerial performance. On a tubewell irrigation project, for example, it will be

necessary to monitor technical performance on tubewell operation and maintenance, water table control, pump station operation and maintenance, drain maintenance and water distribution, workshop operation, agricultural and extension performance, analysis of soil and water samples, and so on. A system for monitoring management performance, however, is a very different and more difficult matter. Conceptually, it has real difficulties of definition. Technical and managerial performance are different though related, but how does one separate out the influence of management performance, from all the other determining factors, on project performance?

In principle, setting up a monitoring system is relatively straight-forward. Decisions have to be taken regarding what has to be monitored, the frequency of monitoring, staffing required to effectively monitor at the prescribed frequency, the recording procedures and the communication procedures. The proposition that project monitoring is essential for good management and control is not really disputed by personnel in developing countries operating agricultural projects. Project planners advise it and operating ministries accept it. In practice, however, monitoring systems are seldom operated on agricultural projects. I am not only referring to highly sophisticated monitoring systems, but also to simple monitoring procedures that are appropriate for small projects.

What are the factors which lead governments to accept in principle, but reject in practice, project monitoring? Detailed systems which are required on irrigation projects are costly, in time and personnel, and it is difficult to precisely measure the benefits of a monitoring system (a well managed against a poorly managed project) against its costs. There is unstated opposition to project monitoring simply because its ultimate purpose is to expose weakness of performance and management. These weaknesses can be linked with individuals operating the project and it is human nature to oppose this possibility. Effective project monitoring is also looked at with suspicion by the operating ministries and for the same reason.

The functions of management and control are linked together because there is no generally agreed definition of them. Indeed, the words are often used interchangeably. However, I prefer to regard them as separate though linked functions. Control is concerned with maintaining project operation, including day to day response to recurring problems; management is more concerned with adjustment of project operation to meet changing circumstances, particularly those exogenous to the project such as markets, input and product prices, government policy changes and so on.

Management covers four areas - technological, business, administrative and human relations; but the last pervades the other three. Indeed, it is possible that this aspect of project management is the one to which most attention should be given. Management must face the problem of balancing delegated authority with central control; balancing close supervision with encouragement of personal initiative - on the project and as between the operating ministry and the project.

In practice, the control function of agricultural projects is frequently so preoccupied with financial accountability, the prevention of fraud and the policing of project activities that it tends towards a centralised, rigid and non-motivating structure. This preoccupation reflects the attitude of the operating ministries which are spending and not business institutions. The result is that project control is seen as the major function to the neglect of project management and this accounts for the inflexibility of project operation so frequently observed. Agricultural projects rarely operate under static circumstances and, therefore, project management should have the capacity to adjust project operation to change.

Project management performance depends not only on a staffing structure appropriate to the type and size of project but also on the quality of staff - this refers to all levels of management. A shortage of high quality, well-motivated manpower is a common characteristic of the developing countries, but it is particularly marked in the rural sector and on agricultural projects. These projects are often isolated and sometimes located in unattractive situations which makes it difficult to attract people to work on them. Perhaps even more important is that the wages and salaries of project employees, as well as access to urban amenities, are often unattractive compared with those in other sectors.

Regarding management structures and methods of control, these should be closely related to the basic physical, technical, social and economic characteristics of a project. In the early stages of project operation, strong technical and administrative control is likely to be beneficial, but over time increasing benefits are likely to come from decentralisation of decision-making and more farmer participation. With projects in newly settled areas, the exercise of overall control and discipline can be effected which may assist rapid initial progress. But unless provision is made for adaptation over time, institutional rigidity and economic stagnation are likely to result at a later stage. On the other hand, the exercise of centralised control and discipline will be more difficult on projects in previously cultivated areas. Here, greater decentralisation of decision-making and systems for farmer participation will have to be introduced at the outset.

Project Evaluation

Project evaluation is the last activity in the project cycle. The purposes of ex-post project evaluation are three-fold:

- (i) to assess current operation and performance of a project. This is judged against prescribed technical and operational standards; deviation from these standards is a signal to project management to take appropriate action;
- ii) to provide periodic feedback to the project itself. This enables an assessment of past project performance to be made - has it been a success or not? The criteria for this judgement are the comparison between initial objectives, predicted performance and actual achievement of objectives and performance;

iii) to provide feedback to the planning process. This comes from the lessons gained from project experience and comparison of project achievements with the goals of current policy.

Assuming that a monitoring system has provided the necessary data, the execution of an ex-post evaluation is by no means straightforward - particularly in regard to (ii) and (iii) above, with which this section is concerned. There is no firmly established methodology of ex-post evaluation as yet, particularly when examining the process of management in detail. This tends to be the point at which most conventional ex-post evaluations stop. For example, Moris has observed "it is a common failing of economists to confuse management with its results, so that again and again the focus is upon the substance of rational decision-making and not the process that led to and affected these optimal choices. The real essence of effective management never becomes explicit; 'management' remains a mysterious residual factor to trot out at the end, as one of the preconditions for effective implementation of rational planning"¹.

Project management and performance can only be assessed in a meaningful way in comparison with specified objectives. Decisions at low level in the system are the means by which high level objectives are achieved. Therefore; the perceived objectives of all participants should be in line with high level goals. In order to evaluate management and project performance, and the appropriateness of any changes, it is necessary to set criteria or tests of preference. This raises difficulties such as : (i) identifying those crucial areas that merit investigation; (ii) each criterion will need an objectively verifiable indicator (not necessarily a numerical one); (iii) when criteria and indicators are compared, there are difficulties of interpreting their meaning (in terms of good or bad performance); (iv) when they are given meaning, there is the need to aggregate the results in some way to obtain an overall impression of management and project performance. Aggregation raises the problem of weighting of criteria. For example, are good financial returns equivalent to the existence of a sound legal framework? Also, are the criteria independent or in same way linked? For example, it could be that financial performance is largely a consequence of the legal framework or that both are the result of a third unidentified factor. The difficulties are compounded when we try to relate them to the management process. It appears that we need to know what is meant by good management in order to define tests for it.

1. Moris J.R. "The transferability of western management concepts and programmes, an East African perspective", in Stifel et al, Education and Training for 'Public Sector Management in Developing Countries, New York, 1977.

2. Carruthers, I.D. and Clayton, E.S. "Ex-post Evaluation of Agricultural Projects: Its Implication for Planning", Journal of Agricultural Economics, Vol xxviii, No 3, 1977.

Comments by John Howell (A.A.U) on Clayton,
Management Performance in Agricultural Projects

1. The problem for assessing (leave alone monitoring) management performance is firstly deciding on 'objectively verifiable indicators'.

At the risk of over-simplification I would break it up in the following way:

a) at the bottom level there is 'technical performance' (Clayton p.1), or executive management, which is subject to any number of detailed measures of performance depending on the nature of the project.

b) at the top there are project objectives¹ (the proper subject of purpose (ii) of ex-post evaluation) which concern levels of productivity of land or labour, distribution of income etc.

c) between these technical and strategic levels is - obviously enough - an organisational design. This includes such things as staffing levels, financial procedures, work schedules, levels of delegated authority, 'participating' structures, inter-agency linkages, and relationship between research and 'line' posts. This design is based - in theory - on the need to ensure that the technical performance tasks are done and that the project objectives are thereby met. The design is therefore based upon certain management objectives, which in turn allow identification of measures (however rough- and- ready) of management performance.

So, in assessing 'management performance' - rather than technical performance - one would need to start off with a set of organisational, or management, objectives which 'service' the project objectives and are in turn serviced by measures of technical performances.

For example, a project objective, in an area development scheme, might be diversification into tobacco production among family farm units; the detailed technical objectives will depend upon how far the programme staff are involved in such matters as advice on seed beds, barns or baling; but the management objectives will form the link between technical performance and project objectives. Depending on the organisational context (for example it could be an area authority of which agricultural production is only one function, or a specially-buttressed local agricultural department, or even a row

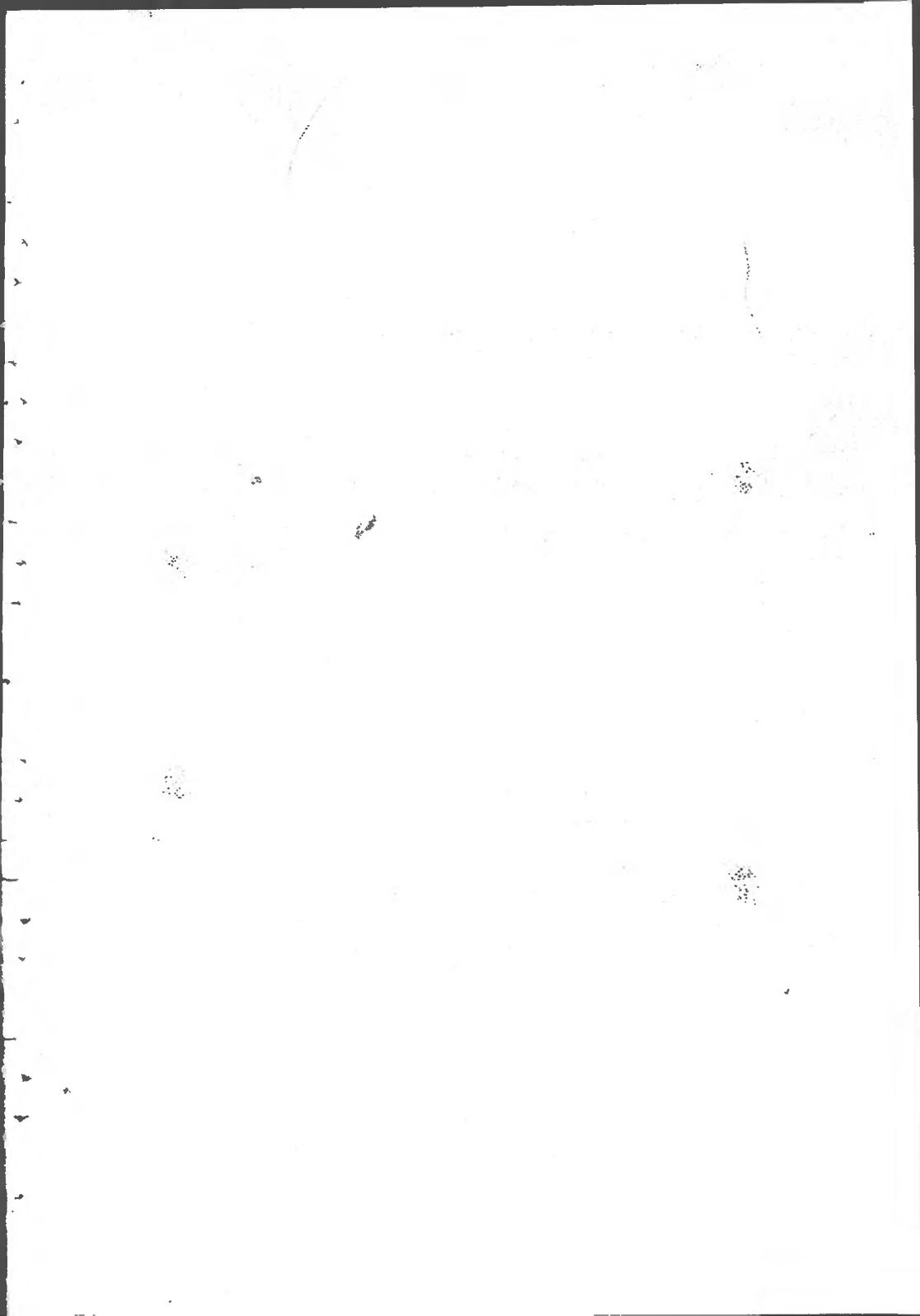
1. The term 'objectives' has been displaced, in trans-Atlantic development parlance, by 'goals' (overall objectives) and 'purposes' (specific objectives). These are central terms to the logical framework analysis adopted by CIDA and AID, but 'goals' - perhaps for cultural reasons - remains odd to most Englishmen.

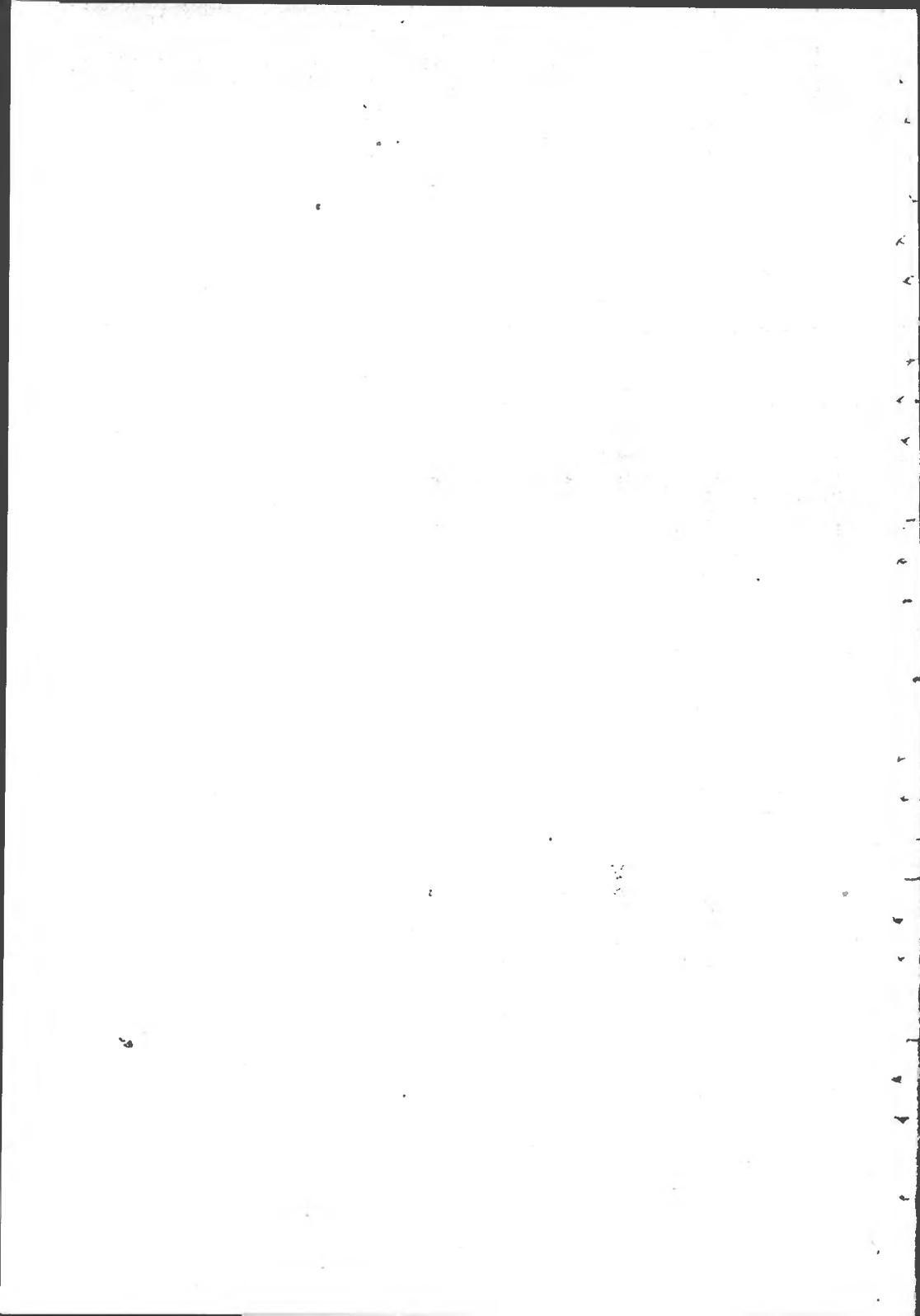
tobacco board) the management objectives will vary. (Of course, whatever the context there will be management objectives such as persuading the farmer, gaining information on farmer needs, co-ordinating inputs, ensuring collection and payment etc.). But the precise form of such functions (for example, the information system which assesses timing and location of demand for seed, fungicide, tractor-hire, wood fuel etc.) will depend upon the agency structure adopted. Nonetheless, where there is a system of management which serves a particular function then there is a 'handle' for monitoring how well it is working. (For this reason incidentally, it is necessary to survey organisational resources in the planning stage of agricultural programmes; and this is why there needs to be emphasis on a more systematic approach to organisational design as without clear organisational objectives, programmes or projects are rather more likely than otherwise to go off course).

If one was undertaking a monitoring exercise from scratch - rather than monitoring already explicit management objectives - then it would be necessary to impose a degree of rationality by working back from the project objectives to identify the management objectives and then working up from the tasks of technical management to see how far these contributed to the management objectives.

Another problem is how to monitor and who should do it. The ideal solution is almost certainly to build monitoring into the management structure itself, so that monitoring is a management tool rather than a regulatory mechanism: that is, executives use the data of monitoring to project future work and correct deficiencies, rather than a retrospective process of information gathering. If information is inaccurate and late then this is perhaps because it is considered extraneous to the day-to-day work of staff. (If PERT has any value in agricultural management then it is probably in the decision-making process that obliges staff to see their own work as part of a collective effort and imposes a form of sanction upon individual backsliding). For technical performance, inspection units may suffice; and for project objectives, six-monthly strategy meetings are perhaps necessary. But for management performance, I doubt if a monitoring unit with a list of indices to assess at one month or quarterly intervals, is likely to make much headway. Far better to have an organisation and management unit of a central agricultural ministry which will concentrate upon devising effective procedures (with a self-monitoring component) for different programmes. There is anyway likely to be a monitoring unit within a programme looking for longer-term trends in production, income-generation etc. and this is bound to focus interest on questions of organisational strategy.

On the face of it, this is rather making a meal of what in practice might to be a perfectly straightforward management process of regular consultation and common-sense initiative when things seem to be in danger of going wrong. In practice however, the organisation and management of rural development programmes seem particularly prone to confusion and atrophy. It is because project objectives are often so unclear and because technical performance is so indifferent that it becomes necessary to examine management objectives and performance by attempting to spell out what is reasonably successful organisations is taken for granted.







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Alternative Approaches to Project Implementation

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Introduction

Implementation is the process by which a set of related activities is carried out, in a planned way, with the purpose of achieving certain established objectives. This paper examines two approaches to implementation, together with their underlying assumptions, with reference mainly to rural development projects.

Assumptions about implementation form a spectrum, but for discussion points on the spectrum can be taken. The spectrum ranges from a traditional predetermined mechanistic view, where implementation is merely a means to an end, to an open position where it can also be an end in itself, and is organic rather than mechanistic.

The following two examples illustrate briefly the differences inherent in these two approaches. Firstly, a traditional view might start with the concept of a project cycle, with several 'stages' from identification to implementation, which is the last of the stages - implying that its function is simply to put into operation what has been decided at the technical planning stage in the most efficient manner possible. Seen from another point of view, implementation is given little thought during the technical design phase, which is dominated by quantitative planning. Only while the technical side of the project is being set up, which itself is an aspect of implementation, do other such aspects as organisation, management, administration and other related subjects of implementation receive attention. By the time these aspects are being established they are being forced to fit within the already established technical framework.

The attitude underlying such an approach has been described as methodological imperialism (Goulet 1971) and leads not only to technical dominance and dominance by the planners but to the view that implementation is a tool to ensure, by mechanical, and where necessary coercive means the achievement of predetermined targets.

The second example from the other end of the spectrum, the open approach, recognises the importance of implementation as an end in itself. This, of course, does not deny the truism that implementation is a process for getting things done but merely adds another equally important dimension which reflects on how things are done and on the desirable and undesirable consequences of how things are done.

Implementation is seen as the mutual education of planners and clients to their mutual benefit. Its aim is not solely the achievement of a production target but the promotion of greater understanding, better working relations, improved social organisation and a more equitable distribution of power over planning and ensuing actions. Increased production is achieved as a result of these factors and not merely as a result of setting a target and using management tools to ensure its achievement. Implementation is also a continuing adaptive process, rather than a specific action, a process which must be continuously reviewed and adapted in the light of its effects, not merely upon the stated project targets but also upon the project's work force and the project's environment.

Where the traditional view is inward-looking and has a closed view of a project, the other end of the spectrum is outward looking and open; where the traditional view relies on mechanical tools, rules and procedures, the open approach employs an understanding of the project's environment, especially the human element. Given the same initial situation, these two extreme approaches would take different routes and would probably arrive at different destinations, as the basic assumptions concerning implementation would be different. These assumptions differ in: the involvement of implementation in the planning process; the way to plan for implementation; the tools to be used in implementation; and the use to which the tools are put.

The open view would suggest that implementation cannot be separated from politics: to think of implementation purely in terms of the acquisition of finance, planning of expenditure, acquisition of inputs, budgetary control and other mechanics of management, is to miss the basic point. Implementation is concerned with action, who plans it, who does it, who it is done to and why; in fact, who has the power, and how is the power organised for action.

Project Organisation

Traditional theory about organisations gives primary attention to the character of their internal structure, i.e. organisations as closed systems. The classical models of traditional theory, including bureaucracy, scientific management (based on work study), and other exponents of hierarchical power are covered by the term 'machine theory'. The organisation, although consisting of people, is viewed as a machine and embodies the following major concepts:

- process specialisation of tasks
- standardisation of role performance
- unity of command and centralised decision-making
- uniformity of practices
- no duplication of function.

These concepts are seen in their clearest form in industrial organisations where the criterion is technical efficiency, but where the participants cannot be relied on to have common goals.

The efficiency criterion which is often put forward as a justification for machine theory is misleading. Machine theory is only an efficient form of organisation in situations where there is no common goal or shared objectives; where it is assumed that man does not wish to work and will try to avoid it; where man has been alienated from his working environment and from its preset goals or must do repetitive tasks; or where his actions benefit someone else more than they benefit himself. Nothing, in fact, improves efficiency like shared values and goals, meaningful tasks, involvement, a more equal distribution of rewards and power and improved social relations in the working environment. It is only when these are missing that machine theory comes into its own to impose technical efficiency rather than create human efficiency.

An example of the traditional kind of approach is the Mwea Irrigated Rice Settlement Scheme in Kenya. Development is seen purely in terms of production, the achievement of which justifies any form of implementation. The project manager described the operation as 'semi-military'. Chambers (Chambers and Morris, 1973) drew attention to the fact that, whereas the project staff are obedient and responsive to commands of the project's hierarchy, the same is not true of the tenants. In Chambers' terms they are like 'the population of an occupied territory, requiring firmness and full control over their activities by the project to overcome hostility and a tendency to subvert the system'. Chambers justifies the stress on efficiency, discipline, precision and control as the means of achieving high production and high incomes for tenants, who need to be 'persuaded or forced to cultivate'.

Mwea in fact has its origins in the Mau-Mau emergency, which is one possible explanation for the authoritarian nature of the project. Another possible explanation is that the approach used is suited to the nature of the project, to the 'technical and production imperatives' as production was seen as the key to development, for which a tractor programme was the dominant activity. A third possible explanation is that irrigation itself demands an authoritarian approach for proper water control and distribution. Chambers favours the explanation in terms of the 'technical and production imperatives'. He concludes that:

'Other forms and styles are certainly possible; but unless they achieved the same benefits for tenants, it is likely that the tenants themselves would bring pressure to bear to see that the current system, or one as efficient as it, was recreated so that they could continue to benefit from high production.'

(My emphasis)

This seems at odds with the observations that tenants must be persuaded or forced to cultivate and tend to subvert the system. Once again the spectre of efficiency is raised and once again it must be pointed out that authoritarianism only produces reluctant human compliance and technical efficiency in conditions where those involved do not subscribe to a common organisational goal or to a particular goal which those in charge of the project have legitimised as an 'organisational' goal. The quotation also

demonstrates the vicious circle in operation which justifies an authoritarian approach. The logic is that the tenants show hostility and a tendency to subvert the system which proves that authoritarian measures are required. In actual fact it may well be the authoritarian measures which have given rise to the tenants' action.

Projects continue to emphasise mechanistic approaches; they give farmers the choice of either not joining the project and being completely excluded from any kind of assistance or joining and then rigidly following the rules as laid down by project authorities. The World Bank Project in the Eastern and Southern Provinces of Sierra Leone serves as an example. Its strict credit programme forced it into an authoritarian attitude which became rather schizophrenic for whilst the credit section was playing the policeman, the extension service was trying to be the farmers' friend. There was no participation in the planning of the management of the project in its activities at the local level, farmers were seen as clients (by the extension services) or as employees (by the credit section). The project organisation design was simply a traditional pyramid-shaped hierarchy with every senior role responsible directly to the project manager, the type of organisation chart that World Bank planning personnel used as a kind of blueprint and which can be seen in almost identical form in many other World Bank projects. No alternative is presented to a hierarchical organisation and the underlying assumptions of authoritarianism are well illustrated in the activities of the credit section, the actions of which are justified by the assumed nature of a credit operation.

Instead of making defaulters the responsibility of a group of farmers, an approach which has worked well in other areas, the project used the local Chiefdom administration. The local Chief had to ensure that all borrowers were in the village on an appointed day to meet the project lorry. If a farmer failed to repay (without good reason) then court officials on the lorry would arrest him and hold him until repayment was made. He would be tried in the local Chiefdom Court, and his total crop would belong to the project. Forced recovery would be on the advice of a Credit Advisory Committee.

The point being made here is not only that there are other ways of ensuring recovery such as better appraisal of applications, peer group pressure, repossession of credit in kind, refusal to consider further applications, but also that a particular task or technology can often be seen as requiring or necessitating an authoritarian, mechanistic approach. The credit manager felt obliged by duty to take this approach, and, by strict procedures, to control his operations, but at what cost to the project and their relations with participating farmers? It is not the intention here to enter into a discussion of the problems involved in credit management but to point out that an 'open' approach to project implementation would examine the consequences of how things are done and would consider dismissing a technical solution if, in order to maximise technical efficiency or productivity it was felt necessary to introduce coercive measures to ensure compliance. At the same time the project should not risk bringing local organisations into disrepute when one project goal should actually be the improvement of local institutions' capability to continue their own development.

Project Management

Management is the function that controls and conducts a project's activities. A traditional definition of a manager, taken from an industrial model, is a member of the organisation who has subordinate to him authorised roles to which he can appoint (and from which he can dismiss) members and determine their work. He is accountable for his own, and for his subordinates', behaviour and work in the achievement of the task assigned to him.

However, particularly in the rural and social service's sector, project management should not be seen as being embodied in specific roles necessarily, those of manager and subordinates. Project management consists of three functions: boundary control, monitoring and maintenance. They are functions which any project needs, but they can be performed in a variety of ways. The 'open' approach to project implementation would accept a need for control, because an organisation is a social system containing human variability, but would deny that it has to be coercive or authoritarian. It would accept that management functions have to be performed but would deny that a need for management is necessarily a need for a manager.

Hierarchy, backed by rewards and punishments, does not recognise the interdependence of an organisation's members, but only recognises upwards dependence, that of a subordinate on his superiors. It is obvious, however, that a manager is totally dependent on his subordinates to carry out the work for which he is responsible. In a rural development project, for example, the situation is even more complex, as the farmers, although not employees, are a definite part of the project, without whose agreement and cooperation nothing is possible. If an authoritarian measure does not have the desired influence, the answer does not necessarily lie in exerting more or less authority but may be in using alternative forms of influence.

This would seem to hold true for many development projects where exerting influence by authoritarian means would be an inappropriate means of bringing about change. If project management is considered in terms of functions rather than in terms of hierarchical roles, more alternative solutions can be generated than if a project manager is taken as the starting point and an organisation built around him.

It is not uncommon for controls to be imposed to protect management, rather than to protect the task system, from unnecessary interference. Similarly, parameters are often controlled because they are measurable or easily influenced, rather than because they are relevant. The parameter which is most difficult to control is the human one, whether people are the main throughput of an organisation (hospitals, social services, training institutions) or whether they are used as an input in the production of some good (industry, agriculture). Adequate control of people is only possible when the mutual dependence involved is fully accepted by all parties. This is not the case in a strict hierarchy, and, therefore, the traditional approach proves inadequate or even dysfunctional in attempting to bring about the change with which development is concerned.

The War on Want-supported Guidimaka project in Mauritania (Bradley et al 1977) is an example of an 'open' approach to planning which created the framework for local participation in implementation. The project did not attempt to impose rigid management structures but looked for ways in which the peasant communities could decide for themselves the means of achieving coordination of production activities at the village level; better diffusion of technical knowledge; concentration of labour on tasks of collective interest.

These means proved to be threefold:

- Village Associations to draw up micro plans of agricultural development suited to each village's needs and to control and coordinate on behalf of every village member the implementation of the plans. A management and executive committee is chosen by each village by a process decided by the village themselves.
- Collective fields, as experimentation plots and demonstration areas, worked on by small self-managing groups of farmers although under the overall direction of the Association.
- Extension programmes based on the collective fields and around the knowledge and experience of group members who act as part-time peasant extension workers; each group demonstrating to other groups their own particular developments.

None of these three levels of operation is rigidified and the way that each level operates in each village will probably differ depending on the specific village's social and economic structure. Each village association is given a budget which it must allocate and manage itself with assistance, where necessary, from the permanent project staff.

An approach such as that used in the Guidimaka project encourages inter-dependent and self-reliant development by using the evolution of common objectives to promote activities of communal interest and value. Also, by leaving the management of activities largely in the hands of the actors it minimises dependence on the instigators.

Project Administration and Procedures

Administration and procedures are the tools that translate the decisions of management into specific action, and that record and process relevant data to assist in management decision-making. It is important that administration is seen as a tool and not as an end in itself, as it is concerned not with policy but with simple and understandable courses of action in the relatively short term. A tool exists to be used and not to dictate actions. In many cases where administration has a bad name it is because it has usurped the management function which it is not designed or equipped to do. Bureaucracy sometimes exhibits characteristics of administration which has gone out of control and has become an end in itself.

Administration is an overhead cost on a project and should therefore be kept to a minimum. A traditional approach, however, relies heavily on procedures as a means of effecting authoritarian control and reducing human variability. A mechanistic view would be inclined to put a great deal of emphasis on designing procedures to improve control. The larger, more complex and more expensive a project becomes the greater will be the need for administrative procedures, especially if the project does not have the full support of its staff and consumers. The credit section of the Sierra Leone project mentioned previously is a good example of how a particular task, the granting of credit, and particular assumptions concerning the action, (that there should be a 100% repayment of credit) and that a highly authoritarian approach was the only way to achieve this, can proliferate administrative procedures. Throughout the process of application, agreement, granting the loan, use of the loan and repayment complicated procedures and recording systems were used.

Chambers and Belshaw (1973) describe 'procedures' as the 'missing link... a key point of leverage in sharpening and improving the performance of government organisations in rural areas'. If by this they are suggesting a rationalisation of procedures and more attention to their planning in order to limit procedures to essentials, then this is a valuable suggestion. In their approach, however, procedures seem to assume primary importance, to the detriment of alternative structures, actions and motivations. People take second place to mechanisms.

This situation is well illustrated in Chambers and Belshaw application of PIM (Project Implementation and Management) to the Special Rural Development Projects (SRDP) in Kenya. PIM was an adaptation of Management by Objectives (MBO) which Lipton (1971) describes as:

1. Clarifying the definition of a subordinate's job as a result of discussion between himself and his immediate superior.
2. The agreement between them of reasonable aims for the subordinate's performance in terms of specific targets.
3. Support and encouragement by the supervisor for the subordinate.
4. Systematic appraisal of results leading to the setting of further targets, which will, it is hoped, be higher.

MBO tacitly accepts the idea that all organisations are hierarchical in shape with authority distributed from the top down. Formal authority is the main coordinating principle with MBO creating high levels of commitment to company objectives whilst creating an illusion of participation. The opportunities for the individual exist within a framework which is unalterable by the individual. The individual can only agree to work harder for something he has no influence over.

These reflections on MBO are useful in examining the success of PIM in its application in the SRDP. Studies of PIM in action (Chabala 1973) have usually concentrated on whether it has achieved the criteria established for it. This is rather like judging it by its own objectives rather than establishing whether its objectives were valuable or viable. A USAID evaluation (Harmon and Zalla 1974) commented 'there is a tendency to overlook more fundamental questions of tactics, strategy and objectives', and observed that in practice PIM seemed to concentrate on target setting rather than on coordination of highly related activities. They conclude 'the problem involved in instituting a management system such as PIM is that the meaning of coordination and planning is not clearly understood by the people who are expected to use the system'.

PIM was established largely to assist the Area Coordinators and it is significant that neither those concerned at the national nor local levels have been equally committed to using PIM. Chabala (1973) states that his evaluation of PIM was also forced to be an evaluation of the SRDP Area Coordinators whom the procedures were designed to assist. Although Chabala found PIM to be 'basically valuable', he did identify several problem areas which seem significant enough to raise doubts. The problems were:

- PIM procedures will be ineffectual unless applied by a strong Area Coordinator or District Officer.

- success depends on full and genuine participation
- PIM has proved inadequate in keeping deadlines for implementation and has not evoked commitment at senior levels
- PIM does not work well with self-help activities
- there is a danger that PIM will direct attention away from local opportunities and underlying problems and toward the mechanics of delivering resources
- PIM is burdensome in staff time and effort.

If the criticisms of MBO and Harmon and Zalla's concerning PIM are added, quite a formidable list of problems accumulate. It is also difficult to avoid the idea from Chabala that Area Coordinators are the principle reason for PIM and that their role with 'wide responsibilities and little formal authority' is an unrealistic one. If AC's did not exist or existed in a different form, would there be a need for PIM as such or merely for an efficient data system?

Monitoring and Evaluation

The traditional approach to the monitoring and evaluation of projects is based on a comparison of production figures with plan targets. Success is measured by the achievement of, or improvement to the targets. Where shortfalls occur an investigation of the underlying causes must be made in order to adjust operations as necessary. Monitoring is used to help control the day-to-day project activities whilst evaluation is usually made after the project is completed or perhaps at set intervals during the project's life. Monitoring is a tool of project management, evaluation can also be used by policy-makers. Generally though, in a traditional approach, both are inward-looking, concerned principally with the project's activities and achievements. Although collection of data is rarely simple, by using easily quantifiable parameters the traditional approach appears the easiest type of monitoring and evaluation to adopt.

The World Bank Northern Integrated Agricultural Development Projects in Nigeria are typical of this approach, although probably more sophisticated than some. Sample survey methods operated by enumerators are used to record the day-to-day activities of randomly selected farmers. The results are coded and put on computer for analysis and interpretation. The type of data collected is as follows: number of farmers, size of farms, income and expenditure patterns, use of project inputs, availability of water supplies. All are concerned with the quantitative aspects of the project's activities and with a statistical analysis of achievements: the number of plots, fields, families, plots per field and per family, size of plots and fields, and average size of farms.

The key question must obviously be who wants to know and what information is required? In the traditional approach it is the project management, which is vested in specific roles, and the managers' superiors, concerned with project planning, who want to know. The information they require is concerned specifically with achievement of the objectives which they have set for the project. In an open approach it is both the instigators and the actors who want to know and the information they require is the effect of the project on its environment in a much broader sense than the achievement of internal targets. The recording of data is obviously still the basis for monitoring and evaluation but emphasis is not completely

on quantifiable targets, due attention also being given to the cultural, social and psychological variables which considerably affect a project's success, the distribution of power and resources, and the intended or unintended consequences of project activities on the parts of the environment which are not directly touched by them. For example, increased production of a cash crop may be seen as a project success; a wider view might show that this makes the region more vulnerable to drought through a shortage of subsistence crops. Alternatively, a wider view might show that it is the larger farmers who have benefited rather than the smaller peasant farmers.

A project which has attempted to use an open approach to evaluation is the War on Want project in Mauritania. Although it is too early to assess the success of the project, the approach is interesting nevertheless, if only because there seem to be so few projects which have taken this approach, and followed it throughout. The original survey team is to continue, throughout the implementation period, a research programme concerned with carrying out a continuous evaluation of project operations and achieving greater understanding of the natural environment and socio-economic factors.

Summary and Conclusions

To summarise some of the main points of the paper:

- two categories, the traditional approach and the open approach can be identified at different ends of the spectrum of possible assumptions about implementation.
- the traditional approach is not just a common approach but is still the predominant approach to implementation by the majority of development agencies, especially bilateral and multilateral agencies with investments to protect, and a Western view of development to promote.
- it is characterised by a mechanical view of planning and development in which implementation is simply a tool of the powerful (donors, planners, politicians). Employees are seen variously as cogs in a machine or troublesome but necessary raw materials. Project beneficiaries are seen as either clients (to be 'sold' an idea) or employees (to be instructed).
- On the other hand the open approach attempts to make people important, thinking in terms of 'instigators' and 'actors' rather than planners and clients. It recognises that implementation is about the communication of meaning and that it is concerned with power and influence.
- Implementation becomes more important. It is still a means of getting things done but is also concerned with how things are done and the desirable and undesirable consequences of how things are done. As a result, it becomes much more an integral part of the planning process and influences the technical, financial and economic aspects of the process.
- The existence, operation and consequences of the two approaches can be identified and compared for the various phases of implementation: organisation, management, administration and procedures, monitoring and evaluation. One advantage of the open approach is that it does not attempt to make generalised prescriptions.

- It is argued that in a development situation an approach is needed which encourages and fosters decreasing dependence and increasing self-reliance and that the open approach is suited to this. The traditional approach on the other hand can cause dependence and alienation rather than reduce it.

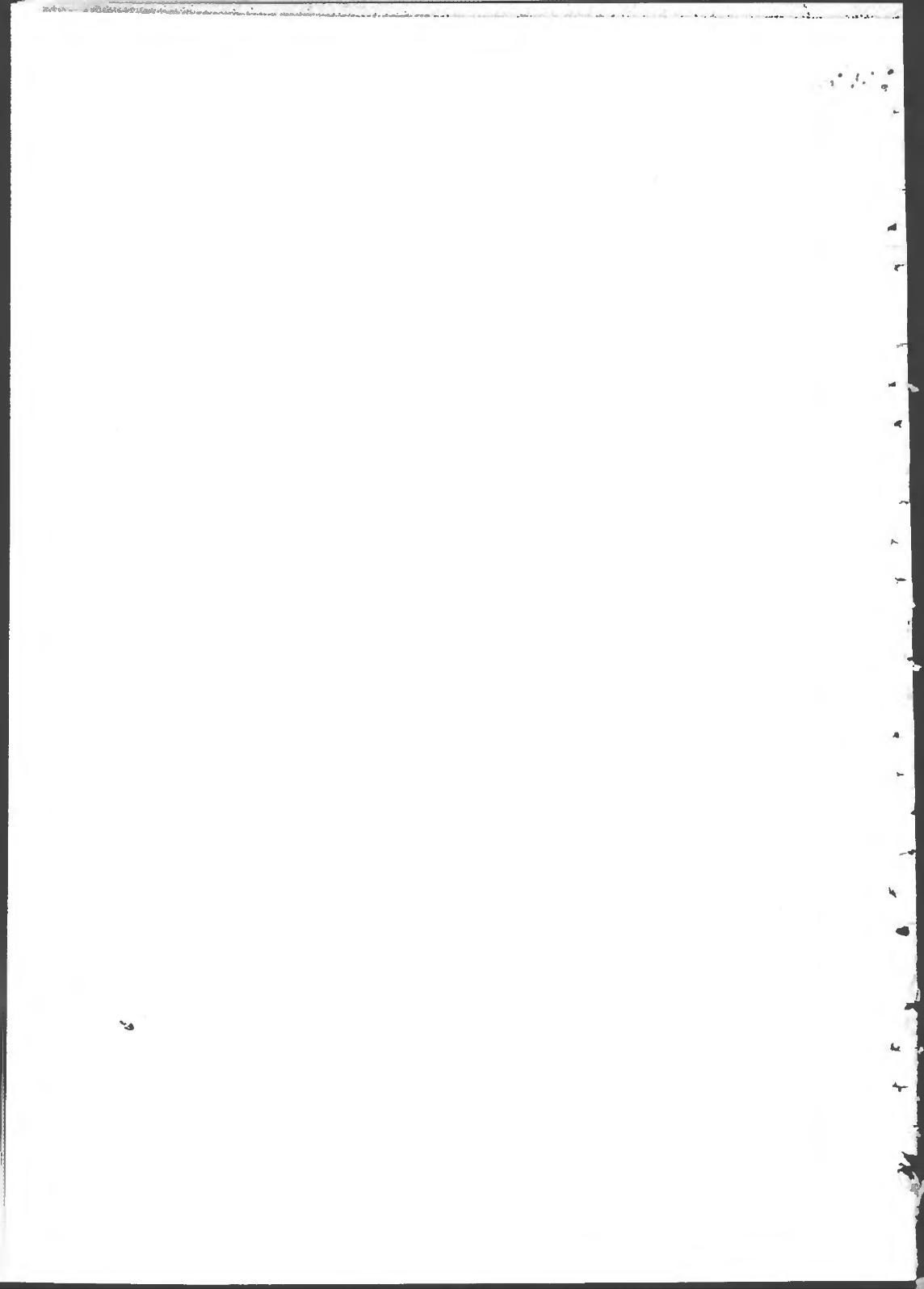
Only scattered attempts have been made to put an open approach into practice, one of which has been mentioned here. It is still too early to say in most cases how successful they have been but it is a pragmatic and flexible approach which is ideally suited to learning and adapting from experience. It leans heavily on the one great resource which the traditional approach has ignored - the people themselves, their motivation, experience and common sense.

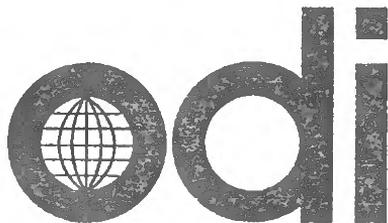
If examples in this paper have been taken mainly from those based on traditional assumptions concerning implementation, it is because the great majority of projects are still planned and implemented in this way. They are also the projects that have received most attention as they tend to be large and externally-financed. Finally, in arguing for an open approach it is useful to draw attention to the failure of many examples of traditional assumptions, and the traditional approach to project implementation. Whereas the traditional approach is also a prescription, the open approach is not. It does not attempt to offer a single solution to implementation but tries to provide a framework within which alternatives may be presented and compared. It does not rule out bureaucracy, specific roles or even authoritarianism, but rather perspectives and a body of knowledge that may make them unnecessary in many cases.

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2/78

AGRICULTURAL ADMINISTRATION NETWORK

NEWSLETTER

1. I spent three months in Ghana between January and April 1978 (see 1977:1), partly teaching at the University of Ghana, Legon, partly looking at various agricultural development projects. This report consists of brief notes on the organization of agriculture in Ghana (Part I) and a discussion paper (Part II).
2. The period was one of acute inflation and effective devaluation; the official exchange rate weakened from £1 = 2.18 ¢ at 31.1.78 to £1 = 2.06 ¢ at 2.5.78. The cedi has now been revalued to £1 = 5.25 ¢ (18.9.78). The rate used in this paper is £1 = 2.06 ¢.
3. I have recently accepted the offer of the position of Senior Research Fellow at the University of Zambia, Lusaka, and will be leaving ODI in January 1979. However, I hope to continue working on the subjects which have occupied Guy Hunter and myself over the last few years and, more recently John Howell. Many thanks to you all for your advice and participation. John will continue to run this network from ODI, while I look forward to contributing to it from the receiving end.

Janice Jiggins

PART I

1. Political background¹

1.1 On 6 March 1957 Ghana (then Gold Coast) gained its independence under Dr. Kwame Nkrumah. In 1960 Ghana became a Republic within the Commonwealth with Nkrumah as first President. Nkrumah's Convention People's Party increasingly was used as an instrument of his personal power; it was declared the only recognised political party and all others were proscribed. On 2 February 1966, the Armed Forces, led by Lt.-General Afrifa, and the Police Service, overthrew the CPP government. The CPP was banned and the constitution suspended. A National Liberation Council was appointed as a cabinet by the military who ran the country by decree. Intending only to rid Ghana of the excesses of Nkrumah, the CPP immediately established a Constitutional Commission under the chairmanship of the Chief Justice to provide for a new constitution under civilian leadership. The Commission formed an 150-member Constituent Assembly to help draft a constitution which was subsequently signed by the members and submitted to the NLC, who then empowered the Assembly to enact the new constitution, which came into force on 22 August 1969. A three-man Presidential Commission headed by Afrifa acted as a caretaker government whilst the ban on political parties was lifted and preparations made for elections.

1.2 At the elections of August 1969, Dr. K. Busia led the Progress Party to a landslide victory, winning 105 out of 140 seats; Mr. K. Gbedemah's National Alliance of Liberals won the second largest number of seats, 29. After only 27 months, the Armed Forces, led by Colonel I. Acheampong, stepped in once more and overthrew the Busia government in a bloodless coup, giving as its reasons "the hypocrisy of the Busia regime coupled with the inefficient management by that regime of our economy. Evils of corruption, nepotism, social injustice and arbitrary dismissals still remained and in some cases got worse - especially in the economic field" (Information Services Dept., Ghana, 1977:22).

1.3 Political parties were banned once more and the new constitution suspended. A National Redemption Council was formed with Acheampong as Chairman, to be replaced in 1976 by the Supreme Military Council consisting of the Chief of Defence Staff; the Army, Navy and Air Force Commanders, the Commander of the Border Guards; and IGP, under the chairmanship of Acheampong. A new NRC was formed including members of the SMC; Commissioners of State appointed by the SMC on the advice of its Chairman; Commanders of the First and Second Infantry Brigades; and the Chairman of the SMC. The country is governed by decree.

1.4 During the summer of 1977, the "professional classes" (urban elites, chiefly lawyers, doctors and nurses, engineers, teachers and university lecturers), together with students and some sections of the commercial and trading interests (notably the market mummies controlling the informal trading networks in domestic foodstuffs, who had been angered by government attempts to regulate and otherwise intervene in the distribution of basic foodstuffs), presented the government with a series of demands, including an end to arbitrary arrests and corruption, more effective management of the economy, and a firm date for the return to civilian rule. Acheampong and the SMC made a few concessions, appointing a deadline in Spring 1979 for return to civilian government and establishing a Constitutional Commission to assist it in formulating an appropriate constitution for Ghana.

(1) The most recent general study is in Dunn, J. (ed.): West African States: failure and promise - a study in comparative politics, Cambridge University Press, 1978.

1.5 Acheampong launched the idea of Union Government, or Unigov as it came to be known, an ill-defined concept of a tri-partite government of the military, the police, and the people, members being elected as independents on a 'non-party' basis to a consultative legislature, the ultimate power of veto remaining with the military. He sought popular backing for Unigov and, by association, for his own leadership, in a referendum held on 30 March 1978. The SMC campaigned vigorously for Unigov, assisting various organisations such as the Ghana Youngsters Association; Peace and Solidarity Council; and the Ghana Patriots Association to canvass on its behalf whilst harassing other anti-Unigov groups such as the People's Movement for Freedom and Justice led by Lt-General Afrifa and Mr. Gbedemah, on the grounds that they were political parties, which were still in law proscribed (1). Whilst assuring the country that everyone was free to express an open opinion for or against Unigov (2), the government's hostility towards and suspicions of opposition, identifying it with treason towards Ghana and the State, and leading to a number of summary arrests, gave rise to concern among those seeking a genuinely democratic form of civilian government (3).

1.6 A number of violent and disruptive incidents in the run-up to the referendum (including a clash between students and the police at Legon which led to the departure of students from all three university campuses, many of whom returned to their homes in the countryside to campaign against Unigov), heightened the government's nervousness. The Electoral Commissioner fled his office the day after the referendum, allegedly fearing for his life (4). The manner of the counting and the announcement of results gave little confidence in the integrity of the ballot. The government declared a victory, of just over 50% of the votes (even if true, a very small popular vote in a country of 9.9m Ghanaian citizens, of whom only 66% of the approximate 4.5m registered to vote, actually did so) amidst widespread suspicions that the result was rigged (5).

(1) Report in the Daily Graphic, 2.2.78. Warning that the ban on political parties was still in force, the government reminded the public that a permit must be obtained before holding a public meeting; failure to obtain a permit was a punishable offence. At a meeting in Kumasi, the opposition PMFJ clashed violently with the Peace and Solidarity Council just as Lt-General Afrifa was urging his supporters to withdraw since permission to hold the meeting has been withheld by the military authorities.

(2) SMC Decree: Union Government (Civil Proceedings), 15.12.1977. In the Ghanaian Times, 17.12.77, a government spokesman assured the people that every Ghanaian was free to speak his mind either for or against Unigov: "to that extent, the decree assures the freedom of all Ghanaians to participate in or attend any debate or discussion".

(3) In the Ghanaian Times, 11.1.78, General Acheampong asserted "there are no political detainees in Ghana ... those in prison are criminals and subversionists who were tried and found guilty by lawful courts ... (the government could not allow any) licence to anarchy ... (there would be) no amnesty for such prisoners". The Pioneer, 8.2.78, reported that the Human Rights Committee of the Ghana Bar Association had sought Habeas Corpus applications for the release of 451 people. 18 of these had already been released by the court; the court had ordered a further 178 to be released because no executive instrument had been issued by the government covering their arrest.

(4) West Africa, 17.4.78: 764; Daily Graphic, 3.4.78.

(5) Figures leaked from the Electoral Commissioner's Office a few days after the referendum and circulated by the "Revolutionary Youth League" gave a 'No' vote of 53.3%, and a 'Yes' vote of 46.6% The BBC World Service, too, gave publicity to the allegation of rigging. The manner in which the results were officially announced, over a period of days with continual adjustments to the declared totals, at the least gives rise to serious doubts.

1.7 The débâcle of the referendum opened up splits within the SMC, and in July 1978 Acheampong was ousted from office by a fellow-member of the SMC, General F. Akuffo. Akuffo has released those arrested before the referendum and promised to honour the 1979 deadline for return to civilian rule (1).

2. A Brief Review of Current Economic Problems (2)

2.1 The major single contribution to GDP comes from agriculture (including livestock, fisheries, forestry), which accounts for more than 40%; it employs approximately 60% of the labour force and contributes approximately 70% to total export earnings. Cocoa is the dominant crop, employing around a third of the total agricultural labour force and accounting for approximately 60% of all export earnings (FYDP). Though cocoa is still the major source of whatever prosperity Ghana enjoys, the Ghanaian cocoa industry is becoming increasingly uncompetitive on world markets, its share dropping from about 30% in the early 1960s to under 20% today, largely through difficulties of supply. Briefly, these are attributable to three sets of factors:

(i) Ghana's early lead in commercial cocoa production: a considerable proportion of trees are now beyond their maximum yield potential and replacement by higher yielding new varieties would need considerably more investment funds being made available than is currently the case;

(ii) the government, as monopoly purchaser, has always underpaid the domestic producer relative to world prices, at an approximate average rate of about one-third: the SMC has raised prices per 30 kilo load eight times since coming to power in 1972, most recently to £40 per load, but at current rates of domestic inflation, this price makes it unprofitable for the smallholders who are the major cultivators to adopt new practices and purchase modern inputs, or to extend the acreage, or, in many instances, to care for or harvest the existing crop;

(iii) the chronic instability of Ghana's economy since independence has encouraged smuggling: with domestic inflation running at over 150% and the Ghanaian cedi depreciating rapidly (selling at 8 times its face value on the black market in May 1978), cocoa smuggling to the Ivory Coast and Togo for hard currency has become big business.

The government recognises that it is no longer the amateur but the "big-time smuggler who ... finances articulator loads of raw materials like coffee, cocoa, sawn timber and plywood, and sugar, across the border to make money for himself and leave his country in want" (GT: 5.11.77). An official of the Cocoa Marketing Board (CMB) at their regional office in Sunyani, Brong-Ahafo, one of the major producing areas, estimated that over one third of the region's produce was disappearing this way; buyers would organise the whole operation,

(1) Ghanaian Times, 6.7.78; 7.7.78. Full text of General Akuffo's Broadcast to the Nation: 11.2.78.

(2) Statistics in this section, unless otherwise indicated, are drawn from three sources: (i) Five Year Development Plan 1975/76-1979/80, Parts I and II, Accra, Ministry of Economic Planning, January 1977; (ii) Economic Survey 1972-74, Accra, Central Bureau of Statistics, January 1977; (iii) the local press, Hereafter indicated respectively by FYDP, ES, GT (Ghanaian Times), DG (Daily Graphic), or P (Pioneer).

paying hard foreign currency on the spot. The CMB could not compete, though it offered a range of supporting production and welfare services for the cocoa farmer and his family, since it paid low prices in a weak currency on a chit system (personal comm. 21.3.78).

2.2 Timber is second only to cocoa in its contribution to export earnings, but this industry, too, faces problems of supply and smuggling. At the end of financial year April 1978, the Timber Marketing Board announced that export earnings were around fifty percent under estimated targets owing "to the poor state of log production and transportation" (P: 21.4.78).

2.3 Small-scale peasant farming predominates with, since the beginning of the 1970s, increasing private commercial rice farming, expansion of the plantation sector and farm estates under government initiative, and diversification of commercial company participation into food crops*. Only around half of agricultural output enters the distribution system; the distribution networks are largely in the hands of private traders, principally the market mummies who handle most of the domestically-consumed foodstuffs, though the government increasingly tries to regulate food distribution through compulsory purchase, state handling and transport, and imposition of maximum selling prices. Government efforts have not, as yet, been very successful, serving only to disrupt traditional, informal, distribution to the detriment of the urban consumer. The government's policy is disliked by farmer and trader alike (not to mention the consumer who faces artificial scarcities created by traders wishing to push up the low fixed prices). The Upper Region Farmers' Association, along with other regional FAs, has repeatedly asked the government to withdraw subsidies on imported food (chiefly rice, maize, wheat flour, sugar, canned milk, fish, and tomatoes), pay a reasonable price to the local producer and switch subsidies to the consumer on selected domestically-produced items (GT: 5.11.77).

2.4 Shortly after coming to power the SMC launched Operation Feed Yourself (OFY) aiming to make Ghana self-sufficient in basic foodstuffs and lessen the burden of food imports on scarce foreign exchange. Up to 1974 there was a steady increase in production, largely by expansion of area cultivated; OFY was not a programme for agricultural intensification or in any sense a Green Revolution, which would have necessitated large imports of modern inputs. OFY suffered in the severe droughts of 1973-74 and 1976-77. Recovering somewhat, OFY began to stress the importance of industrial crops such as cotton, sugarcane, oil palm, pineapple, and tomatoes and latterly irrigated agriculture has been given priority, with the establishment of a National Irrigation Authority and the opening of an Irrigation College at Mpong. OFY was buttressed by the introduction of Guaranteed Minimum Producer Prices (which rapidly ceased to have any meaning under the highly inflationary conditions of recent years). Unfortunately, though there have been substantial increases in food output, particularly in maize and rice, "the records reveal that these increased outputs seem to have been offset by a reduction in the output of other crops" (FYDP: 24: I).

2.5 A major defect of OFY has been its failure to improve the "weak and ineffective input delivery system. On account of poor operational planning some of the inputs might not be available, the quantities are insufficient and are not delivered in time for their effective employment" (FYDP: 23: I). The situation has, if anything, deteriorated. It was announced by the Seed Multiplication Division of the Ministry of Agriculture just before the onset of rains this year that the SMD could supply only 25-30% of farmers' needs due to lack of vehicles and spare parts (GT: 5.1.78).

* See Sections 3 and 5.

2.6 The SMC has made some attempt to relieve its dependency on imports, and on cocoa for export earnings, by encouraging domestic manufacturing, but, as in many other ldecs, Ghana's manufacturing sector is heavily dependent on imported inputs and equipment, and its level of capacity utilisation fluctuates with variations in the balance of payments. Ghana has never been able to maintain a sufficiently stable balance to reap the benefits of manufacturing investment; further, that investment all too often is devoted to the production of 'non-essential' consumption goods; it has failed to promote strong links with the agricultural sector which could supply from domestic sources the raw materials for a range of agro-industries whose products could be exported.

2.7 The 'achilles heel' of the Ghanaian economy is the balance of payments problem. Fluctuations in export earnings from cocoa, timber, and minerals have made effective forward planning difficult (1); coupled with steadily expanding domestic expenditure and a rising demand for imports paripassu with population growth and ambitious government development spending, this had led to a persistent tendency for expenditure to exceed revenue. In the post-Nkrumah years of 1966-68, the government sought to reduce the pressure on domestic resources by drastic expenditure cuts and retrenchment of government-employed labour. The effect was to depress economic activity; GDP actually fell and real per capita income in 1968 was lower than in 1965. Further, it proved impossible to restore equilibrium in the foreign exchange budget given the structural imbalances and weaknesses in the economy, and, in the face of high external indebtedness and persistent trade deficits, the cedi was devalued by 30 percent. The government then switched to an expansionary phase, to reduce unemployment and speed up the rate of growth in the economy, largely through import liberalisation and relaxation of fiscal and monetary controls. But the sharp drop in world cocoa prices in 1971 plunged the economy into crisis, forcing a 44 percent devaluation of the cedi against the dollar and leading to the downfall of the government.

2.8 The new government once more clamped down, revaluing the cedi and sharply cutting back imports. Export prices recovered and at end-1972, external reserves started to rise, the balance of payments recovered, and the current account moved into surplus. The recovery proved only temporary, however, as control over imports weakened at a time of sharply rising import prices, and domestic expenditure rose steeply. Despite an increase of 15 percent in export earnings in 1974, net reserves fell once more, the current account moved heavily into deficit, and the government resorted to extensive overseas short-term borrowing to finance the gap.

2.9 Not unnaturally, the economy has experienced continuing inflationary pressure as a consequence of such instability and, more especially, of the measures taken in response to it. The government increasingly has resorted to heavy internal borrowing through the banking system and the use of reserves to fund both capital and recurrent expenditure. Since 1972 there has been a sharp increase in the money supply; it doubled between end-1971 to end-1974 with an average annual rate of growth of 39 percent and these trends persist (2). There is no doubt that the amount and rate of inflation within the Ghanaian economy derives from the fiscal and monetary policies pursued by the government to cover the 'huge budgetary deficits' which are largely due to the "considerable slippage in the control of expenditure on the recurrent Budget" as the Five Year

1. FYDP, 32, I.

2. ES, 18, 54-74; FYDP, 73-84, I.

Development Plan gently remarks (1). It more pointedly comments:

"By benefitting debtors and hurting savers or lenders inflation may encourage forms of social behaviour which may be inimical to the promotion of growth and development, especially in situations where interest rates on savings do not rise fast enough to keep pace with the rate of increase in prices. It does promote a philosophy of 'live now, pay later', leads to a general misallocation of resources by encouraging investment in physical assets like posh cars, gold trinkets etc., which may not be directly productive, and to the tendency to hoard goods of consumer nature especially among small savers" (FYDP, 20, I).

2.10 Inflation is now estimated to be running at over 150 percent, or higher for basic food items. Its effect has been to "corrupt" not only the administration but all Ghanaians seeking a living from cash payments; though no statistical evidence can be adduced, moonlighting, petty thieving, cheating and all kinds of 'unfair' business and trading practices are acknowledged to be rife.

2.11 The new leader, Lt.-General Akuffo, seems well aware of the lapses in economic management which have given rise to this state of affairs (2). Immediate action, however, seems designed to operate on the effects rather than to attack the causes. Steps are being taken to reach a more equitable allocation of goods in short supply than that produced by the existing uncontrolled situation of "grave shortages of essential commodities, spiralling prices and a thriving black market" (3). The Commissioner for Consumer Affairs has rejected two previous schemes (of having designated wholesale outlets for specified commodities; and of organising delivery direct to market women and other retailers of goods at controlled prices) as unworkable, and has chosen instead to organise consumer cooperatives in every work place employing over 20 people, and to supply regional traders through departmental deliveries in bulk to depots of the Ghana National Trading Corporation. However, the Commissioner reportedly acknowledges that such measures are not proof against abuse if the present severe shortages should continue (4).

3. Government Involvement in Agricultural Development

3.1 Nominally, the major government agency involved in agriculture is the Ministry of Agriculture whose brief is to give "professional advice on matters related to the execution of agricultural policy of the Government" (5). But, as a newspaper headline succinctly put it: "Agricultural Policy Needed" (DG: 20.4.78)*
* see p.7.

(1) FYDP: 32, 20, I.

(2) GT: 11.7.78: Text of Lt.-Gen. Akuffo's Broadcast to the Nation: "The principal contributory factor to the inflationary process is the severe imbalance in the Budget and the mode of financing the shortfall in financial resources". He promises disciplined leadership and, while noting that in the recent past "the Ghanaian character has been under heavy pressure, and the basic virtues of truthfulness, honesty, and discipline have been rapidly disappearing", in turn demands the "strictest discipline" from the people "to do a good day's work honestly and efficiently".

(3) West Africa, 26 June 1978, 1215-1216.

(4) The students at Legon were told the 'parable of the puff adder' by a fellow African. The puff adder, it seems, is one of the few snakes that cannot swim. When picked up and thrown into the river, it sinks to the bottom and waits, hoping for another hand to appear miraculously out of nowhere and pluck it out of the water onto dry land. The students felt that waiting for an "upturn in the economy" to ease the shortages were on a par with the puff adder's hopes.

(5) Ghana 1977: an official handbook, Accra, Information Services Dept., 136.

Agriculture appears to be given very little political priority, despite numerous public assurances to the contrary; Commissioners of Agriculture have a very high turn-over, three being appointed in succession since mid-1977, so that even those with expertise and concern for developing a long-term agricultural policy have little opportunity to carry out effective guidance or implementation.

3.2 The Ministry is professionally divided into six departments, each headed by a Director responsible to the Commissioner for Agriculture through the Senior Principal Secretary. The six departments are:

- Agriculture
- Animal Husbandry
- Fisheries
- Veterinary Services
- Irrigation
- Agricultural Mechanisation and Transportation

Agriculture includes the Extension Services (all farming practices and crops except cocoa); Seed Multiplication Division; Plant Quarantine; and Settlement Farming. Fisheries and Animal Husbandry both maintain their own, specialist, extension advisers. The Department of Forestry is not under the Ministry of Agriculture but part of the Ministry of Lands and Mineral Resources; it manages, conserves and expands Ghana's natural timber and Forest Reserves (Permanent Forest Estates in the Closed Forest and Savannah Zones).

3.3 The Extension services compete for the farmer's attention with the technical advisers of the Crop Boards, of the Ministry of Cocoa Affairs, and of the livestock specialists. Their ability to operate effectively is seriously constrained in addition by what can only be described as an extremely haphazard approach to the provision of input supplies (both biological and mechanical). The inadequacy of the SMD has been noted; similar shortcomings exist within the department of Farm Mechanisation which hires out farm tools and machinery and services. In all departments the emphasis appears to be on initial capital expenditure, construction of sites, official housing and amenities, and a series of new initiatives. The routine tasks of servicing the extension worker and of ensuring adequate maintenance are forgotten, or receive inadequate budgetary cover (pers.comm. 21.3.78).

3.4 The livestock specialists within the departments of Animal Husbandry and Veterinary Services do not appear to communicate formally at all. The Vets are exclusively concerned with the curative aspects of animal health and, to the extent that imported vaccines are available, with preventive immunisation campaigns against the major livestock diseases such as rinderpest, anthrax, pulmonary pneumonia, and blackwater. Immunisation is free but the service is not always generally available owing to transport problems in delivering the services. The Veterinary Services Department recognises that some of the worst problems arise from inadequate water and dry season fodder, and notes that some development initiatives, such as the Canadian Water Development Project in the Upper Region which provided boreholes for human water supply but not for livestock, can

* (from p.6).

The Daily Graphic was reporting a speech by an important chief, the Okuapehene, Oseadeeyo Nana Addo Dankwa III, who suggested the policy "should be outlined and supported by an Agricultural Act or Decree. The main objective of the policy should be to promote a stable and efficient agricultural industry capable of producing such part of the nation's food and other agricultural policy as, in the national interest, it is desirable to produce in Ghana".

exacerbate the situation. Irrigation and Water Development are the concern of the Irrigation and PWD departments, which the VSD can only advise, if requested (pers.comm. 23.3.78).

Sahelian
(Since the/drought of 1973/74, the formerly vigorous cattle trade north-south between Ghana and Upper Volta has ceased. The intervention of the Cattle Development Board also, in effect, has tended to restrict trade. The CDB has now become largely a meat-importing agency).

3.5 The Animal Husbandry department, which runs its own field technical staff, advises on fodder, grazing, herd and range management, and marketing. It maintains a Livestock Research Station at Ejura which is experimenting with dry season fodders, grazing rotations, and herd multiplication for cattle and shoats (without, regrettably, any concern for the economic viability of such regimes under the conditions faced by most livestock owners).

3.6 The Ministry of Agriculture's Secretariat provides four additional services:

- Planning
- Manpower and Training
- Library
- Information and Public Relations

The Planning division, in addition to the usual planning functions, obtains and assembles agricultural data relevant to Economic Analysis; Production Statistics; and Market Investigation, through its Economic Research and Planning office.

3.7 Outside the Ministry of Agriculture but under the Commissioner for Agriculture, are a number of public boards and corporations which have assumed increasing importance in the agricultural development of the country:

- State Fishing Corporation
- State Farms Corporation
- Food Production Corporation
- Food Distribution Corporation
- Grains and Legumes Development Board
- Cotton Development Board
- Bast Fibres Development Board

It is clear from interviews with a number of officials working in these semi-autonomous parastatals that they have been established in response to what has been seen as the bureaucratic inflexibility and inefficiency of the Ministry of Agriculture. It is widely held that only crop-specific agencies such as these can develop the required degree of detailed technical expertise. They have greater flexibility in staffing, conditions and terms of service than the line departments of the Ministry and are thought to have drained much of the trained and professional skill from the Ministry. Each appears to operate solely within its own limited area of responsibility without seeking the cooperation of or in coordination with either each other or the Ministry.

3.8 I looked at two, the State Farms Corporation (SFC) and the Cotton Development Board (CDB), in more detail. The SFC operates from 41 sites in all regions except the Upper Region; currently it is emphasising the development of tree crop plantations but is also involved with annual and arable crops and livestock projects. Its activities are grouped under two headings: JOFA and CAPRO.

3.9 JOFA stands for SFC's four oil palm projects financed with loans from the Bank of Ghana and situated at Jukwa, Central Region; Okumaning, Eastern Region; Fosu, Central Region; and Akwansrem, Ashanti Region. By end-1976, some 5250 acres had been established; it is intended that eventually around 5000 acres should be

cultivated at each site. CAPRO stands for Capitalisation Programme, and includes all SFC projects for which maintenance and development loans have been granted. The SFC is charged with the planning, management and day-to-day running of its projects. Its main problem at the moment relates to the difficulty of securing and processing Import Licences for tractors, bulldozers, implements, concentrates, veterinary drugs, and spare parts for its Oil Mills. (SFC, General Information, 14.1.77). (Curiously, despite its participation in the Oil Palm Research Centre, Kusi, the SFC appears to be importing also its requirements of oil palm germinated seed nuts).

3.10 The Cotton Development Board has been operating since 1968, mainly in the Northern and Upper Regions, with its headquarters in Tamale. It owns and operates a ginnery at Tamale itself. The cotton is taken from the ginning mills to the Volta lake ports and shipped south to Tema harbour. Most of it is exported and not locally processed.

3.11 The CDB bases its considerable success in turning a marginal crop into a commercial activity on reaching groups of farmers through its extension staff. The field staff help farmers to form groups of five or more who each donate land to form a common plot, on which $\frac{1}{2}$ ha beds are marked out. The CDB supplies free inputs and gives advice on clearing, cultivation, and husbandry (thinning, pest control, ridging, fertiliser application etc.). The extension staff collect the raw cotton from the individual farmers; formerly, they used to pay cash on the spot. Now, owing to the volume of work, under the supervision of the DAO they weigh each farmer's crop at a central collecting ground and issue payment chits, which, under the authority of the DAO, are disbursed within one week. At prices prevailing in March 1978, a farmer could earn £400 per $\frac{1}{2}$ ha gross. The major problems facing the CDB were felt to be those connected with the levels of staffing and conditions of service for field staff. The north west is criss-crossed by seasonal streams which when in flood from July/August - September/October, cut the area off; the area is, in any case, poorly served by roads - the capital cost of constructing bridges over the many streams cannot be afforded at present. So the CDB is faced with a managerial problem - of leaving staff out in the field in remote areas without much support, or grouping staff and limiting their interaction with farmers, of maintaining sufficient numbers to cope with the volume of work at harvesting while finding enough for them to do the year round; and with a logistical problem - of servicing whatever field staff it decides to maintain, and their clients the farmers, in inaccessible areas with difficult terrain.

3.12 In addition, the Ghana Tobacco Company Ltd, which was formed in 1969, is responsible for the development of the tobacco industry. Shareholding is structured as follows:

65 percent	(Government of Ghana	- 30 percent
majority	(Agricultural Development Bank	- 20 percent
shareholding	(National Investment Bank	- 15 percent
Local		
manufacturing	(Pioneer Tobacco Company Ltd.	- 30 percent
companies	(National Tobacco Rehandling Co.Ltd.	- 5 percent

The Company has an 8-member Board with a non-executive elected Chairman and a Managing Director as the Chief Executive. It provides technical assistance; extension services; subsidised loans and credit; purchasing, selling, and export marketing services; storage and warehousing; and makes recommendations to the Ministry of Agriculture and Prices and Incomes Board on producer pricing policy.

3.13 The most important agricultural activity in terms of its contribution to the national economy is cocoa-production. This is organised under its own Ministry of Cocoa Affairs, established in 1975 in response to the preoccupation of the Ministry of Agriculture with Operation Feed Yourself. The Ministry is responsible for coordinating the activities of the Cocoa Marketing Board and its subsidiaries (the Cocoa Marketing Company (Ghana) Ltd; the Produce Buying Agency Ltd; the Cocoa Products Company; the Produce Inspection Division; the Cocoa Research Institute, Tafo); the Cocoa Production Division; and the Special World Bank Cocoa Projects (Eastern Region Cocoa Rehabilitation Project, Suhum, and the Ashanti Cocoa Rehabilitation Project). It maintains its own extension, training, and credit services, under the Cocoa Production Division.

3.14 The CMB assists cocoa smallholders in the following ways:

- a) Land acquisition and registration of title
- b) Assessment of labour costs and availability
- c) Land clearing
- d) Provision of amenities such as a Mobile Clinic (charge of ₵1 payable by clients to District HQ of CMB)
- e) Construction of permanent amenities such as the Cocoa Clinics, which take cases referred by the mobile clinics
- f) Assistance with housing (the CMB is considering the provision of materials at reasonable cost to farmers for self-construction)
- g) Where roads are lacking, the CMB arranges for contractors to construct rough roads whose maintenance becomes the responsibility of the District Council
- h) Provision and maintenance of farm inputs such as sprays and insecticides. The CMB has commissioned the Cocoa Production Division to hire out spraying services for a 'nominal' fee.
- i) Because bad roads restrict the location of Buying Centres, the CMB has established its own Haulage Unit which, on a hire basis, is available for 'evacuating' the farmers' crop
- j) The Production Division organises the grading of cocoa and imposes quality control.

Fermenting and drying of cocoa is carried out on a smallholder basis. Technical advice is available from the CMB's extension agents and from the Cocoa Research Institute at Tafo.

3.15 As indicated earlier, the CMB is finding it hard in present circumstances to stimulate production or even to secure the crop which is grown. It finds itself increasingly drawn into becoming a 'universal provider' for the cocoa farmer, offering a range of economic and social services not directly concerned with cocoa production, even to the extent of securing for sale to cocoa farmers at government fixed prices basic commodities such as tinned milk or canned tomatoes and fish.

3.16 In contrast to the monopolistic framework provided by the CMB for cocoa production, the recent expansion of rice production has occurred on the basis of private enterprise. There is no need to repeat here the excellent analysis of the progress of mechanised rice production in northern Ghana and the problems engendered by the rush to exploit the present highly profitable opportunities for large-scale commercial rice farming, to be found in Mechanised Rice Production in Northern Ghana (1), but it might be useful to emphasise briefly the institutional

(1) D.J. Ansell: Mechanised Rice Production in Northern Ghana, London, on behalf of Barclays Bank International Development Fund, December 1976, Mimeo.

stimulus and support provided by the commercial banks, and by the Government Rice Mills Unit at Tamale.

3.17 Nasia Rice Co.Ltd. was established just outside Tamale in 1974, jointly owned by the National Investment Bank, the Agricultural Development Bank, and Barclays Bank (Ghana), to acquire and clear land, allocate it to farmers in 150-250 acre blocks, and provide inputs and services to the farmers for a fee. At present farmers sell the rice on the open market; the company collects its fee at harvest (management fees form approximately 15% of a farmer's total costs). The company maintains its own 1000 acre demonstration farm. The operation is highly mechanised; farmers follow a three-year-rice - one-year-fallow rotation, and are encouraged to fertilise regularly. The company now operates around 10,000 acres and has sought additional finance, chiefly from the African Development Bank to cover foreign exchange requirements, to set up its own milling and marketing facilities, which should be ready for the 1978/79 harvest. The management faces four sets of problems, all 'human' rather than technical:

- (i) some farmers object to the assignment of usufruct by the chiefs to the company over the heads of families already living on the land. While, as is sometimes claimed, traditional tenure has not been an insuperable barrier to commercial exploitation, what the company sees as the 'residual' legal and human problems will take considerable effort to sort out.
- (ii) some farmers find the management fees too high, particularly in the early years when they are still learning the techniques of modern rice farming. This the company intends to deal with by lowering the fee - and adding extra to other service charges. The probability is that some farmers are going to end up heavily indebted to the commercial banks as they struggle to establish themselves in a highly capitalised enterprise; the effects on income distribution in the area have not been studied but it is thought that a fairly rapid degree of polarisation is occurring.
- (iii) the company finds it hard to assist farmers who are largely 'illiterate', and has experienced difficulties in explaining to them the company's mode of operation and farmers' obligations to the company.
- (iv) the company recognises that there are "timing" problems, by which apparently is meant that, whenever its services are under pressure, the chiefs get attended to first; access and timeliness are not equal for all its farmers (pers.comm. 4.4.78).

3.18 As far as rice production is concerned, the development constraints have been identified as lack of capital and lack of management expertise: these the commercial banks and companies such as Nasia are now providing. The reputedly high profits to be made are attracting new companies, and entrepreneurs from outside the region; production has increased dramatically. But there are a few queries to be raised:

- (i) There is anecdotal evidence (in the absence of any more rigorous survey) that some farmers have been persuaded to hand their land over on rent or for lump sum cash payment for a number of years, and have received back at the end of the period exhausted and weed-ridden land whose fertility has been mined in the extraction of quick profit;
- (ii) The long-term yield of the dryish savannah soils subject to heavy rains and the harmattan winds under careless mechanical cultivation will decline from the present high levels; but there are few at present who appear much interested in issues of conservation in the long-term;

(iii) In the absence of socio-economic data no judgement can be made as to the precise effects of the free-for-all in rice production, but, on the basis of experience elsewhere, the small farmer is likely to benefit least and possibly is even seeing his livelihood eroded.

3.19 The Rice Mills Unit (RMU) at Tamale, financed by the Bank of Ghana, is a critical element in the government's control of basic consumer prices. The Ministry of Agriculture provides annual data on farmers' production costs; c.15% is allowed for farmers' profit. The RMU establishes what its end unit costs will be if it buys in paddy at a range of prices, and adds 10% to cover its own overheads. The banks and the Rice Growers' Association send in informal reports on prices and costs. The government then juggles the information to set the purchasing price for the RMU and the end consumer price.

3.20 The RMU operates buying centres, and small warehouses, and gives assistance with transportation. Some of its operating problems stem from the price fixing; unable to compete in the open market, at times of bad harvest it faces a shortfall in throughput which undermines its profitability. Others arise on the technical side as the result of the mix of varieties and differences in cleanliness of the bought-in rice. To a certain extent the RMU tries to discipline the farmers and encourage improved rice husbandry, for example by tying fertiliser purchase to sales of paddy to the RMU. It also assists the local banks to collect their loans, by issuing cheques (rather than cash) payable jointly to the individual and the ADB.

3.21 The RMU distributes the milled rice wholesale to Regional Depots; direct to public institutions such as universities and hospitals; and to catering institutions in urban areas. It also supplies the armed services. Milled rice from the RMU is supposed to be sold on the market only under licence but a considerable amount of the directly distributed rice is hoarded and sold under the counter when prices are high; considerable amounts are also smuggled across to Upper Volta.

3.22 Three further public institutions are concerned with the development of agriculture in Ghana, the Agricultural Development Bank (ADB), the Regional Development Corporations (RDCs), and Gihoc (Ghana Industrial Holding Corporation).

3.23 The Agricultural Development Bank was established by the government in 1965 specifically to lend concessional finance to agro-industries and cash-crop agriculture. The ADB had neither the financial nor administrative resources to provide a dense network of branch offices or sufficient loan officers to attend to all farmers' needs individually, and thus in 1969 began to establish farmer groups through its District offices for the extension of commodity credit to small farmers.

The groups were initiated by Project Officers, who contacted a 'leading' farmer in an area identified as suitable for a particular crop. The farmer was asked to form and be head of a group of farmers in the 3-4 ha range; the groups could be of any size. The group leader's responsibilities included a preliminary survey of the crops grown, the amount of credit needed, and for which crops. He would then discuss the details with the Bank's technical staff and loans would be issued at the beginning of land preparation through to harvest. Loans were issued to individual group members but no one in the group would be eligible for subsequent loans if any one defaulted. No security beyond a signature on a promissory note was required and the ADB had no legal title to the harvest. Maize, rice, cassava and yams were the main crop within the scheme. The ADB charges a subsidised rate of interest (8½%).

As the scheme expanded, the ADB has required each group to become formalised as a Farmers' Association (FA). The leaders of each FA within a district became members of a District Committee. The ADB provides the chairman. Other interests, such as a 'good local farmer', identified by the local FAs, and chiefs or their representatives, also participate. Each FA receives an accreditation certificate; each farmer receives a Membership Card setting out his loan and the repayment details. The District Committee arranges through the FAs the credit-worthiness and actual performance of each individual farmer, and maintains records of crops, loans, repayment, and disciplinary action. This greater formalisation is held to have increased the ADB's coverage and decreased its overhead costs and the pressure on its Project Officers (pers.comm. 30.1.78).

3.24 I visited one particular branch of the ADB to investigate further the operation of these small farmer groups (10.2.78; 15.3.78). The Swedru Branch covers an area of about 76,925 ha (190,000 acres) within a radius of 70-80 miles from Swedru, a medium-sized town and marketing centre in the Central Region, an area poorly served by roads and still thickly covered with uncleared forest. It services 150 groups, a total of about 20,000 farmers. It has two field officers and one Project Officer looking after the scheme. The field officers have one jeep between the two, and a bicycle each. The main crops grown in the sandy and loamy soils are maize (grown in a major and minor season; credit is given only for the major crop) and yams, though a little sugar is also grown.

3.25 Approximate costs and profits at February 1978 were as follows:

Maize: Total production costs: £200 per acre
Approx. yield: 3-4 bags (220 lb each) per acre
Sold at: £80-90 per bag
Net Profit per acre: £40-160 per acre

The size of holdings ranged from 1-20 acres, depending largely on the amount of family labour available for cultivation. Most of the maize credit was used for consumption needs between harvests. The amount the Swedru Branch was able to lend was limited by the funds it received from Head Office each year. In good years, farmers had problems with storage and marketing; in any year, the marketing facilities (largely, lack of physical access and market access) formed a check on sales.

Yams: Total production costs: £1500 per acre
Approx. yield at 1000-2000 mounds per acre, each mound
giving 1 tuber per (pruned) plant: 1000-1200 tubers
Sold at £1000 per 100: dry season
£ 500 per 100: post-harvest
Net profit per acre: approx. £6000-£7500 per acre.

3.26 Approximately 54 groups were growing yams as their chief crops. The major constraint was availability of labour; it was usual to hire extra workers for land preparation and weeding for yam cultivation, but at a legal minimum wage of £4 per day per worker, plus food, the extra cost soon outweighed additional profits and strained cash flows. Storage was no problem, and the yam marketing network was much more highly developed than for maize.

3.27 Swedru ADB charged 8½% interest on loans (9% for sugar as it is a marginal crop in the area owing to unreliability of rainfall); loans were small, at £20 per acre. A fee was charged to cover overhead costs, at £3.50-4.00 per loan.

(Traditional sources of finance in the area charged 100-150% interest for 3 month loans). The last four years had seen a repayment rate of

80% and it was felt that the group organisation contributed significantly to the development of collective responsibility. The scheme was held to have reached genuine small farmers and to provide an institutional means for their participation in commercial agriculture which they could not otherwise have secured (1).

3.28 The Regional Development Corporations (RDCs) have a threefold responsibility, to develop agricultural, industrial and commercial enterprises in the regions; they have access to funds through the Bank of Ghana and the National Investment Bank, and political backing through the Regional Commissioners. Most of their agricultural projects are agro-industrial enterprises, for example, a feed mill processing maize produced by the State Farms Corporation (Wenchi); a chicken farm producing layers and broilers (Sunyani); an oil palm estate and oil mill (Coaso).

3.29 Gihoc operates a Cannery Division which manages three factories at Nsawam in the Eastern Region, Wenchi in Brong Ahafo; and Pwalagu in the Upper Region, employing around 1000 people. These factories produce a number of items such as tomato puree, pineapple juice, orange marmalade. The Canneries initially depended on outgrowers for their raw materials but, owing to price fixing of the end product, have been unable to compete in the market and have operated far below capacity. Pineapple plantations have now been established at all three sites to supply the canneries, and an irrigated tomato, pepper, and garden egg (aubergine) farm has been established at Wenchi. Here the Ministry of Agriculture selects settlers and provides land and water free; it charges a fee for clearing, harrowing, seeds and fertiliser. It provides extra labour at harvesting if required, and extension advice, free. The farmer chooses which crop to grow. Though the farm is supposed to supply the factory, it seems that the farmers in fact are allowed to sell to the market; since (March 1978) the factory was offering £40 a basket for tomatoes that were fetching £100 in the market, the factory continued to experience supply difficulties.

3.30 Finally, there are two autonomous development authorities with special agricultural responsibilities, the Volta Lake Research and Development Project (VLRDP) and the Upper Region Agricultural Development Programme (URADP). The VLRDP was established in 1968 to research, advise and carry out activities in (i) Fisheries and Hydrobiology; (ii) Social, Agricultural and Economic development; (iii) Public Health. It is supported by a number of ministries but only the Ministry of Fisheries second departmental staff to the project. Cooperation and coordination between the VLRDP and its sponsoring ministries, and between themselves, and between the VLRDP and ministries' own projects in the area is non-existent. The dam built across the Volta River (inaugurated in 1966) displaced approximately 80,000 people of whom around 30% subsequently left the resettlement sites or moved out of the area altogether. The lake is surrounded by 400,000 ha (988,000 acres) of 'upland' (land above the 276 foot contour) and 101,214 ha (250,000 acres) of 'drawdown' (area uncovered by annual fall of the lake level). The residual moisture in the drawdown areas is sufficient to grow crops of 40-60 days maturation (e.g. tomatoes). The VLRDP is also encouraging 'drawup' farming in which crops (such as swamp rice and floating varieties) are planted in advance of the rising waters. Though yields are relatively low when the lake margin is used, farming during the inter-rain seasons needs little fertiliser, attracts few pests, and the output commands good prices at times when other food supplies are low.

(1) Some of the more successful of the original group farmers were in the process of joining a new groundnut venture, launched jointly by Swedru ADB and a commercial company, Cresta Oil Mills, which was designed around a core farm and oil factory, with groups of contracted groundnut outgrowers.

3.31 The VLRDP estimates that some 400,000 metric tons of fish could be caught annually in the lake (an estimated 10% of Ghana's total potential demand) but the catch is dropping, not because the fish stocks are decreasing, but because the effort to harvest the fish is declining owing to lack of technical advice and equipment. (the lake poses special fishing hazards: trees were left standing when the lake was flooded and now, owing to algae blooms, the oxygen balance of the water is altering, preserving the trees rather than encouraging them to decay).

3.32 The VLRDP is also experimenting with mobile sprinkler irrigation systems, differing crop rotations and mixed farming systems, floating jetties and improved fish processing structures, and mechanisation.

3.33 The project staff and farming communities face particularly hazardous health risks, from malaria, onchocerciasis, schistosomiasis, and trypanosomiasis. WHO are assisting the VLRDP to investigate the breeding habits, and life cycle, and habitat of the black fly (which carries onchocerciasis), which is the major endemic disease (many lakeside areas are 100% infected) and the VLRDP are participating in the WHO's 25-year river spraying campaign in the West African sub-Saharan belt.

3.34 URADEP was established in 1977 with loans from the World Bank, the British Ministry of Overseas Development, the Netherlands Government, and the Bank of Ghana. It covers 125,000 farm families, and aims in the first five years to establish around 90 Farm Service Centres, each serving about 1300 farm families providing local access to extension staff and all commercial services. All commercial operations - the provision of inputs, and marketing services - will be provided through a new company, the Farmers Service Company (UR) Ltd, initially backed by capital from the Bank of Ghana, the Government of Ghana, Ghana Commercial Bank, and the National Investment Bank, but with farmers' ownership through increasing diversification of equity the end objective. Learning from experience elsewhere, URADEP's combination of localisation of services and their provision through a commercially-oriented organisation designed to pass under the eventual control of the farmers themselves, is thought to meet both efficiency and equity criteria, a combination which has eluded similar previous projects.

3.35 URADEP itself will not loan funds but its Agricultural Loans Officers operating at FSCs will organise individual and group loans for farmers with the Agricultural Development Bank. Subsidies will be avoided as much as possible, and, where given, will be non-transferable, 'target' subsidies.

3.36 The unique feature of URADEP is its autonomous authority over the entire Region's agricultural development (1). It has absorbed the Ministry of Agriculture's functions, offices, transport and staff. It is paying 20% higher salaries to Ministry of Agriculture staff who have remained with the project, after careful 'mutual' selection of existing staff and the transfer of the less committed outside the Region. URADEP operates directly under the Commissioner for Agriculture; the Programme Manager has wide responsibilities and authority, completely autonomous in day-to-day decision-making, referring to an Executive Committee for broad policy guidance. The Committee includes the Programme Manager, the Regional Commissioner for the Upper Region, Principal Secretaries of Agriculture, Planning, Finance; a representative of the Attorney-General's Department, the Bank of Ghana, the Agricultural Development Bank, the House of Chiefs, the Regional Administrative officers, two farmers, and the heads of the functional departments within URADEP.

(1) This includes absorption of even the Irrigation Department; though the two major irrigation schemes in the Region at Tono and Veve, now come directly under the National Irrigation Committee.

3.37 URADEP has six departments: Field Operations (1), Land Development (1), Veterinary Services, Administration and Personnel, Monitoring and Evaluation, Field Communications and Agricultural Training (1). The Veterinary Services department consists of the department formerly existing under the Ministry of Agriculture. Field Communications and Agricultural Training is considered of great importance, its centre newly established at Navrongo in the north east of the region where a run-down Farmer's Institute has been transformed into IFCAT (Institute for Field Communication and Agricultural Training) with senior staff provided by the FAO and the Agricultural Extension Training Centre at Wageningen in the Netherlands. It is intended that the full range of modern communications technology and 'software' should be available to the programme; IFCAT is newly equipped with a print room, a photographic laboratory, and radio training facilities. Extension staff are being trained in broadcasting techniques and will help to devise programmes in the local languages to support extension work in the field (2).

3.38 URADEP hopes to be able to coordinate its activities with those of the Church Missions which historically have been the major contributors to smallholder agricultural development in the Region, with a number of foreign aid programmes operating in the area, and with other voluntary organisations, through the work of the Technical Officers at District level who will have a prime responsibility for local consultation and coordination. URADEP also seeks to strengthen the existing Upper Regional Development Corporation (URDECO), particularly its transport and wholesale divisions, through contracting for its services for supplying inputs and distributing outputs.

3.39 Unusually, URADEP does not foresee a point where it will hand back regional agricultural development management to the Ministry of Agriculture or any other central government institution. Indeed, it is, on current thinking, intended to learn from URADEP's experience to replicate the project in other regions, logically to the eventual extinction of the Ministry. However, it is perhaps not realistic to suppose that the agricultural bureaucracy would welcome its own demise nor, it should be pointed out, would every region in Ghana receive the central political backing for development decentralisation that the Upper Region has received. The government appears willing to compensate for historic neglect of the remote northern areas by allowing a degree of regional autonomy it probably would not permit to the agriculturally more developed and politically visible central and southern regions.

4. Research and Training

4.1 The picture on the Research and Training side is somewhat brighter in so far as the research and training establishments' internal organisation and momentum are concerned. Each of the crop-specific Boards and Corporations

(1) Great care has been taken to avoid over-dependence on expatriate staffing at senior levels. The PM is a Ghanaian, the Heads of Field Operations and Land Development are Britons provided under ODM Technical Assistance, the Head of Field Communications and Agricultural Training a Malawian; the rest are Ghanaian.

(2) The experience of a number of the senior staff at IFCAT of working under Kenya's Special Rural Development Programme clearly has influenced its thinking and approach.

maintain some research capacity, principally for use within each organisation and to service their own field technicians, and little effort is made to spread the results more widely (beyond the occasional article or research note in professional journals). The functional departments within the Ministry of Agriculture (and the Forestry and Fisheries departments) also carry out a certain amount of field experimentation. The principal research effort is carried out in government-sponsored research institutes such as the Crop Research Institute and Soils Research Institute, Kwadaso (Kumasi); the Cocoa Research Institute, Tafo; and the Oil Palm Research Centre, Kusi. The Crop and Oil Palm research institutes are discussed below.

4.2 The CRI, Kwadaso, takes up research initiated by its own specialists, by requests from government boards and corporations, and by developments in agricultural policy (such as the new interest in irrigated agriculture). It also acts as consultant to commercial companies such as Cadbury's who wish to develop new spheres of interest (tea). At the international level, it cooperates with authorities such as the Commonwealth Institute of Biological Control, West African Rice Development Association, IATA, CIMMYT, International Study Group on Coconut Wilt, International Desert Locusts Organisation, and so on, sometimes in joint programmes of research, sometimes assisting in monitoring and data collection, sometimes in the exchange of information, ideas, and staff. The Management Board of the CRI appraises each proposed area of research and study programme before a budgetary request is forwarded to the Ministry of Economic Planning, and issues an annual report of work-in-progress with both a detailed review of individual studies and a summary of the overall direction and relevance of the research.

4.3 Results are disseminated in a number of ways: directly to the group initiating the research; in specialist journals; in professional reports which are automatically sent to all agricultural boards and corporations in Ghana; to the Ministry of Agriculture for internal dissemination; through farmers assisting in field trials. The bulk of the material is disseminated in written form requiring a relatively high level of technical competence to understand. The CRI also spreads its results, physically, through its sub-stations dispersed throughout the regions, and through the Plant Introduction station at Bunso.

4.4 There is some criticism from within CRI and from outside that both initiation of research and dissemination is too narrowly confined within the scientific establishment; there is considerable pressure to make research more adaptive and more closely linked to the socio-economic conditions of the majority of farmers. Whatever its relevance, much of the CRI's work in any case does not filter through the shambolic agricultural bureaucracies and much that does in the end percolate through to extension staff has lost one or more essential element.

4.5 The OPRC was established at Kusi in 1964 under the CRI, Kwadaso. Its major concern is plant-breeding; like all the technical and scientific establishments in Ghana, it does not at present interest itself in the economics of production. Although large sums are currently being invested in oil palm development, the Officer in Charge considered that the OPRC was "rarely consulted" (pers.comm. 20.4.78). For example, the nearby World Bank / Bank of Ghana / State Farms Corporation oil palm nucleus estate-with-outgrowers currently being established at Kwae has taken advice from the IRHO in the Ivory Coast (International Research Organisation for Oil Palm) rather than OPRC. The Institute is about to invest in its own oil mill, at which point it is hoped that work will also begin, for the first time, analysing production and operating costs on a smallholder basis.

4.6 The Faculty of Agriculture, University of Ghana at Legon also carries out scientific and field research, maintaining three livestock and biological research stations at Nungua, Kpong, and Kade. The stations serve as training grounds for the Faculty's students, as production units, and as R and D field units for testing not only specific scientific and technical innovations, but

also for experimenting with different farming systems and husbandry practices.

4.7 The Ministry of Agriculture also maintains a few rabbit and pig breeding farms, which carry out a number of experimental breeding and fodder production programmes; their primary purpose is to rear breeding animals for sale to the public.

4.8 The Ministry of Agriculture is responsible for agricultural training. It maintains three colleges, in the Ashanti, Northern, and Volta Regions, with a standard syllabus. Entry qualifications demand five years of Secondary schooling with GCE 'O' Level passes in five subjects including English, Mathematics, General or Agricultural Science, or Biology/Chemistry/Physics. Formerly, students were posted to a field station for the first year, to ensure their commitment to agriculture, but now the first two years are spent in college and the third year is reserved for practicals. Since 1974 the colleges also offer one year courses for mid-career Extension Officers. Students who qualify at the end of the three years pass into the Technical Officer grade of the Ministry of Agriculture.

4.9 The Ghana Institute of Management and Public Administration (GIMPA) at Greenhill, Accra, which comes under the Ministry of Education, offers an in-service training programme, financed and staffed by USAID for field staff up to Senior Technical Officer level (grade below DAO) in the Ministry of Agriculture. The Canadian Government also finances and staffs a programme run from the Extension Department in the Faculty of Agriculture at Legon to provide in-service training for middle-level extension workers through intensive short courses in the field. Both programmes adopt a diffusionist approach to extension; extension workers are seen as delivery agents for technical inputs and knowledge.

4.10 At a more senior level, the Faculties of Agriculture at Legon, and the University of Science and Technology at Kumasi, produce various types of specialist agricultural and livestock graduates, many of whom either leave Ghana for further training or employment elsewhere, or who take up largely administrative jobs in the agricultural bureaucracies in the towns or field stations. In 1976, with USAID financial and staffing assistance, an MA programme in Agricultural Administration was established in the Department of Agricultural Economics at Legon (see my report: Teaching Programme: MA in Agricultural Administration (MA.A), ODI, May 1978, Mimeo).

5. Rural Development: Government and non-official effort

5.1 The Government's Rural Development efforts, which are directed towards social betterment rather than production, are spread between two departments within the Ministry of Labour, Social Welfare, and Cooperatives (1): the Department of Social Welfare and Community Development, and the Department of Rural Development (and, until December 1977 (1), the Department of Cooperatives). Each has responsibility for discrete programmes. The Department of Rural Development's main work is the provision of decent housing in rural areas through the promotion of Rural Housing Cooperative Societies under the direction of its Rural Housing

(1) In December 1977 Cooperatives was taken from Labour and Social Welfare to form a new Ministry of Consumer Affairs and Cooperatives.

Division. It also supports a Rural Industries Division which operates a retail shop in Accra as an outlet for garments, furniture, mattresses, and many small household items manufactured in workshops in rural areas. The Department of Social Welfare and Community Development is largely concerned with Home Economics programmes.

5.2 Some of the most interesting initiatives in rural and agricultural development are those being taken by non-government organisations. Among the many schemes, I visited the following: the Ghana Rural Reconstruction Movement's experimental farm and community development project, Mampong (Ashanti); the Abokobi Agricultural Project at Abokobi, Accra, where bush is being cleared and cultivated by farmers with technical, financial and infrastructural assistance from Swiss Missionaries; village development and resettlement committees under the sponsorship of the Christian Council of Ghana; the White Brothers Mission at Nandom, Upper Region (and other mission stations in the Northern and Upper Regions), promoting agro-industry, off-farm training in workshops, and agricultural modernisation; the Technology Consultancy Centre, at the University of Science and Technology at Kumasi, which advises on and manufactures agro-industrial and farm technologies more 'appropriate' to available factor proportions than imported machines and equipment and easier to maintain locally; and Technoserve Inc., a non-profit making organisation incorporated in America offering management expertise in 'self-help enterprise development' (small scale rural capitalist enterprises such as jaggery factories). These initiatives were particularly interesting for their organisational and institutional flexibility and their adaptiveness to locale-specific conditions, and would repay more detailed analysis than I was able to make in the short time I was in Ghana (see my mimeo paper The Relationship between Technological and Institutional Change at the Local Level, ODI, August 1978, for a theoretical discussion of appropriate institutional intervention in local agricultural development).

5.3 In addition to these, several commercial companies are becoming interested in agricultural development. Barclays Bank (Ghana) Ltd. is notable among them, taking the lead in stimulating rice and livestock production by 'the middling sorts' of farmers and rural businessmen. Others, such as Mobil Oil and Tate & Lyle, have been prompted to enlarge their normal sphere of operations by the Capital Investments Decree of 1973 which allows repatriation of profits on the condition that a certain proportion are reinvested in agricultural development projects in Ghana.

Apart from the references cited in the text, the following basic sources may be noted:

- Report on Ghana Sample Census of Agriculture, 1970, Vols.1 and 2, (Accra, Economics and Marketing Division, Ministry of Agriculture, March 1972).
- Report on Current Agricultural Statistics, Mimeo (Accra, Economic Research and Planning Service, Ministry of Agriculture, May 1975).
- (Note that the Ministry's yield data are based on estimated biological yields and not economic returns).
- Gaisie, S.K: Ghana's Population: Growth Trends and its Implications, Mimeo (Legon, ISSER, n.d.).
- Ewusi, K: Economic Inequality in Ghana, (Legon, ISSER, January 1977).

PART II

1. West Africa generally and Ghana in particular is the locus classicus of British social anthropological kinship studies, a subject many development specialists would regard as an arcane academic matter of little relevance to development policy and practice. I would argue, on the contrary, that understanding patterns of family relationship and inheritance - what has been called 'the domestic domain' - is necessary, and practically relevant to development practitioners. It is within the domestic domain that the dynamics of social interaction is found: an individual's or group's access to and relationship with the means of production over time. The temporal element is stressed, for the passing of property and productive use rights to the next generation constitutes the means of reproducing the household unit, and thus the social system, itself: production and reproduction are intimately linked (1).

2. How, precisely, they are linked in any particular location is the important question, that is, "how the system of domestic relations, of family, kin and marriage, organizes (and is organized by) the productive and reproductive processes, ensuring the continuity but not perpetuity of a particular socio-economic system" (2). The question is developmentally important in two, related, respects: (a) because it focusses attention on 'the social relations of production' over time, it enables a more realistic and useful analysis to be made of the key farm management variables, that is: the relationship between land use, land tenure, production technology, household size and demographic structure, household income and expenditure and access to credit and savings (3); and (b) it provides "a framework for analysing 'rural class structures' in societies, common in Africa, where observable social stratification does not fit handily into Western concepts of class hierarchy; such a framework is of practical use in rural societies which undoubtedly contain some 'rural poor' if not an identifiable pauperized class. (a) and (b) will be illustrated in the following paragraphs.

(1) "... inheritance involves the transmission of rights in the means of production (though the allocial rights may ultimately be vested in a landlord) a process critical to the reproduction of the social system itself." J. Goody, J. Thirsk, E. P. Thompson (eds): Family and Inheritance: rural society in Western Europe 1200 - 1800, Cambridge, Cambridge University Press, 1976, p 14.

(2) Goody, J: Production and Reproduction: A comparative study of the domestic domain, Cambridge Studies in Social Anthropology, 17, Cambridge, Cambridge University Press, 1976, p 118.

(3) An abstract analysis of how such an approach can be used to elucidate the processes of social change is given in: J. Friedman: "Tribes, States and Transformations", in M. Bloch (ed): Marxist Analyses and Social Anthropology, ASA Studies 3, London, Malaby Press, 1975, pp 161 - 202. Referring to the Kachin of Upper Burma, Friedman shows how within an oscillating pattern of evolution and devolution societies move over a long cycle of change. As a single social structure expands, the limits of the productivity of land under hill swidden create an absolute barrier to the internally expansive tendencies of the relations of production. The dominant relations of production tend to generate structural variations but the constraints of the productive forces limit the degree of that variation. But, further, such structural transformation as occurs does so only within a larger process of social reproduction; that is, the technological constraints and the organization of work operate within the framework imposed by the social relations of production on a particular set of organizational possibilities offered by the productive forces. "Our object has been to show how a single model of social reproduction might generate a number of variants whose order of appearance is determined by the evolution or degradation of the conditions of production, and in which, at last for devolution, the transformation of these conditions might be the result of the functioning of the social system itself." (197)

3. In many societies in West Africa where extensive bush fallow agriculture is the norm, the relationships mentioned under (a) can be reduced for development purposes to the issue of labour availability. It is absolutely not sufficient to know only the kinds of labour data the usual census-type agricultural household survey turns up, presenting information on mean (or average) household size, nor simply to enumerate operational costs of various kinds of farming activity (1). One needs to know whether or not the labour

(1) The following is an example of the usual kind of information gathered in Ghana, but, for smallholder development purposes, it is fairly meaningless until it is matched to local socio-economic data on labour availability.

SOME OPERATIONAL COSTS

OIL PALM

1. Land Clearing Costs per Acre:

(a) Underbrushing: 10-15 man days (depending on type of vegetation)
@ £2.00.

(b) Tree Felling:

(i) Without chain saw machine:

High forest 20-25 man days

Secondary bush 10-15 man days

(ii) With chain saw machine:

High forest 12 man days

plus 12 machine hours

Secondary bush 6 man days

plus 6 machine hours

(c) Chopping down crowns

(i) Without machine: 10-12 man days

(ii) With machine: 6 man days

plus 4 machine hours

(d) Burning (including collection of materials for burning)

1 man day

(e) Heaping and 2nd burning

4-8 man days (depending on degree of burning)

(f) Sowing of cover crop (Pueraria - 2 man days - 10 lbs seeds/acre
@ 30P. per lb)

2. Planting:

(a) Lining and pegging (including cutting of pegs) 4 man days

(b) Removing obstacles from rows and planting points - 10 man days

(c) Holing and filling with top soil - 7 man days

(d) Rebrushing before planting - 4 man days

(e) Planting crop

(i) including digging out in nursery and carrying to planting points - 8 man days

(ii) planting crop only - 3 man days

3. Cultivation:

Pueraria phaseoleoides cover

Ordinary
Weed Cover

(a) Brushing avenues)

i. Ring weeding 6' radius) 6 times/year @ 1 man/acre 4 times/year

around palms) @ 4 man/acre

ii. Path weeding 3' wide)

in alternate avenues)

(b) Plant protection

i. Fixing wire collars
including cutting wire into pieces and fixing small
hook pegs to collar: 2 man days are required.
2 bundles of wire netting will protect 150 seedlings on 2½ acres.

4. Harvesting:

20 man days/acre/year. This may vary with age of palms, as taller palms are more difficult to harvest.

(Source:OPRC, Kusi. April 1978)

force is demographically likely to expand over the next generation, the traditional mechanisms of compensating for labour deficit households, the degree and nature of seasonalities in labour supply (1), the allocation of household labour between the sexes and between farming activities, the degree of autonomy of farming units between and within households, the extent of labour indebtedness, and so on. All these things are critical to decisions about the nature, direction, and clientele of extension and other input services, to judgements about the necessity for mechanising farming activities in whole or in part, to assessment of whether or not access to productive land through traditional inheritance practice is a fundamental constraint, and to choosing whether to formulate development plans emphasising increments to labour productivity rather than increases to output per land unit (2).

An attempt has been made by Tony Willett in Small Scale Rural Development in Northern Ghana, (Dissertation in part fulfillment for M.Ag.Sc. Degree, University of Reading), Mimeo, University of Reading, Sept. 1973, in the text and Appendix VII, to marry labour requirements to the preferred crop mix, to household characteristics and patterns of social interaction, and to availability of and access to communal agricultural labour groups (pawinis), showing how traditional practices have been adapted to increasing population pressure on poor land and a marked deterioration in farming productivity, but also indicating that the limits of adaptation have been reached within the traditional biological and mechanical technologies.

(1) See Adomako-Sarfoh, J: "The Effects of the Expulsion of Migrant Workers on Ghana's Economy, with Particular Reference to the Cocoa Industry", in Samir Amin (ed): Modern Migrations in Western Africa, London, Oxford University Press; Beals, R. E, and Menezes, C. E: "Migrant Labour and Agricultural Output in Ghana", Oxford Economic Papers, 22, 1970, pp 109-127 and Hart, J.I.T: "Informal Income Opportunities and Urban Unemployment in Ghana", The Journal of Modern African Studies, 11, 1973, pp 61 - 89.

(2) "Many farming procedures have quantification built into the work, e.g. the sections of a yam barn and the regular size and shape of subsections within the yam farm (Richards, 1973). Takete Ide farmers (Kwara State Nigeria) use 7, 11, or 15 guinea corn stalks woven together as the basis for a yam vine trellis, each stalk being the starting point for a short row of 10 - 20 yam heaps (the distance the farmer goes before straightening up and stretching), with the ultimate effect being a series of semi-standard and clearly visible subdivisions within the field analogous to the strips of the medieval European Open Field (Atteh, pers.comm., cf. Orwin and Orwin 1966). Units of this kind can be used in place of a ready reckoner when estimating field size, but since in essence they record the ease or difficulty of cultivation rather than 'area' in an absolute geometrical sense they will most probably 'reckon' returns to labour rather than output per unit of land. Output per unit of labour may be the more important figure to have, but there will be little point in therefore introducing a land-use intensification procedure which shows up in terms of an improved output per unit of land if the farmer has no means of quantifying this and so of directly perceiving it." Richards, P: "Community Environmental Knowledge in Rural Development", Mimeo, London, SOAS. Paper to Workshop on Indigenous Technical Knowledge, Sussex, Institute of Development Studies, 1978.

4 This sort of data brings the development planner directly in contact with the material of ethnographers and social anthropologists, who should be able, for example, to elucidate whether or not the household is confined to a genealogical group or includes co-wives, concubines, fostered kin or others; which of these categories are co-resident, and among these, which are farming independent of the household head; whether or not the husband and wife (wives) form a unified production unit, and what degree of autonomy in decision-making each separately has; whether or not men and/or women become detached from land and/or from farming rights on divorce or remarriage (1). In addition, and treating households as part of a wider social interaction, the degree of household dependency on communal labour, the variability of access to and availability of communal resources in general, the allocation of land use rights and the permanency of 'individualised land', are all important areas of investigation to which social scientists can make substantial contributions (2).

(1) The degree of autonomy over decision-making is particularly important. See, for example, E. Clay: "Adaptive Technology and Participation in Agricultural Innovation: a case study of tubewell irrigation in N.E. India", Mimeo University of Sussex, Institute of Development Studies, 1972. Reviewing the innovation of government tubewells and their adaptation to local factors of production, Clay concludes that though the adapted tubewells spread rapidly, they did not reach a wider class of cultivators than the government package was reaching; almost all those investing in the adapted tubewells were technically eligible for a credit-financed tubewell. Clay hypothesises that it is, in fact, only the relatively well-off class of larger farmers who are in a position to take independent entrepreneurial decisions. For the rest, production decisions are interdependent, not individual choices. Because of population density, topography and land fragmentation, for two categories of decision-making the smaller farmer is forced to seek communal solutions: the allocation of land between crops and cattle; and the allocation of land to obtain a balanced crop mix. The resulting mosaic of land and water use is relatively rigid as all individuals' needs have to be adequately met, leaving little room for innovatory 'disturbance' on the part of a single individual. The individual is locked into a web of decision-networks, which economic and caste divisions segregate into relatively discrete sets, introducing further inflexibility into the agricultural system. He questions whether, in such circumstances, the simple manipulation of technology will be effective. "Specially designed technology and discriminatory credit policies, such as the Small Farmers Development Programmes (SFDP) will presumably bring only a lucky few in out of the cold if as has been suggested above the poor and underprivileged scarcely have the freedom to decide what they will do as individuals". He argues that more radical, structural transformation will be necessary, which takes as the basic unit of innovation the small groupings of interdependent farming households.

(2) These problems tend to be glossed over or their implications not fully drawn out. See, for example, Land Use, Agricultural Production, Land Tenure and Administration, Mimeo, Kumasi, Ghana, LARC, University of Science and Technology, October, 1977, where social factors are treated as independent of the technical aspects of production, land use, and farming economics, for example, "It appears that apart from the payment of bride price, the cost of traditional ceremonies is lower than in other areas in Ghana, thus leaving more cash for productive investment". (p47) The text continues: "The timing of the ceremonies is also important as this allows all farming work to proceed unhindered during the growing season. This reflects the critical nature of the dependence on harvest results in the area to ensure survival for the following year". For a critique of this kind of 'reductionist materialism', see my mimeo paper: "The Relationship Between Technology and Institutional

5. However, all the government publications, aid agency, and commercial project reports I looked at, including most of those to which academics had made substantial contribution, entirely ignored not only the substantive information but the entire methodology (conceptual framework and tools of analysis) of the sociologists and social anthropologists. This was particularly striking in the documentation of the CMB, and when talking to field workers and officials concerned with cocoa development specifically, or those with a wider concern for rural development in the cocoa areas. Even the most general 'lessons' emerging from social science studies, such as the following, seemed to be unknown by development practitioners:

Change at the Local Level", ODI, August, 1978.

Nonetheless, there has been considerable useful work among social anthropologists challenging the commonly held assumptions concerning inheritance and land tenure among the 'communal' land systems of Africa:-

"On the matter of the 'fragmentation' of farmland on the death of the household head, I think there are a number of reasons why this is a much less serious problem than is often supposed - and that declining standards of living in localities with high and rapidly increasing population densities are usually mainly due to population pressure as such, not to inheritance systems. Among my numerous justifications for this bold assertion are:

- (a) Under matrilineal systems, the sole-heir system may be such that, as time goes by, too much land becomes concentrated in the hands of those who happen to be inheritors.
- (b) In those patrilineal societies where sons gradually establish themselves as independent farmers after marriage, maybe with the help of land transferred to them by their fathers, inheritance is anticipated in an orderly way, so that if the father dies when he is old little redistribution of land remains to be effected.
- (c) For numerous reasons, brothers are often quite differently situated at the time of their father's death, especially if they are of very varying ages: thus the eldest sons of a prosperous Hausa farmer may have evolved into successful farmers on their own account (while continuing to shelter under their father's wing in *gandu*), although the youngest may still be entirely dependent on their fathers (Hill, 1965: 165ff) Accordingly (as already noted), the brothers may be little concerned with equal division of their father's farmland, merely sharing out the separate plots (as such) between themselves. Statistical evidence for both the migrant cocoa-farmers of southern Ghana and the Hausa, indicates that farmers are often aware of the danger of overmuch subdivision on death.
- (d) As we have seen, in some societies and circumstances farmland is not heritable on death, though this may not, for example, prevent one of the sons from casually continuing to cultivate his father's bush farm.
- (e) So long as most farm-tools continue to be traditional types manufactured by local blacksmiths, there will be little relationship between the size of farm-plots (provided they are not really small) and productivity.
- (f) While 'division between wives' may be most rigid (Lloyd, 1962: 281,297), that between the children of any wife may not occur, or be quite informal.
- (g) Cocoa-farms are often considered as indivisible as heads of cattle; for the profits from working the plot, rather than the plot itself, may be shared.
- (h) Finally, the tendency for self-acquired (individualised) property, such as cocoa-farms, to be converted into lineage property on death, tends to put a brake on subdivision; it must not be too lightly assumed that land which has been extricated by individuals (maybe by purchase) from a communal melting pot in necessarily a new category of 'permanently individualised land'."

Polly Hill: "The West African Farming Household", in J. Goody (ed) Changing Social Structure in Ghana; Essays in the Comparative Sociology of a New State and an Old Tradition, London, International African Institute, 1975, pp 130-131.

"Although it is true that the introduction of new orchard crops, such as cocoa, is always likely to result in some changes in land tenure and inheritance systems, the example that has just been given suggests that, in the longer run, these changes are not necessarily so radical as is sometimes supposed. In matrilineal cocoa-growing societies the most extraordinary change, so far as sedentary (non-migrant) cocoa farmers are concerned, is in the extent to which women evolve into independent (cocoa) farmers on their own account. Before examining this further, a few notes on women's inheritance systems must be made. In general, the sets of rules governing the inheritance of men's and women's property in any society are quite distinct; furthermore, with the exception of small livestock (which are commonly owned by either sex), farmland (insofar as women enjoy heritable rights, which most non-cocoa-farmers do not) and stored crops, women's property tends to be of different types from men's. Although the inheritance of women's cocoa-farms has been little studied, I think it is safe to say that their farms much more often pass (often intact) to their daughters than to their sons, and that women seldom inherit farms from men, unless there is no suitable male heir; as husbands very seldom clear cocoa-farms for their wives, or give them land, they are usually entirely devoid of rights over their wives' farms.

As we have seen, women are seldom the outright owners of the food-farms they cultivate, so the degree of security resulting from women's ownership of cocoa-farms in certain matrilineal societies, in southern Ghana, Ashanti and in the southern Ivory Coast, is quite remarkable. Statistics show that in some of these societies women cocoa farmers may be nearly as numerous as men, but their farm-plots (though not necessarily their holdings) tend to be smaller. It is not known whether wives' obligations to cultivate food crops for their husbands and other household members have diminished as a result of their cocoa work. Perhaps, in the longer run, more middle-aged women cocoa farmers will eschew the married state: certainly the Akim women I interviewed around 1957-8 constantly emphasised that cocoa-farm ownership was a new and most welcome form of insurance against poverty arising from divorce." (Hill, P, 1975, *ibid*, p 131)

A work that specifically addresses itself to the non-economic development aspects of cocoa-farming, by C. Okali, is to be published in the near future and, hopefully, will achieve a wider circulation. (1). One of the most important matters it elucidates is how individuals and social groups treat inheritance as a strategy for survival and, beyond assurances of continuing access to the means of production, for managing inheritable assets to optimise current consumption - essentially a question of labour availability. In other words, it ceases to treat land use, land tenure, and inheritance as obdurate cultural institutions for which people have an unexplained social preference or which are simplistically assumed to be determined (in unexplained ways) by perceived technical, environmental, or economic variables, and analyses them as integral, interacting components of a dynamic process of continuity and change.

(1) C. Okali: "The importance of non-economic variables in the development of the Ghanaian Cocoa Industry: a field study of cocoa farming amongst the Akan", Mimeo, PhD Thesis, Department of Sociology, University of Ghana, Legon, March 1976.

6. Turning now to proposition (b) (para. 2, p20), the apparent absence of 'classes' in traditional West African societies was first noted over a hundred years ago, and was raised as a problem early this century by the Gold Coast lawyer and Ghan patriot, John Mensah Sarbah: "in the African social system the formation of a pauper class is unknown, nor is there antagonism of class against class." (1) The modern debate is riven with terminological confusion and, it must be said, a determination on the part of some Marxists to impose western class concepts and semantic logic on social analysis whether or not the societies studied display the relevant characteristics. To simplify, a 'class' society is assumed to be one in which status and power are unequally distributed, where there is little mobility (in practice if not ideally) between horizontally differentiated "layers" in a pyramidal social structure, and where there are effective barriers to intermarriage between these strata. However, the ruling dynasties of the major states of West Africa have rarely been endogamous; many, au contraire, have specifically obliged both male and female to marry outside the ruling group. (See, for example, the Gonja in northern Ghana; E. N. Goody, 1962, 1969, 1974; and J. Goody, 1966, 1967, 1969) The consequences are that the different strata are bound together by a network of intermarriages, with profound implications for social integration and the dynamic of the social system as a whole.

7. The practice of heterogamy makes it difficult to maintain or to institutionalise 'class' differences (other than those based on expenditure alone), and tends towards cultural homogeneity rather than class differentiation (2). Though there might be constraints on behaviour (such as the ban on cash crop cultivation by smallholders around the port of Whydah), these tend "to be attached to specific roles rather than to general strata and to derive from the authority of the king rather than from internal differentiation." (Goody, Production and Reproduction, p 104)

8. Connected with the above (and relating back to proposition (a)), is the general absence of dowry (by which a woman receives her heritable portion on marriage - or a jointure upon widowhood) and the prevalence of bridewealth, and the absence of transmission of property between males and females, i.e. the tendency for property (and status) to be diffused rather than preserved. Now, it has been argued (Goody, 1976; Bloch, 1966; Homans, 1941; Hole and Flannery, 1967; Leach, 1947, Lyn, 1942; Grove, 1957, Anthony and Johnston, 1968) that these practices, and the weakness of class affinities, are linked to the nature of agricultural exploitation in Africa - shifting, extensive farming; low land productivity; hoe rather than plough technology. The use or non-use of the plough is seen to be critical in this analysis, for the increase in an individual's labour productivity a plough affords has two implications: (i) it enables a ruling group to develop a much higher standard of living out of agricultural production; and (ii) it means that producers themselves tend to become distinguished on the basis of their command over the means of production, i.e. their differential access to land and equipment. Whereas an hoe is an infinitely divisible technology, the plough, as a lumpy capital investment, is not. The hoe consumes only as much land as there is labour; a plough creates scarcity in land suitable for ploughing.

(1) Quoted in H. W. H. Redwar: Comments on Some Ordinances of the Gold Coast, London, 1909, p.vi.

(2) Even though different groups may have had differential access to political office, the tendency of groups to merge culturally is in itself a fact of considerable political significance.

9. It follows, most importantly for development practice (and again relating back to proposition (a)), that in the absence of plough cultivation poverty relates to physical strength and labour rather than capital (1) (and, since the social status and standard of living of the groups exploiting land in any one area are insignificantly affected by the transmission of the means of production, there is little pressure to individualise rights of land use or to transmit them to one's offspring).

10. It is not, therefore, necessarily mere ignorance or elite bias which leads a chief to deny the existence of any 'rural poor' in his district; it might be indeed the case that no poor strata or class of poor exist. Which does not, however, necessarily imply that there are no poor, nor that the chief is unaware of who or where they are. The case where the poor exist because the productivity of land is barely high enough to support the number of households exploiting it, can (fairly) easily be picked up by normal technical and socio-economic surveys, (if only because the people are likely to be geographically concentrated in specific areas), but picking out individual labour deficit households or farming units, who have no or limited access to traditional compensatory mechanisms, is much harder. Moreover, the 'solutions' which come readily to mind, of substituting machines or draught animals for human labour, appear in turn to create in many instances new problems of long term ecological management whose resolution would seem to demand technical competence beyond the reach of farmers themselves.

JJ, Oct. 1978.

(1) It is notable among many groups in Ghana that the poor man is described as 'weak' (e.g. Lo Dagaa, nibalo) and the rich as 'strong' (gandaa, nikpiung) (See also Willet, 1973)



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AGRICULTURAL ADMINISTRATION UNIT

AGRICULTURAL ADMINISTRATION NETWORK

NEWSLETTER NO. 1

NOVEMBER 1979

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* *The Discussion Paper, Alan Kingshott's "The Organisation and Management of Agricultural Extension and Farmer-Assistance in Botswana", is enclosed as a separate booklet.*



INTRODUCTORY NOTE

In several respects this Newsletter marks a departure from the earlier network pattern of concentration upon distributing papers for discussion. We shall continue to do this, but we have decided that the network newsletter will be used in a slightly expanded form. We also intend to release newsletters at four-monthly intervals. There are five main features of the new newsletter.

Firstly, the newsletter appends an *Agricultural Administration Discussion Paper*. This will be written either by a member of the Unit or a network member. For each paper there will be a brief introduction in the newsletter itself in which specific comment and information are invited. Subsequent newsletters will contain summaries of comments received on the Discussion Paper from network members.

Secondly, the newsletter summarises papers received by the AAU which we feel are likely to be of interest to members. These will be reproduced by the AAU with the permission of the authors and will be made available to network members on demand. These *Agricultural Administration Network Papers* include field notes, seminar papers presented at AAU meetings and unpublished research findings: that is, they are papers which are not normally available elsewhere.

Thirdly, the newsletter contains details of *Recent Publications* which we feel will be of interest and which can be obtained from other research institutes, agencies, etc. Normally this will be material which is available on demand but which is unlikely to be listed by publishers or academic journals.

Fourthly, the newsletter will contain *News of Network Members*. The usefulness of this section will largely depend upon the readiness of members to contribute information on their current work. News which we feel may be of interest would include research, appointments, forthcoming publications, conferences, new courses being offered, etc. As a first step towards this regular exchange of news, we would like to inform all networkers of the names, jobs and interests of other networkers. We have most of this information in London but nonetheless we would appreciate the completion of the enclosed questionnaire. For the next newsletter, we will compile a list of names of network members together with their current jobs and interests. We hope this will be useful to network members.

Finally, we include *News of the AAU* itself: activities of its research officers, meetings which have been held and recent publications and papers.

I NEWS OF THE AGRICULTURAL ADMINISTRATION UNIT

(i) STAFF

The Agricultural Administration network has been strengthened by two new appointments: Clare Oxby and Angela Street. They join Guy Hunter and John Howell. The Unit as a whole continues to run two other networks: pastoralism (Stephen Sandford) and Irrigation (Anthony Bottrall).

Clare Oxby is a research officer and is working on farmer groups. She will study the structure and functions of existing farmer groups in ldcs (both 'indigenous' and government-stimulated) and evaluate their actual and potential role in the agricultural development process, particularly with regard to the interests of the poorest. She was trained in social anthropology and spent a year living in a Twareg community in Niger gathering data for a doctoral thesis. She has since taught at Sussex University and been a Research Officer in Race Relations in the Home Office Research Unit.

Angela Street is a librarian/secretary responsible for the documentation in the AAU library and for the preparation of material for inclusion in the AA Newsletter. She is a graduate in Geography and Sociology from Sheffield University.

Guy Hunter is currently preparing to visit India to gather information on recent development in agricultural administration there and to strengthen research links with Indian institutions involved in similar work to the AAU.

John Howell spent July and August in Swaziland at the Mananga Agricultural Management Centre where he was assisting in a new course for senior managers. He is now collaborating with the Development Organisations and Institutions Service of FAO in a document on Decentralisation and Participation in Agricultural Development.

(ii) RECENT/FORTHCOMING MEETINGS

Since September 1978, four meetings have been held at ODI on the theme: "*Institutions, Management and Organisations in Agricultural Development*".

On 29 September 1978 three sessions were held as follows:

1. Assessing Project Organisation and Management.
Paper by John Howell: "*Assessing Management and Organisations in Agricultural Development*".
Also presentations by John Pilgrim (Crown Agents) and Eric Miller (Tavistock Institute).

2. Assessing Farmer Organisations and Management. Paper by Janice Jiggins: *"Identification and Appraisal: Notes on Choosing and Assessing Institutions"*. Also a presentation by Paul Devitt (Consultant).
3. Monitoring and Evaluating Organisation and Management. Deryke Belshaw (University of East Anglia): *"Issues in the Measurement, Monitoring and Evaluation of Agricultural Extension Programmes"*; Eric Clayton and Ian Carruthers (Wye College): *"Monitoring and Evaluating Management Performance and Organisation"*; Anthony Bottrall: *"Evaluating the Management and Organisation of Irrigated Agriculture"*.

On 28 February 1979 a meeting was held with a view to exchanging ideas on the design of management procedures. The paper was by Alan Kingshott (ODA) and entitled: *"A Planning and Management System for Extension and Farmer Assistance in Botswana"*. This forms one part of the Discussion Paper appended to this newsletter.

The third meeting was held on the 29 March 1979 and the theme was *"Administration and Organisation for Women in Agricultural Development"*. The following papers were presented:

1. Nici Nelson (Goldsmith's College): *"Involving Women in Rural Development Processes"*.
2. Vicki Barres (IRAM, Paris): *"Women in Rural Development: A Project in Niger 1966-1975"*.
3. Paul Stirling (University of Kent): *"Women and Land Reform. Metapontino 1950-1975"*.

The paper by Nici Nelson has now been revised (see section on AA Network Papers on page 8).

Finally on 10 May 1979, a meeting was held to discuss *"The Organisation and Management Factors in Agricultural and Rural Development Projects"*. The paper was by Richard Heaver (formerly ODA) and was entitled: *"Planning and Management Problems in the Implementation of a Major Scheme: A Case Study of Mahaweli (Sri Lanka)"*. This is also available as an AA Network Paper

A further meeting on the organisation and management of monitoring and evaluation will be held on 17 December 1979. Among the papers to be discussed will be a study by Donald Curtis and John Watson (Development Administration Group, University of Birmingham) on the Drought Prone Areas Programme in India; and a paper from Henri Sousbie and Majid Slama (Centre National des Etudes Agricoles, Tunisia) on monitoring and evaluation in the agricultural sector in Tunisia.

In December 1978, the AAU also held a discussion meeting led by Goran Hyden, shortly before he took up his post as Social Science Adviser to the Ford Foundation in Africa. The paper - entitled "*Small is Powerful: Peasants and Development in Africa*" - was based upon a forthcoming book on Agricultural policy-making in Tanzania which discusses the ways in which a seemingly powerless, disorganised and inarticulate peasantry is able to frustrate government policy.

In collaboration with The Ohio State University, a workshop on "*Rural Financial Markets and Institutions*" was held at Wye College, Kent from the 12th to the 14th June 1979. There were forty-four participants from the U.K., U.S.A., Africa, Europe, Latin America and Asia. Sixteen papers were presented and the authors and titles are:

1. Dale W Adams (Ohio State): "*Recent Performance of Rural Financial Markets in Low Income Countries*"
2. J D Von Pischke (World Bank): "*The Political Economy of Specialized Farm Credit Institutions in Low Income Countries*"
3. Lawrence D'Mello (State Bank of India): "*Institutional Aspects of Lending to Small Farmers - The Indian Case*"
4. Douglas H Graham (Ohio State) & Compton Bourne (University of the West Indies): "*Agricultural Credit and Rural Progress in Jamaica: A Development Dilemma*"
5. Michael Lipton (IDS, Sussex): "*Rural Credit, Farm Finance and Village Households*"
6. Cristina C David (Ohio State) & Richard L Meyer (Ohio State): "*Measuring the Farm Level Impact of Agricultural Loans in Low Income Countries: A Review Article*"
7. Barbara Harriss (University of East Anglia): "*Money and Commodities, Monopoly and Competition*"
8. Mohamed Dridi (Ministry of Agriculture, Tunisia): "*The Impact of a Public Agricultural Credit Program for Small Farmers: The Special Fund for Developing Agriculture (FOSDA) Tunisia*"
9. Thomas Stickley (Michigan State University) & Edouard Tapsoba (USAID Upper Volta): "*Loan Repayment Delinquency in the Eastern O.R.D. of Upper Volta*"
10. Adeniyi Osuntogun (University of Ile-Ife, Nigeria): "*Some Aspects of Farm Level Credit Use of a Sample of Co-operative Farmers in Oyo, Ogun, and Ondo States of Nigeria*"

11. Frank A Wilson (University of Bradford): "*The Non-Specialist Agency and Rural Credit: The Developing Role of Commercial Banks*"
12. R A J Roberts (FAO): "*Use of Applied Research and Training in Strengthening the Development of Credit Institutions*"
13. John Howell & Anthony Bottrall: "*Credit Delivery and Institutional Choice in Small Farmer Development Programmes*"
14. Fana W Giorgis (Agricultural and Industrial Development Bank, Ethiopia): "*Agricultural Credit in Ethiopia*"
15. B J Youngjohns (ODA): "*Co-operatives and Credit - A Re-evaluation*"
16. Koenraad Verhagen (Royal Tropical Institute, Netherlands): "*How to Promote People's Participation in Rural Development Through Local Organisations*"

It is intended to publish most of the papers presented at the Workshop in the near future. The form of publication will be decided shortly: the choice is between a special issue of a development journal and an edited book.

(iii) RECENT PUBLICATIONS

The Agricultural Administration Unit's third Occasional Paper is entitled "Institutions, Management and Agricultural Development", (details of which are appended to this newsletter). Basically, it contains the papers which were originally prepared for the meeting held at ODI in September 1978.

The AAU, as part of ODI, contributes to the regular *Briefing Papers* published by the Institute. Such papers are normally based on a particular event or a discussion of a particular issue where it is felt a short summary of arguments would be useful. In the last few months, there have been two papers prepared by members of the Unit and these are available from the Publications Officer free of charge. The first is *Agrarian Reform: A Preview of the FAO Conference* (BP No. 3, June 1979) prepared by Anthony Bottrall; the second is *Integrated Rural Development* (BP No. 5, 1979) prepared by John Howell.

Agricultural Development and the Rural Poor, edited by Guy Hunter and based on the 1978 Ditchley Conference, continues to sell briskly and at the present rate, it is likely to be out of print by the middle of 1980.

II NOTES ON DISCUSSION PAPER I

In 1977, Chambers and Wickremanayake bestowed an accolade of a sort upon Botswana in Farmer's *Green Revolution?* "We know of no country, except perhaps Botswana, where - on any scale - agricultural extension has been tackled as a problem in the management of extension staff themselves, with a carefully designed training programme tied in with procedural reform." For Botswana, in fact, there has been "structural" as well as "procedural" reform.

Alan Kingshotte - Extension Adviser in Botswana for much of the 1970s - has prepared a paper, *The Organisation and Management of Agricultural Extension and Farmer-Assistance in Botswana*, which discusses these reforms. From the AAU's perspective, the major interest in the paper is the attempt to build a co-ordinated field service with particular emphasis upon the Demonstrator, the point of contact with the producer. Any extension system depends ultimately on the quality and impact of its work upon the producer but Alan Kingshotte's diagnosis is that this, in turn, depends upon the motivation of the individual Demonstrator and the efficient use of his time. Motivation and economy also depend upon a) an effective administrative structure at a higher level supporting the Demonstrator and b) involving the Demonstrator in a management and planning process in which he is both the primary data-collector for planning and the main instrument of implementation. Why is this so difficult to achieve?

For Alan Kingshotte, there are three main aspects to the problem: one, the *structure* of the field service; two, the *functions* of the various officers within the structure; and three, the *behaviour* (which covers training and motivation) of officers within the structure. These three aspects need to be tackled simultaneously. As a prognosis of field service deficiencies, his ideas will be familiar to many networkers. However, the paper's main interest lies in the confidence that administrative and procedural reforms based upon the application of good management principles, *can* have a significant impact on performance in a short space of time.

In practice, most extension services have become caricatures of government bureaucracy at its worst: poorly-motivated staff, rule-bound, hierarchical, compartmentalised. Is this largely a question of inappropriate structures and procedures? Some may argue that government structures are *inherently* incapable of providing the sort of agricultural service required to meet the needs of the small, or disadvantaged, producer; and that we should be examining the national applicability of alternative systems of support based upon, for example, farmer-run associations, district development corporations, voluntary agencies, or special project authorities.

Another view would suggest that a much greater resource commitment is required as a precondition for any necessary administrative changes; i.e. in developing a more intensive and regulated system backed up by stronger research and regular instruction to field workers.

We would welcome comments from network members on these general issues and we would be willing to distribute, or make available to networkers, other papers which address the same sorts of issues as the Discussion Paper and which describe efforts to cope with them.

There are also a number of specific issues on which comments are invited:

1. the planning system introduced in Botswana has some similarities to the PIM (Programme Implementation Management) system introduced in Kenya's Special Rural Development Programme. PIM proved to be a less sturdy plant than at one time seemed likely. What other evidence is available on the suitability of this type of programme management approach in rural development?
2. Kingshotte suggests that in Africa, it is not appropriate to confine extension staff to agricultural production support activities. Staff should continue to act on behalf of the farmer as a consumer (and on behalf of other agricultural sector agencies where necessary). This would be heresy to adherents of Benor and Harrison's Training and Visit System. Are these differences of approach simply differences of environment and circumstance or is Kingshotte wrong?
3. Other interesting points are: a) do the Farmer Record Cards appear useful and/or practical? b) is Kingshotte fair in condemning the project approach so roundly? and c) do the densities (staff/farmer ratios) suggested by Kingshotte, appear workable in other similar environments?

Note: For further information on PIM, networkers should consult "*Managing Rural Development*", by Robert Chambers, available at cost from the Scandinavian Institute of African Studies, Uppsala, Sweden; for more details on the Training and Visit System, see "*Agricultural Extension*", by David Benor and James Q. Harrison, available from the World Bank.

(Notes on Discussion Paper 1 are by John Howell)

III AGRICULTURAL ADMINISTRATION NETWORK PAPERS

There are four papers which are available on request (write to Angela Street):

1. Richard Heaver "*Planning and Management Problems in the Implementation of a Major Scheme: A Case Study of Mahaweli (Sri Lanka)*"

The Mahaweli Scheme is a large irrigation/settlement project by any standards and is Sri Lanka's major development project. Richard Heaver's paper examines the political and economic background to the Scheme and the consequences for management at different levels. He discusses separate management and planning problems in construction, agriculture and irrigation but also indicates their close inter-relatedness. In his final section he orders the complexity of management problems into a framework of "key areas" which aid agencies in particular, need to examine.

2. Gilbert Etienne "*Some Field Observations on Rural India's Development*"

These are notes written in February 1979 following a return visit to villages and districts first surveyed in 1963-64. Professor Etienne (Institute of Development Studies, Geneva) finds evidence of substantial improvements in income and productivity among both large and small farmers and suggests that, contrary to much current thinking, new crop production technologies and crop varieties are increasingly benefitting the smaller farmers and that it is erroneous to assume that new technologies lead to a polarisation of wealth in rural areas: i.e. that there is a strong 'trickle down' effect. There are also brief comments on developments in planning, extension, IAS, panchayats, etc. (This material was also used for an article in *Kurukshetra*, India's Journal of Rural Development, New Delhi, April 1979.

3. Nici Nelson "*Involving Women in Rural Development Processes*"

Dr. Nelson stresses that integrating women in the process of development necessitates, as a first step, involving them at all levels of policy-making, both as framers of policy and as objects of policy decisions. This will entail hiring women project staff and involving women in community participation exercises as well as considering the short and long term effects of any technical or economic inputs on women's lives. Specific reference is made to two projects, one in Niger and the other in Bangladesh.

4. John Howell "*Training Managers for Agricultural Development Projects*"

This paper examines the relevance of conventional management training to the agricultural sector and indicates how different types of project require different management skills. It also suggests components of short courses for senior agricultural managers. (The paper was prepared for a Consultative Workshop on Agricultural Project Management Training organised by the Commonwealth Secretariat and the Agrarian Research and Training Institute, Colombo and held in Colombo in May/June 1979.)

IV SOME RECENT PUBLICATIONS ON AGRICULTURAL ADMINISTRATION

The purpose of this section is not to provide a bibliographic service but to notify members of publications which they are unlikely to come across unless they happen to be on a particular mailing list. There may be restrictions on distribution for some of the entries and unfortunately the AAU cannot guarantee that the publication will necessarily be available. However, network members are welcome to consult these publications here at ODI.

1. Small Farmers Development Team *Small Farmers' Development Manual, Volume I, Field Action for Small Farmers, Small Fisherman and Peasants* (206 pp) *Volume II, The Field Workshop: A Methodology for Planning, Training and Evaluation of Programmes for Small Farmers, Fishermen and Landless Agricultural Labourers* (78 pp) Regional Office for Asia and the Far East, FAO, Bangkok, Thailand, 1978.

These manuals have been designed for the field action projects discussed in the FAO/UNDP Report *Asian Survey of Agrarian Reform and Rural Development: Starting from Below* (54 pp) FAO/UNDP, Rome 1977. The material in the manual has been used in projects in Nepal, Bangladesh and the Philippines. Volume I is primarily designed for extension workers seeking to instigate a process of group action and self-reliance; Volume II is for planners of rural poverty programmes with the active participation of the poor. The late J C Mathur was responsible for much of the material included in these volumes. Requests for copies of the manual should be sent to C Cameron Clark, Leader, Small Farmer Development Team, FAO Regional Office, Phra Atit Road, Bangkok, Thailand.

2. Asian Development Bank *Sector Paper on Agriculture and Rural Development* (135 pp) 1979

This is a staff working paper prepared by Martin C Evans and others. It looks self-critically at the ADB lending policies including a backward glance to the Second Asian Agricultural Survey. General overview plus broad recommendations and summaries of results of seven ADB evaluation reports. Available from ADB, P O Box 789, Manila, Philippines.

3. Institute of Commonwealth Studies *A Revival of Local Government and Administration* (82 pp) Collected Seminar Papers No. 23, 1979.

Seven country papers on recent developments in local government (Nigeria - Panter-Brick; Sri Lanka - Dawson; Ghana - Akuoko-Frimpong; Zambia - Tordoff; Malaysia - Norris; Jamaica - Mills; Sudan - Howell;) most of which discuss rural development administration. Available from ICS, 27 Russell Square, London W.C.1. price £2 (post free).

4. United Nations Asian and Pacific Institute *Alternative Strategies for Development with Focus on Local-Level Planning and Development* (circa 200 pp). Proceedings of a Consultative Meeting edited by Ram C Malhotra and V Vichit-Vadākan 1979. A compilation of Discussion Papers (Malhotra, Obaidallah Khan, Ram Yadav, Wickrema Weerasooriya, Kurt Dopfer, G C Clark and Salima Omer), plus country statements, background papers and a select bibliography. Requests for copies to APDI, P. O. Box 2-136, Sri Ayudhya Road, Bangkok, Thailand.

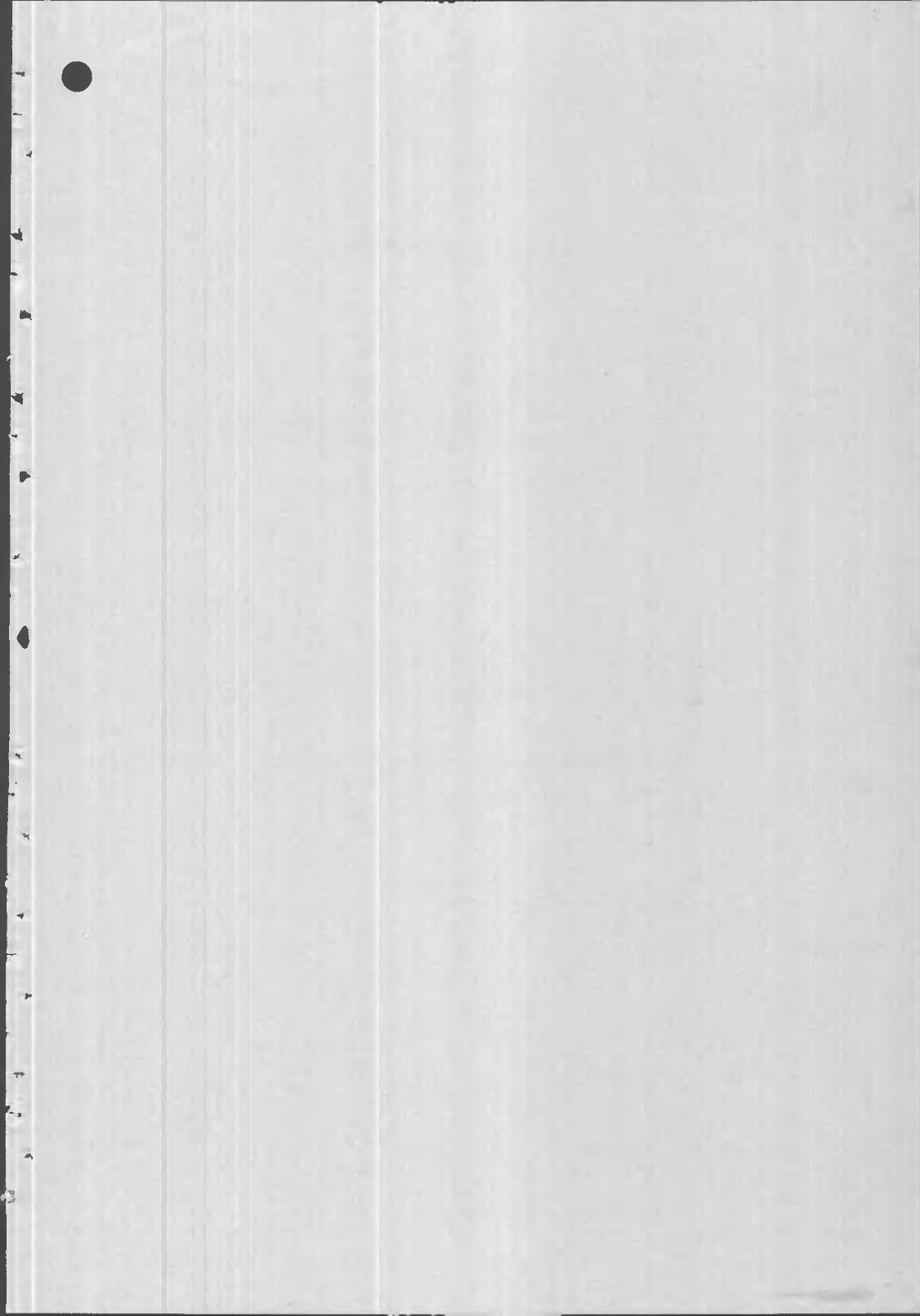
5. C K Brown *The Extent of Local Participation in Rural Development Programmes: a Field Study in Kaduna State of Nigeria* (107 pp) C.S.E.R. Research Report No. 4, April 1979. A study of community involvement in institutions and rural programmes in two villages. Available from the Centre for Social and Economic Research Ahmadu Bello University, Zaria, Nigeria, Price 5 Naira.

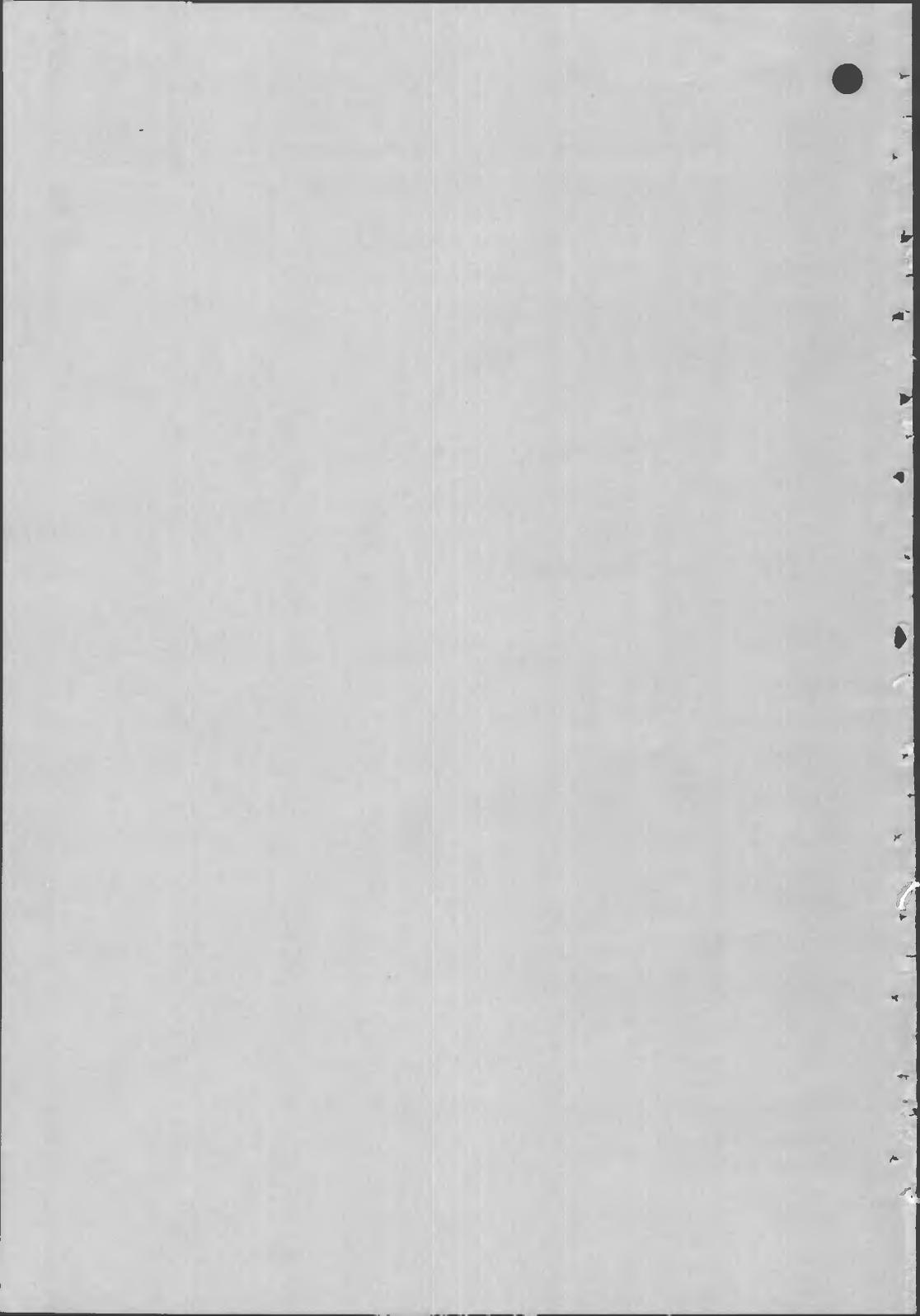
6. *Rural Development Participation Review* Volume I No.1 Summer 1979. This is published by the Rural Development Committee of Cornell University and this first issue contains an account of Cornell's Rural Development Participation Project which is directed by Norman Uphoff. It is available free of charge from RDPP, 170 Uris Hall, Cornell University, Ithaca, New York 14853, USA.

7. *Bibliographies* - FAO have produced an Index of the country papers, case studies and general studies which were used in preparation of the World Conference on Agrarian Reform and Rural Development (*WCARRD Index*) FAO, Rome.

The Rome Declaration Group, a consortium of non-government organisations concerned with development issues, have compiled a bibliography of "counter-information" to that presented at the Rome conference. This is available from Earth Resources Research Limited, 40 James Street, London, W1M 5HS, England









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AGRICULTURAL ADMINISTRATION NETWORK PAPERS

No. 1

PLANNING AND MANAGEMENT PROBLEMS IN THE
IMPLEMENTATION OF A MAJOR SCHEME:
A CASE STUDY OF MAHAWELI (SRI LANKA)

by

Richard Heaver

The information in this paper was collected while the author was on contract to the ODM in Sri Lanka. The paper is available on condition that its circulation is restricted to the recipients and that none of the contents are copied for any purpose or are quoted without reference to the author

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"The Prime Minister, having given the utmost priority to this Scheme, requested me to galvanize all the energies available in Sri Lanka, in order to complete the Mahaweli Ganga Development Scheme within the lifetime of the present Government. Accordingly, I have appointed groups of Sri Lanka experts, highly qualified in different fields, to examine the UNDP/FAO proposals and report how this scheme can be implemented in the shortest possible time. They have all submitted reports that the whole Master Plan can be implemented in 5 to 6 years."

Minister of Irrigation, Power and
Highways
Summary Report of Projects

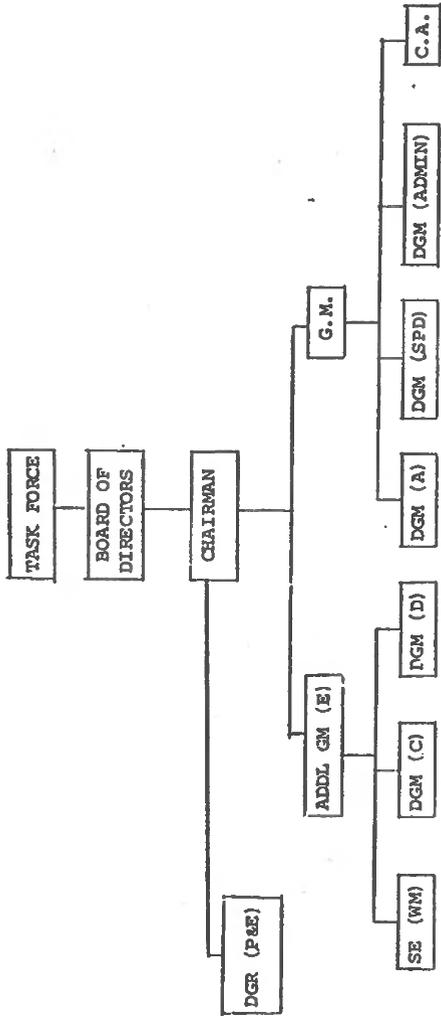
20 November 1977.

INTRODUCTION

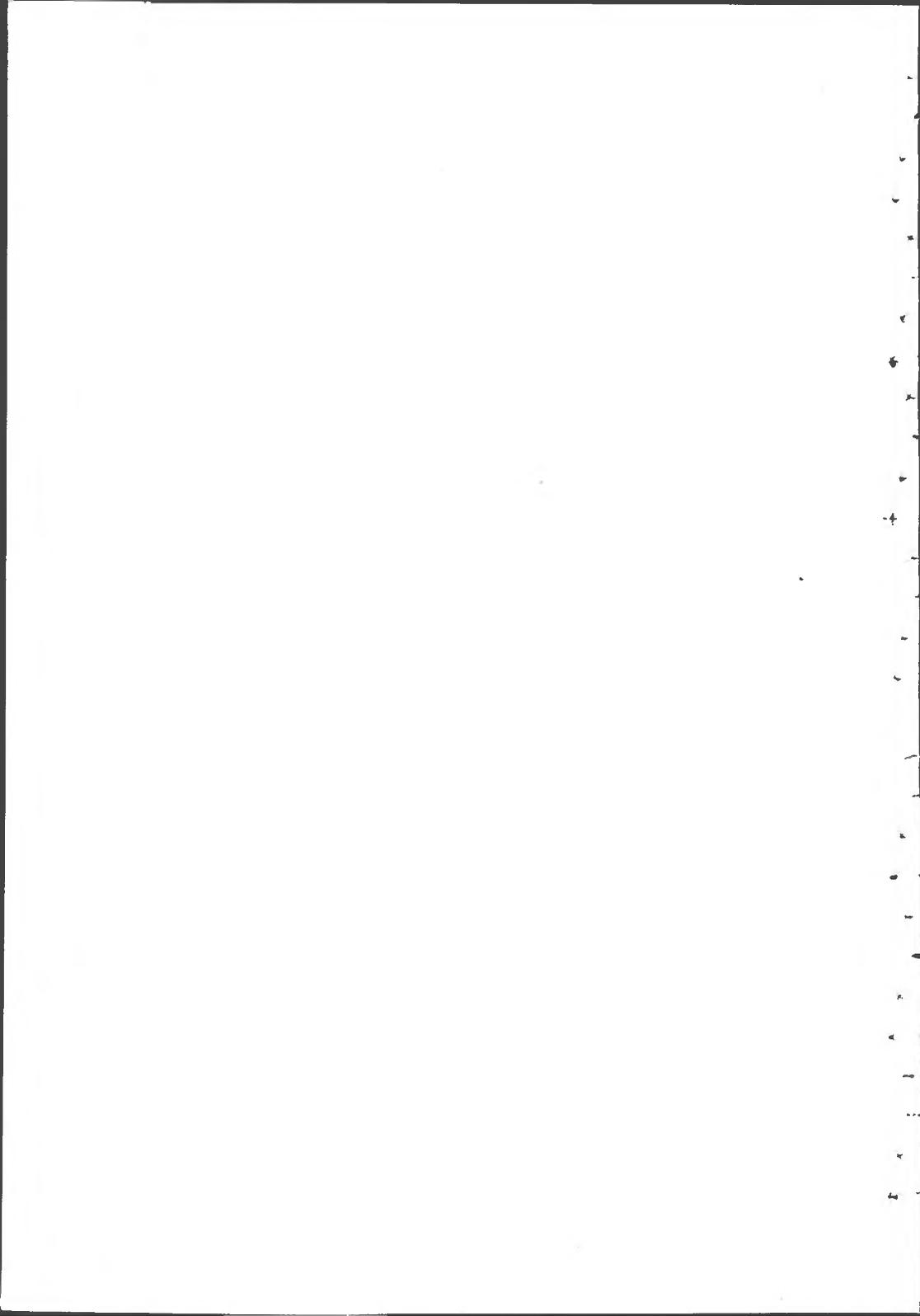
This paper focusses on institutional, planning and management problems as major and neglected constraints on rural development. Aspects of management on a major scheme are discussed on a case study basis, followed by conclusions of, it is hoped, more general application. The Mahaweli Scheme has a certain intrinsic interest as case study material, since it represents a fairly large irrigation/settlement scheme by world standards, and one which will become well known in the next few years. One advantage of choosing the Scheme for study is its place as Sri Lanka's major development project. This means that many of the standard financial and resource constraints on projects are lifted, making it more easy to disentangle the effects of planning and management problems from those of other constraints.

The special intention in this paper has been to discuss several levels and areas of management in the Scheme, in contrast to the more common approach by subject, sector or discipline. One theme of the paper is that many problems in the field which might be identified by subject matter specialists as sectoral actually have their roots in across-the-board planning and management failures, which need to be dealt with as such. Many of these failures are explained as logical consequences of pressures acting on managers at different levels, but with their roots at the political level. The first chapter therefore discusses the political and economic background which created these pressures. Planning and management problems are then identified in three sector areas - construction, agriculture and irrigation system development. It is suggested that the planning and management problems of each are similar and inter-related and hence that these cannot be fully appreciated by the conventional evaluator looking at one area only (engineering, agriculture, etc.).

The three centre chapters give some indication of the number and complexity of management problems to be tackled. The final Chapter attempts to order and simplify these into a framework identifying a few key areas of failure for aid agency assessment and assistance. Some suggestions are made towards 'non-political' points of entry for agencies in the sensitive area of management improvement. Some of these avenues of approach are conventional and dealt with briefly: others are somewhat less so and are discussed more fully. Each of the five approaches suggested, however, is seen as equally important in practice, and of no use without simultaneous attention to the other four.



GM	General Manager
ADDL GM (E)	Additional General Manager (Engineering)
SE (WM)	Specialist Engineer (Water Management)
CA	Chief Accountant
DGM	Deputy General Manager
C	Construction
D	Designs
A	Agriculture
SPD	Settlement Planning and Development
ADMIN	Administration
P & E	Planning and Evaluation



CHAPTER 1

BACKGROUND: ACCELERATION AND TRUNCATION

(i) The Genesis of the Acceleration Decision:

In November 1977, after four months in office, the new United National Party Government of Sri Lanka announced its intention to accelerate the implementation of the Mahaweli Ganaga Development Scheme, and to cut the construction period from an originally planned 30 years to a mere five years. Soon afterwards, this period was extended to 6 years, taking the proposed completion data just over the end of the Government's five year period of office. The acceleration decision was a momentous one for Sri Lanka. It aimed to concentrate the total expenditure on the Scheme, estimated at upwards of US \$1400 million, into one planning period, in which twelve major dams were to be constructed and a million acres benefitted with irrigation water. At a stroke, this decision made Mahaweli Ganga not only the major component of the national development programme, but by far the greatest public work ever undertaken in the country.

The ultimate root of a decision of this magnitude could only be political. But it is extremely significant for the future of the Scheme that the feasibility of such a far-reaching proposal was advocated to the politicians by a single powerful professional group - the engineering fraternity: and, in particular, by four senior engineers, named in Parliament by the President on announcement of the decision. It is also significant that two of these senior engineers were later made respectively Chairman of the Central Engineering Consultancies Bureau (CECB), responsible for the major Mahaweli dams: and Chairman of the Mahaweli Development Board (MDB), responsible for all other aspects of the Mahaweli programme. These two men were given the full support of the President and the Minister of Irrigation, Power and Highways, under whose jurisdiction existing work on the Mahaweli Scheme fell. They were thus given not only power but also the highest possible stake (the future of their careers) in the success of the programme, because of the public promises they had made.

But the genesis of the acceleration decision within the engineering fraternity had a number of other important consequences for the future of the programme. It also put at stake the political future of the young and dynamic Minister of Irrigation - a protégé of the President's with an extremely bright political future. This made it all the more necessary for the politics of Mahaweli to be handled extremely carefully. Thirdly, it strengthened the role of the engineers as a profession, and in particular their role in the Ministry of Irrigation, which already had a very strong engineering tradition. Thus, from the beginning, the supremacy of engineers over other professionals in the development of Mahaweli seemed likely. Fourthly, a combination of all the above factors meant the enormous strengthening of the Ministry of Irrigation itself in the bureaucracy. At a stroke, it was given the largest spending power of any department, and the major role in the development of the one third of Sri Lanka's land surface made up by the Mahaweli catchments and irrigable areas.

(ii) The Economic Rationality of the Acceleration Decision:

The economic realities faced by the incoming UNP Government left no room for doubt that drastic action was needed in the economic sphere. Over the previous 7 years, output had sharply declined in all sectors; infrastructure was left unmaintained; heavy import controls and a multiple exchange rate had led to the establishment of a large black market; the foreign debt burden had become intolerable; consumption subsidies ate up more of national revenue than development expenditure, which actually fell as a proportion of GNP; above all, against a background of food price inflation, unemployment rose rapidly to over one million, or more than 20% of the labour force. For the incoming government faced with this situation, the Scheme offered at least three major economic benefits: first, the employment that would be created in the new acreage opened for settlement, in existing paddy areas supplemented by the Scheme's water, and, more immediately, in the construction of the sub-projects. Second, the agricultural output itself, which would replace scarce foreign exchange spent on imports and help to contain the rise in food prices. Third, massive hydro-power production, which would save foreign exchange spent on oil imports, and which promised a solution to the looming energy gap. In principle therefore, the accelerated programme seemed to answer many of Sri Lanka's needs. Yet given the magnitude of the acceleration decision for the country, the economic rationality behind it needs to be examined rather closely. The question is not whether substantial benefits existed, but whether alternative development scenarios could have answered the country's obvious needs better.

Taking the major benefits of the Scheme one by one, the evidence suggests that the Government either did not have the economic information on which to base a rational decision, or that information that was available was not fully used. Taking power benefits first, in November 1977 no worthwhile power demand/supply forecasts were available to the Government. A draft energy plan for Sri Lanka was finally produced with UNDP help in the Ministry of Finance and Planning in February 1978. Although predicting an energy gap in the 1980s and 1990s, it made clear that simultaneous implementation of all the Government's major hydro-power projects would lead to a substantial energy surplus in the short term. There was therefore no justification from the power point of view for the programme to be accelerated at the rate proposed.

Taking agricultural output benefits second, the position was little better. Agricultural supply/demand forecasts - although not very good ones - did exist in the Ministry of Agriculture. But a Sector Paper for Agriculture was not produced until February 1978 when for the first time attempts were made in the Ministry of Finance and Planning to co-ordinate plans for agriculture with those for the rest of the economy. When produced, the Paper consisted of crop-wise output expansion forecasts, without regional breakdown, or breakdowns by major project contributors. Some of these output forecasts - especially for rice - seemed unrealistically high. Certainly they assumed much higher applications of fertiliser without explaining the Government's proposals for making the necessary concomitant improvements in the fertiliser distribution and agricultural extension services. Despite the fact that the accelerated Mahaweli Programme seemed likely to be a major contributor to any predicted food surplus, the Scheme's share in the national picture could not be deduced from the Sector Plan. It seems probable, given the well recognized low level of co-operation between the Ministries of Agriculture and Irrigation, that proposals for Mahaweli

development and plans for agriculture generally were never seriously co-ordinated. Indeed at that early stage, when soil problems and water availabilities were very uncertain, cropping patterns and output from Mahaweli were extremely hard to predict.

The third benefit of the Scheme - additional employment - was the most important for two reasons. First, employment creation was the Government's major declared policy goal: as the President later put it "Employment first, employment second and employment third!" Second, because of the long gestation period for power and output benefits, employment creation during the construction period offered the Scheme's only immediate benefit, and one which would help reduce the grave political and economic problem of open unemployment. It was in the employment field that both politicians and officials made the greatest claims for the Scheme, following the example of the Prime Minister and Minister of Irrigation. A statement made by the latter in the foreword to the 'Summary Report of Mahaweli Projects' published in November 1977, is typical of what was to follow. It says, quite simply, that 'the pressing problems facing the nation are unemployment, scarcity of food and poverty. The accelerated programme for the implementation of the Mahaweli Master Plan in 5 to 6 years is the solution.'

But little confidence could be placed in the Government's employment forecasts. The methodology behind MDB forecasts of construction employment as follows is extremely suspect:

						'000s of Man-years
1978	1979	1980	1981	1982	1983	
200	260	600	600	500	300	

Average annual man-years of employment over 6 years: 410,000

The method used was:

- (i) Assume that 50% of the total budget will be spent on equipment and materials, and 50% on labour
- (ii) Phase expenditure by year
- (iii) Divide by 250 days in each year, to give the total expenditure available for labour in each year
- (iv) Divide by the average wage to give the number of workers employed.

Such a procedure is not hard to criticize. First, the 50% split taken in (i) is extremely arbitrary, because it covered a highly diverse project with three major construction elements, whose labour-intensiveness was very different: dam and reservoir construction; major canal construction; and minor channel and jungle clearing work. Such an 'averaging' process could only be justified on the basis of past experience, which did not exist in Sri Lanka for a Scheme of this size. This is especially true since the MDB advocated that the third element should be carried out by labour-intensive methods not used on a large scale before in Sri Lanka, with the result that there was no basis for estimating labour productivity. Second, the logic behind the methodology is unusual: it works down from a budget to conclude how much labour could be used for a certain sum spent, instead of working up from the physical requirements of the project to conclude how much work is actually there to be done. Simple calculations based on likely

productivities for labour-intensive jungle clearing and canal construction, and based on the amount of work actually to be done on the Scheme (i.e. acres cleared and cubes of earth moved) indicate far lower employment potential. Finally, the MDB construction employment forecast seems also to be internally inconsistent when taken with their simultaneous statement that 90% of the total requirement would be for unskilled labour. The MDB's assumed wage bill of half project costs i.e. Rs 11 billion, implies an average wage rate of Rs 4,400 per man-year for the employment estimated. Yet the wage in practice for unskilled labour was about Rs 10 per day for a 250 day year. Put another way, using the average in practice of Rs 2500 per annum would give a total wage bill of around Rs 6.15 billion, leaving well over Rs 4 billion of the MDB assumed wage bill of Rs 11 billion apparently unaccounted for.

The phasing of the employment forecasts was also put forward on the basis of little information and less analysis. As outlined below, the acceleration proposal was accepted without adequate estimation of the real resource costs that it implied, and with absolutely no certainty that these resources would be available or adequately co-ordinated. Assumptions about progress of work had therefore to be highly questionable: indeed, no outside observer, the major aid donors included, believed for a moment that the proposed schedule could be met. Yet the consequences of slippage for the employment benefits would be extremely serious, since the Government's battle against unemployment was a running and not a static one. They were faced not only with a large open unemployment problem, but also - because of the young age structure of the population - a very high number of additions to the labour force, estimated at about 140,000 per annum over the 5 year plan period. It is clear that even the inflated construction employment forecasts produced by the MDB were insufficient to cope with this level of increase, if at the same time they were to reduce the level of open unemployment. Given that the Mahaweli Scheme was accepted by both the Government and outside observers to be the major contributor to solving the unemployment problem, it is clear that no sophisticated analysis is needed to disprove the employment claims made by the Government for the Scheme.

Turning now to the question of costs, the evidence suggests that this was another area in which the Government had not amassed sufficient information for rational economic decision-making. Financial cost forecasts were based on an up-dating of the UNDP/FAO 1968 Master Plan's estimated costs, using inflators supplied by the Ministry of Finance. These were probably sufficiently accurate for planning purposes at that time. It was the calculation of real rather than financial resource costs that was seriously neglected, in at least two areas. First, the availability of plant and machinery in Sri Lanka was extremely limited following a seven-year period in which the construction sector was depressed and where import controls made the acquisition of new plant impossible for the private sector. This gap could be filled by foreign aid, but the lags for the negotiation of funds, tendering, order and delivery of equipment did not seem to be taken into account in the high rates of construction progress assumed for the years 1978 and 1979. Second, and much more significant, were the human resources required for such unprecedentedly rapid implementation. No serious attempt had been made at this time to calculate the engineering and construction skills required for the Scheme, despite the fact that the international brain drain was hitting the construction sector particularly hard. In the year to February 1978, for example, the State Engineering Corporation lost 47 of its total of 113 engineers to foreign head-hunters: and though foreign-aid-funded consultants could fill some of the technical gaps at the planning stage, there was no substitute for

Sri Lankan expertise at the middle level during implementation. The same applies with still greater force to management expertise when Government agencies could not offer incentive salaries sufficient to attract the most competent Ceylonese staff from the private sector or from abroad. In short, uncertainties over resource requirements and availabilities made the timing and hence the importance of benefits impossible to assess with confidence.

The preceding paragraphs have suggested that the Government took the major acceleration decision on the basis of insufficient information, and hence that the decision could not be an economically rational one. Given the endemic nature of information shortages in the developing countries, however, this might be understandable if maximum efforts had been made to use what information was available to compare the Mahaweli accelerated programme with other development options. However, this was not attempted on any thorough or systematic basis, despite the fact that Sri Lanka's senior civil servants and economists were much more competent to do this than planners in the majority of developing countries. Examples of the sort of important options that might have been considered are projects and programmes which a) produced employment at less financial cost per job, b) used less real resources per job created, c) did not monopolize an undue proportion of available aid funds, d) were not confined to one geographical region, or e) had a shorter gestation period before the arrival of benefits. An example of a specific alternative programme might have been a slower Mahaweli coupled with a major parallel programme for the upgrading of the thousands of major and minor tank irrigation schemes in the country. From the economic standpoint, a minor irrigation programme would have given more equitable benefits to Sri Lanka's rural poor: would have cost incomparably less per job created due to the far lower costs of upgrading as compared to building infrastructure: and would have brought earlier employment and output benefits through shorter construction periods.

The need to stress the improvement of existing agriculture and irrigation schemes as a way of creating cheap jobs and cheap additional output was emphasized to the highest levels of the Government by the IBRD in a review mission in December 1977, and again by an ILO-funded mission advising the Ministry of Finance and Planning on employment creation in February 1978. The fact that these alternative strategies were not considered in any detail itself gives significant insight into the nature of the planning system at the macro-level, (as well as illustrating civil servants' general fear of presenting unpalatable information to the politicians). The fact that the acceleration of the Mahaweli Scheme went ahead almost unchallenged was in a large part due to heavy imbalances in the planning mechanism. First, the exceptional position of the Minister of Irrigation and the pre-eminent position of his Ministry ensured preferential access of proposals to the Prime Minister and Cabinet. Second, poor relations between the Ministries of Agriculture and Irrigation prevented the former from having any real say in the formation of policies for the development of a major portion of the country's cultivatable area. Thirdly, and particularly importantly, the power and capability of the Ministry of Finance and Planning were not sufficient to redress these imbalances. Sector Papers from the various Ministries were not collated in the Ministry of Finance until February 1978, and only then could any process of co-ordination and reconciliation seriously begin. The reconciliation process was particularly important for Mahaweli, in that the enormous real resource requirements of the Scheme were bound to reduce availabilities for other development sectors. Yet in the event, the information and probably also the

will to carry out this analysis was not there, and the draft five-year plan document produced by the Ministry of Finance was a rather unco-ordinated piece of window-dressing for the Sri Lanka Aid Consortium meeting in May 1978.

(iii) The Political Rationality of the Acceleration Decision:

The political need for an acceleration of the Scheme is clear when it is seen in the context of the rest of the Government's development programme. The new Cabinet's first actions were to announce cuts in the level of food subsidies to free funds for development; and to raise the guaranteed price for paddy with the aim of stimulating output. In order to offset the unpopularity of the first measure, the Government needed to be seen to be making the maximum efforts to create new employment. This was affected by the announcement of three major Schemes: a Free Trade Zone near the international airport; a major project for Colombo's Urban Development; and the accelerated Mahaweli Scheme. With regard to the first, the immediately obvious beneficiary was the businessman, and it was not expected that job creation in new factories could equal the potential of the other major Schemes. The second offered more obvious political gains in that the Urban Development proposals consisted mostly of a massive (Rs 3 billion) housing programme which would both help ease an acute shortage of accommodation in the capital and help, through construction employment, to ease political pressures from Colombo's unemployed.

But of the three, only an acceleration of the Mahaweli Scheme had the capability of catching the people's imagination. It offered the possibility of self-sufficiency in rice for the nation. It offered employment for the rural poor - who made up the majority of Sri Lanka's voting population. As an undertaking involving benefits to a million acres and the construction of twelve major dams, it was a great spectacular. Above all, it was the reactivation and surpassing of the great irrigation works of the ancient kings in the Dry Zone, and, in the realization of an ancient dream, evidence that Sri Lanka could once more stand on its own feet. The element of spectacular would have been missing from any alternative programme of diffuse minor irrigation works, and the resulting economic benefits less readily identifiable as the direct result of Government intervention. It does seem certain that no development scheme other than an accelerated Mahaweli could have so mobilized the imaginations and energies of the people, and provided such major proof that the Government was working for them.

It is the degree of acceleration, not the principle of it, that is questionable from the political as well as the economic standpoint. As a general axiom, no politician commits himself publicly to a difficult course of action unless he has to, in case the obligation cannot later be met. Despite the high expectations of the country, it seems very unlikely that political pressures were such as to warrant the telescoping of implementation to as little as six years when the Government's majority of five sixths made it probably the most secure since independence. It also seems unclear how a politician with the experience of the then Prime Minister could be deceived by the optimistic forecasts of the engineers: surely a much more cautionary assessment should have been expected from a Premier whose previous portfolio included agriculture, and hence wide experience of the problems and delays of project implementation. The impossibility of achieving the

proposed rate of acceleration was, after all, clear to all foreign observers familiar with the economy. It therefore seems that either senior Ministers were taken in by unfulfillable promises, and hence made a major mistake of judgement; or that they were aware that the targets were impossible, but felt that the setting of over-optimistic goals would at least lead to completion in 10 or 15 years instead of the proposed 30. The latter course of action is open to two criticisms. First, that though the public memory is short, it is unlikely to be so short as to forget a Government's major political pledge by 1983 - the time of the next elections. Second, that the effects of grossly unrealistic targeting are a serious hindrance rather than a spur to the executive forced to plan and manage implementation on an unrealistic basis. This second theme is developed at some length in subsequent sections.

(iv) The Truncation Decision:

In February 1978, the Government decided to truncate the accelerated programme and to attempt to implement in the Plan period only five of the twelve sub-projects, at a cost of about half the originally estimated Rs 22 billion for the entire Scheme. It is politically significant that the truncation decision was never clearly announced. The first public allusion to the decision came in a report in the major Government newspaper on the May Aid Consortium meeting, saying that aid finance had been committed in principle for the "5 priority Mahaweli projects costing Rs 11 billion". No explicit statement was made about the truncation until an article of July 21 in the Government newspaper, and public knowledge of the Mahaweli sub-projects was insufficient to make the radical change of plan obvious, at least at that stage.

This rather remarkable reversal of intention (remarkable in that it came so soon after the original announcement) originated in the Ministry of Finance and Planning. Curiously enough, the decision was not dictated by realization of the impossibility of achieving the full programme, but by monetary constraints. It was felt that a Rs 22 billion expenditure could only lead to unacceptable inflationary pressure on the economy - a decision in which it seems likely that the IMF played a considerable part, either directly or indirectly, since they were by now exercising considerable influence on monetary, fiscal and subsidy policy. The decision set new and obviously more realistic bounds for the Mahaweli executive. Yet it should be stressed that it represented only a move towards monetary rationality and not a better evaluation of what could actually be achieved in the Mahaweli programme. Aid donors (and, in private, many senior Sri Lankan civil servants) still thought the new 5-project Mahaweli a totally unrealistic target for a 6-year programme.

CHAPTER 2

CONSTRUCTION PLANNING AND MANAGEMENT

1. November 1977: The Organization of Construction:

Immediately following the acceleration decision, the President and Minister of Irrigation formed a high-level Task Force, headed by the Chairman of the UNP Party, with the job of co-ordinating Mahaweli development. The legal constitution of this Task Force was significant in that it was set up as an advisory and not an executive body. Yet at the same time, it was the only Mahaweli organization which was in a position to oversee both the MDB and the CECB, responsible for the irrigable areas under the Scheme, and for the big dams respectively. In theory at least therefore, there was no body with the power to influence the management and co-ordination of the two major agencies involved in Mahaweli construction. But in practice the Task Force was not without power, because of the influence of its constituent members. It was made up partly of 'executive' members from the MDB, CECB, Irrigation Department, and Ministry of Irrigation: and partly of non-executive members, including the Permanent Secretary to the Treasury and the Cabinet Secretary. Requests made by the Cabinet Secretary and the Party Chairman could not be ignored by the Mahaweli executive. Nevertheless, the collective power of the Task Force was limited for two reasons. First, the 'non-executive' members all held full-time posts in other areas of Government and had little time to examine Mahaweli activities in depth: they were therefore encouraged to rely on the reports of the executives. Second, the non-executives were also non-technical, and hence sometimes not in a strong position to question detailed estimates or schedules produced by the CECB or MDB. In practice, therefore, the key executive members more or less controlled both the implementation of any 'decision' taken by the Task Force, and the flow of information to it.

Such de facto power of the executive was not without its dangers in a situation where the Chairman of both the MDB and CECB had much to lose if poor performance was disclosed. Their publicly made commitments meant that from the beginning the Task Force was supplied with information that was misleading both in its apparent accuracy and in its over-optimism. For example, an early request was made by the Task Force for an implementation schedule and for manpower and resource requirements for the accelerated Scheme. With remarkable rapidity for such a complicated exercise, the Ministry of Irrigation produced in December 1977 a bound volume of 'Implementation Schedules and Manpower Requirements', most of whose estimates were extremely suspect. Deficiencies in the figures for manpower requirements were discussed in some detail above. Schedules of progress in construction were given in bar-chart form, broken down by chronological activity. They were extremely optimistic. It was expected, for example, that designs for the major Randenigala dam could be completed in nine months from January 1978, when no detailed work on them had started, and there was no road access to the damsite. Construction scheduling was suspect not only because of likely planning and manpower deficiencies, but also in the case of the quantities required. The peak demand for concrete for the major dams implicit in the schedules far exceeded national supply capacity when the plans of other sectors, especially the housing programme, were taken into account. Yet the Chairman CECB declared to the

Task Force that no imports would be required, just as he maintained that sufficient engineers would be available to plan and execute the construction work at the required speed. Fictional schedules were maintained in most cases through 1978. After the truncation decision in February, for example, forecasts were provided to the Treasury by the CECB and MDB as follows:

	<u>Start Major Construction</u>	<u>Completion</u>
Victoria	March 1979	March 1983
Maduru Oya	October 1979	October 1982
Moragahakanda	August 1979	October 1983
Randenigala	March 1980	October 1984

These were judged by outside observers to be still extremely optimistic, despite completion dates significantly later than in the December forecasts. Again, through June and July of 1978, Chairman CECB was promising the Task Force imminent completion of the designs for Maduru Oya, the simplest of the major dams. Yet in practice these were examined and had to be quite extensively revised by foreign consultants in Autumn 1978. In the field, work was started on the Maduru Oya core trench according to schedule (though without detailed designs), but machinery shortages meant that excavation and grouting were complete only just before the Maha rains, necessitating re-excavation the following year. This outcome had been foreseen as likely by the Planning and Evaluation Division of the MDB as early as May 1978. For the specialist, therefore, and for those involved on a day-to-day basis with Mahaweli construction, the unrealism of many of the reports and forecasts supplied to the Task Force was apparent. But at the rather rarefied level of the Task Force itself, though unrealism was strongly suspected, little was done: and, generally speaking, little could be done, given its constitution.

In these circumstances, the focus of action and the major seat of planning and management was in the CECB and MDB. This paper will concentrate on the latter, since area development posed greater planning and management problems than the major dams, which the Government early decided would be given to foreign contractors to build on a close to turnkey basis. Discussion will also concentrate on the work being carried out in System B, already in course of development, as the best illustrator of planning and management problems. In this area, the MDB was responsible for the overall progress of work, and for the co-ordination of the River Valleys Development Board, the Army, and a large number of private contractors to whom a major part of the construction effort was sub-contracted.

The structure of the construction organization within MDB, the controlling agency, consisted of three levels, which can be termed the political, the executive, and the field levels. The Board of Directors consisted, like the Task Force, of a number of senior outside civil servants with direct access to politicians, as well as executive representatives from the MDB itself. The legal constitution of the Board differed considerably from that of the Task Force, in that it had almost total executive power over the development of the very large land area affected by the Scheme. Yet the similarity to the Task Force in practice was significant. Information flows to the Board were generally controlled by senior MDB executives, and Board Members' lack of time and professional skills tended to prevent these

flows being augmented, or seriously analysed. Actual discussion at Board Meetings tended to centre on specific problems arising in the field, for example on a particular resource shortage, or delay in a specific area of activity. Examination of Board minutes indicates that the Board seldom spent time on the overview of the programme: that is, discussing whether plans and actions in general actually reflected programme objectives - e.g. in terms of targets scheduled. It might be said in summary that the Task Force did concern itself with the overview, but did not have the teeth to act, while the MDB Board had all the necessary authority to act, but tended to limit its actions to issues of tactics rather than of strategy.

Power therefore devolved from the Board of Directors to the executive, who became responsible for all major planning and management decisions. The construction hierarchy within the executive was as follows. Beneath the Chairman of the Board, one Deputy General Manager (Engineering) supervised design work and water management, and another Deputy General Manager all construction work. Each DGM had a head office staff headed by an Assistant General Manager (AGM). In the field, the project was divided into two geographic areas under the Resident Project Manager (RPM) and a second AGM (Const.) respectively. The RPM had control of all areas where the irrigation system was built and operating, while the AGM(C) had charge of a shrinking area of command - the acreage where construction was actually in progress. Both AGM(C)s were young engineers in their twenties or thirties, and had a high degree of responsibility, while AGM(C) (Kalawewa) had also a fairly high degree of autonomy, because of his distance from head office, 4½ hours away in Colombo. In the field, the hierarchy continued down through Deputy General Engineers (DREs) and Technical Assistants (TAs) in charge of a particular part of the project area. Only two changes had been made in the construction hierarchy by the summer of 1978, and neither was very significant: the post of DGM(E) was redesignated DGM(Designs), and the water management function removed elsewhere; and a post of Additional General Manager (Eng) was created beneath the Chairman, and above DGMs (D) and (C).

The construction division of MDB was characterized by a high degree of unity, both because of a common professional background in engineering, and because of the young age of middle and junior level officers. While there was a clear gap between the political level (the Board) and the executive, the gap between head office and the field was less marked. It is true that the 'political' interest of senior engineers and those of juniors in the field were not always the same, and that complaints came from the latter (as from field officers on projects everywhere) of insufficient field visits and two-way communication. But as against this, first, pressure for results forced head office and the field to work generally in harness: and second, the emergence of separate camps in head office and the field was prevented by two very important MDB policies - that junior staff postings should rotate frequently between head office and the field, and that promotion depended on having the requisite degree of field experience. Thus the life of a junior engineer was certainly more comfortable but certainly not more privileged than that of his counterpart in the field.

2. February - July 1978: Chairman and Planning Unit

The arrival of a new MDB Chairman in April 1978 was extremely significant for the Scheme, because of his special experience and individualistic management style. He had the supreme qualification of having been Resident Project Manager at Kalawewa in the first years of development, following experience running a major irrigation/settlement Scheme in the south of the island. He was then made in rapid succession Chairman of the River Valleys Development Board and Additional Secretary (Mahaweli) in the Ministry of Irrigation. Here he was able to consolidate his position with senior civil servants and politicians, and because of his reputation as an achiever, was asked to take over the Chairmanship of the MDB to implement the acceleration. The very rapid acceleration in construction progress achieved between November 1977 and July 1978 were largely the result of his personal dynamism and creative thinking. The rate of progress is illustrated by an informal evaluation carried out by the Planning and Evaluation Division, MDB, in July 1978, for the Permanent Secretary Plan Implementation (the President's Ministry). This estimated roughly that the average annual acreage coming on stream in the first years of the Scheme (1974-7) was between six and seven thousand, while the rate of development at the time of the evaluation was in the region 20-30,000 per annum. This was a formidable achievement in six months, given the suddenness of the acceleration decision, and the non-availability of new plant and equipment for construction.

The construction hierarchy was described only briefly above, because in practice the Chairman's knowledge of the field and attention to detail frequently led him to short-circuit the system. His information about progress in the project area was based on frequent personal visits to the field, covering the three main construction sectors - area development (including jungle clearance and irrigation system construction), service centre development (the roads, schools, coops and other infrastructure) and major canal construction. The Chairman did not hesitate to intervene personally where bottlenecks arose, and because of his experience he was generally able to provide a fast and effective solution. Some such interventions were small, for example persuading extra generators out of another Government Department. Others, such as two interventions in the construction of the RB canal, speeded the whole construction effort enormously. When it became clear that the targeted mileage might not be met in time for the RB canal to carry water from the 1978 Maha rains to the Anuradhapura city tanks (a failure that would have been political and public), the Chairman himself devised a new method of breaking up the topsoil so as to speed excavation later: and he then himself organized the deviation of the path of the RB canal so as to divert water along certain sections of the parallel ancient canal (Yoda Ela), so as to avoid rock which could not be blasted in time for completion of the new canal.

A major spur to the Chairman's dynamism was to be found in the promise he had made to politicians about the Mahaweli acceleration in general, and also, in particular, a promise made by him as Chairman of RVDB to develop 20,000 new acres in blocks H4 and H5 in the year 1978. Both H4 and H5 depended for irrigation water on completion of the first section of the RB canal, and this, coupled with the needs of the city of Anuradhapura, gave particular urgency to the completion of this major channel work. In addition to a high degree of motivation, two other strengths of the Chairman's philosophy greatly assisted progress - first, his policy of devolving

responsibility for planning and action as far down the hierarchy as possible; and second, the decentralizing of planning and design work as far as possible to the field. In this way, one common disadvantage of authoritarian management systems - centralization of power in a head office out of touch with the field - was minimized: while at the same time, one weakness of non-authoritarian systems - the unwillingness of field officers to take potentially controversial decisions - was removed by the Chairman's instant availability to deal with any bottleneck. The combination of high motivation, instant feedback, and instant control and decision-making made for a rather efficient management system in the construction sector. The Chairman's strength was in the field of day-to-day management, problem-solving and trouble-shooting. His weakness was in the field of planning for orderly development in the future, and it was this weakness that led to eventual confrontation with the Planning and Evaluation Division of the Board.

The existing MDB Planning and Evaluation Unit did little planning, monitoring or evaluation until the arrival in February 1977 of a new DGM on secondment from the Ministry of Plan Implementation. His first efforts were to build up a monitoring system for progress in the field in System H, based on reports from field officers and spot checks carried out by members of the P and E Division. By April 1978, map folders were given at monthly intervals to members of the MDB Board and to the Task Force, presented in such a way that the busy official could read off the advance of irrigation and social infrastructure and settlement at a glance. For the first time, the MDB was able to see on a systematic basis what was happening in the field, and some of the evidence was disquieting. For example it became clear from monthly progress reports that much of the social infrastructure in block H1 was not built and functioning, despite the fact that this block had been settled two to three years before. By June 1978, rates of progress on area development and canal construction were worrying some Board members, and the Minister reminded the MDB formally at a Task Force meeting of its promise to deliver blocks H4 and H5 for settlement by the end of 1978. The initial growth in the monitoring capability of the P and E Division had the full support of the Chairman. He said that he wished to use the Division as a mirror, to reflect to him the progress and weaknesses of other Divisions. But as the progress reports became more and more comprehensive, the mirror began to reflect to the Board somewhat adversely on the progress of the MDB as a whole: and from this point the Chairman's attitude to the Division became somewhat ambivalent.

By June 1978, the P and E Division had improved its monitoring work sufficiently to have a base on which to think about systematic planning for the future. Again, the Chairman gave full support to this move in principle, and requested a full critical path analysis for System H from the Division. The P and E Division was by this time extremely concerned about the targeting for completion of System H by December 1978. The target was clearly impossible to meet, but it was equally impossible to prove this to the Board with any detailed analysis, since there were no detailed implementation plans available from the construction divisions of the MDB, nor even in many cases were established rates of work for men and machines available for P and E to develop into a plan themselves. The Chairman insisted (rightly) that the Division's function was not plan in detail itself, but to teach other Divisions of the MDB how to plan for themselves, and to co-ordinate their sector and area plans into a macro-plan

for the System as a whole. However, this was impossible, for no realistic scheduling was available from any Division, and managers were reluctant to spend time or effort with the P and E Division on refining their promises into plans. It was clear that officials were unwilling to admit that promised schedules could not be met.

A second serious concern of the P and E Division was the apparently haphazard nature of much construction activity. Jungle was being cleared in the tail-end of H5, which it was clear to the Division could not be developed and settled for several seasons. Work was in progress on sections of the RB canal in H5, when the Division doubted if earlier sections of the canal would be completed in time for water to reach all parts of H4 by Maha 1978/9. There was no doubt that the limited construction capacity available was being underutilized through construction activity off the critical path. A further example became apparent in a long section of the RB canal, where work had started with substantial earth excavation, and the blasting of rock obstacles as the canal advanced. Yet it was clear, because of the considerable amount of rock in the canal's path and the serious shortage of drilling equipment, that rock blasting lay on the critical path of the project, and should have been started at as many sites as possible along the canal's length before the start of excavation. The P and E Division drew the conclusion that construction capacity was being deployed so as to make the maximum physical impact on the undeveloped area, but not logically, so as to achieve the best co-ordinated (and hence fastest) completion. It was felt to be no coincidence that work on which construction had concentrated, e.g. jungle clearance, channel and canal excavation, produced the maximum visible signs of progress, while the areas that had been relatively neglected, e.g. social infrastructure, farm road networks, irrigation system structures, were less obvious to the outside observer. While the Chairman fully accepted in principle the need for critical path analysis, he did little in practice to foster it, or to redeploy capacity in the field. While this is evidence of bad management from the overall viewpoint of the Scheme, it should be stressed that this was a rational reaction (at least in the short term) from the point of view of a manager bound to live up to his public promise of rapid progress.

At the beginning of July 1978, the P and E Division was asked by the Permanent Secretary, Ministry of Plan Implementation to produce summary projections of performance in Area H for 1978. The Division produced estimates on an optimistic and on a pessimistic basis. The optimistic estimate suggested that of the total of 51,000 acres remaining for development in the System as at January 1978, only 28,000 would be developed by the end of 1978, and the remainder would be carried over to the following year. This meant, on an acreage basis, an achievement of 45% of target: the pessimistic estimate suggested achievement of only 20% of target. The Division also thought it unlikely that the MDB would be able to complete the social infrastructure for the 10-20,000 acres that might in fact be brought on stream. The submission of this summary report and forecast marked the onset of significant deterioration of relations between the P and E Division and the Chairman, and hence also the other construction managers.

3. August - September 1978: Review by the World Bank

In 1977 the World Bank, together with four bilateral donors (US, Canada, UK and Netherlands) had committed a total of US \$30 million for the development of System H. At the time of signature of the loan agreement, it was envisaged that the development programme would take five years (1978-83), with the bulk of funds being spent on areas H4 and H5. The World Bank requested a review of the programme at this time for several reasons. First, they were conscious that the accelerated programme would modify the implementation of their project in many respects, and they wished to reassure themselves that any deviation from their principles of 'good' development would not be too great. Second, large-scale expenditure was only now being incurred in areas H4 and H5, where their primary interest lay. Thirdly, the Bank as well as the US, UK and Canada were having discussions with the Government about very substantial aid funding for the irrigable areas under the new dams of the accelerated programme. And although the official brief of the Review Mission was only to examine progress and plans in area H, it was inevitable that all donors would draw conclusions from it about Sri Lanka's capability to develop the 350,000 acres of the rest of the accelerated programme. The MDB's performance in area H therefore meant much more to the country than its localized effects at Kalawewa.

In early August, before the arrival of the mission, the P and E Division of the MDB gave other Divisions of the Board warning of the sorts of questions that might be raised by the Review Mission. Advisory members of the P and E Division provided by the World Bank and the UK Ministry of Overseas Development (working in the MDB since May and June respectively) were particularly able to help in this. Stress was laid on the need to reconcile actual progress with theoretical targets. With regard to H4 and H5, the Division pointed out that actual progress was as follows:

	% completed as at June 30	
	H4	H5
Jungle Clearing	82	31
Branch Channel Excavation	66	30
Branch Channel Structures	24	0
Distributary Channel Excavation	27	5
Distributary Channel Structures	4	0
Field Channels	0	0

It estimated that work as a whole was complete as to only about 20% and 5% in H4 and H5 respectively. It was emphasized that donors would not accept as realistic a completion target of December 1978 for both areas, with this evidence in front of them. The Chairman was reminded that a condition of the loan agreement was the provision of Quarterly Progress Reports by the Board to the Bank (starting May 1978), and more importantly, of a detailed Implementation Schedule for the System as a whole: neither had so far been written. A Progress Report for the period to 30 June 1978 was hastily put together, and the P and E Division was asked to provide the Bank with the Implementation Schedule. In the short time and given the degree of co-operation available, the resulting plan was partial and lacked any detailed analysis. But it promised no more than that "the entire H4, H5 area ... is

expected to be supplied with irrigation facilities by 1 November 1979". Thus, for the first time, formal admission was being made to an agency outside the MDB that the Government's one-year programme was totally unrealistic.

At the end of its appraisal, the Review Mission commented forthrightly to Chairman Task Force on three issues in particular. First, that there was a total lack of any public information campaign to prepare existing farmers in the area for the dramatic changes that the projects would bring. This was of particular importance to the UK and Netherlands, given their respective Ministers' especial concern for the welfare of the rural poor. Second, that better "quality control of all construction work (was) needed to ensure that canal operation and seepage losses are minimized and that maintenance costs of the irrigation system will not be excessively high". Third, and most importantly, that "Since the project was formulated with the view that it would serve as a model to be replicated in other command areas to be developed in the Mahaweli Ganga program, the project works should be well planned and constructed to ensure successful development. The Mission's field review did not substantiate that this is being done. It is the Mission's view that vital planning has not taken place and work activities are not being properly co-ordinated, resulting in work being poorly constructed and improperly timed. Some work is not being done and modifications are being made which are detrimental to the project.

Systematic planning has only recently been started and is far behind construction activities. However, this planning as now being done will provide the basis for sound management and proper scheduling of the work, and additional staff for the Planning and Evaluation Unit should be provided." With particular respect to the last two issues, a cable was sent to Washington seriously questioning whether finance could be provided under the loan agreement on the present basis of implementation.

The MDB replied to the IBRD in a letter assuring that all these matters would be put right, and stressing commitment to realistic and systematic planning. Actual action taken by the Chairman did not seem to be consistent with this profession, however. He proposed first to move the IBRD-funded Implementation Adviser out of the P and E Division office and into a room giving him direct access to the Chairman. The adviser was concerned that such a move would remove him from the mainstream of information about the project, and thus reduce his effectiveness. Soon afterwards, the Chairman wrote to the Permanent Secretary Plan Implementation requesting withdrawal of the DGM, P and E Division, on the grounds that the DGM had been a personal embarrassment to him. This referred to the Chairman's feeling that the Division had been ultimately responsible for embarrassing disclosures about plans and progress to the World Bank. The DGM was replaced by a young engineer from the Chairman's staff, and somewhat symbolically, the door connecting the P and E Division's office to the Chairman's was unlocked for the first time. The Chairman accepted a proposal from the IBRD Implementation Adviser to institute weekly staff meetings for senior management to exchange information and to discuss progress and plans - and in particular at that stage, the production of a detailed Implementation Plan. Yet at the same time, major decisions concerning construction in the field continued to be taken by the Chairman not at meetings but at informal conclaves with a few senior managers, now including DGM P and E. Work continued on building up a system for rational planning, but as at October 1978 it was still not clear when or whether a realistic implementation schedule would emerge.

4. The Public Face:

If little but optimism emerged to the Task Force from the MDB in the first half of 1978, nothing except optimism emerged to the general public. Regular articles about the benefits of the accelerated Scheme appeared in the national press, and in the course of the year the President twice visited the Kalawewa project. The first occasion was after a political controversy in June 1978 when opposition parties accused the Government of breaching small irrigation tanks in the area so as to facilitate construction work, but to the detriment of local farmers. The President, arriving by helicopter, and with an entourage of 40 jeeps in his tour of the project area, declared that although breaching of tanks had occurred under the previous regime, none had taken place under his Government. Whether or not the President was aware of it, this was a fallacy, but the public was certainly not to know. With regard to construction progress, at the end of July 1978 the Government newspaper was still announcing of the Kalawewa project that "the development area of 56,000 acres will be substantially completed by December, and about 18-20,000 families will be settled." The President's second visit took place at the end of October, to declare open the new township of Galnewa - something of a showpiece for the Scheme. The Government newspaper reported that the 'instant township' had been completed from scratch in a mere five weeks. Despite their presence in the accompanying illustrations, no mention was made that a number of the buildings had been erected previously on the site, including "the handsome Post Office, which has been provided with an automatic telephone exchange", which had actually already been officially opened on another occasion some months earlier. The inevitable public impression was that progress in construction was going according to the Government's pledges.

CHAPTER 3

AGRICULTURAL PLANNING AND MANAGEMENT

(1) Cropping Plans and Performance:

The topography of System H is undulating, and the soils form a catena with porous red-brown earths (RBEs) on the tops, low-humic gleys (LHG) in the bottoms, and intermediate soils in between. Soil considerations, together with the amount of irrigation water available, were a major determinant of cropping patterns. Double-cropped paddy was the obvious choice for the poorly-drained LHGs, while a mixture of upland rice and subsidiary food crops (SFCs) were recommended for the RBEs. The aim in the case of the latter was to prevent excessive water loss which would result if more 'thirsty' crops were grown on the porous soils. Acreages of crops cultivated in the period 1976-78 were as follows:

	Paddy	Other Crops	Total Acreage Cultivated
1976 (Yala)	612	-	612
1976/7 (Maha)	3,193	824	4,017
1977 (Yala)	3,268	121	3,389
1977/8 (Maha)	8,198	212	8,410
1978 (Yala)	7,830	126	7,956

Paddy yields - averaging 83 bushels in Maha 1977/8 (though with a wide range) - were encouragingly high for the early years of a settlement project. But two major problems stand out from the above table: first, the negligible proportion of the RB soils actually under the SFCs; second, the regular fall in acreage cultivated in Yala. In the case of the first, the majority of RB soils (which formed over 30% of the project area) were actually cultivated under flooded paddy in both Maha and Yala, thus bringing water consumption over the project as a whole to unacceptably high levels. The second problem, the low acreage cultivated in Yala, is somewhat underestimated in the table. For example, the cultivated acreage in Yala 1978 shows a fall of 450 acres as against Maha 1977/8: but this was despite an 850 acre increase in the acreage provided with irrigation, to about 10,750 acres (although bunding and levelling was still in progress on a substantial proportion of this new land).

The planned cropping patterns were developed by the Sri Lanka Government in conjunction with a French commercial consulting group and the World Bank. The fact that they were not achieved in practice is largely due to the predisposition of settler farmers with strongly established traditional farming techniques. Over half the 2½ acre plots in System H were distributed to farmers already operating in or near the project area. The traditional farming system involved the cultivation of paddy under the village tanks in Maha, and also in those (rare) Yala seasons when irrigation water was sufficient. The typical pattern of land-holding was a small paddy acreage which offered a high probability of guaranteeing the farmer's supply of the staple food crop: together with a larger acreage, often encroached from

Crown lands, devoted to chena cultivation. The latter acreage, whose size ranged from a half to more than 2 acres, depending on the energies of the individual farm family, was a somewhat speculative enterprise. In a good year, profits from chena crops sold to itinerant traders could be high; while the outlay was small, with no cash inputs, and labour use minimized through slash and burn cultivation. In a bad year, when tank irrigation water failed, the chena areas could offer something of an insurance policy, producing just enough food for the family's survival. This precarious system had been severely tested in five years of drought before 1978, during which World Food Programme aid had to be distributed regularly in the Yala season.

Such a tradition predisposed the settler farmer in a number of ways. He was positively inclined to grow paddy whenever and wherever possible, simply because it was the traditional staple food crop. Further encouragement was given by the Government's Guaranteed Price for paddy, which made the market relatively certain. The SFCs on the other hand had much less certain market, and required a very large labour input to achieve high and profitable yields under irrigated conditions. Such intensive cultivation techniques were very different from those of chena cultivation. It was natural therefore that the traditional farmer would opt where he could for the high value, low labour, traditionally important crop - paddy; and, more than that, that he would grow it where possible under traditional flooded conditions. Thus the growing of flooded rice rather than upland rice or the SFCs was a rational reaction from a settler farmer who perceived the project's planned cropping pattern as new and risky. Similarly, the traditional farming enterprise was aimed primarily at self-sufficiency. When, in the early years of the project, settlers achieved high incomes through growing Maha paddy under irrigated conditions, this acted as a disincentive to cultivate a non-traditional Yala season: for the latter required a high input of labour for a profit that was superfluous to the farmer's traditional needs.

In these circumstances, the burden of convincing the farmer that it was worth while to cultivate and that the new crops were not unacceptably risky fell on the project's planners and managers. The following sections discuss how far the project management attempted to respond to the needs of farmers and why, in general, it failed to give the necessary degree of support.

(ii) The Multi-Purpose Co-operative Societies:

The Co-ops were a key institution in the agricultural development of System H, because of their involvement in providing most inputs and services to the farmer. They were responsible for the marketing of produce, and the distribution of agricultural credit. They provided all but one of the major physical inputs, including tractors, fertilisers, agro-chemicals and barbed wire: seed, the exception, was provided by the Dept. of Agriculture. A third function was to control the distribution of rationed foods such as rice and sugar, and to be a commercial outlet for a variety of consumer goods. The failure of the project to cater adequately for the needs of the farmers was in large part due to failures in the services that the Co-ops should have provided. A preliminary but key indication of problems

is MDB's failure to actually complete the construction work on Co-op buildings in the project area, as noted in P and E Division progress reports. For example, as at July 1978 in H1, an area most of which had been under cultivation for two years, of 11 Co-op buildings 5 were still in progress of construction, and of the 6 that were complete only four were functioning. In H2, over half of which had been settled by that date, none of 13 planned Co-op buildings were functional, and work on 5 had not even started.

A major responsibility of the functioning Co-op was the buying in of paddy at the Government's guaranteed price, which was raised from Rs 33 to Rs 40 per bushel in the November 1977 budget. This price represented a considerable incentive for production where it was available in practice. However, shortage of storage facilities in the project area - as in most dry zone areas of Sri Lanka - made the acceptance of much of Maha 1977/8's bumper harvest impossible. Surplus production had to be sold to the private trade at a heavy discount. The storage shortage in System H was at three levels; on-farm, at the Co-op, and regional. The development of on-farm and Co-op level storage was the responsibility of MDB. Its insufficiency was the result partly of MDB's concentration on construction efforts outside the field of agriculture: and also because of an inadequately forward-looking planning system. For in Area H, the high total output of paddy was more the result of the fast expanding acreage under cultivation than of bumper yields. Yet storage planned for construction by MDB did not correlate with the production implicit in any prediction, optimistic or otherwise, of the acreage coming on stream under the accelerated development programme. Similarly, regional paddy storage facilities were the responsibility of the Paddy Marketing Board to supply: but MDB was not giving them warning of the order of magnitude of the surplus that they would have to absorb from the project area.

The Co-op's limited capacity to receive paddy and the absence of on-farm storage facilities meant that the bulk of many farmers' crops stood unthreshed in stacks in the field for many months after harvest, thus increasing storage losses. But this was not an isolated problem. Late sales of paddy meant that farmers were often unable to repay agricultural loans taken out for cultivation or for the purchase of tractors. The Government-controlled credit system was based on the People's Bank and the Bank of Ceylon, both with branches in the area. These banks set the terms of lending, but the actual issuing of loans was done through the Co-op branches. In 1977 and 1978 the use of credit facilities was encouragingly high; the average level of indebtedness was over Rs 1,000 per season, as against a maximum possible of Rs 1825. Default rates, as endemically in Sri Lanka, were also very high, (although lower than the average for the region), in the range 50-70%. But during the Yala season of 1978, the Government announced that it intended to enforce its policy of not granting new agricultural credit to defaulters or their guarantors. The prospects seemed bad, therefore, for the continued high use of seasonal inputs such as fertiliser in subsequent seasons, since this was very much dependent on access to credit. Yields and farm incomes seemed bound to suffer.

Marketing and credit problems seemed therefore likely to restrict the use of modern inputs in the future. A second problem was the limited or untimely availability of many inputs themselves; for example, in the case of agro-chemicals, no sulphur to treat chillie leaf-curl was available in the entire Anuradhapura district in Yala in 1978. Basal fertiliser was 30% short of requirements in that season, because fertiliser had arrived only in mid-season the previous Maha and had therefore not been used: and the Co-ops had decided not to reorder 'in order to clear stocks'. The

availability of tractors and threshers was still poorer, and helped to complete the vicious circle of the marketing/default rate problem: the non-availability of draught power lengthened the cultivation period, while the lack of threshers further delayed the arrival of paddy on the market and worsened the repayment rate on loans. The quantity of tractors available in the project area was not more than 25% of requirements for the acreage than cultivated, despite the fact that field staff had been complaining to MDB head office about the draught power problem for three years. This was in part due to the poor planning system and the incorrect estimation of demand. It was also due to the inefficiency of the MDB procurement system in requesting and speeding the arrival of tractors available to the project under the aid agreement with the UK. The lack of attention to procurement in the agricultural (and indeed the construction) field is a further illustration of the lack of systematic planning for the future in MDB. Severe lags in the availability of almost all agricultural inputs was singled out by the Aid Agencies as another reason for wishing to slow down the accelerated programme until better planning and co-ordination had been developed.

(iii) Staffing, Planning and Management in the Field:

Despite the fact that the main strategy in the irrigated areas of the project was agricultural and community development, the Resident Project Manager (RPM) at Kalawewa was an engineer. Under him, he had three deputies (DRPMs) in charge respectively of the Operation and Maintenance of the irrigation system, agricultural development and community development. Two of these were direct MDB employees, but the third, DRPM (Agriculture), together with all the extension staff, were employees of the Dept. of Agriculture. This had a number of disadvantages. First, the MDB chain of command was broken, in that head office controlled the activities of the RPM, but the RPM had only limited authority over the DRPM (Agr.), who had to refer back to his superiors in a separate Ministry in Colombo on matters of substance. The project was fortunate in having an able and very experienced DRPM, whose background included 30 years in the agricultural field in the dry zone, both in the public and private sector. The co-ordination that was achieved between the agricultural staff and the MDB was through his personal drive and enthusiasm and in spite rather than because of the way in which the project administration was organized. The DRPM (Agr.) staff worked rather efficiently, despite its general lack of experience and a number of serious handicaps. Of these, the two most important were lack of transport and poor training. Serious delays in the procurement of motor-cycles and bicycles made available under the aid loan made it difficult for officers to operate the training and visit system proposed. These delays originated in MDB head office. On the training side, the standard agriculture department syllabus did not lay special emphasis on the cultivation of the SFCs, so that many of the young extension officers on the project had no personal, practical experience of growing them. This was certainly a contributory factor to the small acreage actually cultivated. But it remains hard to judge the success or failure of an extension service in a situation where many essential agricultural inputs and services are only intermittently available; and in particular, in the case of the SFCs where a real market incentive for the farmer to grow them was lacking.

The MDB officer with responsibility for the co-ordination of the Co-ops was the DRPM (Community Development), whose range of duties was extremely wide, and sometimes conflicting. Primarily, he was responsible for the general welfare of the settlers, and making sure that the basic public services were available, e.g. medical services and public transport. This posed a tremendous problem of co-ordination with other Government agencies, which represented in itself a full-time job for the young humanities graduates running the Community Development organization without previous specialized training. The function of supervising the Co-ops was different in kind to these other duties. The timely provision of inputs and services required an understanding of agriculture which Community Development officers clearly did not have. A major reason for poor performance of the Co-ops was therefore inadequate training of the supervisors, coupled with an institutional organization that put conflicting demands on the scarce time of the senior field officers. Sometimes these conflicts were direct: for example, a decision whether to use scarce lorry transport to bring in agricultural inputs such as fertilizer: or rationed goods for the welfare of the community: or consumer goods which would raise the standard of living and perhaps also give an incentive for farmers to increase their disposable incomes by cultivating a Yala season. In such a situation, where job descriptions were not clear, and the relative weights to be given to a manager's diverse duties were not spelt out, it was rational for the individual manager to divide his time so as to give greatest emphasis to solving those problems where local pressures on him were greatest. These were not necessarily the problems to which the project's formulators in the Government and the Aid Agencies would have given highest priority.

Untrained Community Development officers were not aided by the system in use for planning the provision of inputs and services. Under the previous regime, area Agricultural Productivity Committees, consisting of a mixture of Government and farmer representatives, decided on the local acreage to be cultivated and the inputs and output this implied. With the new Government, all previous farm-level institutions were abolished, and the planning function fell to the RPM and his officers. The national 'Implementation Programme' system as inherited and practised at Kalawewa involved estimation of the cultivated acreages and inputs and output at a meeting between the RPM and the DRPM (Agr.). For the Maha season 1977/8 this occurred in June 1978. This allowed only four months for the ordering and delivery of seasonal inputs such as fertiliser and agro-chemicals: an inadequate period given the endemic national shortages and the long lead time for imports. Other inputs and services had still longer lead times. Tractors, for example, might take up to 18 months from the issue of tender to final delivery; while a year's notice to the Paddy Marketing Board was needed for the construction of more regional level paddy storage. The MDB could not legitimately expect co-operation from other Government agencies if it did not give them adequate warning of its requirements. The planning system in use might have been reasonably successful for the production of an 'Implementation Programme' for the typical rice-growing area in Sri Lanka, where both yields and seasonal acreages were fairly stable. But it was not sufficiently forward-looking to cope with the rapidly expanding acreage in the project area. However, it should be stressed that the continued use of the national 'Implementation Programme' system was not the fault of field officers all the while they had no realistic forecast of the rate of increase of the cultivated acreage season by season. Officers were very conscious that they could not win the confidence of co-ordinating departments on the basis of head office's over-optimistic

forecasts: for in a situation of national scarcity of almost all agricultural commodities, other Government agencies could not be expected to reserve inputs for the project - whatever its national priority - if these might not actually be required. An unexpected side-effect of unrealistic planning of construction in head office was therefore the poor servicing of agricultural development.

Field staff were thus handicapped by a poor planning system and an unsuitable institutional structure. Their problems were finally exacerbated by continuing vacancies in important staff posts. For example, the lack of a number of agricultural Subject-Matter Specialists in the field office meant that undertrained and inexperienced extension officers could not always get guidance on specialized problems raised by farmers. But two key staff vacancies seriously hindered the development effort in the agricultural field. First, the post of RPM had been vacant for one year as at July 1978, and was still not filled by October 1978. The job was done in the field on an acting basis by the DRPM (Operation and Maintenance), whose other duties, as discussed below (Chapter 4) were already full time. The post of RPM was therefore occupied by someone who had neither the time nor the professional background to give a proper balance to the various development sectors under his control. Secondly, the post of DRPM (CD) had also been vacant for almost a year, and was filled on an acting basis by a more junior Community Development Officer (in addition to his normal duties) with similar results. Both acting officers inevitably divided their time according to local or head office pressure. The accelerated construction of the Galnewa township is an example: head office pressure in that case meant that both officers spent several consecutive weeks organizing the functioning of shops and services in the township, to the exclusion of almost all other duties.

(iv) Staffing, Planning and Management in Head Office:

The role of head office was to guide and support the agricultural officers in the field. It was constrained in doing this by poor relations at the highest level between the Ministries of Agriculture and Irrigation, and by the fact that the MDB organization had no real control over the extension service in the field. The question is how far agricultural problems in the field were within the capacity of MDB to solve, and how far they were outside it.

The agricultural staff in head office was extremely small, consisting of a DGM and an AGM post, of which the DGM post was vacant throughout 1978. There was no supporting staff whatsoever. Agricultural matters were thus dealt with by the AGM, reporting direct to the Additional General Manager of the project (later promoted General Manager). The GM was a former agriculture department officer, with a primarily research background and considerable experience of agricultural extension. While the promotion of an agriculturalist to such a senior and apparently key post is significant in an organization generally dominated by engineers, several factors tended to limit his effectiveness in practice. First, the Chairman's individualistic technique of management meant that many decisions, even in the agricultural field, were taken by him personally without consulting the GM. The senior management was thus not in practice used as the distribution of responsibility in the MDB Organization Chart might imply. Secondly, the Chairman's management style was entirely verbal: his distaste for paperwork meant that most of this was delegated to the GM. Thirdly, the GM's background

qualified him extremely well as a professional agriculturalist, but less well as a planner and manager, despite the fact that planning and management were the main skills required in a job at this level in a major project. AGM (AGR) was also a professional agriculturalist (although with more limited field experience) and not a professional or experienced project manager. The Board's lack of authority in agricultural matters was put forward as the reason for the very small size of the agricultural staff. But it is suggested below that the Board was in fact free to exert much more influence on agricultural development, but did not do so because of its unadmitted but de facto internal priorities.

The role of the Chairman in agricultural development was extremely significant, both because of actions he did and did not take. His understanding of the agricultural system at Kalawewa was quite thorough, because of his previous experience as project manager there. As in the construction sector, he came up with a number of creative ideas for implementation. These included experiments in the dry tillage of upland rice: and proposals for the Board to use its own funds to buy vegetables from farmers for resale in Colombo, thus encouraging the growing of the SFCs on the RB soils. But, in contrast to the case of construction, the Chairman did not see these ideas through to fruition himself, and his small agricultural staff appeared often unable or unwilling to implement them effectively for him. Many of the agricultural problems at Kalawewa were clearly spelt out to the Chairman by the DRPM (Agr.), who had worked with him - and indeed shared project accommodation with him - some years before in the field. They were also spelt out to the Board of Directors in a Board Paper in February 1978, but no systematic attempt was ever made to deal with them. This was true even of shortages, like the shortage of draught power, which were directly within the power of head office to ease. No serious effort was made to speed the procurement of aid-funded tractors from UK until pressure was applied by the September project Review Mission. It is difficult not to draw the conclusion that agriculture was more or less consciously neglected because of the de facto priority of accelerating construction progress. This conclusion is encouraged by consideration of the Board's actual potential for dealing with the main planning and management problems at Kalawewa: these were staffing vacancies, poor institutional structure, a poor planning system and poor communications.

No major obstacle stood in the way of the Board filling the two key staff vacancies of RPM and DRPM (CD). It is true that ideally trained and experienced men would not have been attracted to uncomfortable field jobs even by MDB's ability, as a development agency, to pay a substantial salary bonus to its officers (which represented in the field a bonus of about 30% of the regular salary of the agricultural extension officers working beside them, but on a normal Government salary). But these posts could easily have been filled with young graduates with initiative and the ability to learn fast on the job. Similarly, nothing prevented the MDB strengthening the agricultural staff in head office, given the Board's total responsibility for area development. Yet no DGM (Agr.) was recruited and no economist was employed by the Board (at least as an economist), despite the fact that the Scheme planned eventually to provide more than 200,000 settler families with agricultural incomes. It is significant that vacancies were not allowed to persist in key posts in the construction divisions.

With regard to organizational reform in the field, the Board's powers were almost absolute. It is true that they could not interfere with extension, but expansion in other areas was actually facilitated by the Ministry of Agriculture's decision at the highest legal level to concentrate on research and extension, and not to be involved in activities that in any way serviced or controlled farmers, as opposed to motivating and educating them. The P and E Division of MDB put a proposal to the Chairman in July 1978 for the splitting of the function of the community development staff so that they should be responsible only for the activities involved in settlement, the establishment of social infrastructure and the functioning of the public services. This would have left the provision of the following services and facilities to a newly-created DRPM: agricultural inputs, machinery and equipment, credit, transport, marketing, storage and processing. The new DRPM would have been backed up by a new DGM in head office with additional responsibility for the economic planning, monitoring and evaluation of agricultural development in the project area: this would have included attention to market prospects, pricing and acquisition systems and cropping patterns. The new DRPM post in the field would have been staffed by a man with agricultural experience, and thus with both the subject knowledge and more time to deal with the problems of the Co-operatives. Creation of the new DGM post would for the first time have meant the allocation of responsibility in head office for supervising the improvement of Co-operative services in the field. Under the existing organisation, no one in head office had responsibility for supervising either Community Development or the Co-ops. The DGM whose title ; DGM (Settlement Planning and Development) - nominally covered these activities was in practice responsible only for settlement in the sense of the recruitment and transport of settlers to the project, and the allocation of homesteads and plots. With regard to improving the planning system, the P and E Division felt that it could not even begin to operate in the agriculture and community development fields without organizational reform and a more adequate staff with whom to work in head office. However, although the organizational and staffing reform outlined above was agreed by the Chairman in principle, no effort was made by him to implement it.

Problems in communication between field and head office followed from problems of reorganization and staffing. Information flows were incomplete, because there was no adequate staff in head office to receive and interpret, or to define the types of information required. For this reason, reports from the field tended to isolate individual agricultural problems for attention, without setting out the ways in which these problems often caused or reinforced each other - the vicious circle of marketing, credit and input problems for example. Information flows in the field were equally poor, because no representative channel of communication had been set up between farmers and MDB. The Chairman had proposed the creation of 'Producer Co-operative Societies', which, unlike the input Co-ops, would have been genuinely co-operative in nature. They would have been based on the farmers in an individual irrigation turn-out area, who would cooperate in the purchase of farm-to-input-Co-op transport - another endemic shortage: and each with a turn-out representative with the job of putting the farmers' viewpoint to project staff. This was another creative idea that was never implemented, although it could have been included among the responsibilities of the proposed new DRPM. Thus the information reaching head office was not necessarily representative of the farmers' problems: it was more likely to reflect the preoccupation and priorities of field officers.

The main reason for inattention to agricultural staffing, organization, planning and communications was without doubt the 'construction bias' evident in both head office and the field. But this was exacerbated by the Chairman's management style which in this sector shows its disadvantages as well as its advantages. In the construction sector, personal attention to detail and instant decision-making and feedback led to a great acceleration in progress. But it was not possible for any individual to give this degree of detailed attention to all sectors of a complicated project. In effect, the Chairman was managing the head office MDB using the same techniques that he had effectively employed as RPM at Kalawewa - but before the start of the accelerated programme. The extremely complex demands of the accelerated Scheme demanded the full-time attention of the Chairman on matters of policy and strategy for the future: and demanded the delegation of implementation and day-to-day executive matters to the executive staff. The Chairman's dilemma, given his promise to the Government, was that delegation to senior managers less able than himself would have slowed the expansion of the irrigated acreage.

CHAPTER 4

IRRIGATION SYSTEM PLANNING AND MANAGEMENT

(i) The Importance of Good Water Management:

Water is a much scarcer resource than land in the dry zone of Sri Lanka. From the point of view of justifying investment in the Mahaweli Scheme, therefore, the key criterion in planning and managing irrigation systems was the need to prevent the wasteful use of water. This need was recognized at the highest level of government, and was stressed both by the IBRD economic review mission of December 1977, and by the ILO mission of February 1978. Also in February 1978, a Cabinet Memorandum was produced by the Ministry of Irrigation which set out the problems associated with poor water management in very clear terms, and suggested avenues for action. This memorandum contained a table showing average water duties ex-tank for 19 major schemes in Sri Lanka, which was very disquieting. Average consumption was given as 11.4 acre-feet per acre per annum, as compared to the duty of only 8 acre feet used by the IBRD and Sri Lanka Government in planning System H. It was added that 'the low water duty given in some schemes for Yala cultivation is due to the fact that under such schemes statistics of cultivated extents and extents which failed have not been maintained.' This not very explanatory statement pointed to the weakness in the method of calculation of duties most commonly employed in Sri Lanka: total acreage irrigated is divided into total releases ex-tank to give an often meaningless average duty. In practice, however, top-enders use more water than the average, while tail-enders may often not be able to cultivate in Yala. When the acreage actually under crops is not exactly known in Yala, this method could clearly lead to serious under-estimates of on-farm duties in those fields actually cultivated. The fact that these Cabinet Memorandum figures were therefore by definition under-estimates gave still more cause for concern. If project managers could not improve on the national average by 25-30%, corresponding losses in acreage cultivated and hence output would be sustained, and the Mahaweli Scheme could quite simply become unprofitable.

The same Memorandum also gave consumption figures for a small number of schemes where controls on water use had been applied by the Irrigation Dept. At an average 8-9 feet duty per annum, these were more encouraging. But it was significant that the three controlled schemes quoted where duties were less than 9 feet per annum had irrigable extents of only 10,000, 6,000 and 2,000 acres as against more than 100,000 for System H, which therefore posed a much greater management problem. It is also likely that the figures for water consumption given in the Irrigation Department experiments may have been optimistic. One of the controlled schemes quoted was 14,500 acres under Rajangana tank, which formed part of the existing paddy acreage under the Kalawewa Scheme, and was therefore of special interest. Discussion with the Irrigation Dept. experimenters and the local project manager indicated that even in the Yala season when the lowest consumption had been reported, not all the tail end had yielded well: and since the water duty figures were calculated by the usual method of dividing tank releases by cultivated acreages, the duties were suspect, in that 'cultivated acreage' could hide considerable extents that were not in fact satisfactorily irrigated. It became clear, too, that the Rajangana experiment had only really succeeded in one season of extreme water scarcity, and had been abandoned later when rains were plentiful, and when growing racial tensions

in the area had forced the Tamil irrigation officers running the experiment to move away. Thus, even in small schemes, there was very little experience of these encouraging 3-9 duties being maintained season by season. When larger schemes were considered, comparisons with Mahaweli plans became extremely worrying. Duties on Uda Walawe, in the south of Sri Lanka, and a scheme which the new Chairman MDB had run when working for the RVDB, were a staggering 22 acre feet per annum in 1977. Though this figure was exceptional, it was not invalid to compare Mahaweli with Uda Walawe, since the latter, at 81,000 acres, represented the most recent major irrigation/settlement project to be developed in Sri Lanka. On that basis of comparison therefore, the challenge of achieving good water management on Mahaweli was perhaps the greatest that the MDB faced, and certainly one which was crucial to economic profitability.

One further cause for uncertainty about water consumption at Kalawewa was the likely extent of conveyance losses. The figures in the Cabinet Memorandum and those in the IBRD/French consultants plans for System H all assumed an average conveyance loss of 30%. This same loss was assumed for Mahaweli Scheme areas as a whole. Such an assumption was questionable in principle, since canal losses depend on the mileage of unlined canals involved, and Mahaweli systems both varied widely in the mileages of their distributary systems per acreage irrigated; and tended to have long canal systems when compared with the typical small dry zone scheme. The 30% assumption was therefore only reasonable on the basis of practical evidence that this was the right order of magnitude. But in practice, because of the scarcity of measuring equipment, there was very little evidence at all of the size of conveyance losses. One study carried out by the Irrigation Dept. on the Mahakandarawa Scheme, less than 100 miles away from Kalawewa, indicated water losses of 2.5% and 3.2% over 10 miles of the RB and 14 miles of the LB main canals respectively. Work done by the ILO mission to the Treasury in February 1978 suggested that if canal losses at Kalawewa were as high as 2.5%, then large parts of H4 and all of H5 would have no water for irrigation. But the readings of the Mahakandarawa study were dismissed by the Irrigation Dept. as having been taken after a freak season of drought, when canal beds had dried and the resulting cracks and low water table caused exceptionally high seepage losses. Nevertheless, the ILO mission calculated that much lower seepage losses could be dangerous: for example, that in an average year, only 70% of H5 would be cultivable even if losses were as low as 0.5%; and only 20% of H5 if losses were somewhat higher at 1.5% per mile. The possibility of rather high seepage losses in H4 and H5 seemed born out by the long length of the canals serving these areas (28 unlined miles for the main RB canal, a further 9 miles to the furthest point at the tail end of the distributary system). In addition, the soil catena of the area and the fact that designs naturally kept canals as high as possible on slopes to maintain head, meant that the main canals ran through a high proportion of extremely porous RB soils. In the absence of any measuring equipment, an IBRD expert carried out a visual inspection of the canals in February 1978, and was concerned at the apparent level of canal losses on the stretches so far developed. In all, the evidence seemed strong enough for MDB to thoroughly investigate a potential problem which at worst could make their efforts to develop H5 superfluous. However, no possibility of canal losses exceeding the average 30% was admitted.

It was clear that proper attention to water control and management was essential to the economic success of the Kalawewa project, and that planning and management in this field should therefore have been a prime concern of the MDB. The next section considers how far this was so in practice.

(ii) The Mismanagement of Water in System H:

The P and E Division of the MDB carried out a review of the irrigation system in area H in June 1978. Owing to the absence of monitoring equipment, it was not possible to estimate water duties with accuracy. However, accurate measurement of releases through the Parshall Flume at Kalawewa sluice was possible, and this, together with reasonably accurate information about the irrigated acreage, suggested duties in Yala 1977 of around 9' ex-tank, as opposed to the planned 8' all year. There were a combination of reasons for this. A late harvest in Maha 1977/8, primarily due to the shortage of machinery for land preparation and threshing, meant that water was issued late (May 14) for land preparation in Yala 1978. By June 14, when the issue of water for land preparation should have finished, many farmers had not started to prepare their land, again mainly because of the shortage of draught power. Thus the input shortages discussed in the previous chapter not only led to credit default, but also a very high level of water consumption in the field. The shortage of draught power not only lengthened the issue of water, but actually increased water use within the period of issue, since some farmers insisted on their fields being kept flooded and hence tillable during the period when they were trying to get hold of tractors and buffaloes. The length of water issue was formally determined by the local Government Agent in discussion with project staff: but it was normal for farmers' pressures, often exerted through the local MP, to cause the GA to extend the issue period. The practice in the field was for irrigation staff to keep the Kalawewa LB sluice open as long as was needed to accommodate farmers' complaints, so that there was effectively no water control in the system at all. As a result, drains were running full in June 1978, and at a rough visual inspection, about 300 cusecs was draining off H1, H2 and H3 through the Kala Oya to Rajangana. In H3, Kattiyawa tank was actually spilling during Yala because of the amount of drainage water it received from higher up the system.

At the turn-out level, the project plan called for 24-hour rotation irrigation giving $\frac{1}{2}$ cusec for twelve hours to each of two farms at a turn-out. This meant that 20 plots would be irrigated during a standard 5-day rotation, the management unit therefore being 20 plots or 50 acres. In practice, in H1 and H2, rotated irrigation was used on only about 20% of the area, with a higher usage (30-40%) in blocks 301-3, the blocks developed first in 1975/6. On other farms - at least at the top end - water was issued more or less as farmers wished. This had already led to problems in block 307 at the tail end, part of which was ready for cultivation for the first time in Maha 1977/8. Local rains supplied water for land preparation, but Kalawewa water was only available irregularly for supplementary irrigation due to high (i.e. non-rotated) extraction from the D-system upstream. Problems were anticipated in supplying water to the other tail-end block 314, part of which was to be cultivated for the first time in Maha 1978/9. Once again, these problems seemed likely to be exacerbated by the non-optimum use of the November rains for cultivation, due to the late start of operations in Maha, following a late Yaha 1978. It seemed clear that tail end problems could well appear in System H well before the development of H4 and H5.

The field staff responsible for water management in the new blocks of area H consisted of the DRPM (Operation and Maintenance) with 4 Irrigation Engineers under him, whose number was to be increased to 7 at full development: each IE controlled 7 or 8 irrigation blocks. The IEs were fairly recent graduates in engineering, none of whom had had experience in water management

on a major scheme. Each IE had 4 Technical Assistants, each of whom had 4-5 Water Control Officers under him. The latter controlled about a thousand irrigated acres per officer, with 10-12 labourers working under each in 2 gangs, looking after both water control and channel maintenance. The staff in general, at least those above the labourer grade, seemed to have degree of motivation and interest in their work. Their poor performance in controlling water use seemed both understandable and rational. They had been trained as engineers, while the primary problems they faced in their work were social and institutional, and ultimately political. As things stood, the keenest officer could have made no real attempt to enforce good water management. He had no way of measuring the flows in his system, no political backing for prosecuting farmers, and no resort to the law in practice (despite the Irrigation Ordinances), since the police were not interested in irrigation offences. As a result, farmers continued to deep-flood paddy throughout the project area in Maha, and on 90% of the acreage, porous RB soils included, in Yala. This, again, was a perfectly rational reaction for the farmer, since flooded paddy yielded higher than the upland rice proposed in the cropping pattern for the RB soils: and because flooded paddy was less labour-intensive and had a safer market than the SFCs proposed for the RB soils in Yala.

Field managers were also heavily constrained by the physical design of the irrigation system. Gates between main canal and D-Channels and between D-Channels and Field Channels were operated by a removable wheel which farmers had found little trouble in forging. The outlet to the D-Channel was designed to run at 3 cusecs, but could easily and often did run at 5-6 cusecs. Similarly, the outlet to the F-Channel was designed for one cusec, but could be and was run at two cusecs. There was no control over water issue at the farm turn-out, except the size of outlet, which was $\frac{1}{2}$ cusec. Roughly $\frac{1}{3}$ - $\frac{1}{4}$ of farmers had got round this constraint simply by digging a bigger channel round the outlet. This was generally an effort to increase water supply, but in a minority of cases it was forced on farmers by faulty construction of the farm turn-out i.e. higher than the F-Channel. (On the positive side, private enterprise had also been used in some cases to capture drainage water for re-use, although the potential for this was not very great in H1 and H2.) H3, which was an existing paddy area under the Scheme, built in 1937, had all the above design faults and more. Farms were 5 acres, with field channels of different sizes, so that there was no easy unit for rotational irrigation. All the gates were wooden lift-gates, with no wheel or removable locking-device whatever. It was clear that until these gates were replaced, neither flow monitoring nor water management was possible. However, replacement probably meant closing down H3 for one Yala, i.e. the earliest date at which better water management could seriously be attempted there was Maha 1979/80. The urgency of this physical repair seemed to be lost on the MDB, whose major actual concern was clearly the newly settled areas. Yet H3, which took 150 cusecs from Kalawewa through the Yoda Ela, was competing, or would be competing, for scarce water that would be needed to irrigate H4 and H5.

Poor maintenance of the irrigation system also contributed to high water usage. At the main and branch level, the main problem was weed growth, which seriously reduced discharge capacities. At D-Channel level, the original trapezoidal cross-section of channels was generally not maintained, and capacities were reduced by both weed growth and silting.

Many D-Channels in June 1978 were running at or near the brim, i.e. using all the 20% overload capacity, and one in the tail end block 307 was actually spilling on a straight stretch. In this block, the 'acceleration' had also caused problems, because water was issued immediately after construction was finished: there was no time for staff to check work which was sometimes poor, leading to high seepage losses at some points, and the need to repair some bunds. One problem was the lack of any 'hand-over' date from the construction staff to the RPM's staff, which could have been delayed until the quality of construction was judged to be accurate by the RPM. At field channel level, maintenance was universally bad. Planned 9" depths averaged 3-4" in practice, with a shallow rectangular cross-section that tended to minimize velocity and maximize seepage losses. Where field channels followed contours (and velocity was lower due to the lack of drops), weeding, silting and seepage losses were bad, and some channels were being lined in an effort to reduce all three problems. Maintenance at this level was the responsibility of farmers, with each 50-acre unit electing a leader with the job of organizing this. However, given the uncontrolled issue of water, there was clearly no incentive for the farmers to do more than the bare minimum of maintenance. The MDB had the theoretical power to clear F-Channels and charge the farmers for the work, but this was not used in practice.

(iii) System Planning and Management and Head Office:

At the beginning of 1978, two senior managers in head office were concerned with water management, in different senses of the word. The first was DGM (Engineering), responsible for the operation and maintenance of the system at Kalawewa. The second was a Specialist Engineer (Water Management) whose main responsibility was planning the allocation of water at the macro-level: this is, estimating the water balances for different points. The latter officer was given the responsibility for water management at Kalawewa also as from the summer of 1978, when the DGM (E) post was made DGM (Designs). The new job therefore combined system operation at the micro and macro levels and became a post which, for a major scheme, was too much for one man to handle. Staffing and organization weaknesses both in head office and the field thus seriously reduced the possibilities for improving the water management system: for, as outlined above, the DRPM (O and M) at Kalawewa was also acting as RPM. For the DRPM himself, who was an able young engineer, the water management function was an unsatisfactory job, because it did not give him scope for using his engineering training, and in the summer of 1978 he transferred from System H to work on the designs for the irrigation system for Area C, which had by then become a priority for the Board because of the acceleration. To the engineering fraternity, therefore, water management jobs were not ones in which professional ability became obvious and rapid promotion more likely. Because the essentially institutional problems of water management had not been clearly defined both at project and national level, or given the same attention as say problems in agricultural extension, the MDB tended to attack deficiencies that were symptoms rather than underlying causes of poor performance.

Head office made a number of serious attempts to find solutions to the problem of high water use, especially in relation to the RB soils. Experiments were carried out by the Board in an area of H1 in an attempt

to find appropriate irrigation methods (e.g. one-way slope, two-way slope, zero slope) for the SFCs. But these were essentially academic tests, in that they were aiming at technical perfection, were not carried out in farmers' plots, and little attention was paid to the economics of the various techniques. The Chairman instituted a second series of experiments this time in the dry tillage of upland rice, which were carried out in sample farmers' plots in Yala 1978. The early indications were that the most water-saving methods of irrigation and tillage also required a high labour and tractor-hour input to achieve the necessary degree of levelling, and that the dry tillage methods used were likely to increase the farmers' problem of weed growth. In both series of experiments, the underlying problem was not simply that of finding a technically suitable irrigation method, but of finding some incentive for the farmer to adopt more water-saving techniques in the first place. But all the while the vicious circle of agricultural problems described in the previous chapter persisted, traditional flooded paddy-growing offered higher and surer returns for less labour input than growing water-saving upland rice or the SFCs.

With regard to the field operation of the irrigation system, the Chairman again came up with creative ideas based on his experience. Following the June 1978 review of water management practices, he proposed the creation of turn-out leaders, one for each 20-farm irrigation unit, to be elected by the farmers in the unit, with the job of controlling water distribution below the D-Channel. This leader would be motivated by the payment of a salary by the MDB during the months of water issue, and would, it was hoped, receive the support of the farmers in the turn-out because he was elected by them. Schedules for irrigation rotation were to be drawn up in head office for the typical turn-out, and enforced by the local leaders. The DRPM put this idea to two group meetings of farmers at Kalawewa, and with their agreement, leaders were duly elected in August 1978, shortly before the DRPM/RPM was obliged to turn the majority of his attention to the development of the Galnewa township. The proposal in general had a number of very positive features. It recognized that water control was almost impossible for MDB officers to enforce at the field level, and that this was better left to the farmers themselves. It recognized the need for both electing and paying the leader, if both consensus and action were to result. But although the proposals could not be judged in action because they were not implemented at a time of water scarcity (e.g. land preparation), they were nevertheless only partially planned solutions. They did not contain, for example, parallel plans for improved maintenance of F-Channels, which would be necessary if water was to be fairly distributed. Nor had thought been given to the very complex problems of the many turn-outs where mixed soils meant the growing of both paddy and the SFCs, whose demands for water were entirely different. It would clearly be difficult for the turn-out leader, himself inexperienced in growing the SFCs, to enforce fair distribution when paddy demanded a small number of long irrigations, while the SFCs in general demanded a larger number of very short irrigations. It was not clear how turn-out leaders would be able to answer the complaints of RB-soil farmers when they saw LHG-soil farmers on neighbouring plots getting twice as much water as themselves.

Partial planning was again evident at the higher levels of control, on main and D-Channels. Subsequent to P and E Division's review of the system, the Chairman ordered an immediate 30% reduction of releases from Kalawewa sluice - a measure less drastic than it sounded, since it took place at the end of the land preparation season, when water demand would

anyway have fallen. But the basic problems of field officers remained unresolved. They had no measuring equipment to monitor water flows, and thus a poor base for enforcing cuts in issues to individual D-Channels. (MDB head office had made no progress in procuring the necessary equipment, which was light enough to airfreight, despite the fact that it had been available under the aid loan for more than six months.) There was no clear way of preventing farmers illegally abstracting water from D-Channels, and no effective legal sanction if they were caught. Nor were field officers certain that they would earn the gratitude of senior head office managers if they enforced sparing water use and precipitated a conflict between the MDB and farmers who might be backed by the local MP. Just as many of the agricultural problems in system H were spelt out by middle-level managers to the Board of Directors, so were the basic water management problems clearly put before the MDB Water Management Panel at its meeting at the end of September 1978 - a meeting which was chaired by the Minister. The Specialist Engineer's Paper, put before the meeting, was clear in its attribution of much of the water management problem to agricultural problems such as the shortage of draught power and the unavailability of credit. It stated that in order to achieve the requisite degree of water-saving "it should be made mandatory for the cultivators of RBE lands not to cultivate lowland paddy." But the accompanying estimates of the water balance for System H indicated a surplus of water on present duties for the next two seasons, and no serious action was taken to meet a problem which was not felt to be imminent. It seemed again as if performance in a few seasons time was likely to suffer because of the lack of forward-looking planning. For given that no solution to the water management problem had been developed anywhere in Sri Lanka, the lag-time for any improvement, especially one bound up with social and institutional reform, was likely to be extremely long: while the crisis of water shortage became all the more imminent, the faster the accelerated programme succeeded in bringing land under cultivation in H4 and H5.

(iv) Planning System C:

Agricultural and irrigation system planning for system C was carried out jointly by the MDB and the Irrigation Dept. In May 1978 they produced a report with development proposals for the System including a recommended cropping pattern and water requirements. The water duties which these implied (and which were nowhere clearly stated in acre feet per acre) were extremely low: 8.3' ex-tank for double-cropped flooded paddy on LHG soils, and a staggeringly low 3' ex-tank for 23,000 acres of upland rice in Maha, SPCs in Yala. The average annual duty for the System came out at 6.3 acre feet ex-tank, a figure never before achieved on any major irrigation Scheme in Sri Lanka. The plans for System C were open to some technical criticism even on the engineering side, because the water requirements peaked in certain months of the Yala season at a duty higher than the then design capacity of the RB transbasin canal could supply: this was put right later. But it was deficiencies of planning at the interface between engineering and agriculture that the May proposals for System C really illustrated. Just as in the case of the proposals for System H, the report gave no indication of how it was intended to achieve the social and institutional reforms necessarily associated with the exceptionally low duties. These were simply assumed, just as in the Ministry of Agriculture's national Sector Plan increasing rice output was assumed without linking it to plans for reforming input and service systems. The water duties given in the report

were logically calculated in one sense, in that they reflected the consumptive use requirements of different crops in the particular area: but these were agronomists' calculations, divorced from farming reality. In the same way, the physical system design adopted was exactly that of System H - and, ironically, was planned by the transferred DRPM/RPM from Kalawewa, who was aware more than anyone of problems in practice. The plans for System C were no doubt good engineering designs, but were equally divorced from farming reality. Later plans, produced with the help of British consultants, considered modifications such as separate channel systems for the RB and LHG soils so as to minimize conflict over water-sharing at the turn-out level.

Two factors, at least, prevented the planners of System C learning from System H, despite the apparently evident problems of the latter. The first was a failure at field level in System H to diagnose problems in the correct terms. Better water management was seen as a question of discipline and enforcement, rather than at least as much a question of better agricultural planning. Correct perception of problems - which generally contains the seeds of correct solutions - could only be encouraged by management senior enough to look across disciplinary boundaries. In the absence of an RPM (Kalawewa) this effectively meant the senior MDB managers in head office. In the case of some senior managers, these problems were simply not correctly perceived: in the case of others - most notably the Chairman - the need to concentrate on one field, construction, meant that correct perceptions of problems existed, but did not lead to appropriate action. The second factor was the question of information flows, both vertically and horizontally. The valuable knowledge of an experienced water manager in charge of H3, for example, reached the executive, but did not feed back as far as the planners. Horizontally, information did not cross the boundary between the agricultural and engineering staffs because of the lack of any channel of communication. These two problems - of perception and communication - were mutually reinforcing. Perception of problems as being the province of a single discipline denied the need for more intercommunication: and the lack of intercommunication perpetuated existing perceptions.

CHAPTER 5

CONCLUSIONS

The premise of these conclusions is that planning and management constraints have been seriously neglected in the appraisal, monitoring and evaluation of rural projects in the developing countries. The history of appraisal has followed a course of concentration first on technical factors; then on economic appraisal, with the rise of cost-benefit analysis; then to an interest in the social effects of projects - on equity, on farmers as groups etc. But no appraisal procedures in standard use seriously set out to assess the management capability of recipient institutions. Monitoring suffers from the same lack of procedure for assessing management problems - which are often only too evident by the implementation stage. In addition, monitoring is often carried out by subject experts who may not have the breadth of view to see that a specific and apparently technical problem in the field is in fact caused by bad planning and management and not technical ignorance. In ex-post evaluation, it is often clear that a project has failed because of 'poor management', but by the time of analysis key managers have moved, and the planning and management history of the project must be constructed at second-hand, with all the dangers of selective amnesia. Thus in normal circumstances, an official evaluation of work on the Mahaweli Scheme would not take place for some years, by which time many of the facts collected in this paper would be unavailable. Nevertheless, the first years of a project are important because the personalities, the procedures and the pressures involved are likely to mould the later years.

It is suggested that there are three good reasons for lack of attention to management problems. The first is the lack of an established body of knowledge in the field, i.e. the lack of management assessment procedures that can be applied on a more or less standardized basis - if these can ever be developed for the rural field, where projects are so tremendously diverse. Some of the work to date has been empirical: much has consisted of attempted application of management theories from other fields. These have often lacked the two cardinal virtues of procedures for the practitioner - clearness and simplicity. The second difficulty has quite simply been that of finding out about management problems. Their effects are often all too evident, but their roots are not. This is a particularly intractable problem for the aid agency looking at the recipient institution from the outside, with only fleeting and partial glimpses of the ways in which 'the Organization Chart' actually works in practice. The ideal approach, of participant observation from within the management structure, is seldom available. Yet the problem of access, though a real one, is also a reflection of the lack of research into solving it, as much as of the difficulty of finding out. Problems of approach and access have not been tackled partly because this is an emerging field - emergent only with the relatively recent growth of the integrated and hence administration/management-intensive rural project. But the major cause of neglect is perhaps the third one - the sensitive nature of management problems, which has often deterred aid agencies from pressing the problems of approach and access in the first place. If aid can anywhere be seen as 'intervention in the internal affairs of another country', it is in the field of management, which involves directing the use of local as well as aid-imported resources. But this problem too can be viewed as a question of research into the best ways of 'depoliticizing' intervention/assistance in the management field. Some suggestions for practical approaches are made below.

One assumption made in these conclusions should be explicit: that there is no or little inefficiency in management in the developing countries. That is to say that poor performance is often too easily assumed to be the result of a combination of apathy and ignorance - a combination which Koestler gives somewhere as the definition of bureaucratic inertia. His opposite, the meritocracy, is defined by intelligence plus effort. It may be more helpful in the context of the developing countries, however, to explain bureaucratic inertia also in terms of Koestler's opposite definition. Bureaucrats are seldom idle: they are often applying a great deal of intelligence and effort to things which are important to them, given their priorities and motivation, but which may be peripheral or even opposed to the aims of project originators. Given the constraints of the framework in which they actually operate, rather than the one which the outsider may suppose them to be in, managers are generally acting perfectly rationally in both their actions and their non-actions. That is to say, that it may sometimes be intelligent to be apathetic.

(1) Goal-Setting and Motivation:

This assumption leads into the first of five avenues for assessment and action considered here - goal-setting and motivation. The other four are planning, monitoring and evaluation (second), organization and staffing (third), management styles (fourth), and information flows (fifth). The first, goal-setting and motivation, is basic to all the rest, as evidenced by the major theme that runs through the Mahaweli programme. The analysis suggests that the prime reason for poor performance (and hence, in a sense, 'bad management') was not inefficiency or ignorance, but a difference in the priorities of the Mahaweli executive and the project originators. It is quite clear that activities in the construction sector were extremely efficient in achieving the maximum physical progress, and that the actions of the Board in promoting imbalanced and unintegrated development were perfectly rational from the point of view of its Chief Executive. There is no reason to suppose that the Board could not have been equally efficient in the agricultural field, had this had the same priority as construction. But since no clear priorities for action in the agricultural and water management fields were handed down to field staff from head office, it was rational for staff officers to divide their time and to operate according to the pressures acting upon them locally. Thus, farmers' pressures led to unrestricted water issues: head office pressure led to an undue amount of time spent on constructing a single township.

An assessment must therefore be made of de facto priorities in all areas of implementation. Managers must not be seen as welded into an organization, but as constituting a series of interest groups with conflicting aims. A number of these were obvious in the analysis: politicians with a commitment to progress; senior managers with promises to live up to; engineers with expanding professional opportunities on which to capitalize, and many more. Because of the effective existence of a hierarchy, the interests of senior groups tend to determine those of groups below them, either by actual control (orders) or by inference (the perceptions of the groups below about the interests of the groups above). Orders or inferences may run counter to the local pressures upon the groups below. The RPM's actions, for example, will therefore be the result of at least three conflicting pressures: first, local ones, exerted by

farmers or his own staff; second, orders issued from head office, which, because they are official, will tend to be in line with originators' plans or 'official development thinking'; third, and equally importantly, he will act according to his own inferences and perceptions about the actual priorities of the senior group. Thus on Mahaweli, the official message was one of balanced development, but the RPM's inference from the actually apparent priorities of senior managers would actually lead to emphasis on construction, if he wished to consolidate his own position in the hierarchy. In the threecornered battle between local pressures, and de jure and de facto priorities from head office, the aims of project originators would only be achieved if (i) control from head office was strong enough to overcome local pressures and (ii) head office de facto coincided with head office de jure priorities.

The above example was a simple one, in that it only concerned the vertical hierarchy. Pressures and conflicts also arise horizontally from interest groups that represent different disciplines or 'co-ordinating' Government Departments. The case of agriculture is an example. DRPM (AGR), an experienced and conscientious officer, had strong professional pressure to do a good job in agricultural development. This personal and professional priority conflicted with the de facto priorities of the Board, though it may well have agreed entirely with the priorities of Ministers. In this case, the DRPM was old, and committed enough not to be concerned about his promotion prospects, and finally resigned when he found that he could not influence the Board. His position might have been strengthened had the priorities of Ministers not been as effectively blocked from realization in practice by his other master, the Agriculture Department, as they were by the MDB. But the Agriculture Department worked according to its own priorities: in a situation where the Ministers of Agriculture and Irrigation did not co-operate fruitfully in general, it was not particularly rational for senior agriculture officials in Colombo to make agricultural development at Kalawewa their priority. If a blind eye could safely be turned there, intelligence and effort could be directed to de facto priorities elsewhere.

The lessons in terms of assessment of managers and institutions is to determine what motivates managers solely by the evidence of their actions, and not by their professions. The first question to be asked about poor performance in any sector is not 'what's gone wrong?' but 'what are the influences on the individuals and groups involved which make their actions rational?' - i.e. 'what makes this right?' This directs attention to underlying causes rather than symptoms, and the right question tends to imply the right solution. The answer to 'what's wrong with agriculture at Kalawewa?' might lead to the recommendation for training for middle-level agricultural managers. But the key to their actions in the field in fact lay in the background pressures of the acceleration and truncation decisions: pressures from above created a framework in which it was not rational for them to translate what may well have been adequate training into right action. (The word is illustrative, for the process was one of reading between the lines of a de jure order and translating it into the language of de facto priority.) The donor will only get the de jure line at official meetings: but he has an excellent opportunity to observe de facto priorities in the actions of executives. Their perception of priorities is likely to be much truer than that of the donor, who will always remain an outsider to the system. Taking this approach to its logical conclusion, one should attempt to assess the full rationality of Chairman MDB's actions. The pressures on him for professional advancement and for self-preservation were spelt out in the analysis, and it was

suggested that these made the Chairman's actions rational at least in the short term. But this would mean that he was acting irrationally in terms of his medium-term prospects. However, applying the procedure, his entire behaviour could be seen as rational if he in his turn was seen as reacting to perceived de facto rather than de jure priorities from above. It could be argued that the interests of some politicians was to preserve power, and that this could be done best by a) creating immediate employment on the Scheme and b) making maximum public impact with physical progress on the Scheme, aims which would be perhaps best served by construction bias. The Chairman's priorities could therefore be seen as sensitive perceptions of the political realities. But that would indeed be a sensitive line to pursue.

But if the above was not the case, and de facto and jure priorities coincided at the political level, much could be done to improve performance. The key element is that of control, and its exertion. The political level did not make its three-pronged priority sufficiently clear to the Board - construction, agriculture, and community development. Similarly, the Board of Directors did not set out in written form and unambiguously these equal priorities to the senior executives, and so on down the line, expressing itself finally in the lack of clear job descriptions for staff in the field. If managers down the line have a clear idea of what is expected of them, and if it is made clear that control will be exerted, then managers will see the official line as the most rewarding to pursue. Bowing to local pressures which may be in conflict with project objectives will no longer be the line of least resistance. In short, priorities and motivation will be in line throughout the hierarchy, and it will be rational to plan, to co-ordinate and to implement according to the official project plan. There is much that donor agencies can legitimately do to clarify the duties of the 'Organization Chart', but these will only be carried out if support is both there from the top and clearly expressed from the top. Much more time should therefore be spent by the aid agency on assessing the political will at the most senior levels, using the evidence of actions at more junior levels. If the will is there, assistance can be given in devising better control procedures: but if the political reality tends not to support the project as conceived by the donor, informal de facto management procedures will nevertheless govern implementation in practice, despite Organization Charts and Instructions.

The same assessment procedure can also be applied to the aid agencies in explaining the rationality of their not paying more attention to management problems and recipients' political will. If, as in many cases at present, the agency has an underspending problem, the pressure is on donor bureaucrats to accept projects and disburse. They are bound by their own 'local pressures' of project evaluation criteria, which, however, emphasize mostly economic and technical constraints rather than those of planning and management. The latter are new, difficult and time-consuming to assess: they are 'residual' constraints, that can be dealt with, at least at present, in a token paragraph on absorptive capacity: and because they have not been systematically analysed by the agencies, they represent such diffuse reasons for project failure as to attract little censure to the originating bureaucrat. It is therefore rational for him to spend without looking too closely into an awkward area. But that, too is a sensitive line to pursue.

(ii) Planning, Monitoring and Evaluation:

As very clearly evidenced by the Mahaweli Scheme, good planning is only possible if the political will allows it. Little space will be spent in discussion of the P and E function, because the techniques of planning (e.g. critical path analysis), as distinguished from management, are technical skills that can be formally taught and on which much has been written. A good opportunity therefore exists for aid agency technical assistance at a point which will put the adviser or advisers concerned into the direct centre of management operations. If there is a key point for assistance in any large project it is this, far more than assistance with sector skills (agronomy, engineering) at other points of the organization. If advisers can be accepted de facto in this area, this represents a depoliticized and extremely effective means of influence on management.

(iii) Organization and Staffing:

Reorganization and staff management training are perhaps the most standard solutions of the management consultant. Their success is once again dependent on political will, since reorganizations imposed from the outside and accepted officially can be easily by-passed de facto by informal systems of management: and management training may simply improve performance in the sectors which already receive overmuch attention. Nevertheless, organization and staffing, like P and E, represent a legitimate point of entry for the old agency, and should be carefully considered. If aid agency pressure had managed to fill the key vacant posts in the MDB organization before November 1977, this must have had some influence on the course of implementation. P and E and organization approaches are complementary, in that organization, like everything else, must be systematically planned. The aid agency can assist by asking two simple questions (adapted from Jon Morris): "Does the project depend on a new degree of co-ordination with other agencies or between sectors and disciplines? If so, have new procedures been planned to create this co-ordination, and are they likely to work?" In this way, organization problems can to some extent be 'depoliticized' to become technical planning problems.

(iv) Management Styles:

Attention to management style is a less obvious avenue of approach, but its importance is well illustrated by the Mahaweli Scheme. Major projects tend in practice to have authoritarian management structures: and they tend also to be headed by dynamic individuals put in by politicians with the aim of cutting through what they themselves may see as an inert bureaucracy. The likely consequence of this is a 'hub and wheel' type management system. Contact between senior manager and junior executive is direct, and by-passes the intermediate levels of the hierarchy shown in the Organization Chart. This type of management is efficient and responsive in the sectors on which it concentrates, but leads to the neglect of strategic as opposed to tactical issues. Such management can be a result of the need to by-pass the formal management system to achieve de facto priorities, as discussed above. But it is also a natural response even when de facto and de jure priorities are in line, and the need is for fast action. This is a particularly sensitive area for aid agency intervention, but it can be approached both through the P and E and organization

and staffing avenues. Pressure applied to improve staffing and organization in neglected areas forces senior executives away from their concentration on day-to-day issues, and into the field of strategic thinking. Preaching the necessity for systematic planning makes clear the detail of analysis to be done and forces senior executives to delegate this, and concentrate on matters of overall strategy rather than detailed plans and tactics.

(v) Information Flows:

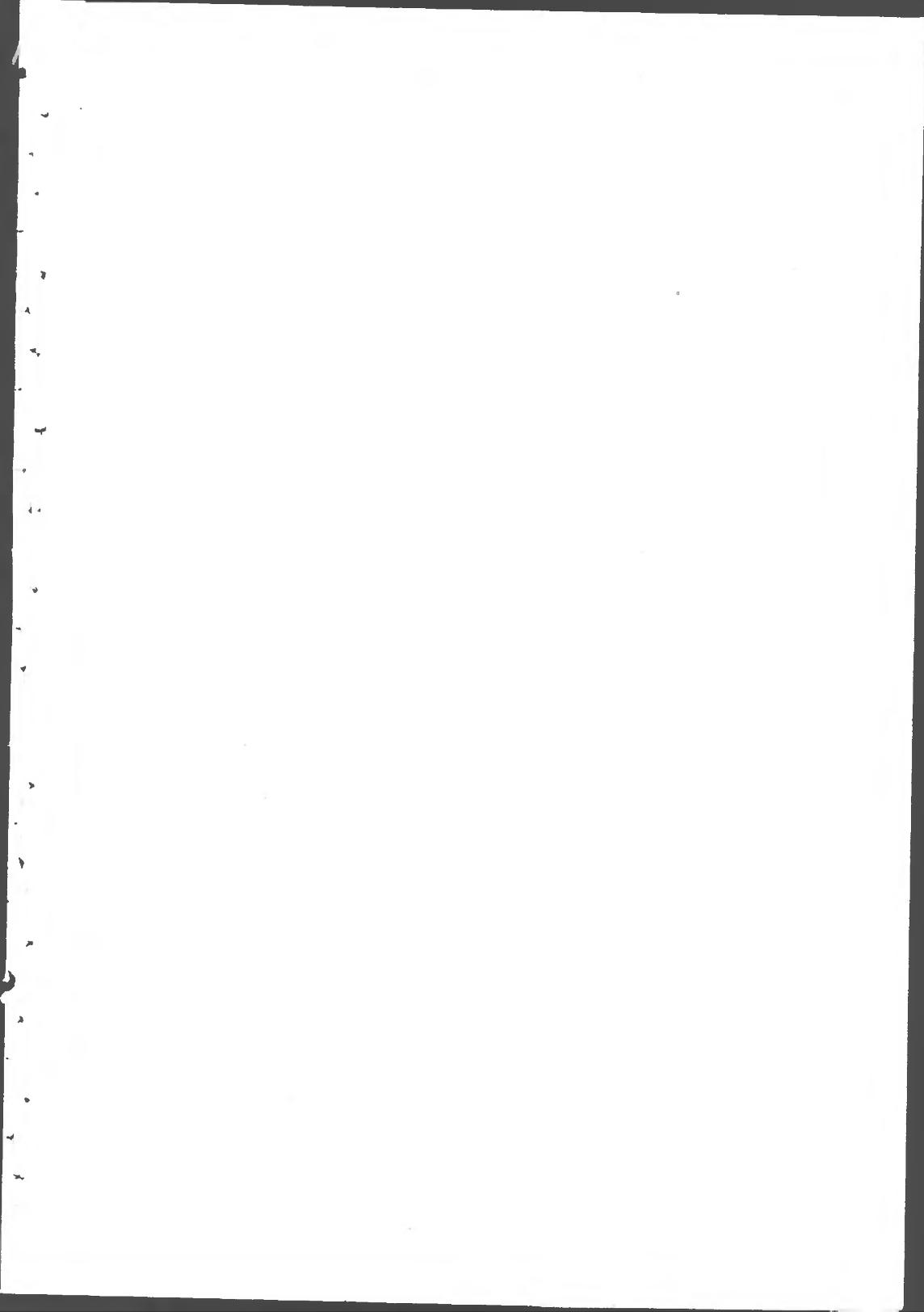
The importance of good communications as a necessary precondition of good co-ordination and good planning is clear, and was illustrated in the brief discussion of information flows at the end of Chapter 4 (problems in planning system C). But the crucial point there, and in most practical situations, was not the need for communication itself, which is evident, but the vital importance of what is communicated. The predisposing nature and function of information flows is not sufficiently appreciated. The choice and presentation of information determines the nature of analysis just as much as analytical technique determines the selection of information. For example, it is now becoming conventional for project appraisals to demand information about the equity effects of development proposals, and new ways are being developed of measuring these and presenting the required information. Analysis is thus determining information. But it is just as logical to say that information flows for many years concentrated on say growth and returns to investment rather than on equity, and that this imbalanced flow of information predisposed development thinkers to what we now see as a biased analysis. Assistance in developing 'better' flows of information is therefore an underestimated approach, both because of its potential for directly influencing thought and action, and because, once again, it represents a 'non-political' point of entry to the management field.

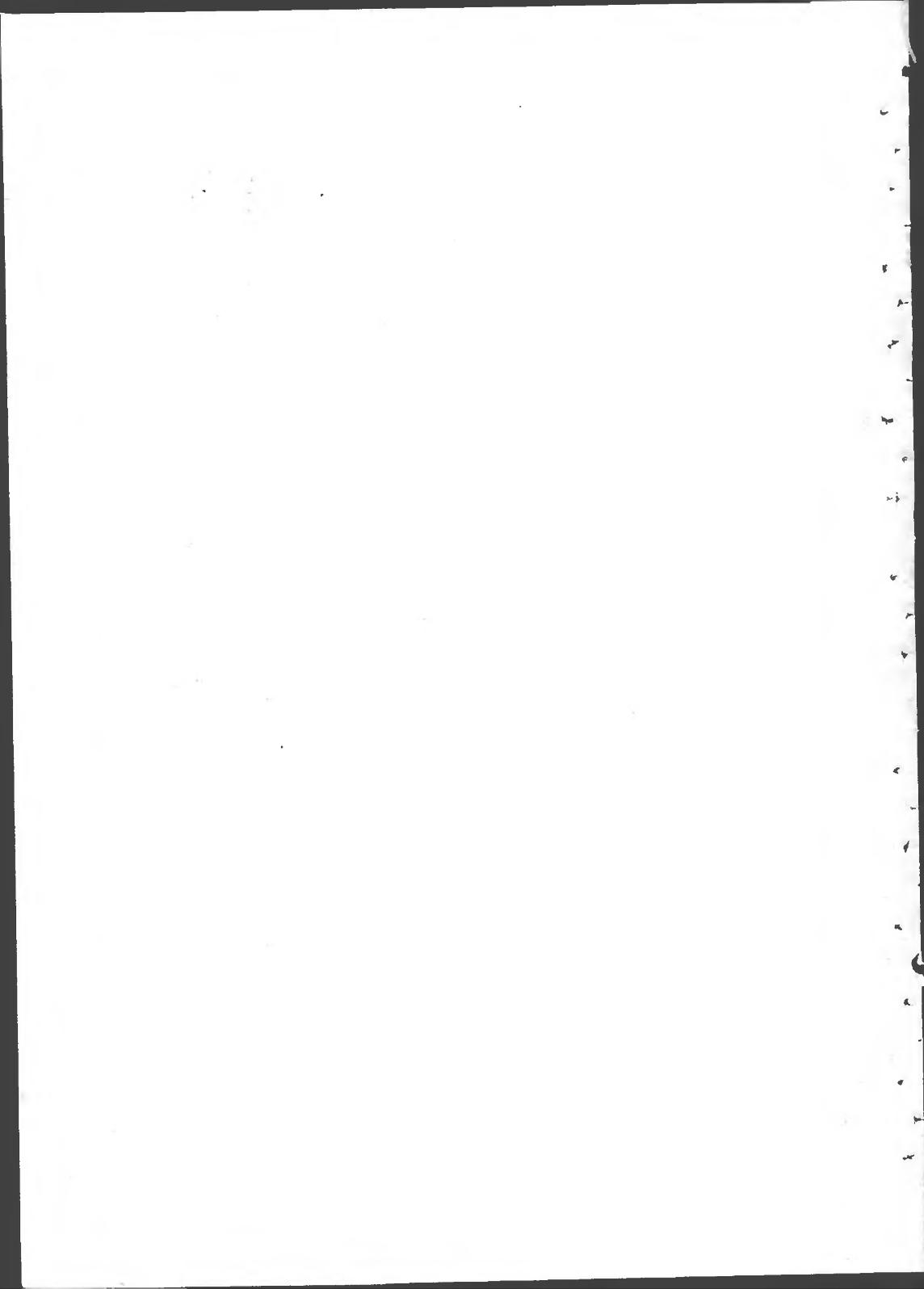
There are evident links with the other avenues of approach outlined above. In the field of staffing and organization, for example, the political and donor level simply did not know for a long time about the key staff vacancies in the MDB organization, because recruitment progress was not thought to be a priority subject for reporting. In the P and E field, progress in developing social infrastructure in H1 and H2 was simply not monitored and reported until the Unit began to function seriously after February 1977. This begs the question of who decides what information is important enough to report and what is not; which is another way of saying, what, in the reporter's view, are the key constraints on development. There is no easy answer to this question, because of the problem of subjectivity. Each staff officer at every level will have his own subjective interpretation of the 'the project', just as one entirely subjective interpretation of 'the project' has been put forward in this paper. It is suggested that P and E divisions should be good arbiters of the final content of reporting, since they have an overview of all sectors, and should contain a multidisciplinary team. The job of deciding what is reported is an extremely important and responsible one, because it will determine the view of the project held at the highest political levels. The skill required is not simply that of selecting the important fact or problem, but the insight to make the right connection between facts and problems without which solutions will be partial and ineffective. For example, the redefinition of the water management problem in System H as also an agricultural planning problem was in a sense merely a different

presentation of information of which the Board was well aware; but the new definition differentiated between problem symptoms and underlying causes. Redefinition of the problem led to a presentation of 'the facts' that had the correct solution implicit in it. The insight needed for this sort of reporting is the fruit of experience plus creative thinking, and there is no particular reason to suppose that the aid agency or consultant should be better at it than individuals in the recipient organization. It is possible, for example, that had the aid agencies themselves sufficiently realized the significance of draught power shortages for water management, they would have extended the 'farm equipment' element of the Kalawewa project to cover existing area H3, in order to protect their major investment in areas H4 and H5. It is possible that information about H3 was not presented in a way that would link the draught power shortage there with the fact of competition with the tail end for Kalawewa water, so as to define a new and significant potential constraint on development.

The influencing of information flows is an easy point of entry for the donor, since the need for reporting is already accepted, and it is simply a matter of defining much more closely the sorts of information that donors require. Requirements in this field seem also to offer the best point of entry to the 'political' area of goal-setting and motivation. Detailed information for donors has to be collected in the field, and will be collated and vetted at every level of the recipient hierarchy, upto and finally including the political level. By presenting the reporting requirements as necessary for the donor's own investment monitoring, the donor can therefore institute a satisfactory reporting system within the recipient organization - and such a system need not be restricted to reports of progress, but can include reports of plans as well. Such a reporting system in effect constantly confronts the official proposals of the project originators with the de facto interpretations of them by the executive. If the publicly exposed discrepancy is too great, it becomes very hard for recipients not to take action to correct it. Informal management systems can only flourish in areas where duties are vague, and enquiries not too closely made. If the political level is clear in its goals, but has been misinterpreted by the executive, then the political level has for the first time the right information on which to base the right orders to exert effective control. If the political level is not clear in its commitment to all project goals, its position will at least become explicit for the first time, to the donor's benefit.

In sum, management is thought of too much as the control of development. It should rather be seen as a balance, or as an iterative process between control and feedback. Control actions can only be effective if based on correct perceptions of problems, and these depend entirely on the selection and presentation of information. Conversely, developing the right sorts of information flows exerts the heaviest possible pressure towards 'right' actions and good management.







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AGRICULTURAL ADMINISTRATION NETWORK PAPERS

No. 2

SOME FIELD OBSERVATIONS ON RURAL
INDIA'S DEVELOPMENT

(Uttar Pradesh, Bihar, Assam, Orissa,
Andhra, Tamil Nadu, Maharashtra, Rajasthan)

September 1978 - February 1979

by

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SUMMARY

1. The following field-studies cover villages and districts surveyed in 1963/64 and 1978/79; Bulandshahr and Varanasi districts in U.P., Muzaffarpur in North Bihar, Guntur on coastal Andhra, Thanjavur in Tamil Nadu and Satara in Maharashtra. New surveys were added in 1978/79 in Assam, coastal Orissa and Western Rajasthan.
2. In practically all rural areas economic and social changes as well as new techniques are noticeable: new seeds, chemical fertilizers, pumps, agricultural implements. Also more consumer goods, which were hardly available in the early 1960s now reach a large number of medium and small farmers in progressive districts such as, for instance, Bulandshahr. Trade down to the village level is also increasing. What considerably differs, however, is the pace of development between different regions.
3. In most areas, farmers, large and small, are much more ready than before to acquire new inputs and new techniques and this process of change is less and less confined to large landowners. Many farmers, even below 1 ha, are keen to utilize new inputs and, sometimes, to change their cropping patterns in favour of richer crops.
4. There is clear correlation between the decreasing level of poverty and the overall rate of local development. In fast moving areas, most small farmers (below 1 ha) have improved their standard of living through increased production and

new inputs. A number of landless labourers admit that their lot has improved in the last ten-fifteen years, thanks to increased wages in real terms and more job opportunities in agriculture and outside: trade, transportation, construction, sometimes small industries and repair. In such a process of growth, it is clear that the latter part of the slogan "The rich get richer and the poor get poorer" is incorrect. Besides, the changes observed often amount to more than the "trickling down effect".

5. Acute poverty takes different shapes. It is being gradually reduced in fast moving areas. In slow moving areas, where population is growing faster than production, it can be due, to a large extent, though by no means exclusively, to backward technico-economic conditions, like poor water management as in deltaic Orissa or Assam. We have seen worse and more complex cases where insufficient economic growth versus population is combined with semi-feudal structures enabling big landowners to oppress poor people. The word "dabao" (pressure) comes often in interviews with poor people in Eastern U.P. and in Bihar.(1) Yet such people are becoming more alert and conscious of their rights, hence a number of violent incidents.
6. The agricultural policy has much ^{improved} during the last fifteen years. with a better sense of priorities and practical tasks (water, seeds, fertilizers, pest control...). Nevertheless, one

(1) In fact the situation is more complex since there are also acute tensions between rising middle caste landowners and scheduled castes.

might go even further in promoting badly needed irrigation and drainage, especially in the plains of Eastern India. This means not only large outlays, but also more men of high calibre who have things done in proper time. Such a better water management, in addition to its economic value, has a large social content since it enables farmers below 1 ha to increase their production and strengthen their socio-economic status. A water policy like this contributes also to raising wages of landless labourers and employment opportunities. Is there not greater socio-economic development potential in that approach to poverty than through special schemes designed for small farmers and landless labourers, which, in the past, have not infrequently been dominated by upper farmers?

7. Rural electrification is becoming increasingly important. It has made enormous progress but, at the moment, various problems of maintenance and operations as well as malpractices are hitting the farmers and affecting the whole process of development.
8. Village roads have also expanded considerably, but the needs for better roads keep on increasing with the expansion of exchanges of monetized goods.
9. Extension services are in the process of being reorganized in several States with the attempted adoption of the Benor system. In several States one comes across various reservations, except with reference to the adoption of the system in very isolated areas or in new major irrigation

schemes bringing new land into cultivation or new crop patterns.

10. The role of the collector (district magistrate) varies from State to State. His direct and more constant involvement in development as observed in Andhra and Tamil Nadu, seems more adequate than the U.P. or Bihar patterns where his direct involvement is less prominent.
11. Rural credit keeps on increasing and reaches more small farmers than before, but, old shortcomings remain: large overdues in many districts, political patronage, malpractices and delays in loan procedures. Such defects could be remedied by district officials of higher calibre and more inclined to see things down to the grass root level.
12. Panchayati Raj, after nearly twenty years, keeps on having the same modest impact on district development. P.R. members tend to be more concerned with politics than with actual development tasks.
13. Family planning is today better understood than before, but, as in the 1960s, it is proceeding at uneven paces, some States being much more advanced than others. It could be worthwhile to strengthen propaganda among women (tubectomy) because a large number of them have been anxious for many years to put an end to that painful cycle of constant pregnancies and birth deliveries.
14. After such a field trip one feels sceptical about the value of data issued on the poverty line. Besides, what is the

use of such armchair exercises since everybody knows that the poverty problem is large enough to require the maximum of outlays and efficient cadres to solve it?

The following observations are based on resurveys of villages and districts studied in 1963/63 and 1967. In each case I selected one village for interviews of farmers of all types in order to see how they understand their own problems. I also met representatives of the different government agencies at work in the districts in order to get the views of the administration. Some days were also spent in the State capitals for general briefings. The districts were Bulandshahr in Western U.P., Varanasi in Eastern U.P., Muzaffarpur in North Bihar, Guntur in Andhra, Thanjavur in Tamil Nadu, Satara in Maharashtra. This year I had also some new surveys in Dibrugarh and Nowgong, Assam, Puri in Orissa, Jodhpur in Rajasthan.

The old images of a static rural India have definitely gone. Even in remote and economic backward areas, including brief visits to the South of Gaya district, Bihar, and some tribal areas in Orissa, one notices changes in economic and social life, as well as in the techniques in use, but, what greatly varies, is the pace of changes and development.

PART I. THE PEOPLE, GROWTH TRENDS AND STANDARDS OF LIVING

1. Fast Moving Areas

The following criteria were used: yields trends for the main crops (1), diversification of the economy: new crops, new activities especially non-agricultural, progress in infrastructure, roads, electricity.

1.1 Wheat Areas

Bulandshahr district, and more specifically Unchagaon block and the village of Khandoi are typical of a fast moving wheat area, although development has been slower than in Punjab or Haryana.

Village Khandoi, population 1497 (1971), net cultivated area 255 ha, 3 km from Unchagaon, the main local bazar, on a bad fair-weather road. Dominant caste: Jat.

Yields of wheat have risen from 1200-1300 kg/ha (average in the early 1960's) to 2500-3000. Today, the whole village fields are irrigated, versus 192 ha in 1963, and in an adequate way through 48 private tubewells (TW), an expansion which was facilitated by the consolidation of holdings completed in 1965. The consumption of chemical fertilizers, the use of new seeds are widespread. As far as sugarcane is concerned, yields in terms of gur have increased from around 5000 kg/ha to 6000, sometimes up to 7000-8000 kg in very good years. Maize yields remain low: 1000-1200 kg/ha, jowar and bajra are mostly cultivated for fodder

(1) All yields mentioned below are representative, not only of the specific villages, but of wider areas around. The same applies to wages.

Animal husbandry is on the increase: more she-buffaloes more fodder cultivation (lucerne and others) in the rabi, substantial increases in sales of milk, thanks to three collecting agencies opened at Unchagaon, more recently a few farmers have started growing paddy, some also potatoes and vegetables.

The farmers are cleverly combining new inputs (TW, seeds, fertilizers, electrical threshers, flour mills) to old implements and techniques. There are only two tractors in the whole village.

Most medium farmers (from 1,25 ha upwards) are replacing their mud houses with houses in bricks. Several small shops (textiles, grocery, vegetables ...) have appeared, while there were only some tiny shops before. (1)

The number of men getting employment outside keeps on increasing (service, teaching, factories, army) to reach more than 100 out of 330 families. Most families stay in the village.

Electricity is no more confined to TW, it has been introduced in the village for domestic consumption, flour mills, and repair workshop.

1.2 Rice Areas

Village Manchala, Guntur district, population 1559 (1971), net cultivated area 280 ha, on a good district road, 20 km from Guntur. Electricity since the mid-1960's. Dominant caste: Kapu.

(1) As to the bazar of Unchagaon, it has more than doubled in size: there is now plenty of good fruit and vegetables (practically nothing in 1963), more grocery and clothes shops, tailors, bicycle sellers and repairers, motor repairers, saw mills, even some radio repairers and one photographer.

Already in 1967, the area was quite advanced. Located in the irrigated part of the Krishna delta, improved varieties of paddy, moderate doses of chemical fertilizers and good agricultural practices resulted in average yields of 2800-3750 kg/ha of paddy. During the rabi, when the canals were closed, farmers would grow black gram giving 300-400 kg/ha. Now average paddy yields range between 3750 and 4125 kg/ha. Chemical fertilizers consumption is increasing, local improved varieties are still much in use, although some new varieties are being released with good results in the kharif: 4500-5000 kg/ha. In certain years, canals release water during the rabi, which enabled farmers to have a second paddy crop. Otherwise farmers are sowing black gram as in the past, without any noticeable yield increase.

Progress could have been faster if the low lying areas were properly drained, which is not the case and prevents there high yields of paddy. The maintenance of irrigation canals is also not above criticisms: not enough desilting, sometimes breaches due to lack of control by the P.W.D. Some farmers tend also to take too much water at the expense of others.

Other activities: small trade, fishing, catching rats (see below) are expanding, but on a moderate basis.

Starting from a relatively high level in the late 1960's, Manchala has not experienced a very high rate of growth, but, nevertheless, paddy yields are moving upwards, and the latest HYV released look more promising than the previous ones.

Kila Ulur, population 1451 (1971), 380 ha cultivated, net, on a small metal road, a few km away from the district road leading to Thanjavur (20 km). Located in the New Delta. Dominant caste: Kallar.

The whole area depends on canal irrigation from July till January, with two short duration paddy crops on the same soil: Kuruvai and thaladi, and one long duration crop: samba. In 1964, the average yield for all crops amounted to 2000 kg/ha. In the dry season, farmers used to grow some groundnut, often thanks to temporary dug wells, as well as some black or red gram, the latter giving a few quintals per ha.

New varieties of paddy (ADT 31 and IR 20) are successfully used on a large scale, with increasing amounts of chemical fertilizers. Pest control is also progressing with hand or motor sprayers. Only five farmers have installed shallow TW for better rabi crops. Paddy yields range now between 3500-4275 kg/ha for kuruvai, 1700-2800 for thaladi, and 3000-3500 kg/ha for samba. Groundnuts (850-1000 kg/ha unshelled) and gram have not known sizeable increases but some farmers have started growing gram also on the bunds of their paddy fields.

Kila Ulur is now connected with a good road to the district road and electricity has been introduced. Some more small shops have been opened, and one comes across even petty traders coming on their bicycles to sell local ice-creams!

1.3 Standards of Living

Upper farmers (in Khandoi 5-12 ha, 4-10 ha in the two other villages) have of course become richer, but, more interesting is to see what has happened to medium farmers (1.25 - 3 ha in Khandoi, 1-2 in the two other villages). Through hard work, severe savings and some loans from cooperatives (though not always), thanks also to the proper use of modern inputs, they are rising from very frugal living conditions to a better life

in terms of housing, food, more education for their children, some goods like bicycles, transistors, watches, etc. It is obviously unfair to call such people "Kulaks" with a touch of contempt, as is done by certain urban intellectuals.

What about small farmers and landless labourers? In Khandoi, I was able to study in detail the evolution of land holdings. Their total number has hardly changed between 1963 and 1978. One does not observe any definitive polarization or concentration of holdings. More striking is to see that previously a family required 1.75 - 2 ha to be fully occupied and enjoy a decent - though very modest - standard of living. Today such a minimum economic holding has gone down to 1.25 ha which means that a large number of small farmers are better off.

Practically all farmers of the three villages make use of new seeds and chemical fertilizers, but, not infrequently, the doses of the latter utilised by small farmers are lower than with medium and upper farmers. Thus, though their yields are increasing, they may, in certain cases, though by no means, remain below the yields obtained by larger farmers.

What is particularly impressive is to see how farmers of 0.5 - 0.8 ha in Manchala and Kila Ulur have increased their production in such a way that they have a growing surplus of paddy for sale. Such people as well as farmers below 1.25 ha in Khandoi agree that their standard of living has improved, especially in terms of food, clothing, sometimes housing.

Among landless labourers in Khandoi (mostly Jatives, also Bhangis) several of them, including their wives admit that they are a little better off now, which is also obvious when looking at them and at their clothes. Agricultural wages amounted to

Rs 1.0 plus some food in 1963/64. Today they have risen to Rs 5.0 sometimes 6.0, with or without food. This means an improvement in real terms. Besides, during wheat harvest, when wages are paid in kind, labourers get now 10-12 kg per day, versus 5-6 in 1963/64.

The labour market has also increased in non-agricultural activities: petty trade, construction of houses, animal husbandry and sales of milk, transportation ...

No doubt one still comes across some very miserable people, but several of them have known some improvement. As to caste/class relations, Harijans do not complain of actual abuses of a semi-feudal nature, they mention also that certain extreme caste differences have gone.

In Manchala, most of the landless labourers belong to the Yanadi tribe. Already in 1967 I was impressed by their relatively good standard of living. In addition to their work in paddy fields (Rs 3.0 per day without food) they were very industrious in finding all sorts of other jobs: doing petty trade, collecting hair for sale in Guntur, catching rats (Rs 0.10 per animal), catching fish and selling it during the monsoon, catching birds in the dry season. Both men and women were hard working, the latter working in the paddy fields like the men.

The situation of the Yanadis has kept on improving. They have got some land where they have built their huts. Daily wages for men are now Rs 5-6.0 without food. For threshing men get 10 kg of paddy and two meals. Prices for rats are now Rs 0.25-0.30 from landowners. They also sell rat traps which they make with bamboo. Fishing and bird-catching goes on. As in the past,

Yanadis dig out from the field bunds the paddy stored by rats (as is done in other parts of India). I could not make sure whether or not they also eat rats.

Relations with the Kapus do not provoke deep resentment among the Yanadis. They certainly do not lead a kind of idyllic life, but they definitely look on the good side of the "poverty line".

In Kila Ulur, the bulk of the landless people are Paraiyars. While they were earning Rs 1.0 plus some food in 1964, they receive today Rs 5.0 and some food. Wages in kind at harvest time have increased from 4.80 kg in 1964 to 7.2 kg of paddy in 1978. They have also some work for groundnuts during the dry season and several families make mats bringing Rs 3.0 per day.

While talking to the Paraiyars and looking at them, they give the impression of people having some kind of minimum standard of living in terms of food and clothes. A growing number of their children also go to school. Caste differences do remain, but several extreme customs formerly imposed by the Kallars have gone. (1)

2. Slow Moving Areas

2.1 Growth Trends

Nahiyan, population 2958 (1971), net area sown 365 ha, irrigated area 230 ha, 35 km away from Varanasi, on a non-metal road, nearest bazar at a few km, no electricity except for TW. Dominant caste: Thakur.

(1) Conditions are rather different in the old delta, where the landless are much better organized and where social tensions are also acute.

In 1964, Nahiyān offered a painful picture of semi-stagnation with poor traditional techniques and low yields, acute misery among landless labourers. Irrigation was inadequate (wells with mot,⁽¹⁾ and one State TW. Average yields of wheat: 700-900 kg/ha, paddy (the main crop) 1200-1300 kg/ha. Only a few progressive farmers were using chemical fertilizers and had higher yields. Bad water management (excess or lack of water in the kharif) prevented better yields of paddy, not to say anything of poor techniques. Sugarcane was equally poor.

Some definite changes do appear. The consolidation of holdings has been completed and one comes across now 29 private TW, with the result that wells with mot are no more in operation. New seeds of wheat and chemical fertilizers are on the increase, so that some farmers get 2500-3000 kg/ha. Yet others are not above 1500. The average for Pindra Block (which includes some areas of poor soils and little irrigation) is around 1300-1400 kg/ha of wheat.

Cane remains at a low level. As to paddy, some good farmers reach 3200 kg/ha, others no more than 1300; average for the block 1350. Some new varieties begin to produce good results, but they cannot become widespread due to water constraints in the kharif which have hardly changed in the last fifteen years.

Although Nahiyān is not so far from Varanasi, it lies outside the expanding vegetable belt. However, some farmers, especially enterprising medium Kurmi landowners have started cultivating potatoes and tomatoes. They could do more with better roads.

(1) Leather buckets pulled by bullocks.

Pilkhi, population 2928 (1971), net cultivated area 371 ha (gross 631 ha) on a district road, 25 km from Muzaffarpur.

Dominant castes: Thakurs and Bhumihars.

The poverty of techniques and the poverty of men were even more striking during our first visit to Pilkhi (1967) than in Nahiyān. There was one State TW, but no private one, nor any traditional well. Paddy was badly cultivated: fields not properly levelled. large low-lying areas exposed to floods, slow operations like transplanting (where women do not work) badly tended paddy nurseries. Chemical fertilizers consumption was exceedingly limited, No wonder that farmers were getting only 1000-1200 kg/ha of paddy. Some areas would bear unirrigated wheat in the rabi, giving 500 kg/ha.

Production has moderately increased. There are now 7 private TW (oil engines), 3 tractors. Some progress is noticeable with new seeds of wheat and paddy, along with chemical fertilizers. Well irrigated plots give 2300 kg/ha of wheat, while others only 1200. On high lands some plots are transplanted with new seeds of paddy giving 2300-3000 kg/ha, but the low lying areas suffer, as in the past, from poor drainage with yields of 1000-1200 kg/ha. Maize is less cultivated in the kharif, a sensible step, some is grown now in the rabi season with yield of 2000 kg/ha. Cash crops like chillies and tobacco seem to have increased.

Nowgong District, Assam A brief tour of some villages, as well as discussions with district officials indicates that the area is far from making full use of its rich potential. Due to poor water management, and maybe other factors, paddy yields remain very low. sometimes even below 1000 kg/ha or 1200. A few

progressive farmers are beginning to use new seeds and chemical fertilizers and get 2000-3000 kg/ha of paddy especially if they enjoy irrigation, but the latter is only starting with a few surface water projects and a few hundred private TW.

A group of villages in Brahmagiri block, Puri district, Orissa. The area is near the sea at 5 km of a district road on a small fair-weather road. It has no electricity.

Soils are sandy and frequently waterlogged in the monsoon with the result that farmers do not get more than 500 kg/ha of paddy. Under such conditions, the whole process of growth is blocked because it makes no sense to push fertilizers and dwarf varieties. Although it was my first visit, one can fairly assume that production has remained static for many years.

As to other activities, one comes across some fishing in rivers, basket making and, more recently, the department of horticulture has started a promising scheme of coconut tree plantations for small farmers, under the leadership of a very dynamic and able young horticulture officer.

Some villages in Pipili block, Puri district. They are located at 30 km of Puri, near the main road connecting Bhubaneshwar and Puri.

The situation is a little better. Though drainage problems remain very serious, they are nevertheless less acute than in Brahmagiri and soils are better. Unfortunately, while the main irrigation canals were completed in 1960, the network of tributaries, and especially of field channels remain still incomplete. At last, the government is considering to take under its responsibility the construction of field channels. Here again poor

water management prevents the use of new seeds and fertilizers in many low lying fields which yield 850-1000 kg/ha and even 700 kg/ha only. A few upland fields where farmers are trying new seeds with small doses of chemical fertilizers give 1400-2000 kg/ha of paddy.

Some farmers are now pushing vegetable crops, and many of them have some coconut trees which give some additional income. The vicinity of the main road with a rather heavy traffic (pilgrims going to Puri) creates job opportunities: petty trade, transport of vegetables and coconuts to Puri bullockcart.

Eksal village. Population 1331 (1971) on a sub district metal road, 30 km from Satara Maharashtra, net cultivated area around 500 ha, irrigated area 130 ha. Dominant caste: Maratha.

Both the Maratha landowners and the Mahars (small farmers and landless labourers) are clever and hard working, and, for many years, they have been exposed to change and new ideas, but they face very severe natural constraints. Part of the area is made of extremely poor soils. Other parts are covered with light soils bearing jowar or bajra. Finally, at the bottom of the valley one gets black soils and a number of wells irrigating richer crops like sugar cane, grapes, vegetables. In 1964 average yields of jowar would range around 330-460 kg/ha, and bajra 250-300. Today, the situation has not much improved on all unirrigated fields, except when there is a very good monsoon.

As to irrigation, practically all the wells with mot have been now replaced by pumpsets on open wells: 24 using electricity, 15 oil engines which may be shifted from one well to the other. The irrigated area has increased from 92 ha to 130, and it has

also improved in quality. However, water supply is by no means always assured. Some wells get dry during the hot season, others have a reduced supply of water. Besides, it does not seem that much scope is left for more wells. (1)

In spite of its limitations, irrigation has paved the way for some progress: 28 ha of wheat in the rabi (1500 kg/ha or less when the weather remains too warm), Hybrid jowar covers 24 ha (750-1750-2000 kg/ha with some chemical fertilizers) versus 200 ha of non irrigated local jowar. Groundnut area has hardly expanded (110 ha, 700-750 kg/ha unshelled). The area under rich crops: cane, grapes, chillies, bananas, onions, vegetables, and more recently papaya, has increased from 23 to 39 ha. Potatoes have gone down from 31 ha to a few ha, due to diseases.

It is quite clear that farmers are making the best of their scarce water resources, pushing cash crops in order to buy the extra grain needed which their fields cannot produce.

Finally we must bear in mind that, within the block and the district, many villages are worse off than Eksal, wherever they have hardly any source of irrigation.

Villages in Jodhpur district, Rajasthan. Several villages of different types were visited for the first time, which brings out growth problems of an extreme complexity, typical of arid, semi-desertic conditions.

First priority, even before irrigation: drinking water supply which is lacking in so many villages. (Out of 33,305

(1) When completed, the Dhom project should irrigate parts of the poor soils area.

villages in Rajasthan, 24,037 have water problems.) Villagers may fetch water at 5-10 km, well water is not always good. Gradually, when conditions permit, TW are installed often with a pipes network to supply water to a group of villages.

Irrigation has expanded and there are now in Jodhpur district 200 private TW and several hundreds of pumpsets on open wells. The old mot system using bullocks or the Persian wheel are still fairly widespread. One finds thus pockets of irrigated wheat (2000 kg/ha), vegetables and orchards, but, when ground water is saltish, it can only be used to irrigate local wheat with small doses of chemical fertilizers giving 1250 kg/ha.

The main foodgrain remains bajra, which represents a constant gamble with rains. If they are good, farmers would harvest 300-400 kg/ha, but yields will fall to 100 kg or zero when rains fail. No doubt better dry farming techniques (water catchment, contour furrowing and bunding etc) can help, but one should not expect spectacular increases in production. On the other hand, it is striking to see many tractors (often bought second hand) which seem more profitable than bullocks even for farmers who rent them from big landowners. Besides it enables quick ploughing just after the rains.

The Central Arid Zone Research Institute (CAZRI) is promoting research in various directions, along with several stations in other districts: sand dunes stabilization, grass land development, afforestation, irrigation. Experiments in sand dunes stabilization are interesting. A farmer can get 5 t of fuel wood per ha after every 10 years, and one t of grass per year, but fencing costs Rs 2000 or more per ha, 750 seedlings of acacia and julifiora per ha amount to Rs 225.

Experiments with sprinkler and drip irrigation systems are also conducted on dome farmers' lands. The former, used for wheat costs Rs 10,000 for 6 ha in addition to the TW installation. Drip irrigation (without TW) amounts to Rs 20,000 per ha of vegetables and Rs 5000 for orchards. Both systems are technically sophisticated and not easy to operate and maintain. Besides their costs are high, that is why one wonders whether they have a large future.

While prospects for agriculture are limited, there is more scope for animal husbandry, which, already now plays a prominent role. Cows give 2-4 lt per day, which is much higher than in most parts of the Ganges Basin. Substantial efforts are made to encourage milk production and marketing. No less than 170 villages out of 700 for the whole district, are covered by cooperatives. Trucks collect milk in villages and deliver it to the main Jodhpur dairy (about 100,000 lt collected per day, nearly one third further dispatched by truck to Delhi). There are also several schemes, in particular under Antyodaya, to promote sheep and goats.

Not only development problems are complex per se, but they are aggravated by ecological factors: excess of cattle leading to overgrazing, overextended ploughing leading to wind erosion. Thus the whole policy of development has to take into consideration these two sets of factors, as is increasingly realized.

2.2 Standards of Living

What has been the impact of these slow rates of economic growth on the people?

In Nahiyān (Varanasi) a number of medium farmers (2 ha)

and upper farmers (3-10 ha) have substantially increased their production, thus enjoying a better income. It is also worth mentioning that, today, small Brahmin and Thakur landowners have started ploughing themselves, (unlike in Pilkhi still now) particularly active have been medium farmers of the Kurmi caste.

Quite different is the situation of the landless labourers (mostly Chamars) who were getting Rs 1.0 plus some food in 1964 and receive now often Rs 3.0 (rarely 5) and at harvest time 8 kg per day of wheat or paddy. However, there are cases when daily wages fall to Rs 2.0 or 3 kg of wheat. Some particularly miserable people (Musahar, a migrant caste) mentioned only Rs 1.0 plus some food. Many of these people have hardly one set of clothes, several of them are poorly nourished. In most cases, cash wages in real terms have hardly increased.

In addition to poverty, the word "dabao" (pressure, oppression) comes up not infrequently in conversations with these people. High caste landowners take undue advantage of small farmers and landless labourers, especially if they belong to low or scheduled castes. The usual complaint "koi nahin sunta" (nobody listens to us) comes also as a reply, when asking about measures to help the poor, which was already the case in 1964. For instance, some people complain that they cannot get water from a Thakur's TW, unless they work for him for Rs 1.0.

People owning a small plot of land (0.2 ha or so) are somewhat better off. They till their land and work as labourers for others. They often manage to put some urea on their crops and to use new wheat seeds. Some enterprising Kurmis with 0.6 ha do better, growing grain and potatoes with urea and DAP. They

get the equivalent of 2400 kg/ha of wheat.

Both economically and socially the situation is worse in Pilkhi (Bihar). Wages have risen from Rs 1.50 plus some food in 1967 to Rs 3.0 plus or without food, or sometimes only Rs 2.50, or in grain 2 kg of wheat or paddy per day, which, at harvest time may raise to 5-10 kg without food. The word "dabao" is even more common in discussions with Chamars and Dusads, which is not surprising in view of the power retained by the local gentry.

Very small landowners (0.2-0.4 ha) are a little less vulnerable to exploitation and they add some land on sharecropping basis when they can manage. (All inputs are borne by the sharecropper in certain cases, in others they may be shared). When their land is not low lying, they may get the equivalent of 2500 kg/ha of paddy with some fertilizers.

Among the upper and big landowners, a few of them are becoming gentlemen farmers à la Punjabi, pushing their crops and investments and making much money as some Vaishya owning 10-20 ha. But there are still many landlords (Bhumihars and Thakurs) owning 40-50 ha, or even more, which, today as in 1967, take little interest in their land, do not invest, and, of course, do not produce more than before.

In the two blocks of Puri district, living conditions of the poor partly differ. In the villages of Brahamagiribloc, labourers' wages range between Rs 3.0 and 3.50 per day without food. Fifteen years ago they were around Rs 0.75 - 1.25 which means hardly any increase in real terms. Very often landless people (Duma and Dhobi, scheduled castes) have two meals a day, some rice and boiled leaves, fish from time to time. They usually

have only one set of clothes. In addition to paddy field work, they make some bamboo work, some fishing, collect and sell wood. Several of them complain that their standard of living has deteriorated in the last 10-15 years. Fortunately, one does not come across definite cases of oppression from the rare large landowners. The latter cannot do much on their paddy fields, but make money from coconut trees and trade.

The situation is somewhat better in Pipili block which is less isolated and where economic activities have expanded. Paddy cultivation, though better, remains at a low level. Even big landowners (15 ha) have rather mediocre yields of paddy (1100-1600 kg/ha) and make more money from coconut tree plantations, but they do not contribute to increasing sales of paddy nor more job opportunities in agriculture.

Several landless labourers are in the process of acquiring landownership rights on their homesteads, an important measure which will free them from obligations towards the owner of their homestead. Such people have slightly better wages than in Brahamagiri block; Rs 3.50-4.0 without food.

When they have a small plot of land farmers grow paddy, and may have some coconut trees or grow vegetables. They may have also a bullockcart used for transport to Puri. Some of them enjoy conditions of living which are a little better than fifteen years ago.

The case of Eksal (Satara, Maharastra) is quite different from the others. In spite of a limited growth of agriculture, the overall standard of living is not so poor, because more than 150 men work outside (Bombay and Poona industries, army, police) and send savings home.

The few big landowners make much money thanks to their

hard work, their concentration on cash crops (fruit, vegetables) on their irrigated plots. Medium and small farmers do partly the same. Several of them manage very cleverly with a few ha of land, out of which 0.5 ha may be irrigated, where they grow high price crops of vegetables and chillies, papaya and grapes, so that they get enough money to buy extra grain that they cannot produce on their poor, unirrigated soils. Their standard of living is improving especially when one or some members of the family work outside.

While there are only a dozen families without land, many farmers have to work as mazduri in addition to attending their own fields. Daily wages which amounted to Rs 2.0 without food in 1964, have reached Rs 4.0, which means a fall in real terms.

With regard to Nowgong district, I interviewed too few small farmers and landless labourers to have a relatively precise idea of the trends of their standard of living. In the last 10-15 years, wages have increased from Rs 2.0-2.50 to 5 without food. This increase, in spite of little improvement in paddy yields may be due to a lower pressure of population compared to Eastern U.P. and North Bihar, and perhaps to more activities outside the rice economy.

In Jodhpur villages, as well as around Jaisalmer (where I spent also a few days), one does not come across an unbearable type of poverty, though agricultural wages remain not high: Rs 2.50-3.0 sometimes 4.0 without food. About fifteen years ago they would amount to Rs 1.0. There is also a fair amount of mobility among labourers, several of them going to work on the Rajasthan Canal (Rs 5.0-7.0) or building roads in Jodhpur and Jaisalmer districts. Stone mining and cutting has much expanded

in the last decade with daily wages of Rs 5.0 without food. Finally, several poor people, if they have no cow, have at least some goats and sheep which they sell from time to time.

PART II. AGRICULTURAL POLICIES AND PLANNING, ADMINISTRATIVE PROBLEMS

Some basic facts emerge from the above field-studies:

1. In a relatively fast process of agricultural growth, other sectors of the economy tend also to rise. Many small farmers do improve their standard of living. Wages of landless labourers show some increase in real terms. Job opportunities increase within agriculture and outside.

Such comments would look like platitudes, if the slogan "The rich get richer and the poor get poorer" had not become so widespread. It is no less clear that such changes amount to more than the so-called "trickling down effect".

2. One of the main reasons why India is accumulating growing stocks of grain in spite of severe poverty in many areas is due to the fact that in those areas production moves too slowly thus wages hardly increase. Thus demand for food remains low.

3. Rural planning at the district and the block levels needs to become increasingly sophisticated, since there are more and more exchanges of money and monetized goods between towns and villages and within villages as well as more links between agriculture, industry and infrastructure.

4. With the exception of very isolated areas, farmers are more and more ready to use new inputs, even small farmers

(below 1 ha).

5. Human factors do matter. Several local communities and/or castes have been for decades, if not centuries more inclined than others to increase their production, often starting with better traditional techniques. No less important is the historical background of each region. It is certainly not by chance that, today the most advanced areas of India (the North-West and the deltas of Andhra and Tamil Nadu), had started expanding one century ago, if not earlier in the case of Thanjavur, thanks to canal irrigation systems. Gradually slow moving areas are also changing, ⁽¹⁾ but the time factor cannot be overlooked; besides they face considerable difficulties when entering now an expansion phase with already very high population densities.

1. Planning and Priorities

Although the Sixth Five Year Plan is so rightly placing added emphasis on water problems, is it going far enough, especially as far as drainage is concerned? As observed, even in normal years, so many areas, especially in Eastern India, suffer from an excess of water. Now, even, in old canal irrigation systems, irrigation could improve and drainage is often needed. ^{(2)*}

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- (1) See for instance small Brahmin and Thakur landowners who have started ploughing themselves in Nahlyan, unlike in Pilkhi. In the latter also, women (even of scheduled castes) still do not work in the fields.
 - (2) One can also envisage to push irrigation in the dry season through TW and/or pumpsets as is being increasingly done in West Bengal or in Bangladesh.

Such a concentration on water does not imply only outlays, but posting of particularly efficient officers (engineers and general administrators) in order to have things done in a reasonable amount of time.

In addition to its economic value, such a policy has also a heavy social content: small Bihari farmers owning 0.4 ha well irrigated and drained would be much better off. Wages of labourers and demand for labour would increase along production.

The network of rural roads has tremendously increased in the last 30 years, but the demand for better roads keeps on increasing with the new requirements of the economy. A bad road as around Khandoi means that farmers can only half load their bullockcarts, not to say anything of the waste of time.

Power too has made considerable progress, but it has reached a ticklish stage where maintenance and operations are inadequate which brings many hardships to the farmers: frequent power cuts, low voltage. There are also too many abuses and malpractices, about bills or applications for connections, about pilfering of materials. Since the offer cannot follow the demand, in States like U.P. and Bihar, farmers are now invited to install diesel TW instead of electrical ones. In this field too, it is not only a matter of funds allocations, but also of men: officials of high calibre, continuously touring the districts.

Two other fields are crucial: proper and ample supplies of chemical fertilizers and new seeds. For both the situation has much improved compared to my previous visits. One comes across few complaints about delays or malpractices, a situation which has also social implications since in times of shortage the small

farmers do suffer more than upper farmers who have an easier access to sources of supplies.

One has the impression that the latest varieties of kharif paddy are more adequate than the earlier ones.

Last but not least come price factors. Both in fast moving areas of wheat and paddy farmers complain that their cost-benefit ratio is becoming less and less attractive. Even worse is the case of sugarcane. While the margin of manoeuver on prices of inputs and output is not so large, another remedy would be to reduce wheat or paddy areas in favour of crops bringing a better return: vegetables, orchards, animal husbandry and fodder, which brings us back to the importance of still better roads, and of more trade channels or growth centers.

Planning difficulties become even more serious when one comes to areas where the major constraints to growth are due to lack of rainfall, limited irrigation potential, often poor soils. No doubt some gain can be obtained through dry farming techniques, possible improvements of cattle grazing, but the margin of increase is not so wide. In alluvial areas of Eastern India yields per ha can double or treble if not more with two crops of paddy or one of paddy and one of wheat: paddy making 3000-3500 kg/ha, wheat 2000-2500, whereas in dry lands of Maharashtra could one go much beyond one single crop of jowar giving 700-1000 kg/ha, and even so, not when rains fail? In such areas, diversification of the rural economy becomes still more urgent than in potentially rich agricultural zones.

2. Special Schemes for the Poor

Since 1970, several new schemes and agencies have been

created to help small farmers and landless labourers. Not unfrequently, one comes across successful cases, but there are also shortcomings: late release of funds, moderately motivated officers, wrong identification of the poor. Another point has been raised by officials in different States: the multiplicity of these agencies may complicate practical tasks.

Finally comes the latest scheme Antyodaya, which if properly managed could be perhaps more appropriate than the others. The cases observed in U.P. and Rajasthan concerned really very poor people, but it is still too early to have a very definite opinion.

How far could such rural development schemes be further expanded? Or should one push even more than is being done water management projects, the social value of which is very important? It is difficult, at least for me, to answer these questions, but they might be raised.

3. Extension Services and the Benor System

Several States are in the process of adopting the Benor system of extension. A few are quite favourable, some are starting on an experimental basis with certain reservations, while in other States one hears a number of criticisms.

In many parts of India the problem is no more to motivate the farmer or even to teach him new methods. Besides what new message is the village extension worker to deliver to farmers met every fortnight? Then the scheme is costly. Specialists may be of uneven talent or not available. It may happen, as in Assam, that the attendance of the selected farmers to regular meetings is thin, or that the radius of operations of extension workers

is too large. The system of controls and visits is no doubt clever, but it is not above the risk of becoming routinized.

Most people would agree that the principle of a single line of command for agricultural development is sound and welcome, but is the district agricultural officer fit to run the show. During this trip, as previously, I have rarely met district agricultural officers of a really high calibre, fully competent and very dynamic.

On the other hand, there may be a case for the Benor system: in economically very backward areas or in regions where, thanks to a major irrigation project, new land is reclaimed by formerly landless labourers. Another type of situation could justify the Benor system, that is when farming becomes more diversified, using more sophisticated techniques than the present ones.

4. The Role of the IAS in the Districts

I did not find much change compared to my previous visits. In U.P. and Bihar, the collector plays a relatively limited role in district development, whereas he is more directly involved in Andhra or Tamil Nadu. The latter system does favour district development, since the most qualified and often most motivated official of the district is taking a much more active part in development than in some other States.

One could also consider the Maharashtra pattern where an IAS (Chief Executive Officer) of same rank as the collector is directly responsible for district development operations, even if this system is not above certain risks like frictions between the two IAS officers.

The size of the district is also a matter of concern. Some

officials complain that with the increasing population, it becomes more and more difficult to run a district. Could one not envisage more bifurcations of large districts? Or could one increase the number of SDOs belonging to the IAS?

5. Rural Credit

Cooperative credit keeps on expanding and reaches now more small farmers than before, a positive point to underline. On the other hand, one meets with the same shortcomings as observed ten or fifteen years ago: large overdues in certain States and districts, political patronage, malpractices and delays in loans operations.

It will be interesting to see the result of the drastic reduction in the number of primary societies and of the appointment - a very welcome step - of a full fledged secretary for each society. Here again, greater involvement by senior district officials down to the village level could help.

In certain areas, the impact and the presence of commercial bank begins to be felt, not only in favour of big farmers, but also for loans to some very small people.

6. Panchayati Raj

During my 1963/64 and 1967 surveys or in the early 1970's, the performances of Panchayati Raj in terms of development were not striking, though more positive in former ryotwari regions (Tamil Nadu, Maharashtra) than in Northern India.

Today, after nearly 20 years of that system one has the impression that the same defects remain. Zila Parishad and

Samiti members are more concerned with politics and patronage than with actual development. That is why one may wonder whether there is much scope in trying to renovate the system? This does not mean that one could abolish Panchayati Raj, but would it not be sensible, as done in some States, to confine its tasks to certain fields like health, family planning, and reduce their involvement in more specific development activities? Besides, in most States visited there is a definite opposition to the creation of mandalsamitis.

7. Family Planning

People are becoming much more conscious of the problem. Yet the actual implementation of family planning remains very uneven. In Satara district, where camps for sterilizations were organized already in the early 1960's, a growing number of eligible couples have had one member sterilized. In Manchala (Andhra) there have been 100 sterilizations in the last few years. Vasectomies and tubectomies are going on.

In U.P., Bihar, Assam, Orissa, family planning is proceeding very slowly, even among advanced and educated farmers in their 30s.

Both my wife and I have the feeling that the greater response could be obtained by concentrating more propaganda on women who, very often - and this we observed already in 1963 - are very anxious to put an end to this cycle of constant pregnancies and births.

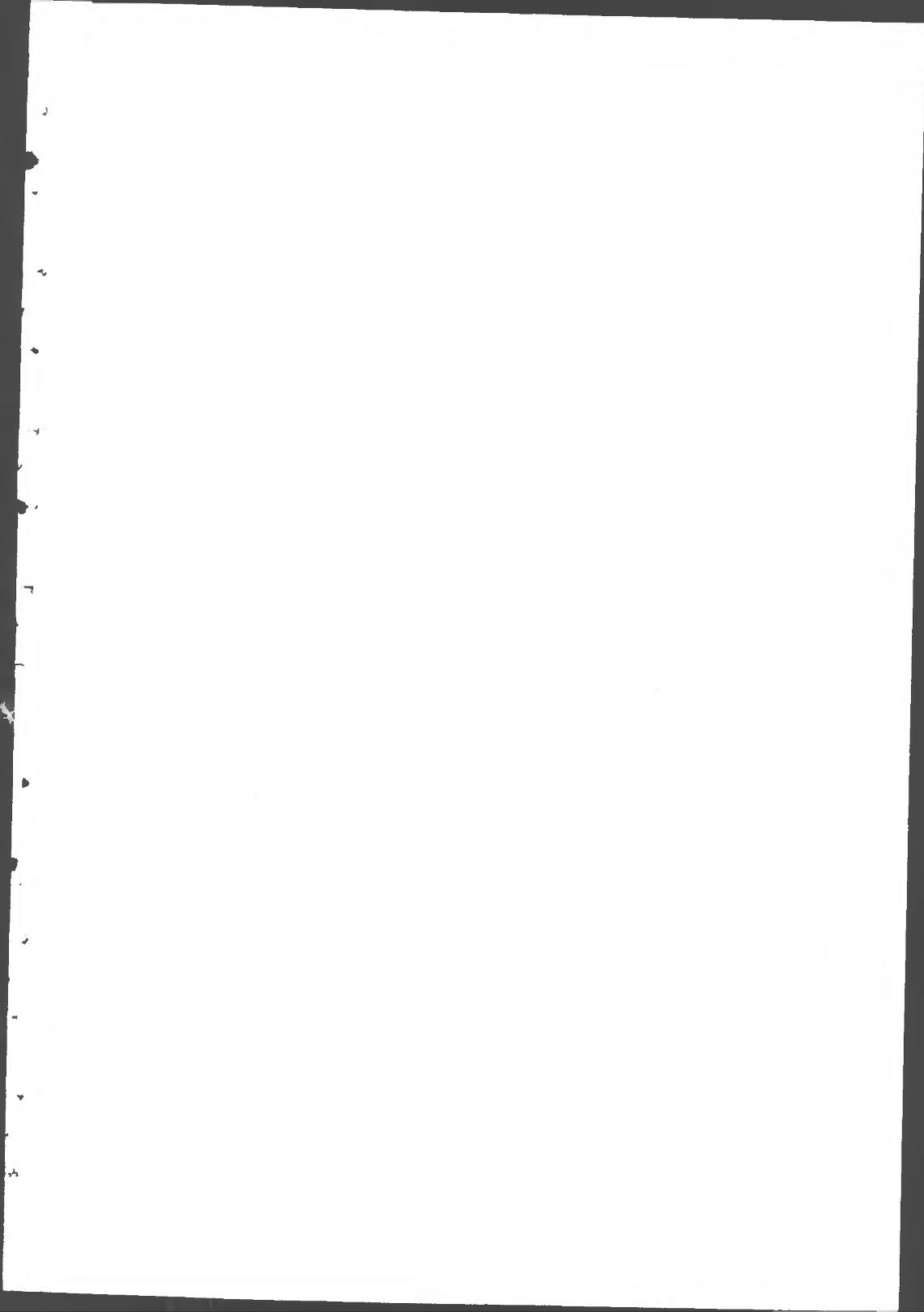
PART III. THE CONCEPT OF POVERTY LINE

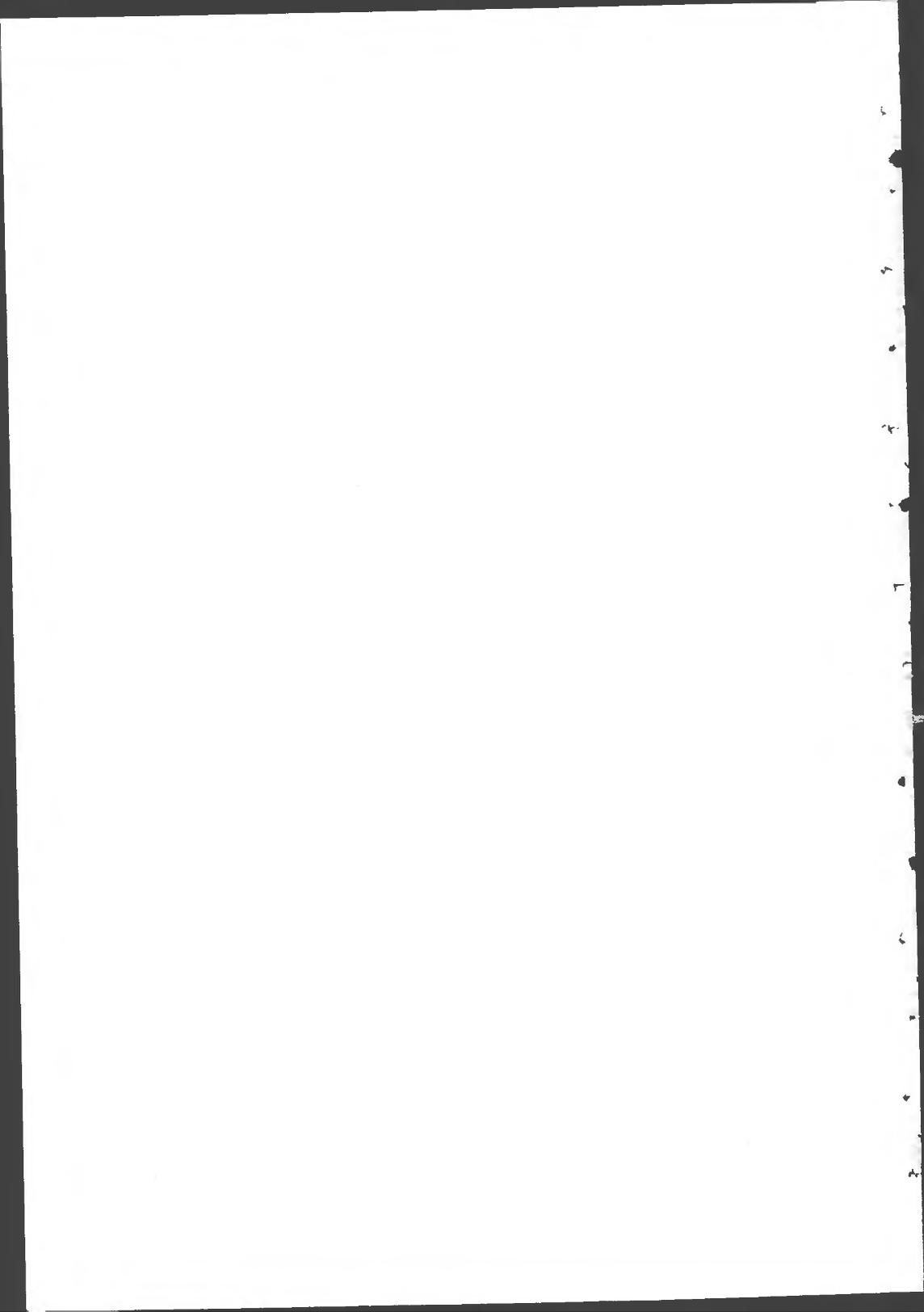
So much has been said and written on poverty line in India, in other developing countries and in International Organizations, that one cannot escape that issue.

When interviewing villagers (in Hindi in U.P., Bihar, and Rajasthan, elsewhere with an interpreter) one comes to the conclusion that the poorer a man, the more difficult it is to assess his income and his expenditures, unless one would spend a whole year with him. (1) We may know roughly his wages for his basic activity (agricultural labour) and even so there is a sizeable margin of approximation, but it is much more difficult to know how many days he is employed. What about his wife's work, or his children's? Then come subsidiary activities which may make the difference between acute misery and poverty bearable. They are particularly difficult to assess. The same applies to food. Often it is safer to complement rough available data with one's own eyes: to see how a man or a woman looks, talks, behaves. Then one can feel if his poverty is bearable according to local standards, or if he is so miserable that, physically, mentally, spiritually he is devoid of any alertness and just survives. That such people exist in India is unfortunately true, but how many? And with what income and expenditures? Nobody can give relatively precise figures. For all these reasons, one cannot help questioning certain data from the National Sample Survey.

(1) Such a conclusion has often been brought out by leading anthropologists like professor M.N Srinivas who, once made witty comments on economists spending all their time tabulating dubious figures in their office, instead of getting to the grass root level and talking with the poor they feel so concerned about!

Besides, such an exercise is of little use, because anybody a bit familiar with India knows that, no matter the figures, the problem of poverty is of such magnitude, at least in certain areas, that, for a long time, no effort in terms of money and cadres will be too large to solve the problem.







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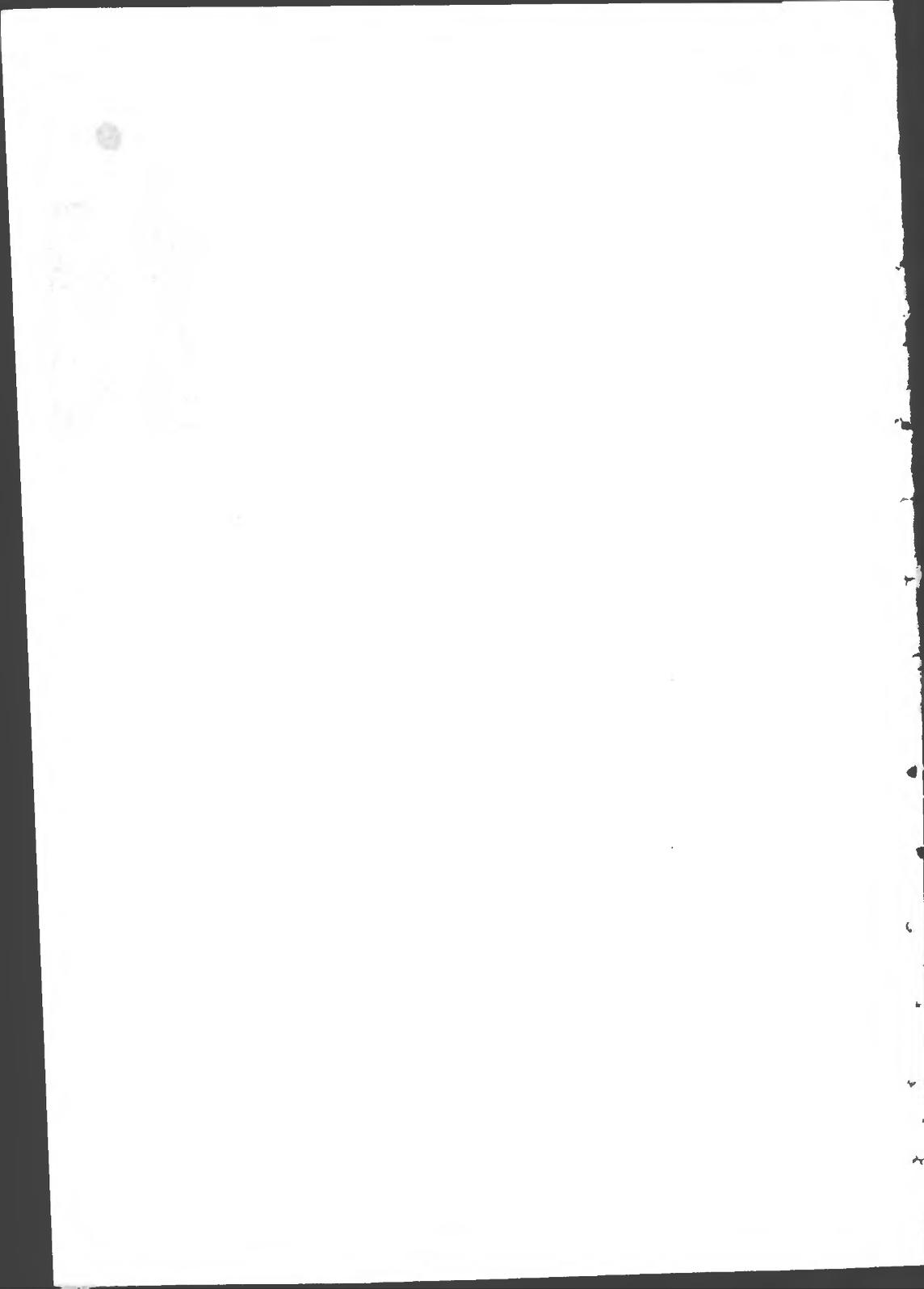
"INVOLVING WOMEN IN RURAL DEVELOPMENT PROCESSES"

by

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*Paper presented at the Meeting on Administration
and Organisation for Women in Agricultural
Development held at ODI on 29 March 1979*

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INTRODUCTION

In the last 10 years there has been much serious discussion on the role of women in national development. Ester Boserup's pioneer study, Women's Role in Economic Development (1970) was one of the earliest studies on the subject. Since that time increasing attention has been directed to different aspects of women and development in various parts of the Third World (for a representative sample see Boserup, 1970, 1975; Buvenic, 1976; Nelson, 1979; Palmer, 1977; Signs special issue on women and national development, 1977; Shaukat, 1975; Tinker, 1976). The conclusions of these investigations have been that development processes have been run for and by men; women have remained marginal to these processes and in some instances have actually been disadvantaged by them. All agree that this is a tragic waste of human resources. In the International Development Strategy for the UN Development Decade one of the goals and objectives of the decade is "the full integration of women in the total development effort." "Women's integration in development will benefit not only women but the whole society of men, women and children" (Boserup, 1975:8).

I feel that enough has been written to document the fact that women have been disadvantaged by development. It is now time to move ahead and to focus on the ways in which these disadvantages can be rectified. This is the purpose of this paper. Integrating women into the total development effort first requires integrating them into all levels of policy making (both as framers of policy and/focuses of policy decisions) and then

including them as active participants in development projects. This will entail hiring women project staff, involving village women in community participation exercises, as well as considering the short and long term effects of any technical or economic inputs on women's lives. In this paper I present some initial thoughts on the subject, drawing on two detailed case studies: the IRAM report on the Animation for Women Project which was part of a larger integrated rural development scheme, Animation au Développement, begun in 1966 (Barrès, 1976); and the Abdullah and Zeidenstein assessment of the Pilot Project in Population Planning and Rural Women's Cooperatives which was part of the Bangladesh Integrated Rural Development Programme begun in 1974 (1978). I hope to clarify some of the problems and difficulties facing projects which are designed for rural women. While it does not claim to offer any definitive solutions at this stage, tentative suggestions are offered on how these problems might be approached.

POLICY

A. Role of International Agencies

The first step in altering development strategy in regard to women must be taken at the level of policy making in the capital and in the International Agencies which fund and organize programmes in the Third World. Though things are far from ideal in the various unilateral and multilateral agencies, there are hopeful signs that they are giving serious consideration to the concept of involving women more meaningfully in development processes. The Percy Amendment in the United States recently

made it mandatory for every USAID feasibility study of a development project to include a consideration of its effect on women, no matter how seemingly unrelated to traditional feminine spheres the project might be. Thus an assessment of a new hydroelectric project must contain such an assessment. Many country or regional missions of USAID have now hired an "expert" on women to provide this input. The recent concern of UN Agencies with the Basic Needs Approach can also be seen as a step in the direction of recognising women's work burden and the need for technological innovations which would allow poor women to satisfy their families' basic needs more efficiently in a less time-consuming and arduous manner (Palmer, 1977). UNICEF is presently considering expanding their mandate to include funding income-generating activities for Third World women. Though there is a long way to go, the signs are all favorable for continued improvement. International Agencies can play a strong advocacy role with governments and decision makers, urging a more meaningful consideration of these issues.

Outside agencies can do more than just play an advocacy role for women vis-a-vis governments of Third World countries. These organizations can draft projects or set up requirements which make it obligatory to consider women's position in the operations proposed for funding. These requirements will at least open the door to a dialogue at the policy proposal level. There is a danger that this dialogue will develop into a ritualized acknowledgement of the problem by government officials in order to obtain development funds. However, the attempt must be made. Once governments have made policy statements indigenous pressure groups might force those in authority to

follow up rhetoric with action. To assist this process International Agencies can fund country-level research (preferably action-oriented) on rural women.

B. Research on Women

It is not the main purpose of this paper to detail the ways in which attitudes and approaches must be altered at a national policy-making level. However some tactics will be briefly outlined. Initially there is a need for country-level research, data collection at a village level and analysis to establish the present socio-economic position of women, partly to explode current myths about their lack of importance to village economies and partly to examine in detail the factors that may facilitate or constrain the provision of wider opportunities for women. In many parts of the Third World, there is overall a dearth of information on women and the roles they play in their society and economy, but frequently ignorance about rural women is relatively greater. As an overview of the literature on women in South Asia revealed, only a tiny percentage of sources available on women dealt with rural women (Nelson, 1979). This is more likely to be the case where the roles women play are privatized within the household, such as in Islamic countries. For example in Bangladesh many men are convinced that women do very little "work", dismissing their contribution to household productivity as "mere housework". Such reports as Almagir's comprehensive profile of the lives and work of Bangladesh women (1977) go a long way to refute these beliefs. Each country must carry out its own research

exercise within its different regions, since the situation of women in each will be the result of particular combinations of historical, cultural, social and economic factors. Experts who would never dream of applying generalized and stereotyped solutions to technical problems show a distressing tendency to think that issues involving women are simple and can be met with standardized panaceas everywhere. Women's Bureaux could be set up which would collate, collect and coordinate existing information as well as encourage, fund and partially direct future research. It is important that local scholars wherever possible take the lead in this research rather than depending on foreign experts.

C. Changes in Policy Making Bodies

Knowledge is power, but only when it is used. This knowledge must be utilized to sensitize those in positions of power in government and civil service to the special problems of women in development. Ministers and civil servants must be convinced of the real national importance of actively integrating women in their development processes. To do this women's needs must be made explicit in reports and feasibility studies. Women must be included in high level decision making committees and more women recruited at all levels of national ministries, agencies and project staffs. Having women in positions of power does not automatically result in a better deal for rural women. Women appointed to such posts are often members of the urban elite (notoriously ignorant about the conditions prevailing in rural areas for both men and women) and have been trained in universities which reflect the "male bias" of their societies.

However, I feel that it is an important first step. The chances are greater that women will be more sensitive than men to the peculiar problems faced by other women. In addition, women in positions of public power can serve as important role models for male compatriots and other women, demonstrating women's competence to deal with the larger world of politics and business. In the long term, such women may help to shift public opinion about women's proper roles.

ORGANIZATION AND MANAGEMENT OF PROJECTS

For the sake of the discussion below we will assume an hypothetical case of an integrated rural development project which seeks to involve women within its jurisdiction more actively. This is partially because I feel that isolated women's programmes have a smaller chance of success, and partially because the case studies referred to are examples of such projects. In this section three basic areas of the organization and management of the aspects of the larger project concerning women will be discussed. These will include staffing, selection and organization of projects, and the popular participation of local women.

A. Government or Project Staff

The decision to expand the concerns of an integrated rural development programme means seriously rethinking staffing policy. In most rural regions it is patently impossible for male project staff to deal effectively, if at all, with village women. "In many countries, customs and cultural and religious

constraints make it inappropriate for male agricultural extension agents to contact women directly" (Dey, 1975: 47). It has been assumed in the past that women will be influenced through their husbands; but this has often proved unsuccessful. A village woman's comment quoted in the IRAM report is revealing. "It (fungicides and fertilizers) is for men... everything brought to the village by a man is for men. If you women staff brought some in we could also have it" (Barres, 1976: 34).

(1) Recruitment Once the decision is made to recruit women, the first obstacle will be a lack of qualified women to fill the posts. In countries of South Asia or the Middle East, the level of female education lags lamentably far behind that of men. In other countries, such as those in South America, while women's literacy rates and university attendance compare favorably to those of men, women rarely qualify in the sciences, agriculture and other technical subjects. Thus when a project advertises for women to fill technical posts it may be difficult to find women with the same educational level as their male counterparts. The directors of the project may be forced to accept lower qualifications in order to obtain appropriate female staff. This solution creates a further set of dilemmas. Will the project obtain people with the proper skills and capabilities? Should women of lower qualifications be paid the same salaries for the same work as their more highly qualified male peers? To do so undermines the salary scales and can only serve to anger the men staff. To not do so stamps the women staff as inferior. There are no easy answers to these questions. It may be assumed that with care capable women can be found, especially since women having suffered an educational disadvantage in the past means

that a woman's paper qualifications are not an accurate assessment of her innate qualities and ability to learn. Perhaps much could be done to train and further qualify women on the job, as was done in both the Bangladesh and Niger projects. Neither report made clear whether or not male project staff were similarly trained and whether or not the qualifications of the women staff were significantly lower than those of the men.

When women are recruited for the staff a number of criteria must be considered other than academic training and personal commitment to the work. Often a choice will have to be made between more highly qualified young married girls and older married women with a lower academic standard. Preference is often given to married women for two reasons. First it is assumed that due to local marriage pattern unmarried women will eventually move out of the area to live with their husbands. Secondly, married women "are preferred because their status enable(d) them more easily to have contact with village women" (Barres, 1976: 79). This is a personal characteristic which would be unimportant in the hiring of male staff. In Niger it was found that women Animation staff who were married worked better with village women and also fitted in with fewer complications with the male Animation teams. However, married women were less able to travel in the field or go for training outside of their home towns because of family responsibilities. This trade off of stability/maturity and education/mobility is something which the project senior staff will have to settle; each particular socio-cultural region will impose its own individual demands on project staff.

(2) Staff Training On-the-job training in the two case studies was extensive. In Bangladesh the women had preservice training in class and on the job, regular in-service seminars, field trips, visits from headquarters staff, discussion groups and research assignments. Those who trained the staff attempted to counteract their naive attitudes to rural women (whom many regard as dirty, ignorant and superstitious); taught methods of collecting basic information about rural women; stressed the importance of providing feedback from the village to those in charge of future planning for the project; gave technical training in whatever expertise the village staff needed to be taught (agricultural techniques, hygiene and family planning, literacy etc.); helped the new staff members to overcome their ignorance of and embarrassment in discussing sex and family planning; and transmitted general techniques of community organization (Abdullah, 1978: 166-183). In Niger the new staff members received "their training as part of their daily work, in the field and in conjunction with their activities, and periodically, by intensive and more theoretical sessions at the 'department' and national levels. The fieldwork training included learning techniques of holding meetings, interviews, surveys, audio-visual techniques as well as methods of writing and using reports and thematic filing systems." (Barres, 1976: 79). In neither report is the commensurate training given to men staff members mentioned. It would be ironic indeed if the special status of women staff members meant that they receive a more adequate on-the-job training.

Training may have to go beyond the transmission of technical information or methods of community organization. It may

be necessary to help women, even women of a high educational standard, to assert themselves in a group where men are present. Women may have to be encouraged at first to put their point of view across. Male staff members may have to learn to accept criticism and advice from female colleagues. All can involve a learning process running counter to deeply held cultural beliefs about the proper behavior of men and women.

(3) Conditions of Work When women have been recruited and are undergoing their training it will be important that as part of their training they share their experiences as pioneers. In order to lessen the shock of criticism and hostile attitudes of family, villagers and male staff members women could hold discussions to air their feelings and their common experiences. I once met the first and only local woman field officer in the Pakistan office of a development agency. She spoke movingly of the loneliness and isolation of being the only female in her office. It would also be helpful to hire more than one woman for any particular level of the hierarchy to prevent this isolated, threatening situation. Male staff members may experience strain working alongside a woman, much less under a woman superior. This conflict is not unique to the Third World, but it is bound to be exacerbated by any lack of familiarity with the situation of unrelated people of opposite sex working together on an equal basis. Would it also be useful to include male staff members in some of the discussions on the awkwardness of adjusting to new working conditions? While I am not suggesting anything as self consciously therapeutic as work encounter groups, accommodation to new relationships between the sexes in a work

environment must be made by both men and women workers and understanding each others' fears and problems could possibly ease tensions.

Practical suggestions can be made to minimize the initial shock of integrating women into a male project staff. Firstly women could be formed into autonomous subsections within the larger organization thus keeping to a minimum any contact between men and women in the carrying out of their duties. Secondly, if this is not done women can be recruited in groups, as was suggested above. In the beginning it might be wiser to hire older married women who will be subject to less teasing and command more respect from their male colleagues. The aforementioned Pakistani officer was young, attractive and unmarried; all of which no doubt contributed to the unpleasant ragging and hostility she met with. But the most important variable is that of numbers, I am sure. Women in pairs or groups can give each other the moral support and companionship important to neutralize possible negative reactions from both colleagues and villagers. In Bangladesh it was found that having women extension staff move from village to village in pairs was enough to defuse village leaders' objections to these 'loose moraled' women allowed to wander about the countryside unattended.

If women extension workers have greater difficulty travelling in the countryside than their male equivalents, special recognition of this fact may have to be made in the form of larger travel allowances. Women in Bangladesh found it impossible (due to custom) to walk between villages. They could not ride bicycles or motor scooters and were forced to take taxis. This is culturally variable and in some regions moving the women in

pairs may be a sufficient protection of their respectability. In other areas even this precaution may be unnecessary.

Lastly care must be taken within the management of the project to give responsibility equally to men and women staff, while possibilities for personal initiative by women in the organization should not be discouraged. Proper rewards for initiative and hard work must be given in wage scales and promotion. To create a second class female staff will only undermine staff morale and serve to underline the feeling that those parts of the project related to women are second best.

B. Selecting and Structuring Specific Projects for Women

In many instances when steps are taken to include a women's programme in an on-going project, organizers may assume that a viable programme for rural women has already evolved and simply has to be implemented. In both the Bangladesh and Niger projects this was not the case and the women's component of the larger project had to be created with care, village level research and consultation with village women.

(1) Data Gathering As a First Step The Bangladesh Women's Pilot Project first collected information about rural women then evaluated new approaches to development. The organizers had to solve the problems of whether or not rural women staff could be recruited and who they should be, how they could be trained and how well they should be supervised. Careful consideration and consultation were held to help village women evolve their own economic programmes. Methods were sought to involve increasing numbers of women at a local level and various issues were explored

relating to training rural women (Abdullah, 1978: 147-151). The exact methods that were employed in the gathering of data and the framing of future activities were not described in the document. At the training stage for the women staff they spent long periods in the village. This served the double purpose of familiarizing the staff with village life as well as providing feed back to Headquarters about the response of local women to the guidelines. It was stressed that the rural women themselves should determine the future of the project (Ibid: 174-179).

Similarly the methods of the Animation project in Niger began with a global survey done by the Animation staff. The women lived for weeks at a time in villages, sharing the living conditions of the villagers. The data that they collected was fed back to the villagers at meetings in order to stimulate discussion in order to reach some qualitative assessment of the quantitative data collected in the survey. When certain high priority problems were isolated, specific surveys were instituted and further discussions held at a village level. Women were urged to clarify for themselves those problems which they could solve themselves and those needing outside assistance (Barrès, 1976: 68-70).

It is important to stress that this period of data gathering and consultation with village women and men take place. It cannot be assumed that approaches and problems as perceived by men will automatically be adequate or meaningful for village women. Male bias in official expertise must be eliminated since if women are to be mobilised (or more exactly mobilise themselves) to perform certain activities, they must be those which they see as of high priority, not the ones valued by village men or project

staff. However at this stage compromise may have to be sought between what women value most highly and what men will initially permit. In Niger the first projects implemented were childcare and health projects because they were both important to women and acceptable to men. It was felt by the organizers that once the positive effects of such programmes were felt it would be possible to proceed gradually to other more controversial areas of action.

Finally it is important that female staff have adequate experience and exposure to village conditions. In many countries educated women (usually coming from the upper strata of society) may come from towns and be lamentably ignorant of the realities of village life. The same is of course true of educated men, but often women have been even more sheltered from harshness and poverty than men and so will profit from such an introduction to village women's lives.

(2) Structuring of Women's Projects There is no single structure ideal for development projects for women. The two case studies demonstrate entirely different approaches to the problem. The Bangladesh project utilized women's village cooperatives to organize economic and family planning activities. Staff members first call a village meeting to talk to men and convince them to allow their women to participate in the project. When the women have gathered the staff question them about the type of programme they wish. Frequently the initial reaction is to suggest home development activities, such things as embroidery or cooking, which are the only type of "women's programmes" with which the villagers are familiar. The staff are at pains to point out the inapplicability of early approaches such as these. The staff

urge the women to form cooperatives in order to achieve through group strength solutions to problems which they see as important and to make demands on government agencies for necessary services. Women are asked to decide what to do by way of an economic activity based on what they already know (Abdullah, 1978: 185-202). Once the decision has been taken to form a cooperative, five women are selected as representatives to make a weekly trip to the district headquarters for training. These leaders communicate relevant information, supplies, and services to the cooperative members when they return to the village.

Cooperative members must buy a share before joining the organization in order to give each member a sense of economic commitment to the cooperative. Regular weekly meetings are mandatory to encourage group decision making to take place and to permit the transmission of information or materials from extension workers and cooperative leaders. Cooperatives can apply for loans on the basis of a production plan developed by members with the help of cooperative leaders and staff. The loans are actually given to individual project members for their own activities, but the repayment of the loan is a group responsibility. All of it must be repaid on the repayment date before any other loans can be made. While the production plan is being worked out, the staff gives classes on loan procedures, production plans and uses of loans which are both profitable and productive (eg. members are urged not to use loans to fund hoarding activities). How the loan is allocated amongst the members is left to the individual cooperative to decide (Ibid: 221-233).

In contrast the Animation project in Niger opted for a more ad hoc project approach attacking different issues often in collaboration with other ministries. It was not clear whether

these projects included all or only selected villages in an area. The procedure followed by the Animation de Développement project was to select and train local peasant animators in order to encourage voluntary participation of peasants in development. This method "of promoting peasant participation provides results more slowly at the outset but gives positive results in the long run" (Barrès, 1976: 71). It hopefully introduces a self-sustaining process which transforms the type of work done by government or project staff. The government staff participate at the level of training the animators, supporting village projects, and making plans at the level of groups of villages.

There is nothing in the above which would not apply equally to organizations structured for men. However several generalizations can be made which are specific to projects organized for women. First the acceptance of the men of the villages must be obtained before any work can be begun. Men have to be convinced that letting their households' women participate in development activities outside of the home has more advantages than disadvantages. In certain cultures men may need more persuasion than in others.

Secondly it cannot be assumed that the structures which are effective in mobilizing village men will automatically be effective for the women. In Bangladesh the IRD Programme has operated on the basis of all-village cooperatives for men. There is some reason to believe that the law which allows only one cooperative per village in Bangladesh may be a barrier to a more effective type of organizational structure for women. The para (or cluster of related households) may initially be a more realistic unit for female cooperative membership. It seems that some women may

be barred from membership in the cooperative because they are not allowed to travel freely outside of their own para. Perhaps it would be possible to set up branches of the village cooperative in each para? Imagination and flexibility are important when structuring development programmes in general, and for women's programmes in particular.

(3) Choosing Peasant Staff Many of the difficulties attached to training government or project staff mentioned above would apply equally to the training of village or peasant staff. There are some differences related to the higher economic background, status, and education of the government staff women. At the village level it could be difficult to obtain young women, married or not, for such posts. Local tradition may decree that such unmarried girls be sequestered in their father's household, while married women with small children may be prevented by pressures of childcare or duties to older female relatives. These are not insurmountable obstacles as can be seen in the Operation Midwife in Niger where the village women themselves eventually decided that the midwives to be sent for training had to be young and strong enough to learn new techniques (Barrès, 1976: 72). Again the organizers may be faced with having to choose between the combinations of age and experience or youth and higher educational standards. In contrast to the more highly educated government staff, it is likely that older village women will be more mobile than unmarried village girls because social convention is a stronger force amongst the rural peasantry than it is among the educated elite. This again will vary from place to place.

The selection of peasant staff is bound to reflect the hierarchical nature of the village rather than the individuals' capacity to fulfill a function. In Bangladesh this was not recognised but little seemed to have been done to combat it. It was hoped that women of higher status in the village would provide role models for change to poorer, lower status women while recognising the danger that they might co-opt the resources of the cooperative for themselves. The Animation project in Niger tried to counter this elitism by increasing the number of women animators in each village while emphasising in training the specializations necessary for successful performance of short term action. This enabled women of no recognisable status to assert themselves by their ability. This is a problem that will be faced by all organizations, male or female, which attempt to mobilise grass roots popular participation. However poor rural women may find it more difficult than poor rural men to assume group leadership and initiative in an organization which includes women of higher status. Higher status rural women, though they may of necessity be subordinate to the men of their family and class, will often have had experience in directing the labour of other men and women. This is an advantage in developing the habit and ideology of leadership. Admittedly this point is speculative, but one which deserves consideration.

(4) Training of Peasant Staff When considering the training of peasant staff questions of travel and distance from the village of training centres are important. Women by nature of their domestic responsibilities as well as the constraints placed on them by culture will be unable to stay away from home for extended periods of training. For this reason it would be

useful if training centres were small and decentralized, designed to serve adjacent villages as was done by the Niger Animation Project.

Where this is not possible because an existing infrastructure must be used, as in Bangladesh, care must be taken to ensure that proper travel arrangements and accommodation are provided. Travel allowances may have to be higher and accommodation will have to be segregated and seen to be respectable to avoid censure by village leaders. It may even be reasonable to provide child care facilities at such training centres so that poor women without relatives able to care for small children would be able to travel with their babies.

Training of women peasant staff will be made more difficult by the relatively greater illiteracy and lack of specific skills of rural women compared to rural men. Training given to women in such fields as bookkeeping, loan procedures, record keeping, or any mechanical skills may have to be more intensive than that given to men. Women in many areas also lack the experience with forms, government bureaucracies and regulations.

C. Popular Participation of Village Women

When the staff of a development project wish to gather village women in groups or to approach them singly for whatever purpose, certain considerations must be kept in mind.

(1) Convening Women in Public Meetings Local custom may make it awkward for women to meet in public places. Where this is the case, then government staff must try to circumvent these restrictions. Perhaps holding a series of smaller meetings in

the homes of more prestigious families will be necessary at first. (This procedure also has its dangers, eg. it may appear as if the development activity will be run by the higher status families). Perhaps the staff could persuade the village leaders to set aside a certain place, such as the school room after hours, for the use of the women. Eventually perhaps a women's centre could be built which would incorporate clinic, health and family planning centres, and rooms for meetings, classes and economic activities.

(2) Timing of Activities The timing of contact activities for development programmes is of prime importance to ensure large scale participation of village women. It must be remembered that rural women often have less free time than their menfolk, especially where they are actively involved in productive activities along with their domestic responsibilities. Public meetings, training sessions and trips for peasant staff must be scheduled at times convenient for local women, especially the poorest and often most overworked women, rather than for that of the government staff. For example it may be necessary to suspend training etc. in the harvest season or other periods of women's peak labour contribution.

(3) Child Care Facilities If programmes are set up which include training programmes or economic activities which will take place outside of the home, there must be provision for child care made at the same time. This can be done in a variety of ways. The creche could be run communally by the women themselves, or childminders could be paid to run the creche on a full or part time basis. If this is not done, mothers with small children

may be unable to attend or young daughters will be forced to care for their younger siblings to the detriment of their schooling.

(4) Utilizing Traditional Women's Associations or Groups

Where women already have traditional organizations sometimes it might be sensible to utilize these (at least in the beginning) to initiate a discussion among the local women and between themselves and the project staff on the possible structuring of development activities. Women's age groups, savings societies, or even networks of kin and friends could provide these initial contact points. Whether or not they will provide the structure for future organization will depend on each particular context. How homogeneous are these local groups? How much do they reflect local hierarchies? Do they have the organizational potential to expand the bureaucratic and training inputs of a development project? Since women in many rural areas (and I say again that this is highly variable from culture area to culture area) are difficult to approach by outsiders the initial use of traditional organizations may be a way which is less threatening, both for village women and their men.

CONCLUSION

In the above paper I have set out some of the considerations special to programmes which aim to involve women in development processes. First the necessity of effecting changes at a national policy level was discussed and it was suggested that International Agencies take a strong role in advocacy in this area while at the same time providing funds only for projects which include a

meaningful consideration of women's lives and socio-economic roles. The importance of country-level research on women, perhaps organized by a Women's Bureau, was stressed as well as the need to recruit women for decision-making bodies at both national and regional level or for ministries and civil service.

I then addressed myself to the special problems which might be encountered in the organization and management of projects which are directed wholly or in part towards village women. It must be stressed that one cannot generalize for the world. Two case studies, one from Niger and one from Bangladesh, were used to illustrate my arguments. The three major headings under which I discussed organizational and management issues were those of government staff, the selection and organization of specific development activities and popular participation of local women.

The over-riding importance of recruiting women staff and the possible difficulties of locating qualified individuals were emphasised. Hiring of female extension staff entails consideration of qualities normally unimportant in staff recruitment ... ie. such qualities as marital status, age, and mobility. Some of the ways in which staff training and conditions of work would have to be adjusted were discussed.

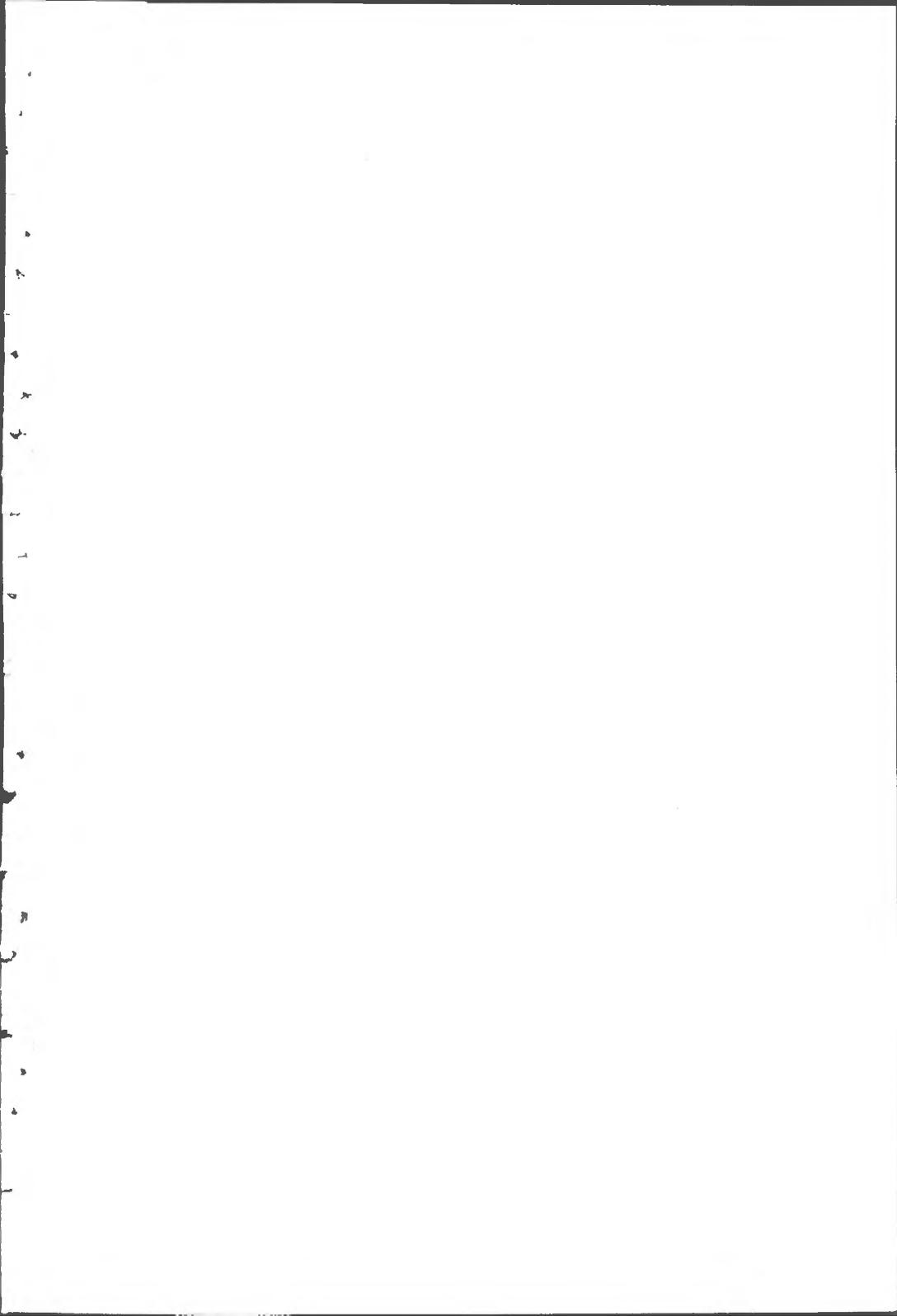
In selecting specific development projects for women, the need for local consultation with women and men is of prime importance. Though no magic formula exists for deciding on a structure for projects for rural women, whatever structure is decided upon, several things must be kept in mind. Village men must be first convinced of its importance. It must respect local ideals of women's proper role in society. This means that the solutions applied locally to male development projects cannot

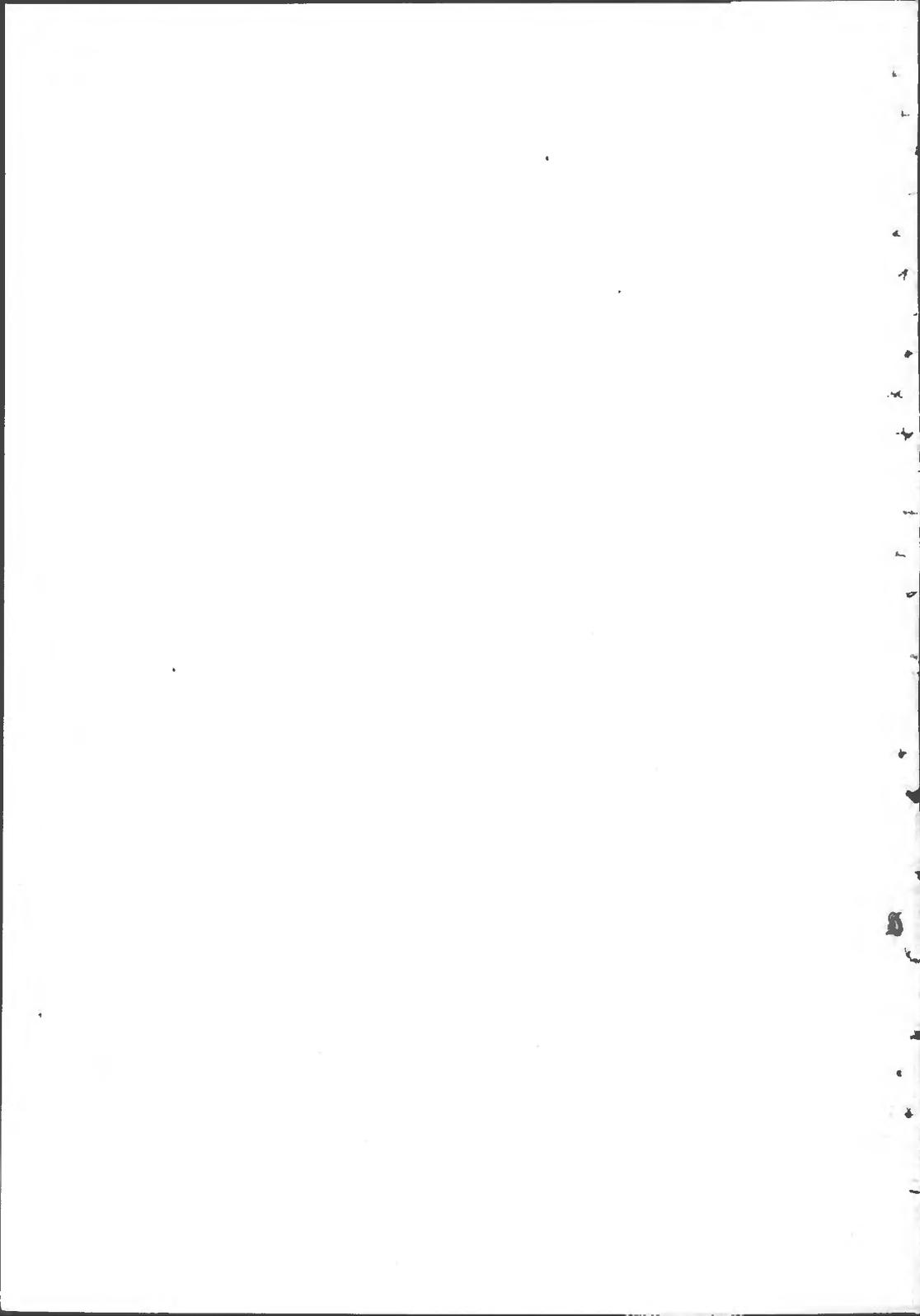
be automatically assumed to be useful for organizing women. Choosing and training of peasant staff present specific problems of selection criteria, travel and accommodation.

Mobilizing village women may be easy or difficult depending on local tradition regarding the role of women in the public arena. The constraints on convening women for public meetings, the importance of scheduling development activities, the need for child care facilities and the possibility of utilising already existing women's groups all must be considered. Involving women at various levels of decision making in development projects may not be an easy task but it is a worthwhile goal to strive for. Its achievement can but add to the strength and success of village level development, broadening the base of participation and commitment to new programmes.

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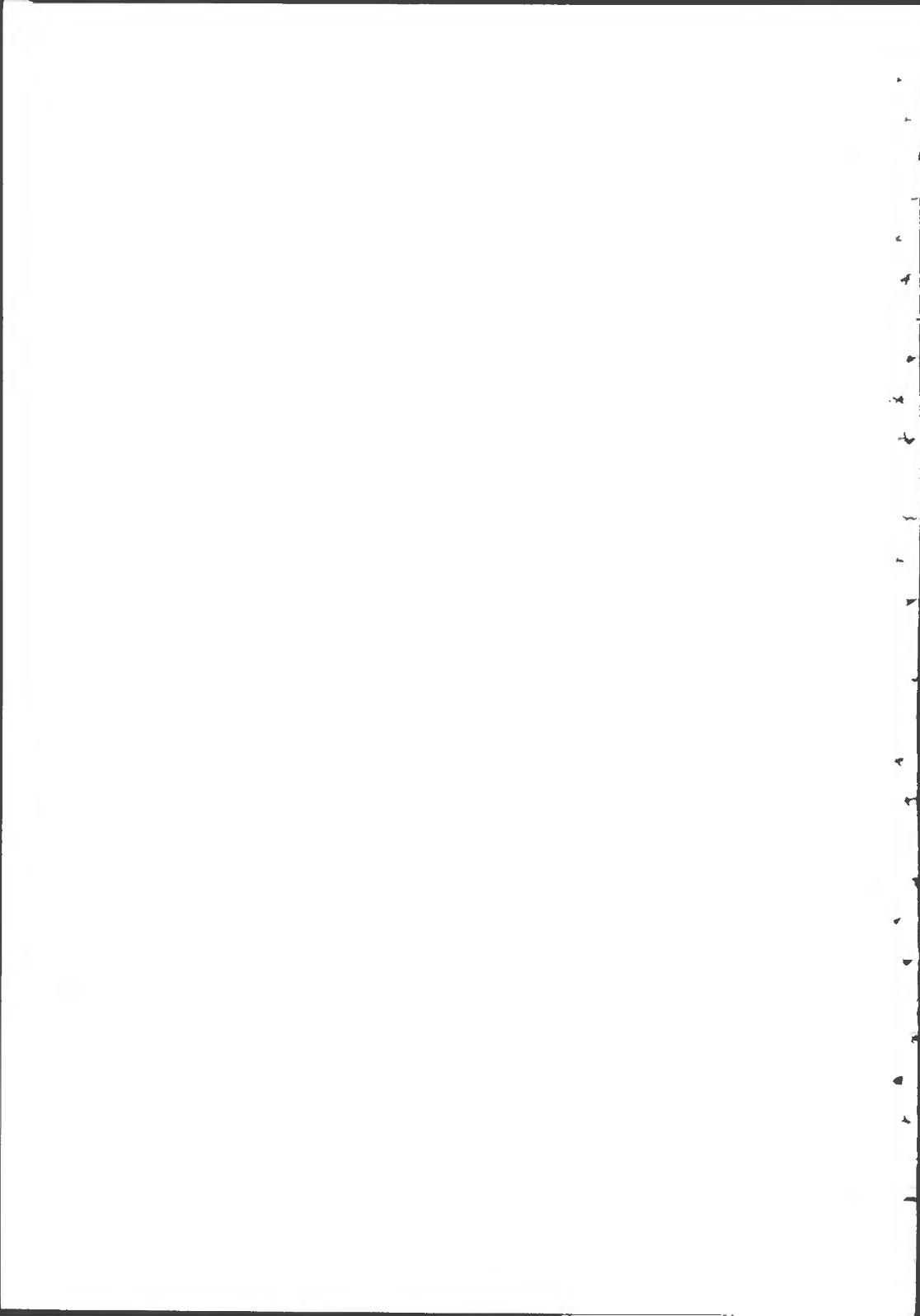
"TRAINING MANAGERS FOR AGRICULTURAL
DEVELOPMENT PROJECTS"

by

John Howell

Overseas Development Institute

*Paper delivered at the Consultative Workshop on
Agricultural Project Management Training held
in Colombo, Sri Lanka - 28 May to 8 June 1979 -
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Institute, Colombo*



TRAINING MANAGERS FOR AGRICULTURAL
DEVELOPMENT PROJECTS

JOHN HOWELL

Overseas Development Institute

INTRODUCTION

Disappointing agricultural project performance is often attributed to 'poor management'. This can mean at least four things. Firstly, the institutions which were given responsibility for the implementation of the project failed to perform the standards of performance expected of them; secondly, the procedures which were introduced to give direction to the project failed to work efficiently; thirdly, the specialist project supervisory staff - such as financial controller, engineering supervisor - proved inadequate; and fourthly, the project manager was unable to exercise effective authority over the implementation of the project. Of all these management factors, the fourth - the calibre of management itself - is the one that has probably received least attention. It is, of course, the least amenable to attempts at improvement. Organisational aspects of project delivery have been studied fairly extensively, over the past few years particularly; rather less progress has been made on project management procedures although monitoring in particular has received considerable attention; and, where necessary, most projects now have a substantial component for technical and professional training and up-grading of skills. But improving the quality of top management is not a matter where general prescriptions or detailed procedural recommendations, are likely to have much effect. Furthermore, because of the particularly difficult environment in which agricultural

project managers operate, there are considerable limitations to the effectiveness of management training.

Nonetheless, there appears to be some scope for the development of agricultural project management training, which has clearly been a neglected area particularly when contrasted with the emphasis upon training in project planning. This paper is concerned with this 'scope for development'. It is in three parts: 1) the variables which need to be taken into account in determining agricultural project management training needs; 2) management training methodology and its application to agricultural projects; and 3) suggestions for components for agricultural project management training.

1. VARIABLES

The most important variables in determining training needs are:

- a) types of project and the management 'style' required for each;
- b) the administrative location of projects;
- c) the sources of recruitment for managers
- d) the timing and duration of training; and
- e) the level and functions of trainees

a) Project Types

There are a number of ways of categorising projects: the one which is used here is based upon the organisation of production, and covers a spectrum from direct production schemes to projects where there is service provision alone.

i) Direct Production

The main characteristic of such projects from a management perspective is that production is directly controlled, as in a large commercial farm. Direct production may be based upon the necessary economies of scale where mechanisation is widely used or on the processing of perishable crops such

as sugar cane or sisal. Management is concerned with the optimal use of resources and particularly with regular levels of throughput where processing is involved. The manager's skills are those required in any large enterprise. The organisation is based upon the technology involved (e.g. in water use, harvesting, milling), and the need for a high degree of control over both a number of specialist 'staff' functions and a 'line' of production. Internal management problems are likely to include the balance between delegation to field managers and centrally-directed production targets, and incentives for the work force; external problems involve negotiations with Government on prices, marketing, investment, etc. In other words, there is a great deal in orthodox business management training - largely designed in an industrial and commercial context - which is of relevance to direct production agricultural projects; and one of the first rules of enterprise management - thorough knowledge of the product - applies with particular force to agricultural management in this type of project.

ii) Supervised Production

In the main, this refers to irrigation schemes where there is a need to enforce management decisions on (e.g.) rotation, water-use and marketing on a number of producers (normally tenants) growing one main crop, whose right to cultivate land is conditional upon following such direction. This level of supervision is necessary because of high public investment in the project and the need to ensure an adequate return on investment. But, in practice, there are likely to be problems in gaining the full collaboration of the producer, particularly as sanctions are bound to be difficult to enforce - where, for example, water is misallocated or crops diversified. The establishment of supervised production projects also involves a large field level supervisory and service input. The staff themselves are likely to

pose a disciplinary problem for senior management, especially where different government agencies are involved in providing staff. The management problems in such projects are partly technical and partly economic (as in i) but other issues may be of rather more importance: these include establishing effective line management (information and control procedures, workable manuals, maintaining staff morale, etc.), reconciling conflicts of interests between individuals and groups, and possibly negotiating with tenants associations and other government agencies.

iii) Contracted Production

This type of project is where a number of producers are given incentives to cultivate a particular crop for either a local processing or a marketing facility provided by the government. Typically, this would be an out-growers type of scheme in tea, coffee, oil-palm, tobacco, etc. In return for access to loans, professional advice and other inputs, producers are required to achieve a certain level of output at a specified time. The authority of the project agency is normally buttressed by its monopsony of the single high-value crop involved. The value of the crop also allows a necessarily high administrative cost (especially in extension and post-harvest handling), which will normally be borne by the producer especially if the project agency already subsidises inputs. The role of management has many of the characteristics of any commercial product undertaking: minimising administrative overhead costs, ensuring quality control, anticipating markets, ensuring flow of inputs etc. There are a number of difficulties however. Producers - unlike those in ii) - are entitled to change their production towards other crops at any time (as the 'contract' arrangement only lasts for a crop season;) and the manager lacks the control over product or input prices to influence such changes. Moreover the manager has to ensure that services are in fact delivered and this will

involve collaboration with other agencies such as credit and input suppliers. Finally, the manager is likely to be confronted by 'institutional' problems: in a new project these will involve the creation, or otherwise, of a permanent crop authority; in an established project, these could involve the development of growers committees seeking to gain control over the project facilities.

iv) Service Provision

At the opposite end of the spectrum to i) are those projects designed to deliver services to a large number of small producers in the anticipation that such service provision will generate increases in the output and income of the producer. Unlike most other forms of management, this approach - which could be termed agricultural (as opposed to farm) management - means that there is no control over productive resources. The manager will have control over staff, vehicles, budget, etc. but it is the small producer alone who controls the use of labour, technology, capital etc. - as in iii). The main function of management is to induce change in the behaviour of others by delivering a package of services appropriate to the potential user. The manager must therefore develop an understanding of the needs of the small producer. Furthermore the manager must be sensitive to the capacity of farmer groups to assume some of the responsibilities for ensuring co-ordination of service delivery and effective use of inputs. Both the qualities and the style of management required in such projects are quite different from those which are necessary in i) and ii) for that matter. From i) to iv) the technical and economic skills of management assume proportionately less importance as 'social' skills (including investigation and experimentation) become more important.

Broadly speaking, there have been fewer management problems in direct production schemes than elsewhere and the problems of management seem to increase correspondingly with the lessening of control over the process of production. The implications for training are discussed in Section 3.

b) Administrative Location

The second variable concerns the position of the project in relation to the government administration. Some agricultural projects are administered within the existing ministry structure, possibly within a specialist department or a unit responsible for all agricultural sector projects. Other projects are set up as separate agencies sometimes with the intention of creating a permanent authority. In between, there are projects which have some budgetary and personnel autonomy but come under the general supervision of a particular ministry and are expected to transfer to normal administrative functioning in due course. In terms of management there are obviously considerable differences between these. In a separate authority the functions of the manager includes gaining external support, building corporate loyalties and establishing new procedures: within a ministry, the manager's role is restricted by established procedures and staff levels and also budgetary controls from above. Furthermore, the manager within the ministry may have a number of other responsibilities outside the project. In personal career terms, the manager of the autonomous project is more vulnerable if a project is unsuccessful but he has greater opportunity of self-advancement. As a result, a more entrepreneurial style of leadership is required than the manager of the ministry project who is likely to adopt a more self-effacing style. Many projects, of course, are of the 'intermediate' type. The implications for management training is that a balance needs to be struck between the innovative skills appropriate to enterprise management and the more

regulatory skills appropriate to success within a civil service environment. 'Intermediate' managers may also need skills appropriate to 'bargaining' with other agencies, where the parent ministry has simply a 'lead agent' role in a project involving several ministries and government departments.

c) Recruitment

One of the practical problems of management training is that managers often have widely different backgrounds. Again, there appear to be three broad categories. Firstly there are the professional agriculturalists who rise to management positions by virtue of demonstrated qualities of leadership. Secondly, there are the generalist administrators, and possibly professional economists and planners who have demonstrated aptitudes for project management responsibilities. Thirdly there are the managers appointed for their political record and known qualities of initiative. As well as the attributes of each 'type' there are also likely to be deficiencies as a result of different backgrounds: technical and professional people concentrating upon their own specialist area at the expense of broader administrative duties, generalists unwilling to exercise authority over ostensibly 'technical' matters, politicians overly sensitive to external pressures etc.

The problem for short course training for managers already in post is to identify the particular deficiencies of each individual. Some, for example, may require a better understanding of the small farm decision-making, others would benefit from exercises in calculating net rates of return. Even in the area of general management skills, the process by which agricultural managers are recruited means that there are likely to be considerable differences in the sophistication of individual managers on any course.

d) Timing and Duration

Short course training is only one of several aspects of training. In the first instance, training in project management can be part of the degree or diploma programmes for all agriculturalists. This would be on the grounds that (in most African countries at least) professional staff are likely to have some project management responsibilities at some time in their careers. Another possibility is that project management training could be a post-degree or post-diploma activity for those who are being prepared for management. This assumes a formal 6-9 month course in which particular financial and planning skills (for example) would be taught as part of the course. In Section 3, I discuss training in a different context: that is, a short (1-3 month) course for managers already with some experience of project management.

e) Level and Functions

The final variable concerns the term 'manager'. In this paper, I am discussing senior management, but obviously middle-level management is a critical component of project success. Ideally, training for staff such as loans officers, settlement officers, irrigation officers, etc. is best done at the project level and in-service. However, in practical terms, this is very difficult. But weekly management meetings, if purposefully organised, are a form of training and obviously it is one of the functions of top management to 'train' or develop middle level staff by introducing and maintaining such decision-making procedures.

2. MANAGEMENT TRAINING AND AGRICULTURAL PROJECTS

Although short course management training - or 'executive development' - remains rather mysterious to the outsider, and often takes the trainees themselves unawares, there is now a fairly well-established methodology and the conduct of courses is broadly similar whatever the environment.

Basically the approach is to establish a collaborative 'work-shop' type of course concerned with the identification of common management problems and with developing ways of solving problems - normally categorised as human, organisational, and technical. (This problem-solving group approach may be built up initially through simple games involving building blocks for example.) Emphasis is also upon the possibilities of change - on how to analyse an existing system and how to assess the likely consequences of alternative ways of doing things. Finally, the over-riding ethic is the full utilisation of human resources through building team approaches to decision-making. In this context, the manager's need to understand different values and pressures in different parts of the organisation are stressed, and the manager's role is seen as reconciliatory as well as innovative.

The case study method is widely used in management training with particular emphasis upon investment decisions (e.g. the consequences of product diversification), organisational change, labour relations and staff development. In 'project' cases, considerable attention is paid to the setting of objectives throughout the organisation and the need to maintain consistency of purpose.

There is obviously a great deal of value in this approach and I return to some aspects of it in Section 3. Nonetheless, there are a number of constraints in applying 'orthodox' management training to agricultural development projects, especially small farmer projects. Firstly, management training often assumes that the organisation is a relatively self-contained

unit with its own control over resources and with specific functions. As I have already noted, most agricultural projects do not have this control over the use of resources, and the success of the organisation depends largely upon the actions of those outside its direct control. This not only reduces the range of problem-solving capabilities but it also raises difficulties in applying orthodox project management techniques such as network analysis where it is necessary to specify activities and to know with some precision the duration of activities and the resources likely to be available. In practice, of course, the contingencies implicit in most agricultural projects rule out such certainties. Furthermore, the role of the manager in directing a project is severely constrained by the need to accommodate the often conflicting interests of other groups which may have no direct involvement in the project but whose support, or non-opposition, is nonetheless essential for its success. From below these include farmers, merchants, local politicians, etc; from above, ministers, civil servants, aid agency personnel, etc; and at the same level there are other projects, agencies, government departments, etc.

Secondly, agricultural project managers very rarely have the sort of authority which allows them to innovate and direct policy in the way envisaged for managers in training programmes. They work within a project structure already decided upon. They cannot usually recruit their own staff, or offer inducements or even effectively discipline staff in some projects which are closely bound to ministerial control. In terms of initiating team-building approaches to project management there are also likely to be public service regulations and traditions which make the application of new approaches difficult. Moreover in most developing countries, a manager would be regarded as lacking in status if he adopted a participative style of decision-making of the type advocated in most management development programmes.

The regular staff meeting is not a feature of agricultural service organisations.

Thirdly, the collective problem-solving approach is difficult to adapt to agricultural projects. The range of problems is so great that there is a danger of the group identifying problems on the basis of a lowest common denominator and the exercise becomes remote from the day-to-day difficulties of managing a project. One solution is to confine training programmes to specific types of project (e.g. credit, livestock) but there are practical difficulties in arranging for all possible participants to be available at the same time.

Despite these reservations, it would be wrong to conclude that agricultural project management training requires a new methodology or a new set of skills. The remaining part of the paper does however suggest that there are some areas which require particular attention in designing short courses for agricultural project management training.

3. COMPONENTS OF TRAINING COURSES

There are, I suggest, three main areas where managers can benefit from short courses. These are a) diagnostic skills, b) organisation development and c) management and decision-making.

a) Diagnostic Skills

I have argued above that one of the main problems for agricultural project management is understanding and responding to the demands and objectives of the small farmer. In particular, the manager needs to understand the constraints to increased production and to the adaptation to new technologies in the case of extension package projects ; and in the case of supervised and contract production, he needs to understand the ways that farmers are likely to respond to decisions on inputs, production and marketing taken by the project management. In both cases, the manager also has to understand the pattern of leadership and authority in agricultural

societies and the way that farmer groups function.

To a large degree, such an understanding of small farmers depends upon the experience and temperament of the individual project manager, and 'training' is unlikely to transform the attitudes and diagnostic abilities of course participants. But the objective of training is not simply to sharpen the manager's awareness of small farmer needs: it is to demonstrate ways in which the project as a whole can be made more responsive to farmers by investigating ways in which the organisation for which the manager is responsible receives information and responds to it. At the theoretical level, this means familiarising managers with work on organisational aspects of intervention, access and participation, group formation etc. For some managers, some understanding of techniques of social analysis, and the staff requirements involved, may also be desirable. But the most useful approach is likely to be one based upon case studies (partly provided by course members) in which project success depended upon the response of small farmers. Emphasis would be upon the administrative mechanisms of assessing likely response and the continuous monitoring of changes in attitudes towards the project's in terms of production, organisation, relations within the farm community, etc. Particular attention would be paid to ways of organising field services and using information generated from the field level.

b) Organisation Development

In this area of training, emphasis is upon the internal working of a project, the relationship between different components of an administrative system. As I have noted already, the project manager is only rarely in a position to change this system, but an increased awareness of how it operates will help him to anticipate likely constraints or 'discontinuities'.

Theoretically the most useful model for organisational analysis appears to be the systems approach in which the objectives of the organisation are represented as a series of 'activity flows'. This illustrates the points where co-ordination and control are particularly important. Another approach is to see the project as a hierarchy of tasks (see for example Development Project Management Centre, Elements of Project Management, US Department of Agriculture, 1976), linked to a single project objective through subordinate specific objectives.

How useful is this body of theory to the agricultural manager? It may, of course, demonstrate to him what he already knew instinctively: that he was at the head of an organisation with a structure that served the interests of individual components rather than any overall project purpose. But once involved in day-to-day project management, it is extraordinarily difficult to abstract from the mass of activities, meetings, and communications an overall sense of who is doing what, the purpose of particular reporting systems, the necessity for particular control devices etc. Even if the manager is unable to make structural changes, he is almost certainly in a position to suggest incremental changes in procedure to overcome project design weaknesses. Training in organisation theory cannot impart the motive for undertaking such changes but it can at least stretch the imagination of the manager and give him greater confidence in his ability to analyse deficiencies.

c) Management and Decision-Making Skills

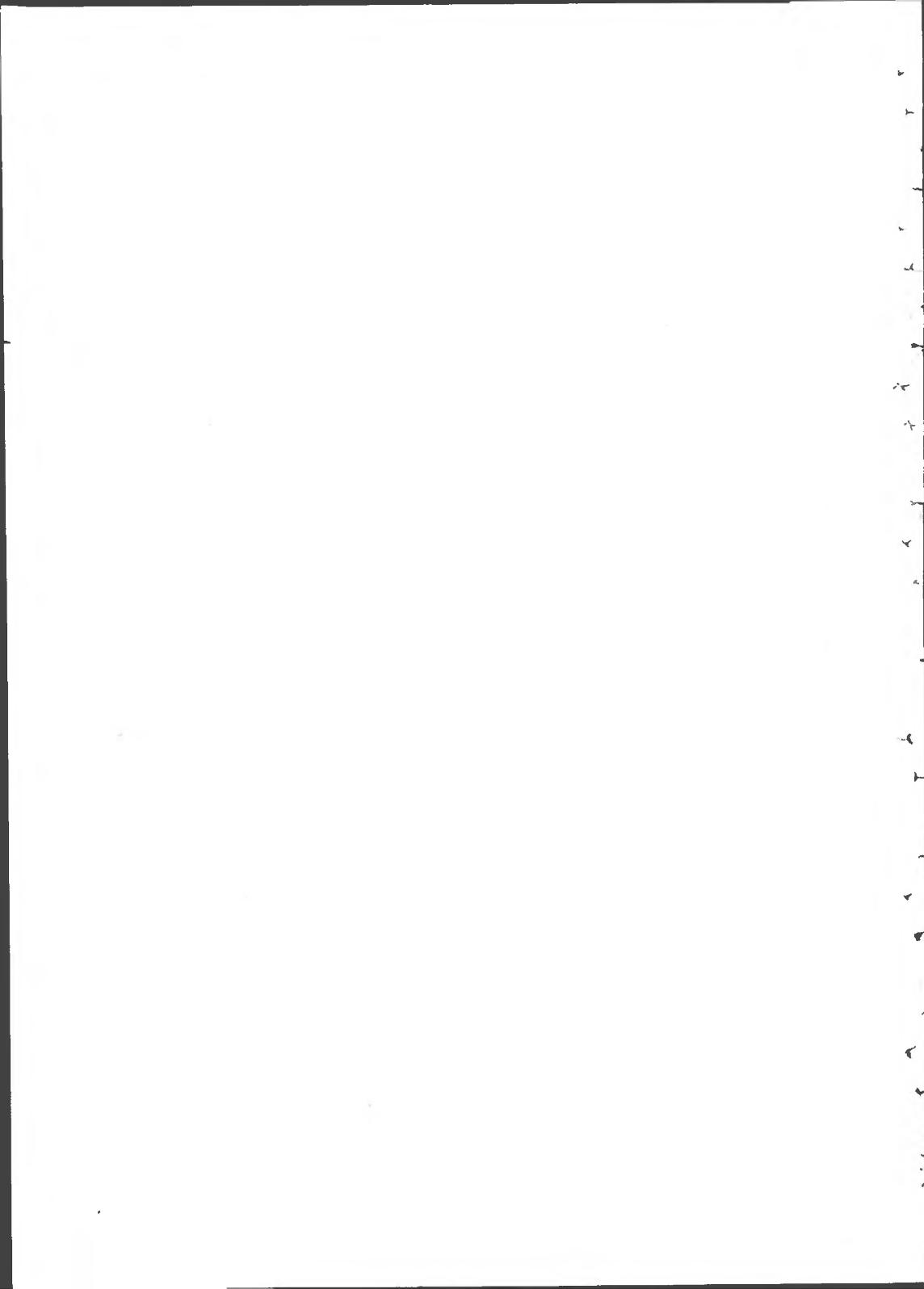
The area where the manager himself is likely to feel most benefit in training courses is in the acquisition of skills to help in planning future activities and in deciding upon alternative courses of action. The danger in agricultural projects is that such skills can prove frustratingly difficult to apply and therefore training courses need to develop exercises

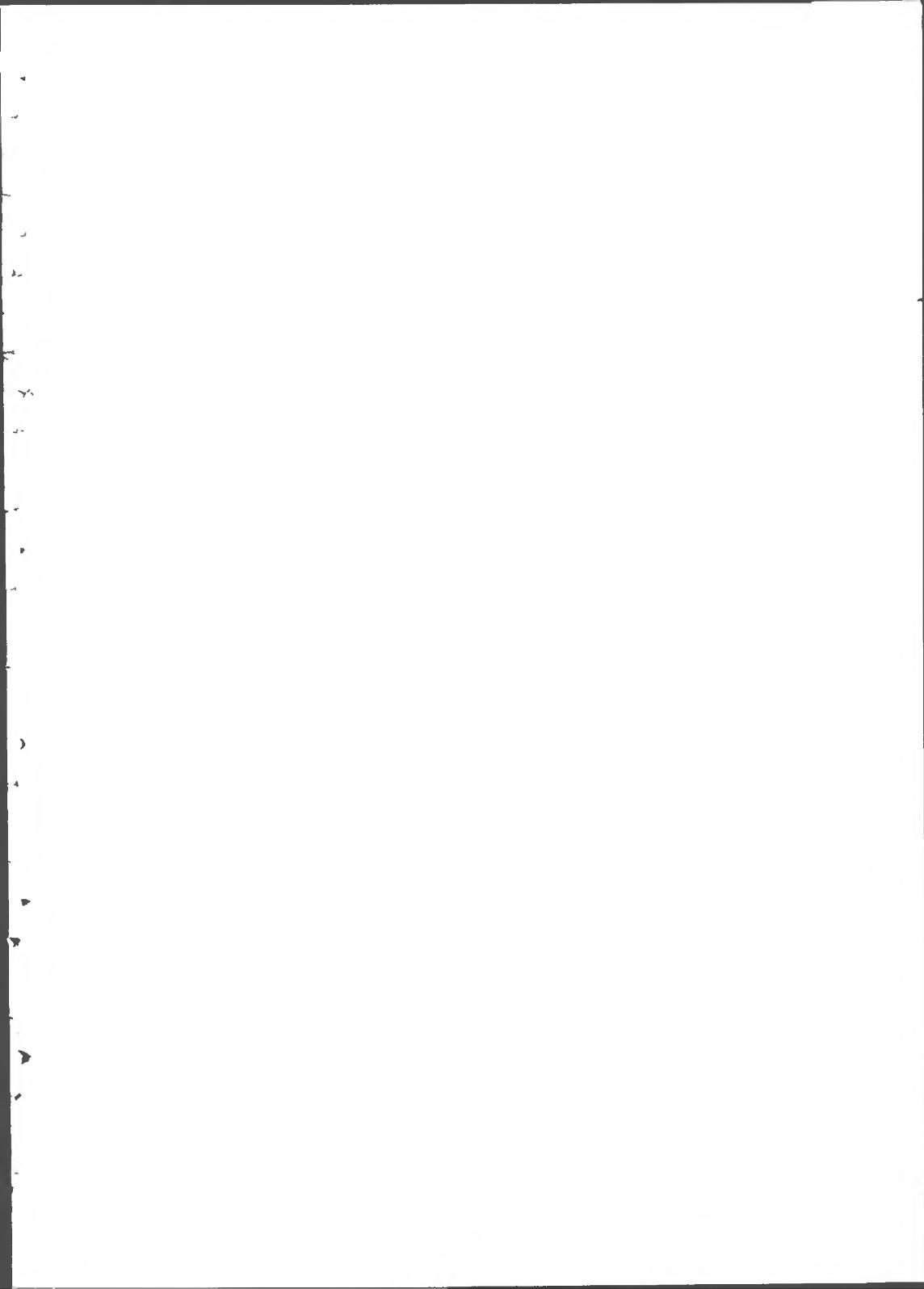
which are relevant to management decisions taken in considerable uncertainty (weather, pests, rate of adoption, prices, supplies, staff, transport - the list is usually long in agricultural projects). In this respect, the main value of skills is the corresponding development of a logical process of analysis.

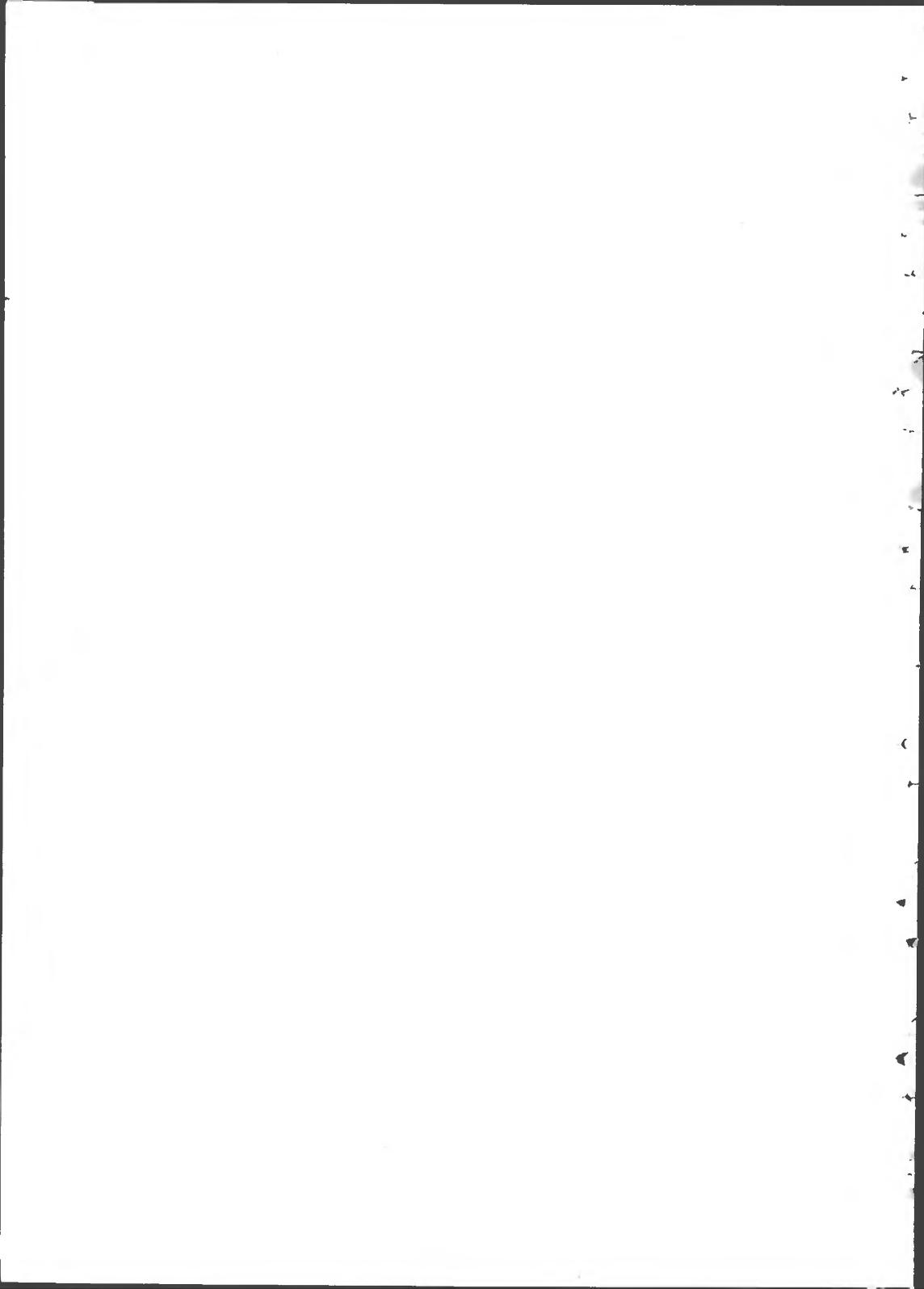
For example, in project planning the use of network analysis (in which the work of the project is 'translated' into a series of 'activities' and 'events' linked together by a diagrammatic network) is unlikely to survive the contingencies of the implementation period but it does nevertheless serve a useful function for the manager himself, and it also has considerable utility as a tool for bringing together different project departments, and possibly external agencies, in an attempt to set priorities and completion targets.

Project managers are also likely to be confronted by problems of choice: which technology, how much land to develop, where to dig canals etc. It is not always possible for a manager to grasp all the financial and technical considerations involved but as a minimum he should be able to see how different physical inputs and outputs are given a monetary value and converted into a discounted cash-flow over a specified period. But having understood some of the mechanics of financial decision-making, the manager must also be able to recognise the elements of risk and uncertainty and also take into account the less quantifiable aspects of project decisions. Again, there is a strong case for developing exercises based upon the application of financial decision-making and networking techniques to agricultural projects rather than to company management or the industrial and manufacturing sectors of public investment.

This paper is concerned with suggesting answers to various questions about agricultural project management: what factors should be taken into account in designing a training course for managers? What body of concepts can be borrowed from established management training? What should be the basic ingredients of a training programme? There is however, a broader question - which was raised at the beginning of the paper but not answered. To what extent is the calibre of management itself a factor in explaining poor agricultural project performance in many countries? At present, expenditure on management training is at most a tiny percentage of project costs. But if it is to be increased then there is a case for asking this question in a much more thorough way than has been attempted so far.









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NEWSLETTER NO. 2

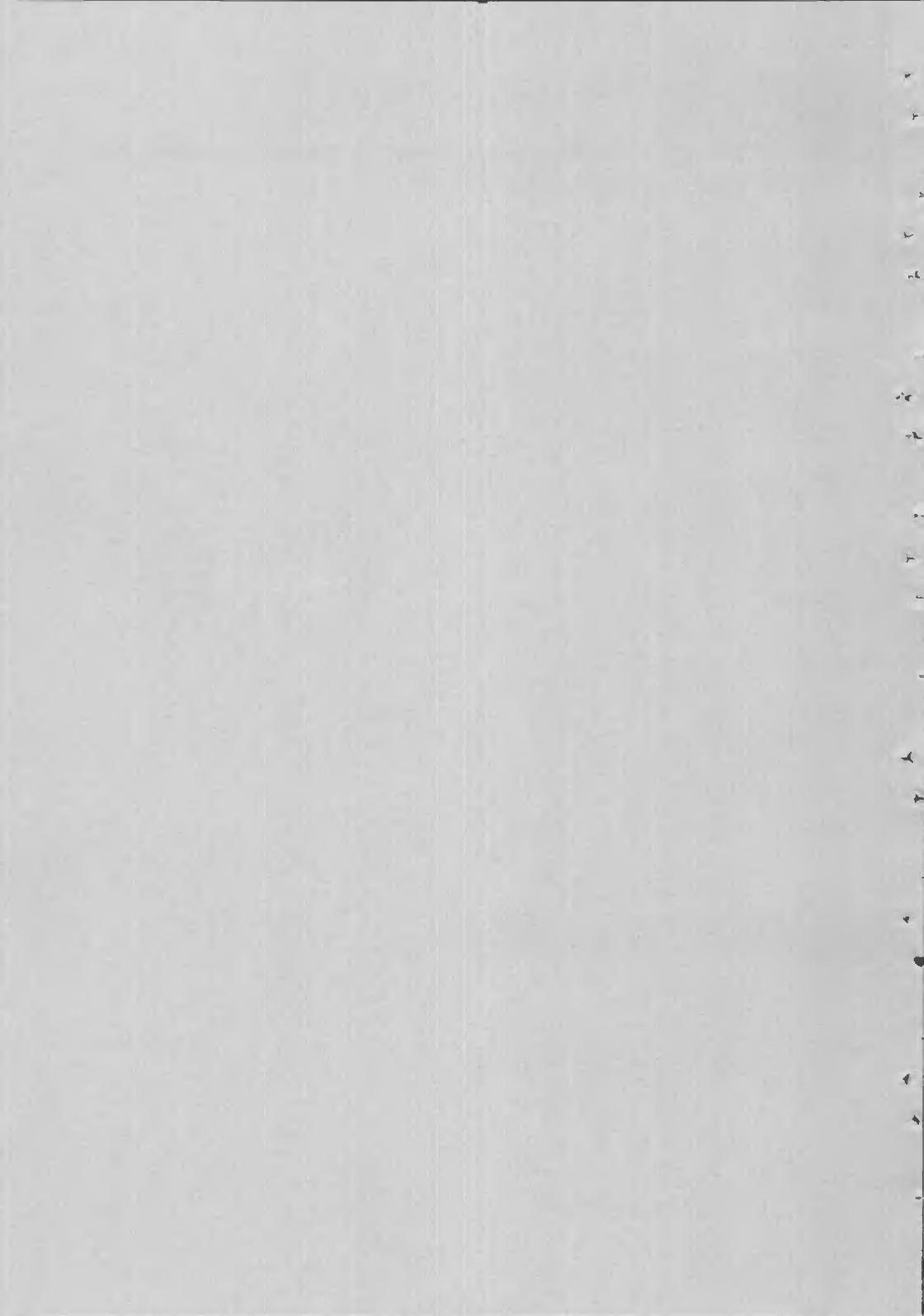
MARCH 1980

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* *Discussion Paper 2 is enclosed as a separate booklet*

** *Questionnaire responses enclosed as a separate booklet*



I NEWS OF THE AGRICULTURAL ADMINISTRATION UNIT

(i) RECENT/FORTHCOMING MEETINGS

On 17 December 1979, an all-day meeting was held on the "Organisation and Management of Monitoring and Evaluation". The following papers were presented:

1. Donald Curtis and John Watson (University of Birmingham): "*District-level Monitoring and Evaluation in India's Drought Prone Areas Programme*".
2. Majid Slama and Henri Sousbie (Centre National d'Etudes Agricoles, Tunis): "*Tunisian experience in on-going Evaluation and Monitoring for Agricultural Projects*".
3. Anthony Bottrall (ODI): "*Evaluation and Action Research as Tools of Management Reform*".

The paper by Anthony Bottrall is available as a Network Paper (No. 5 - see page 5).

A lunch-time meeting was held on 14 January 1980 where the speaker was Syed Hashim Ali (Secretary - Command Area Development Department, Andhra Pradesh, India). The paper, which is available as Network Paper No. 6, was entitled: "*Practical Experience in Implementing the Training and Visit System in Large Command Areas in India*".

Syed Hashim Ali was again the speaker at a lunch-time meeting held on 29 January 1980. His paper was entitled: "*Critical Issues in Irrigation Utilisation and Command Area Development*". This formed part of the series of meetings held here on Irrigation Management.

On 27 February 1980 a lunch-time meeting was given by Roderic Dutton of the University of Durham. Dr. Dutton is at present Director of the Khabura Development Project which is a rural community development project at present being carried out in Oman. His paper was entitled: "*External Intervention and Local Support: A Rural Development Project in Oman*". This will be available as an Agricultural Administration Network Paper later on in the year.

Two more meetings have recently been held in the Irrigation Management series. The first was on 14 March 1980, at which Linden Vincent, Lecturer at the School of Development Studies, University of East Anglia, presented a paper entitled: "*Efficiency in design: underutilisation in practice. A Study of Water Use in the Medjerda Irrigation Scheme, Tunisia*"

The second meeting in this series was held on 25 March 1980. Jennie Dey, an anthropologist who has recently completed an ODA-funded field study in The Gambia, presented a paper entitled: "*The socio-economic organisation of farming in The Gambia and its relevance for agricultural development planning*". (N.P. No. 7 see p. 6)

Finally, in the Pastoral Development series, a meeting was held on 18 March 1980. Chris Underhill of Euro Action Accord, gave a paper on: "*A Team Approach to Development among Settled Nomads in Upper Volta*".

(ii) RECENT PUBLICATIONS

POLICY AND PRACTICE IN RURAL DEVELOPMENT Edited by Guy Hunter, A. H. Bunting and Anthony Bottrall 1976 512 pages. This is now available in the Educational Low-priced Books Service (ELBS) at £2.35.

The book contains the major papers from the second International Seminar on Change in Agriculture, held at Reading University in 1974. Papers included fall under the following headings: Effects of Political Decisions on Organisation; Technical, Environmental and Economic Factors; The Farming Community, The Commercial Function; and Administration.

The ELBS editions can only be obtained in developing countries, but may be ordered at any bookshop within these countries. Bookshops can obtain the volumes from the publishers, Croom Helm, provided they state that the ELBS edition is required. Normal hardback and paperback editions may be obtained from either ODI or Croom Helm.

Orders to: ODI Sales, Montagu House, High Street, Cambridgeshire, PE18 6EP, England (hardback and paperback editions only)

Croom Helm Ltd., 2-10 St. Johns Road, London S.W.11, England (hardback, paperback and ELBS editions)

(iii) VISITS

During January, February and early March, Guy Hunter was in India and (briefly) in Sri Lanka looking at developments in agricultural administration and in particular, at planning at Block and District levels, and the structure of Agricultural and Rural Development administration from District level downwards.

He was also discussing with (particularly) the National Institute of Rural Development in Hyderabad and the Tamil Nadu Agricultural University in Coimbatore, the possibility of closer collaboration with O.D.I.

The Sri Lanka visit was sponsored by UNICEF (Colombo).

The next issue of the newsletter will enclose a discussion paper based upon Guy Hunter's visit to India and Sri Lanka.

II NOTES ON DISCUSSION PAPERS

Discussion Paper 2

Rural Development and Traditional Institutions - the example of Gandu in Hausaland by Clare Oxyby

This paper, enclosed with the Newsletter, discusses some of the problems which might be encountered if traditional institutions were used in order to promote development objectives. The paper speaks for itself. It is hoped that networkers will send in their reactions to the issues raised on the last page of the paper. Correspondence of note will be published in subsequent newsletters.

Discussion Paper 1 - The Organisation and Management of Agricultural Extension and Farmer-Assistance in Botswana by Alan Kingshotte - has aroused particular interest from those involved in the training of agricultural managers. In response to the comments on the paper in the last newsletter, Alan Kingshotte has a further note on the role of extension staff. He writes:

"I do not criticise the T&V system, not least because the system evolved in Botswana has so many similarities. However, the key word is "evolved". I would criticise the arbitrary imposition of any system, however well it had worked elsewhere, with no thought of modification to local circumstances and I am sure Benor and Harrison would agree with this. There can be no one immutable methodology or structure equally appropriate to Extension work in Patagonia, Uttar Pradesh and Yorkshire. It is also unprofitable to consider Extension in isolation. However technically correct the agents' messages and subtle the extension techniques all may be futile if other factors - prices, markets, inputs, credit, communications, the social and economic climate etc. - are not conducive to development and if all these and Extension are unco-ordinated. Success must not be measured by how many farmers would *know how* to use fertilizer if they thought it worthwhile and could obtain it but by how many actually *buy* fertilizer and use it correctly. Particularly where developing group and community action is essential to translate Extension messages into profitable deeds (as in management of communal grazing land or irrigation) it may be inappropriate for the agent to have a *purely* educational role. Inter alia, it was found in Botswana that the agents most deeply involved with 'their' farmers in developing self-sustaining local structures tended also to be the more effective 'teachers'".

This point is also made by N. S. Carey Jones. He writes:

"In so far as the extension worker is concerned with the individual farmer he must be concerned with all aspects of farming (its inputs as well as its outputs) or, at least, the Department of Agriculture must. Sometimes this may involve the extension worker actively, sometimes not, depending on the circumstances (how good are other distribution systems, for example). It is useless advising a farmer on what to do if he cannot get the necessary inputs. There can be no *rules* about this but a *principle* that one tries to avoid overloading the extension worker with extraneous duties."

Carey Jones also suggests that weaknesses in extension services have nothing to do with inappropriate structures which he claims "are usually more or less all right. The weakness lies in the people in charge of them. Any structure can be made to work if the bosses allow it to. No structure will work if they won't. The focus of study should, I suspect, be raised to higher levels. A second reason is that the foreign aid-favoured project approach denudes the structure of its best people, leaving a rather feeble administrative shell. A third reason is that there

are so many foreign aid experts about that the top people have to spend an enormous amount of time looking after them instead of getting on with their job."

On p. 1 of the Discussion Paper, the cattle population of Botswana is given as 213 million! This should, of course, read 2-3 million.

III AGRICULTURAL ADMINISTRATION NETWORK PAPERS

There are three papers which are available on request (write to Angela Street):

- No. 5. Anthony Bottrall *"Evaluation and Action Research as Tools of Management Reform"*

This is a discussion paper concerned with developing an evaluation method for identifying possibilities for organisational and management reform within projects and programmes. The method discussed involves a process of investigation, identification of deficiencies, and remedial action. This process is examined in the context of a set of characteristics of a successful organisational form for particular types of agricultural programmes. Large irrigation schemes provide examples. The paper also discusses the use of action research to test reforms and examines the time and staffing implications of this sort of exercise.

- No. 6. Syed Hashim Ali *"Practical Experience in Implementing the Training and Visit Extension System in Large Command Areas in India"*

The paper discusses the reasons for the introduction of the Training and Visit system for agricultural extension in the Command Areas of Andhra Pradesh. This involved not only new procedures but also the integration of the extensive service into the Command Area Development Authorities. The paper discusses a range of administrative and technical problems in the implementation of the new system and concludes with suggestions on the adaptation of T and V to particular conditions.

- No. 7. Jennie Dey *"The Socio-Economic Organisation of Farming in The Gambia and its Relevance for Agricultural Development Planning"*

Three irrigated rice development programmes have largely failed to fulfill the government's objectives of reducing substantial rice imports into The Gambia. The author argues that this is partly due to the planners' misunderstanding of the socio-economic organisation of agriculture. The argument is backed up by substantial evidence - the result of twenty months fieldwork - on the following topics: land tenure; cash crops and food crops; units of production and consumption; the sale of rice; and the various types of labour ranging from reciprocal arrangements to wage labour.

IV SOME RECENT PUBLICATIONS ON AGRICULTURAL ADMINISTRATION

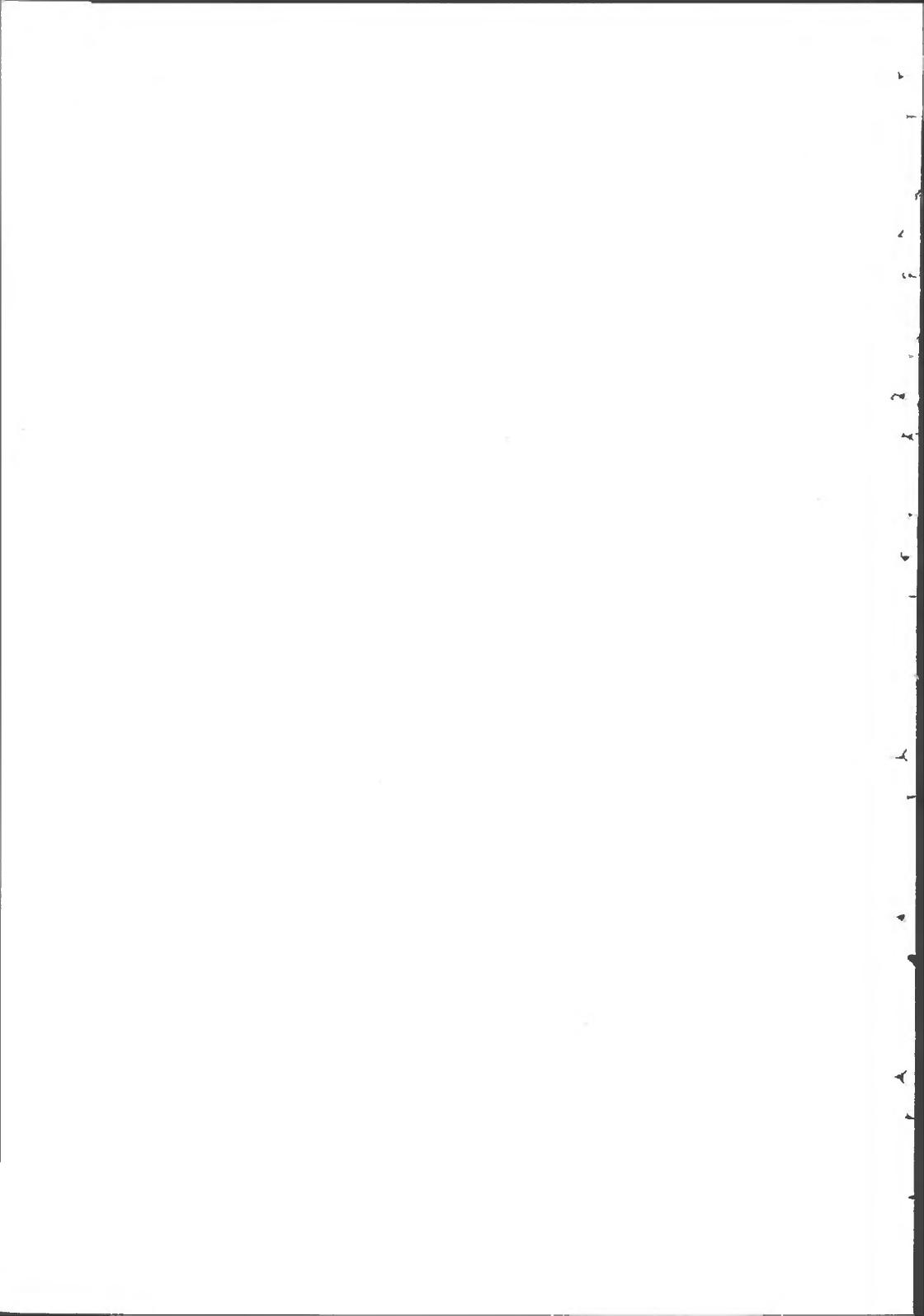
1. A. J. Fernandes *"Central Co-ordination for Effective Rural Development: A Case Study of Tanzania"* (35 pp.) Paper presented to Seminar on Rural Development, Gabarone, Botswana, February 1979 and available from Pan-African Institute for Development, P. O. Box 133, Buea, Cameroon. This is a detailed account of the procedures of decentralized rural development planning in a country which is generally considered to have gone further in this direction than most. Its particular interest is the administrative implication at the central level for the multi-sectoral activities of rural development.
2. Barry Floyd *"The Contemporary Agricultural Scene in Nigeria: Problems and Prospects"* (39 pp.) Paper presented to the 22nd Annual Conference of the Nigerian Geographical Association, University of Benin (1979) and available from Professor Floyd, Department of Geography, University of Calabar, P. M. B. 1115, Calabar, Nigeria. Summary of problems confronting Nigerian agriculture and advocacy of a new emphasis upon small-scale and peasant production. Discussion of the requirements for local diagnosis and consultation. Useful bibliography on Nigeria agriculture.

3. Eric Clayton "*A Comparative Study of Settlement Schemes in Kenya*" (60 pp.) Agrarian Development Unit, Occasional Paper No. 3 available from Wye College, Ashford, Kent, UK price £2.00. Originally prepared as a consultancy report. An examination of the planning, organisation, management and performance of agricultural settlement schemes, both irrigated and rainfed: with a synopsis of the principal schemes in Kenya. Earlier Occasional Papers are also available from the Agrarian Development Unit: No. 1. Wadi Dhuleil, Jordan (An ex-post evaluation of an irrigation scheme); No. 2. Agricultural Employment creation and Smallholder Rubber Production in Sumatra. Both are priced at £2.00.
4. Ed. Inayatullah "*Rural Organisations and Rural Development: Some Asian Experiences*" Asian and Pacific Development Administration Centre, Kuala Lumpur, Malaysia. A series of country papers originally prepared for a seminar of senior government officials; includes India (Kuldeep Mathur); Sri Lanka (Mahinda Silva); Iran (Ahmad Ashraf); Indonesia (Hansen and Mahoney); Malaysia (Chee and Hoong) and the Philippines (Blondie Po) and China (Joost Kuitenbrouwer).
5. APROSC Newsletter (monthly). Agricultural Projects Service Centre, P. O. Box 1440, Lazimpat, Kathmandu, Nepal. The Centre also produces an Occasional Bibliography series with particular emphasis upon Nepal. Bibliography No. 4 (1979) is on Credit.
6. Andrew Pearse and Matthias Stiefel "*Inquiry into Participation - a Research Approach*" (43 pp.) A critical review of research on popular participation, representing a preliminary stage of an UNRISD Research Programme on participation. Paper available either from Selina Cohen, Queen Elizabeth House, 21 St. Giles, Oxford, UK or from United Nations Research Institute for Social Development, Palais des Nations, CH - 1211, Geneva 10, Switzerland.
7. Hari Mohan Mathur "*Training for Senior Administrators of Agricultural Development*" This paper was prepared for an FAO Expert Consultation on Improving the Organisation and Administration of Agricultural Development, Manila, September 1979. A report of the meeting which includes this paper is available from Alec McCallum, ESH Division, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy.

8. R. J. Storey *"Community Co-operatives - A Highlands and Islands Experiment"* Paper presented to the International Seminar on Marginal Regions, Trinity College, Dublin, August 1979. An account of an attempt to stimulate local group activity in a remote area of the UK with poor resources and low incomes from farming. Interesting comparisons for ldc rural development. The paper will be published in the Plunkett Foundation's International Co-operative Year Book in due course but a limited number of copies are available from R. J. Storey, Highlands and Islands Development Board, Bridge House, 27 Bank Street, Inverness, IV1.1QR, Scotland.
9. *Rapid Rural Appraisal Conference* - Institute of Development Studies, University of Sussex, December 1979. There are over 40 papers dealing with appraisal, survey and design methods for different types of rural development initiatives. The full list with costs can be obtained from Ms. Susan Saunders, IDS, University of Sussex, Brighton, BN1 9RE, UK. Two papers prepared subsequent to the Conference are particularly useful. These are 1) Robert Chambers *"Shortcut Methods for Information Gathering for Rural Development Projects"* A helpful state-of-the-art paper; 2) Sean Conlin and Steve Wiggins *"Rapid Rural Appraisal: A Review of the December 1979 Conference"* This includes brief summaries of all the papers. Institutions and individuals in developing countries will receive papers without charge.
10. *The Oxfam Field Directors' Handbook* This is a substantially revised third edition of the handbook (460 pp.) with operational guidelines covering development activity in agriculture, health, disaster relief etc. Oxfam is involved in local-level development initiatives and the guidelines are largely concerned with the identification and assessment of projects. Available from the Publications Officer, Oxfam, 274 Banbury Road, Oxford, UK. Price £10.00 or US \$20.00 + postage.

V NETWORK MEMBERS QUESTIONNAIRE

A separate pamphlet is enclosed which lists the names, jobs and interests of those network members who replied to the questionnaire enclosed with the previous newsletter. The response rate by March 1980 was around 35% and replies are still coming. With the next issue of the newsletter we shall send out a revised pamphlet with the additional responses. For this reason, we once again enclose a questionnaire form. This should be disregarded by those who have already responded. Subsequently we shall up-date the pamphlet once a year. Naturally, we are reluctant to continue sending material to those who appear to have no interest in the AAU and where there is no response to the questionnaire, we are likely to assume a lack of interest and the newsletters and papers will be discontinued. On the other hand, we are prepared to add new members to the network if we receive completed questionnaires from those who are not presently on the network yet by some means receive the newsletter and papers.



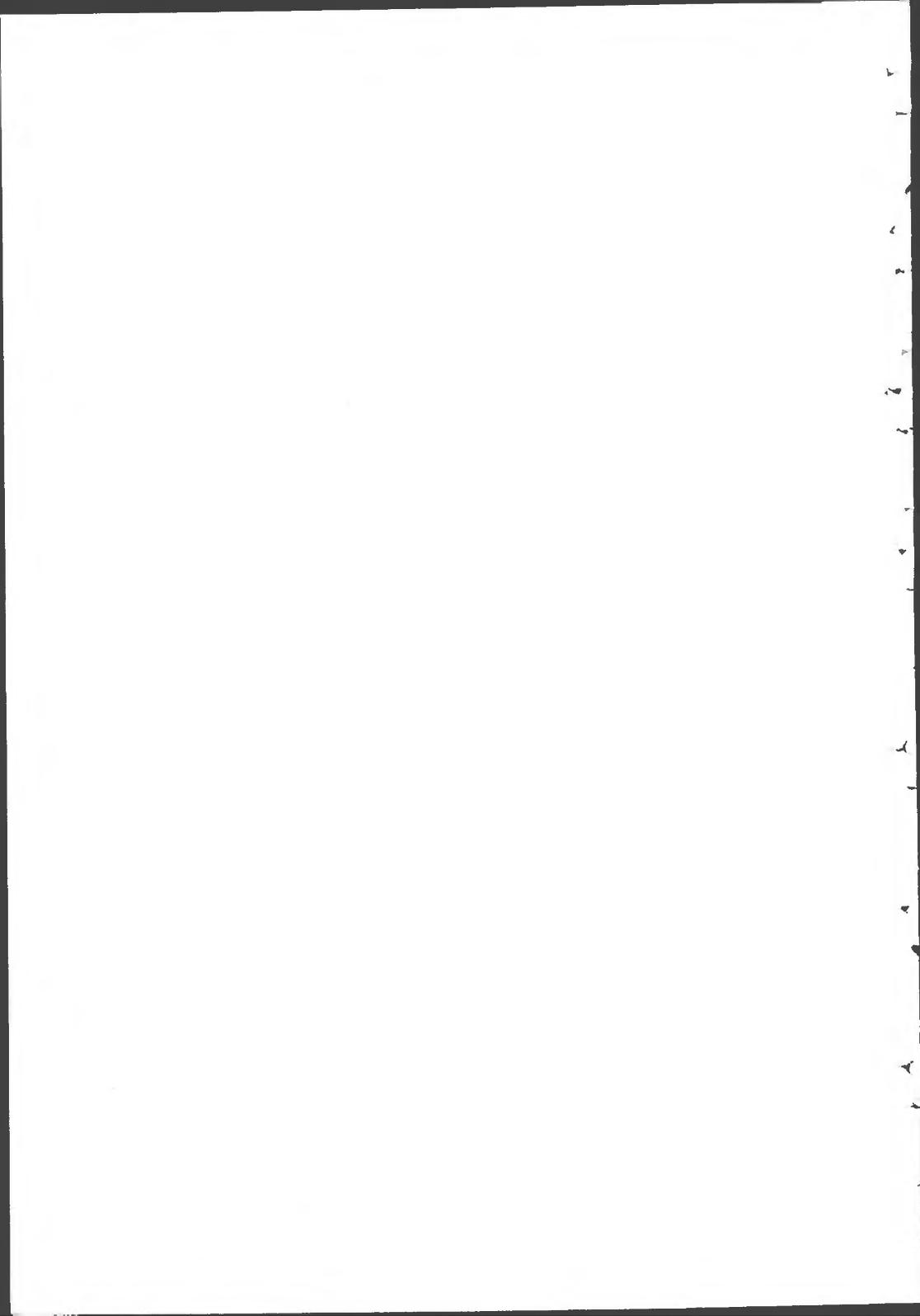
Previous papers which are available from the
Agricultural Administration Network are:

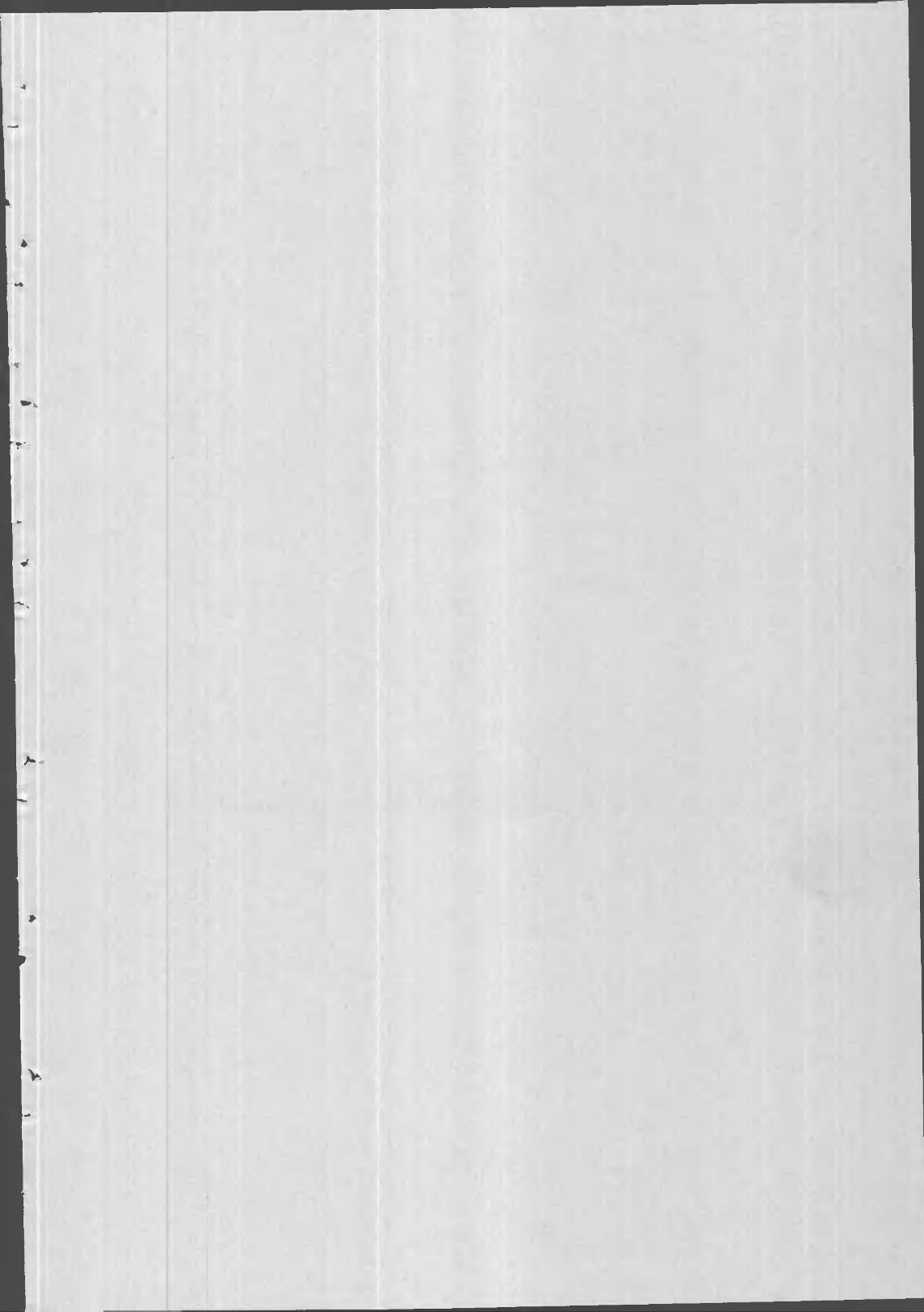
Discussion Paper No. 1

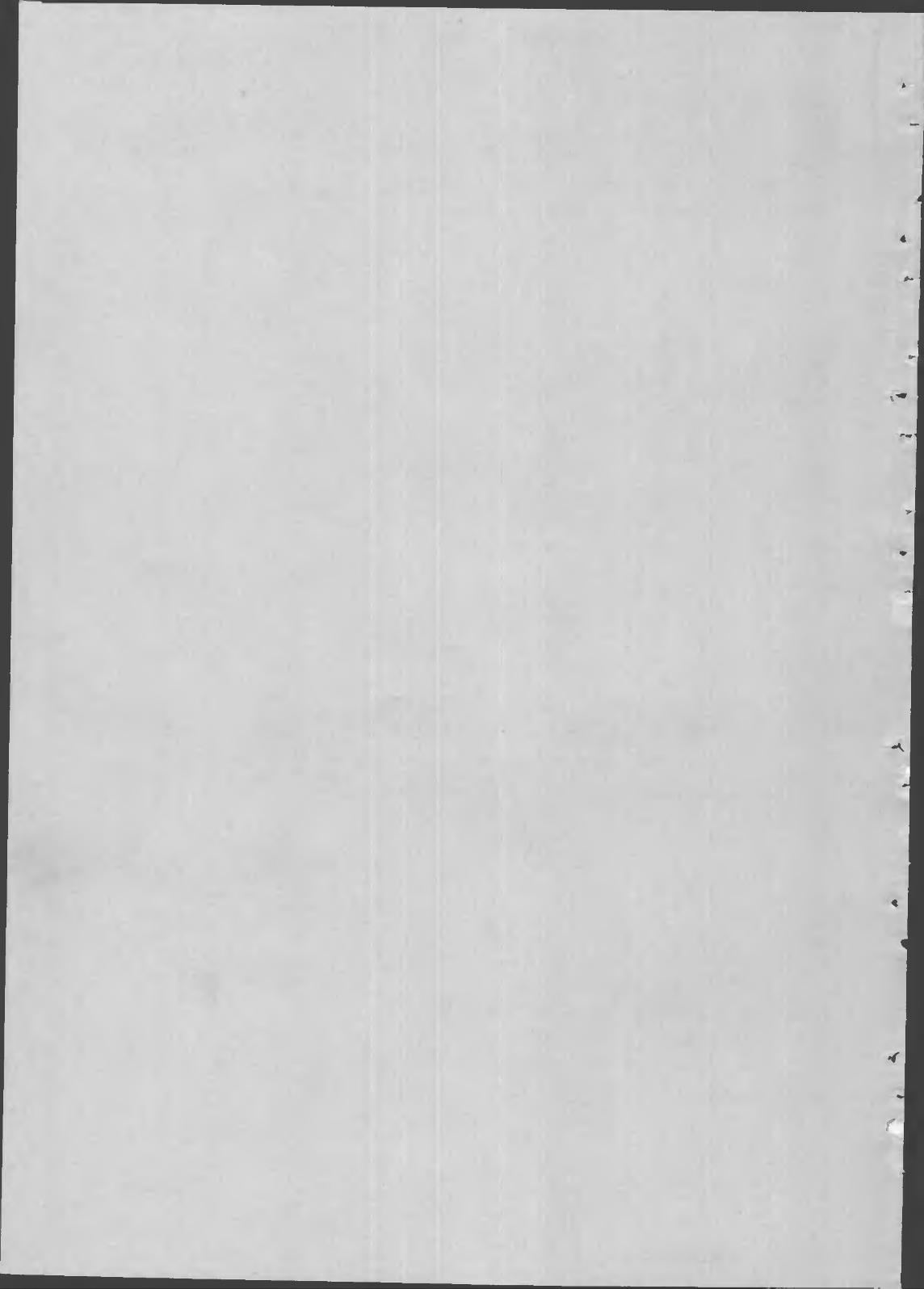
Alan Kingshotte *"The Organisation and Management
of Agricultural Extension and Farmer-Assistance in
Botswana"*

Agricultural Administration Network Papers

- No. 1. Richard Heaver *"Planning and Management
Problems in the Implementation of a Major
Scheme: A Case Study of Mahaweli (Sri Lanka)"*
- No. 2. Gilbert Etienne *"Some Field Observations on
Rural India's Development"*
- No. 3. Nici Nelson *"Involving Women in Rural Develop-
ment Processes"*
- No. 4. John Howell *"Training Managers for Agricultural
Development Projects"*









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AGRICULTURAL ADMINISTRATION NETWORK PAPERS

No. 5

EVALUATION AND ACTION RESEARCH AS
TOOLS OF MANAGEMENT REFORM

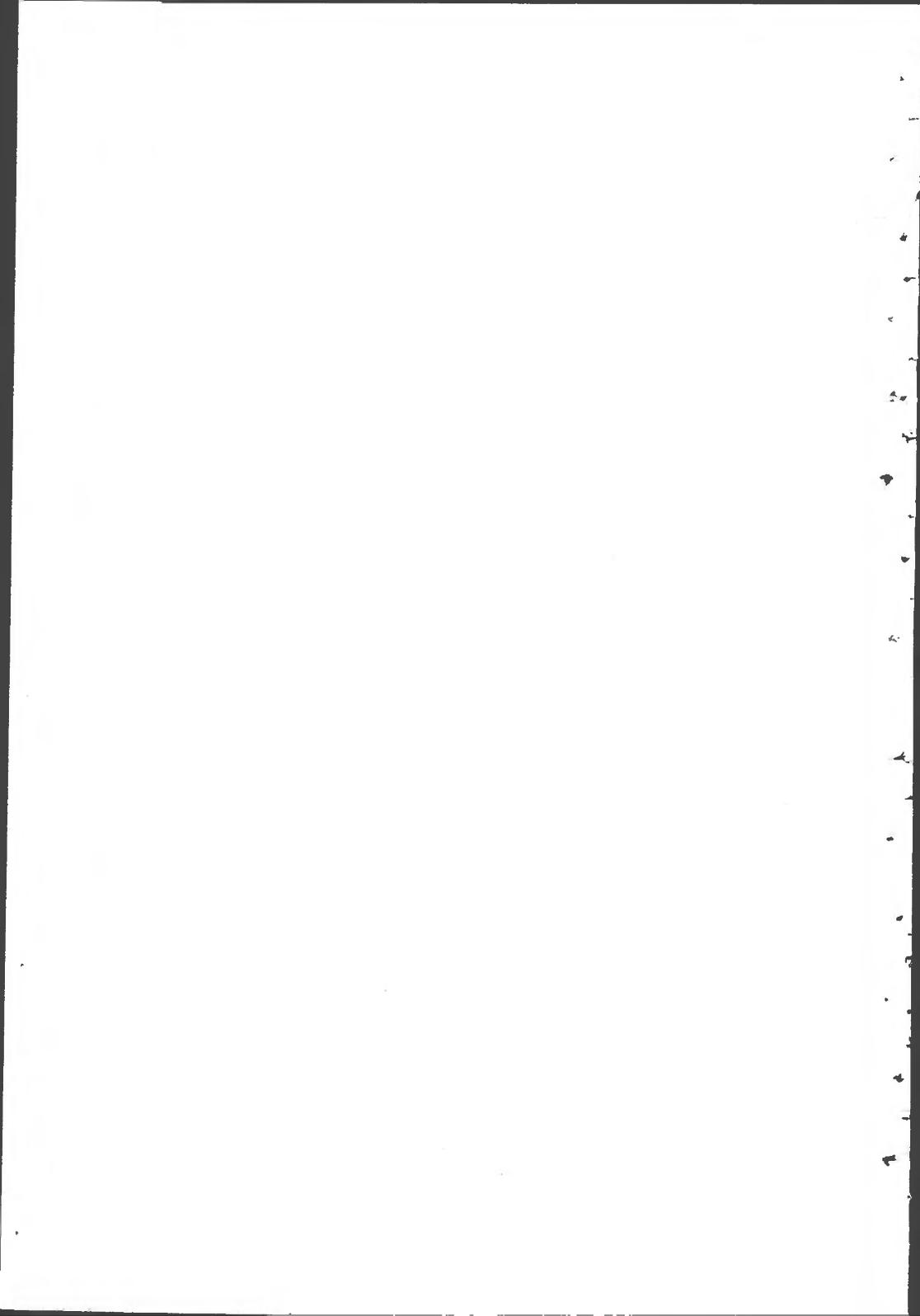
by

Anthony Bottrall

Agricultural Administration Unit
Overseas Development Institute

*Based on a paper given at a meeting on
Management and Institutions in Agricultural
Development held at ODI on 17 December 1979*

March, 1980



1. This is a slightly modified version of a paper first presented at a meeting on Management and Institutions in Agricultural Development, held at ODI in December 1979. The other two papers presented at the meeting were concerned in some detail with the development of methods of monitoring to be used *internally* within agricultural projects or programmes, as a means of improving management performance. The focus of this paper is different in that it is concerned with developing effective methods of project and programme evaluation by an *external* agency, with a view to identifying a relatively wide range of possible reforms in organisational structure and management processes. These include (in roughly ascending order of "difficulty"):

- (i) procedural reforms - redefinitions of responsibilities, improved work programming, improved information and monitoring systems, etc;
 - (ii) reforms in training curricula (in-service and basic education);
 - (iii) development of representative and effective institutions at the local (village and/or functional group) level;
 - (iv) changes in staff's terms of employment (rules governing recruitment, salaries, promotions; transfers);
 - (v) changes in the methods whereby a project/programme's financial resources are raised;
- and (vi) fundamental structural changes (vertical and horizontal) in the project/programme organisation.

2. In certain situations, where there can be expected to be strong resistance to proposals for management reform from interest groups which feel threatened by it and/or where the dimensions of the potential benefits of reform are unknown and need to be tested and demonstrated before they are likely to attract widespread support, it will be argued that external evaluation should be followed by programmes of 'action research'. These are envisaged as pilot projects, in which new procedures, management methods, structures, etc. are tested and modified. Objective monitoring would have a very important part to play in their success, particularly in assessing the administrative requirements which would be needed to make the management system developed in the pilot area widely replicable elsewhere.

1 It is, of course, a characteristic of most conventional 'pilot projects' that they are *not* administratively replicable. This reflects the lack of attention given to broader questions of organisation and management during their planning.

Evaluation: Scope and method

3. External evaluations of organisation and management are seen as necessary for three purposes:

(a) identifying appropriate and politically feasible reforms which will improve performance on existing projects /programmes (the one being evaluated and others with similar physical, technical and social characteristics), in terms of the criteria of productivity, equity, long-term environmental stability, and cost;

(b) identifying appropriate and feasible organisational structures and management systems for new projects/ programmes, in terms of the same criteria (*ex-post* evaluation of the management performance of existing projects should be an integral part of the *ex-ante* appraisal of new ones);¹

and (c) improving the body of theory on which the evaluation methodology is based, through a continuing process of comparative analysis of accumulating case study material.²

4. A comprehensive evaluation of the organisation and management of agricultural projects or programmes requires analysis to be carried out at four different levels. The first may be described as the *external environment* within which the project/ programme is managed. A wide range of issues may need to be investigated here in order to identify the principal factors external to the project's management and institutions which have had a significant influence on its performance. They include major social and political upheavals (wars); unavoidable climatic and biological hazards; national economic policies which, together with international factors, affect the viability of the production process; the quality of service provided by other enterprises on which the project is dependent (eg roads, public transport, power generation); and - particularly important in the case of projects with large irrigation and/or land development components - the quality of the planning, design and construction of the physical infrastructure.

1 In the planning of large new agricultural projects or programmes, provision is rarely made at present for analytical reviews of the performance, management and institutions of existing projects/programmes. One exception known to me is a study by a British consultancy firm in Egypt, in which plans for the settlement of 'new lands' adjacent to the Nile Delta have been preceded by a detailed evaluation of the performance and management of existing settlement schemes.

2 The improvement of underlying theory is of great practical importance, not only because it enables evaluators to reach better conclusions more quickly (and cost-effectively), but also because it enables them to defend those conclusions with conviction against those who are sceptical or opposed to them.

5. In the course of their investigations into the external environment, evaluators should also attempt to obtain, for their own background information, as clear a picture as possible of the 'political economy' of decision-making in the realm of agricultural policy. If an effective and politically feasible programme of management reform is to be devised, a good understanding is needed of the positions and strengths of different interest groups likely to favour or oppose such reforms. Resistance to management reform (or to the allocation of resources which would make it possible) may often turn out to be very strong; for example, in the field of irrigated agriculture, the interests of many powerful groups (sections of national governments, external donor agencies, consultants, Irrigation Departments, contractors, local politicians) tend to converge in encouraging a grossly distorted concentration of resources on new capital works and a corresponding neglect of the management of water between the headworks and the farm. Serious attempts to reverse this tendency will be recognised by members of these groups as threats to their interests. Careful account should be taken of this in designing the strategy and tactics of reform programmes, as well as of the potential for mobilising support from opposing interest groups (eg other sections of government, Agriculture Departments, the majority of farmers, consumers).

6. The other three levels at which analysis is required for a full evaluation of project/programme management are at the *project/programme level* itself (the organisation and management of supporting services to farmers and the rural community); at the *local communal level* (the organisation and management of village and/or functional groups); and at the *individual farm level* (the allocation of responsibilities and rewards among and within farming families, land tenure patterns, etc).

7. At all four levels of analysis, the systematic evaluation of organisation and management demands a good understanding of social, political and administrative structures and the way in which people behave within them; and this understanding can in turn be greatly strengthened by knowledge of appropriate bodies of theory. At the level of the external environment, evaluators require a capacity to analyse political processes and assess the motives and strengths of different interest groups. At the project/programme level, important insights can be gained from the extensive theoretical literature about the organisation and management of large enterprises. An understanding of the particular social and political forces which permeate them in each locality is also essential, particularly if one is to comprehend the full reasons why actual behaviour within an organisation diverges from what has been formally prescribed.¹ At the local communal level, there is a need to combine general theories about the structure and behaviour of small groups with the detailed knowledge about the nature of existing communities which can be obtained through the application of the sociologists' or social anthropologists' techniques. Similar detailed social analysis is required at the individual farm level. All this implies a substantial additional capacity for analysis on the part of evaluators which goes well beyond the range of what has usually been expected from the conventional appraisal team of technical specialists and economists.

¹ cf. AAU Occasional Paper 3 pp, 2-3

8. The focus of this paper is on the evaluation of organisation and management at the project/programme level, within the context of its external environment. To the extent that appropriate forms of organisation and management at this level depend critically on the character of institutions at the farm and local community levels, analysis of the former must inevitably embrace analysis of the latter. But questions about the internal structures and workings of local groups are sufficiently distinctive and intricate to deserve detailed discussion on their own on a separate occasion. Their importance is fully recognised here but they are discussed in only rather broad terms insofar as they impinge directly on the activities of the official service agencies.

9. I have put forward in an earlier paper a proposed methodology for evaluating the organisation and management of large irrigation schemes (AAU *Occasional Paper 3*, pp.44 ff) and shall not repeat here many of the detailed points made in that paper. Since then, I have had further thoughts on the subject.

The modified approach outlined here should be capable of adaptation to the evaluation of agricultural projects or programmes of any kind, though the examples chosen to illustrate how it might be applied are taken from the context of irrigated agriculture, which has its own distinctive organisational and management requirements.

10. In the earlier paper the evaluation process was conceived as consisting of four stages: (i) analysis of the physical and social environment in which management has to be performed and of the existing resources of management (manpower, equipment and finance); (ii) evaluation of project/programme performance; (iii) identification of causes of performance (some beyond the control of project management, some within it); and (iv) recommendation of appropriate remedial action. The proposed modifications relate to the pattern and sequence of analysis to be adopted at the critical third stage - the identification of causes - and affect the clarity and strength with which subsequent proposals for remedial action can be made. There are two main respects in which the analytical approach outlined in *OP3* (pp.50-53) needs to be revised. First, all evaluators embarking on an analysis of management performance should set out with as clear a picture as possible of the essential characteristics needed by any organisation for conspicuous success in meeting desired objectives within the sub-sector of agricultural administration of immediate concern to them (irrigation schemes, development programmes in pastoral areas, research/extension programmes, credit/savings programmes, 'integrated rural development' programmes, etc); this will give them a set of standards (or, if you prefer, a model) against which to measure existing organisational structures and management processes and towards which to direct future development

1. But 'model' can be a dangerous term to use in the context of organisational analysis. See para 27.

through appropriate reforms. Secondly, the process of identifying the causes of poor management performance (whether these lie within the control of project management or not) should start from analyses of performance within each of the relevant activities or sub-activities for which co-ordination is needed at the project level and then work up from there to an analysis of the directing/co-ordinating function of project/programme management itself (the rather top-down listing in the earlier paper might seem to imply the opposite). This is because the precise nature of the structural and procedural reforms likely to be required at the project level depends upon (and can only be logically justified by) the nature of the weaknesses manifested in the project's various sub-systems.

11. On the subject of identifying the hall-marks of successful project/programme organisation, I have come to certain clear conclusions in the course of my study of large irrigation schemes, largely through comparison between two relatively successful schemes (Yunlin, Taiwan and Mwea, Kenya) and numerous much less successful ones. Some of these conclusions appear to have general validity for all large agricultural projects/programmes; others are specific to all large irrigation schemes; and others are contingent upon certain physical and/or social characteristics which differ between irrigation schemes. The following features of the more successful schemes appear to be *generally valid*:

- (a) Clearly defined agricultural (productivity) and social (equity) objectives;
- (b) The existence of a carefully planned framework of management procedures, devised at a level higher than the project itself but subject to revision and modification by project management;
- (c) A high degree of delegation of authority to management at the project level;
- (d) A high degree of financial autonomy at the project level (with a large proportion of revenue coming from farmer-beneficiaries and relatively little from government funds);
- (e) An appropriate vertical structure, with the allocation of responsibilities, both among official staff and between staff and farmers, moving over time from a pattern of high supervision/low delegation to one of low supervision/high delegation;¹

1. The passage of time is a contingent factor here, the assumption being that over time the experience and management capacity of farmers and junior staff will tend to increase (it certainly should do so under good project management). No single form of vertical - or horizontal - organisational structure is universally appropriate.

(f) An appropriate horizontal structure, in which key activities are co-ordinated to a degree required by the project's objectives and other contingent factors such as project size and the nature of the management and technical skills to be found within the project organization's specialist sub-system.¹

12. Features associated with good management performance which appear to be generally valid only within the specific context of large irrigation schemes include: overall management in the hands of 'agriculture-oriented' staff, not civil engineers; two separate specialist cadres for water distribution on the one hand and construction and maintenance on the other; the participation of representative farmers in the planning of seasonal water schedules and the monitoring of day-to-day releases; strict rules governing the distribution of water by official staff within agreed seasonal schedules; and powerful official sanctions against misappropriation of water.² Examples of features contingent on variations in local physical and/or social factors are: the choice of appropriate water distribution techniques (eg strict proportionality to land area held, with choice of cropping left entirely to the farmers; or a differential pattern of water supply, with restrictions imposed on farmers' cropping patterns); and the appropriate size and structure of farmer groups with communal responsibility for operation and maintenance at the watercourse level (interacting technical and social factors affect decisions here). Similar lists could be compiled of function- or locale-specific features which are associated with successful management performance in other sub-sectors of agricultural administration.

13. There are numerous underlying reasons why the features mentioned in the previous two paragraphs are conducive to successful project performance. However, one in particular deserves fuller discussion here, since it appears to have crucial implications for the way in which both official staff and farmers can be motivated to improve performance. This concerns the extent of the project's financial autonomy and, in particular, the source of its funds (Para 11, d).

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1. Contingent factors also play an important part here. See previous *fn.*
 2. The last three elements in this list arise out of the need for strict arbitration and control over the distribution of a scarce and highly-valued 'open access' resource to a multitude of competing consumers. One would expect similar institutional arrangements to be needed where other open access resources were under pressure (grazing land, forest, soils).

14. On both the Mwea and the Yunlin irrigation projects, all operating costs and a substantial proportion of capital costs are covered by revenue obtained directly from the farmers themselves and retained for reinvestment within the project. This is in sharp contrast to most irrigation projects where the relatively meagre sums obtained through water charges go to general government revenue and the project receives its (also meagre) funds from general revenue in accordance with criteria which are unrelated to the level of project performance or of farmers' water charge payments.

15. In Mwea farmers' contributions to project finances are levied compulsorily through the project organisation's monopoly control over the marketing of the only crop farmers are allowed to grow - the classic 'integrated management' approach. Motivated principally by profit-making considerations, the management aims to exact a levy which will not be so high that it acts as a significant disincentive to farmers to produce but is nevertheless high enough to provide them with a very good quality of supporting services. This helps to sustain the sequence high levy - good service - high output - high levy.

16. The Taiwan pattern, in which farmers' payments are made voluntarily, is in many ways much more interesting, since it is potentially far more widely adaptable to those large areas of agricultural production where the technical conditions for an integrated management system are lacking and/or the highly interventionist management style associated with the system is politically unacceptable. In this case, the voluntary nature of the farmers' payment of revenue to the project organisation puts the pressure on project staff to provide them with good service - in effect, obliges staff to be *accountable* to the farmers. The reason for this is that if good service is not provided, farmers' dues will be more difficult to recover, total revenue will decline and cuts may have to be made in staff numbers and salaries. On the other hand, good service increases the likelihood of a high level of payment from farmers (who recognise that the quality of future service depends on what they pay) and management will be able to reward itself and staff members with bonuses as well as having additional funds for local reinvestment. This sustains the sequence good service - client satisfaction - higher payment - higher rewards to staff - good service. By contrast, on the vast majority of large irrigation schemes (and other bureaucratically managed agricultural schemes) there are no direct links between the level of performance a project achieves and its financial rewards; nor between the payments made by farmers and the quality of services they receive. Such a system removes any incentives for farmers to pay their water charges, since the proceeds go to general revenue and have no direct effect on the level of local reinvestment; and there is similarly no incentive to management and staff to improve their service to farmers in the expectation that this will lead to an increase in their financial rewards.

17. Where a project depends heavily on locally-generated funds, its management automatically tends to have a relatively high degree of authority delegated to it with regard to internal decision-making (para 11 e). This combination of factors in turn produces conditions in which further incentives can be offered to staff which are normally not available under conditions of conventional bureaucratic administration - particularly promotion on merit within the project organisation. In Taiwan's Irrigation Associations only the very highest official positions have formal university qualification requirements attached to them, with the result that junior staff have attractive career opportunities within each Association and therefore develop strong loyalties to it. In terms of local knowledge and rapport with farmers, staff morale and continuity of decision-making, this pattern has immense advantages over the conventional pattern in which a body of locally-engaged field staff, with no promotion prospects, is presided over by a hierarchy of officials who are transferred in and out of the organisation and whose rank and promotion prospects are largely determined by their academic qualifications.

18. The importance of how an organisation is paid is underlined by Peter Drucker, who argues that this is the fundamental explanation why public institutions frequently perform so poorly in comparison with competitive commercial businesses. Businesses, other than monopolies, are paid for satisfying their customers; customer satisfaction therefore becomes the basis for assuring good performance and results. But service institutions, which are usually monopolies, are paid out of a budget allocation and as a result tend to become misdirected in their objectives: performance and results are no longer measured by the criterion of customer satisfaction; instead the main concern is to satisfy government and to find ways of persuading it to increase its budget.¹ The conclusion seems to be that in those spheres of agricultural administration where it is both feasible and desirable to charge farmers for services, as it is for water distribution on irrigation projects, attempts should be made to find effective ways of modifying present methods of revenue-raising and budgeting in the direction of greater financial autonomy at project level. Meanwhile, there are certain other services such as agricultural research and extension for which direct payment by farmers would usually be infeasible and/or socially undesirable. In their case, as Drucker has observed, there is a particularly vital need for the clear specification of customer-oriented objectives and for procedures designed to direct staff in pursuit of those objectives in the face of powerful temptations to be deflected (para 11 a, b).² But here too there may be scope, even where the usual preconditions for integrated project management are absent, for increasing accountability (and revenue) through organisational changes which would enable these services to be provided in close conjunction with other revenue-generating activities (eg irrigation and/or input supplies and marketing services).³

1. P. Drucker, *Management*, pp.131-146.

2. Drucker, *op.cit.*, p.158.

3. Extension services in Taiwan, for example, are provided by Farmers' Associations (separate bodies from the Irrigation Associations), which fund part of the costs out of the proceeds they receive from input supply and marketing business.

19. Armed with a picture of the principal characteristics of a successful organisation, evaluators of less successful organisations should be able fairly early on in the proceedings to develop broad hypotheses about the principal respects in which their management is deficient. But in order to make specific recommendations for remedial action with any degree of confidence, the underlying causes of deficiencies must then be investigated in some detail. The need for detailed investigation is particularly important where the management system is not conspicuously badly designed but there are nevertheless substantial divergences between what staff are supposed to do and what they actually do (prescribed and actual behaviour).

20. After they have noted the extent to which external 'non-management' factors may be inhibiting staff's capacity to achieve good results (para 4) evaluators should examine the performance of key activities and try to identify the principal 'management' factors to which achievement levels are attributable. For prescriptive purposes, I have found it helpful to categorise causal factors under five main headings:

- (a) Organisational structure - horizontal and vertical (Is it helpful or harmful to the achievement of the of the organisation's objectives?)
 - (b) Procedural framework (Are staff's duties at every level clearly defined? Are they being required to do the right things?)
 - (c) Skills (technical, management, communication with farmers) at different staff levels (Do staff have sufficient knowledge and experience to do their work efficiently?)
 - (d) Motivation at different staff levels (Do they want to do their work efficiently?)
- and (e) Resources (Do staff have sufficient manpower, equipment, finance to do their work efficiently?)

Of these items, much of the responsibility for (a), (b) and (e) usually lies at levels higher than project management. The precise importance of item (e) can only be determined after careful scrutiny of items (a) - (d).

21. On large irrigation schemes, the key activities requiring investigation are water distribution (planning; implementation; monitoring); main system maintenance (civil; mechanical and electrical); watercourse support services (technical advice; institution-building; conflict resolution; and land development work, where necessary); and agricultural extension (including local diagnosis; water management extension; and - in conjunction with agricultural research - collaboration in planning water schedules, alternative cropping patterns, etc).¹

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1. On integrated management schemes, commercial services would need to be added; and on new settlement schemes, infra-structural and social services as well.

Finally, the performance of overall project management and its support services (finance and budgeting; personnel management; planning, research and monitoring) should be reviewed.

22. Though much of the evidence required for an assessment of management performance can be obtained from within the internal workings of the bureaucracy itself (through cross-checking interviews, spot checks in the field, scrutiny of records), farmers are also an extremely important source of information. Farmers' perceptions of, and interactions with, officials can be investigated in the course of the assessments of farm-level and communal institutions which should form part of the overall evaluation.

23. When conclusions have been reached about the relative influence on performance of the factors listed in para 21, appropriate remedies can be determined. The range of recommendations which might be presented to policy-makers can be broadly illustrated as follows:

<u>Cause</u>	<u>Remedy</u>
Deficiencies in:	
(a) Organisational structure	Short-term: procedural reforms Long-term: major organisational restructuring
(b) Procedural framework	Procedural reforms
(c) Skills	Short-term: in-service training Medium/long-term: reforms of academic curricula
(d) Motivation	Short-term: procedural reforms (participative programming, monitoring, etc) Medium-term: modifications in rules governing promotion Long-term: ? changes in salary structures
(e) Resources	Increased resource allocations (within constraint of overall availability of finance and administrative manpower).

24. The most uncontroversial and easily realisable reforms will usually be procedural changes and in-service training programmes. It should, however, be noted that the scope for procedural reform extends well beyond the development of monitoring and control systems, which are only one element of it. This is particularly important where motivation has been identified as a major problem: monitoring systems in the absence of compensating morale-enhancing measures of the kind incorporated in the PIM system in Kenya (participative programming, etc.) could often lead to an excessively authoritarian management style and

consequent collaboration to restrict work on the part of junior staff.¹ An important point to note about training is that results may often be disappointing unless trainees are offered improved prospects of promotion as well.²

25. As far as the more radical and politically difficult kinds of reform are concerned (major changes in organisational structure, salary scales, etc), evaluators must use their knowledge of the political economy (para 5) to judge how critical they can afford to be of current practices and how best to persuade policy-makers of the need to adopt changes they believe to be important. The role of evaluators of project management should not, I believe, be confined to proposing improvements within existing organisational structures which are taken as given and immutable for all time. Their job is to advise policy-makers about the full range of measures (including long-term structural changes) which they believe are necessary to the continuing improvement of agricultural administration.

26. To an opposing group of more radical critics of organisational reform who argue that changes in bureaucratic structures and procedures can achieve nothing because the organisations concerned are inexorably permeated by the surrounding culture (and their members will therefore continue to behave as always, whatever the structures and procedures), I would say: there is no proof of this; let us put your thesis to the test by monitoring the effects of management reform programmes. If there proves to be evidence that people are performing more effectively after the introduction of reforms, then those reforms could be concluded to have introduced a (perhaps modest) element of change into the surrounding culture. Organisational structures and management processes not only reflect surrounding cultures; then tend to perpetuate them. Those who seek to identify politically feasible management reforms are interested in influencing the processes of political and social change. They are not unengaged determinists.

27. A final point needs to be emphasised about the method of analysing organisation and management which is advocated here. It is based on the assumption that the behaviour of individuals and groups working within large organisations - and hence the performance of those organisations - is the outcome of an interaction between an extremely large number of variables (including the character of the surrounding society, the physical and technical environment, the internal structure of the organisation itself, the interests of different groups within the organisation,

1. For an account of the Programming and Implementation Management (PIM) system in Kenya, see R. Chambers, Managing Rural Development, Uppsala, 1974, pp. 43-54. On collaborative work restriction by junior extension staff to frustrate attempts to make them work harder, see D. Leonard, Reaching the Peasant Farmer: Organisation Theory and Practice in Kenya, University of Chicago, 1977, pp. 67-78.

2. For the reasons, see D. Leonard, op. cit., pp. 126-7.

skills, resources, incentives, procedures). For this reason organisations can only be systematically and reasonably accurately understood in the light of 'contingency theories' which have been developed through detailed comparative analyses.¹ Attempts to analyse institutional appropriateness by seeking to match 'types' of organisation (eg cooperatives, marketing boards, parastatals, coordinated line departments, unified project organisations) to 'types' of local environment, while clearly a great advance on beliefs that certain structural forms are universally best, represent only a crude rule-of-thumb approximation of contingency theory. Because each organisation and each local environment is made up of a mass of variables, the interacting effects of many important factors must inevitably become blurred or obscured if both sides of the equation are reduced to a limited number of rigid 'types'. Much of the reason for confused thinking about organisations arises from an excessive (sometimes exclusive) concern with organisational structures (organisational charts, staffing ratios) and a failure to look in sufficient detail at actual management processes and the reasons why people in organisations behave as they do.

Evaluation: resources of time and personnel

28. In my earlier paper I reported (*OP 3*, pp. 56-57) that our evaluations of the management of large irrigation schemes, which focused largely on the activities of the bureaucracy rather than communal and farm-level management, had been carried out by a team of three (a social scientist, a technical specialist and a local research assistant) who worked in each project area for 2-3 weeks; an additional 1-2 weeks was spent on general orientation (discussion with policy-makers and planners and brief visits to other projects for comparison and contrast). Subsequent commentators on this have tended to make two points. First, they have pointed out that the real costs in terms of people's time were in fact much higher, since the time spent by administrators, staff and farmers in furnishing information should also be included in the reckoning (and so, of course, should writing-up time). This is undoubtedly true. Secondly, it has generally been felt that this was too short a period for an evaluation team - particularly a largely foreign one - to obtain an accurate picture of reality; some were also of the opinion that the team was too small and that a larger number of specialists in different fields would generally be needed. I am not altogether convinced by these comments and would welcome further reactions.

29. The depth of analysis required in an evaluation depends very largely on its objectives. Our irrigation management studies were essentially identification exercises; their object was to identify major administrative constraints, not to explore their underlying causes in great detail. There seem to be very strong arguments in favour of trying to develop methods whereby such identification exercises can be carried out quickly -

1. See eg C.B. Handy, Understanding Organizations, Penguin Books, 1976, pp. 176-177.

and at a very early stage in the overall appraisal/evaluation process. The importance of *timing* is likely to be crucial wherever the evaluation of organisation and management forms part of a larger project/programme appraisal in which major decisions about alternative forms of capital and recurrent investment will be taken. The costs of being unable or unwilling to carry out management and other social surveys quickly and early on in the appraisal process are that the conclusions of longer and later investigations (if anybody can be persuaded to finance them) are likely to have little impact on the decision-making process because they will already have been pre-empted.

30. If social scientists are to be effective in counteracting the powerful tendencies whereby major design and resource allocating decisions are taken on predominantly technical grounds, and are not content to remain in the subordinate roles of rubber-stampers of others' decisions or angry critics after the event, they must find quick ways of marshalling evidence which will persuade their technical colleagues to consider alternative designs and resource allocation patterns before irreversible decisions are made.¹ Once they have been able to demonstrate to their colleagues the important implications which management and other social factors have for choice of project or programme design, provision can be made for more detailed investigations to be pursued at subsequent stages of the planning process. How detailed these should be must also be a matter for debate. Investigation into the behaviour of people within organisations, and the reasons for it, must always be the most time-consuming part of organisational analysis, but it is very doubtful whether it need last as long for project appraisal purposes as for academic research purposes (which are substantially different, though they should also be complementary). At some point it will become more cost/effective for external planners to stop going into greater detail themselves and leave remaining areas of uncertainty to be further explored and illuminated through the internal monitoring systems which they are (or should be) helping to design.

31. Several other factors will influence the amount of time needed, both for the identification of management problems and for the more detailed follow-up work. One is the amount of relevant information (internal documentation and external research) already in existence and the evaluator's ease of access to it. We probably had unusually good access to internal records because our study was supported by the World Bank; but members of most organisations under evaluation will tend to hold back on certain information because they feel threatened by the exercise, and one of the skills of the evaluator should be to allay such fears by demonstrating empathy with their problems. The amount of information needed also depends on the extent and obviousness of present deficiencies in management:

1. A similar point was made by Ian Carruthers about the role of economists in project planning and the implications for their appraisal methods, in a paper for a workshop on Rapid Rural Appraisal held at the Institute of Development Studies, University of Sussex - December 1979

where deficiencies are blatantly apparent, less time is needed to investigate them and identify remedies; the better managed the enterprise, the more detailed the investigations will need to be to identify improvements at the margin (though the existence of better records will be a time-reducing factor).

32. But perhaps the most important factor affecting the time required for evaluation is the skills of the evaluators. The two most important skills required are local knowledge and a capacity to analyse organisations and their management. The need for detailed local knowledge points to a heavy involvement of local research/consultancy bodies and an ability to carry out and/or make use of systematic social surveys. Skills in organisational analysis are extremely scarce within the agricultural development profession at present, both inside and outside developing countries. I share John Howell's scepticism about the need and desirability of existing management 'experts' being drafted in to fill the gap (OP 3, pp. 27-28), since most of their thinking has been conditioned by circumstances quite alien to those of ldc agriculture. But in addition to the need to make people of all disciplines engaged in project appraisal more generally aware of management issues, I believe there is also an urgent need to develop a new cadre of specialised analysts of organisation and management in ldc agriculture. This implies a substantial training effort, both within developing countries and within external agencies concerned with agricultural planning, and the development of manuals for use in appraisal and evaluation work which will complement (and to some extent counter-balance) the numerous treatises we already have on economic and financial appraisal.

Action research

33. By 'action research' is meant field experimentation with improved management systems and/or new organisational structures. It is most needed where there is likely to be strong resistance in certain quarters to management reform and where the benefits from alternative approaches are uncertain through lack of existing evidence. Both these conditions apply in the case of irrigation management, where investigations have indicated that there should be very high potential returns to reforms in main system water distribution. The kinds of reform measures which could be tested on a selected section of a large irrigation system include improved water distribution procedures; local institution-building at the watercourse level; and the local retention (or partial retention) of water charge payments.

34. The principal purposes of the exercise would be research (close analysis of the benefits and costs, especially administrative costs, of reform); demonstration (to policy-makers, administrators and farmers); and training (of officials and staff charged with responsibility for extending the pattern elsewhere).

An action research approach has rarely been used in the field of agricultural administration, though PIM experiments in Kenya are an example and the initial development of the Comilla and Daudzai programmes contained elements of it.

35. The difficulties of designing and implementing an operationally useful action research programme should not be underestimated. There are two main problems. The first concerns the way in which the programme is initially designed. It is essential that the design should be based on a correct identification of the major current impediments to better performance. The nature of the problem is particularly evident in the field of large scale irrigation, where there is already considerable investment in 'pilot' experiments which, because of technical bias which leads to a fixation with technical and institutional problems at the watercourse and farm levels, exclude all considerations of main system management. These experiments are wrongly designed, because unsubstantiated assumptions have been made as to where the main problems lie. Preliminary evaluations of management which comprehend all levels of organisation from the project level downwards should help to reduce the prevalence of such misdirected experiments in future.

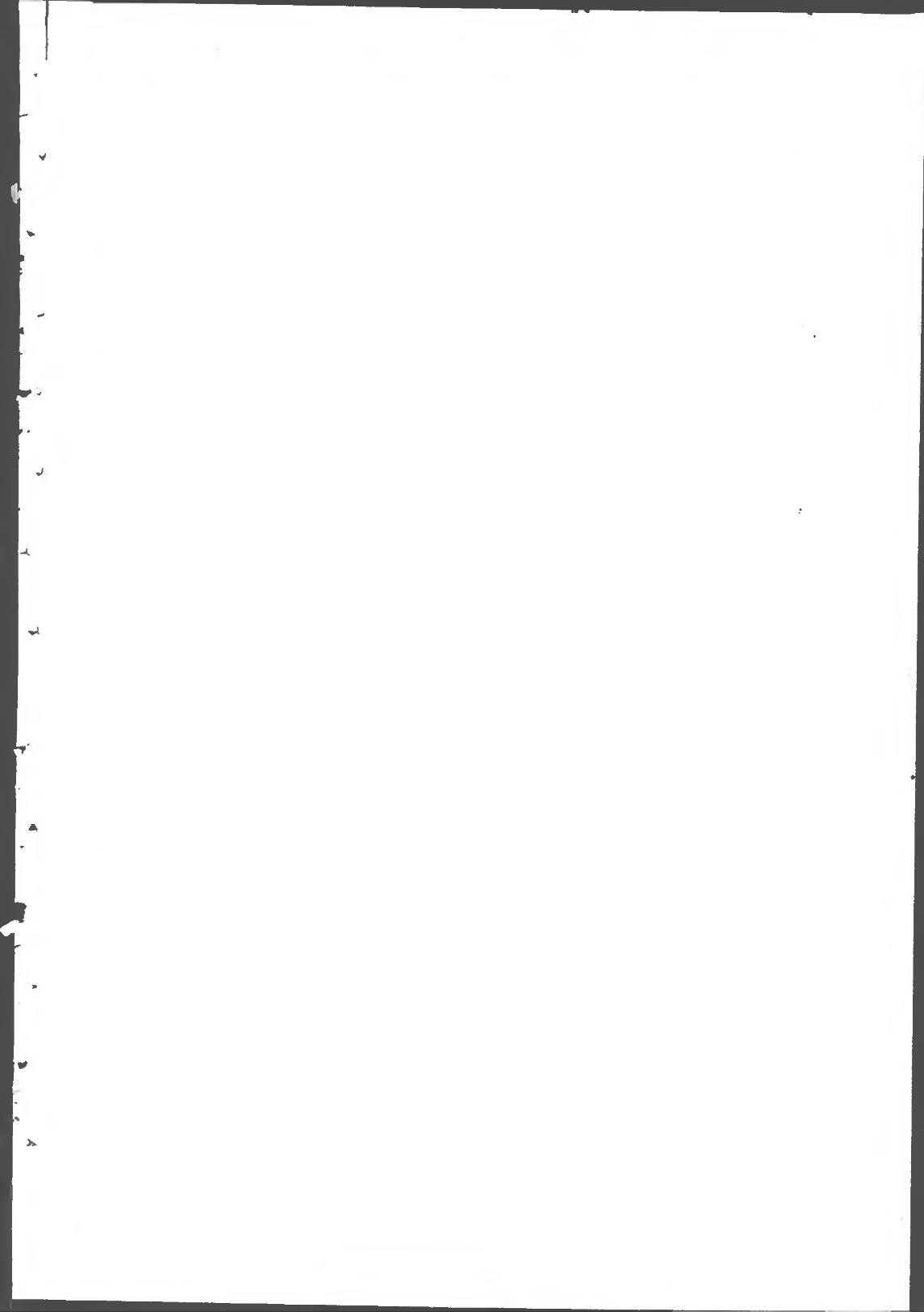
36. The second main problem concerns the replicability of the programme on a large scale elsewhere, particularly in terms of its administrative manpower. The significance of the only carefully monitored action research initiative concerned with irrigation management so far (by IRRI in the Philippines) has been reduced by the failure of its designers to record the real administrative costs of implementing it. In view of IRRI's involvement in setting up and supervising the programme, the concealed costs may have been very large indeed. The temptations of making full projects, as well as pilot projects, achieve 'success' by the injection of administrative and other inputs which make them incapable of extension elsewhere are well known. On action research programmes, the external planners should confine themselves strictly to design, monitoring and subsequent design modifications. They should not interfere in the process of execution, which should be left entirely in the hands of the official administration. On the IRRI experience see A. Valera and T. Wickham, "Management of Traditional and Improved Irrigation Systems: Some Findings from the Philippines", FAO Farm Management Notes, 5 January 1978

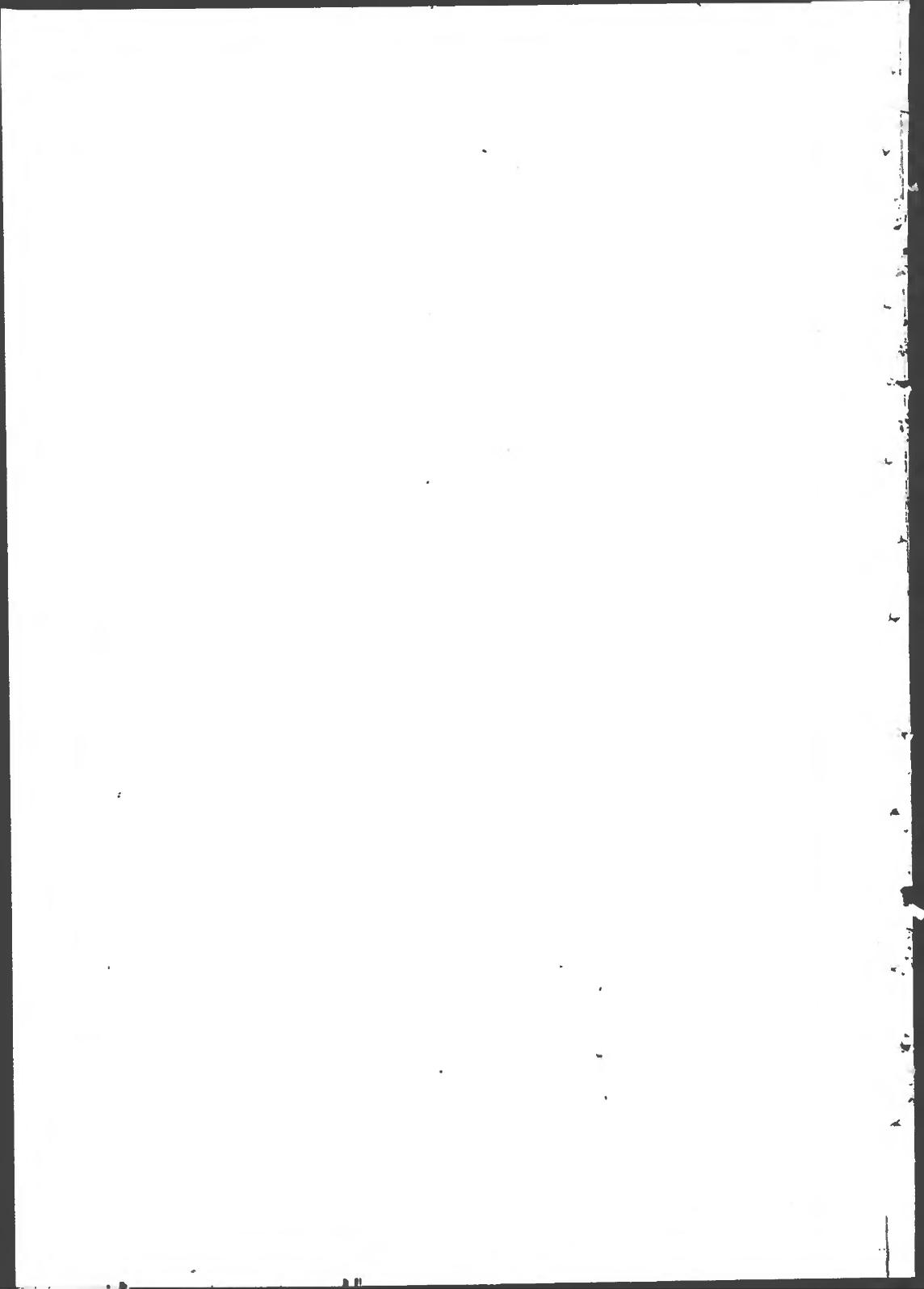
37. Principal responsibility for designing action research programmes should be given to local research/consultancy bodies wherever possible, under the supervision of government and in close consultation with the administrators who will have to implement them. Monitoring should be exclusively in the hands of the external research bodies since accuracy and objectivity in assessing performance under experimental conditions is of the highest importance. Substantial training may often be needed

in the techniques of designing and monitoring action research, not only because it is an unfamiliar field to most but also because it involves work of a kind which academic social scientists rarely find professionally rewarding at present.¹

38. The costs of time and manpower required for effective action research are likely to be quite high in comparison with costs incurred at earlier stages of the planning process. However, even in conjunction with the earlier costs of management evaluation, they will be low compared with the costs of often misdirected technical experiments. And the benefits obtainable by substituting improved management for unnecessary expenditure on physical infrastructure could be very high indeed.

1. On the observed limitations of academics in programmes of an action research type, see V.S. Vyas, "Academics and rural development: lessons from the Dharampur project", Working Paper 286, Indian Institute of Management, Ahmedabad, August 1979, pp.22 ff.







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AGRICULTURAL ADMINISTRATION NETWORK PAPERS

No. 6

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PRACTICAL EXPERIENCE IN IMPLEMENTING THE
TRAINING AND VISIT EXTENSION SYSTEM
IN LARGE COMMAND AREAS IN INDIA

by

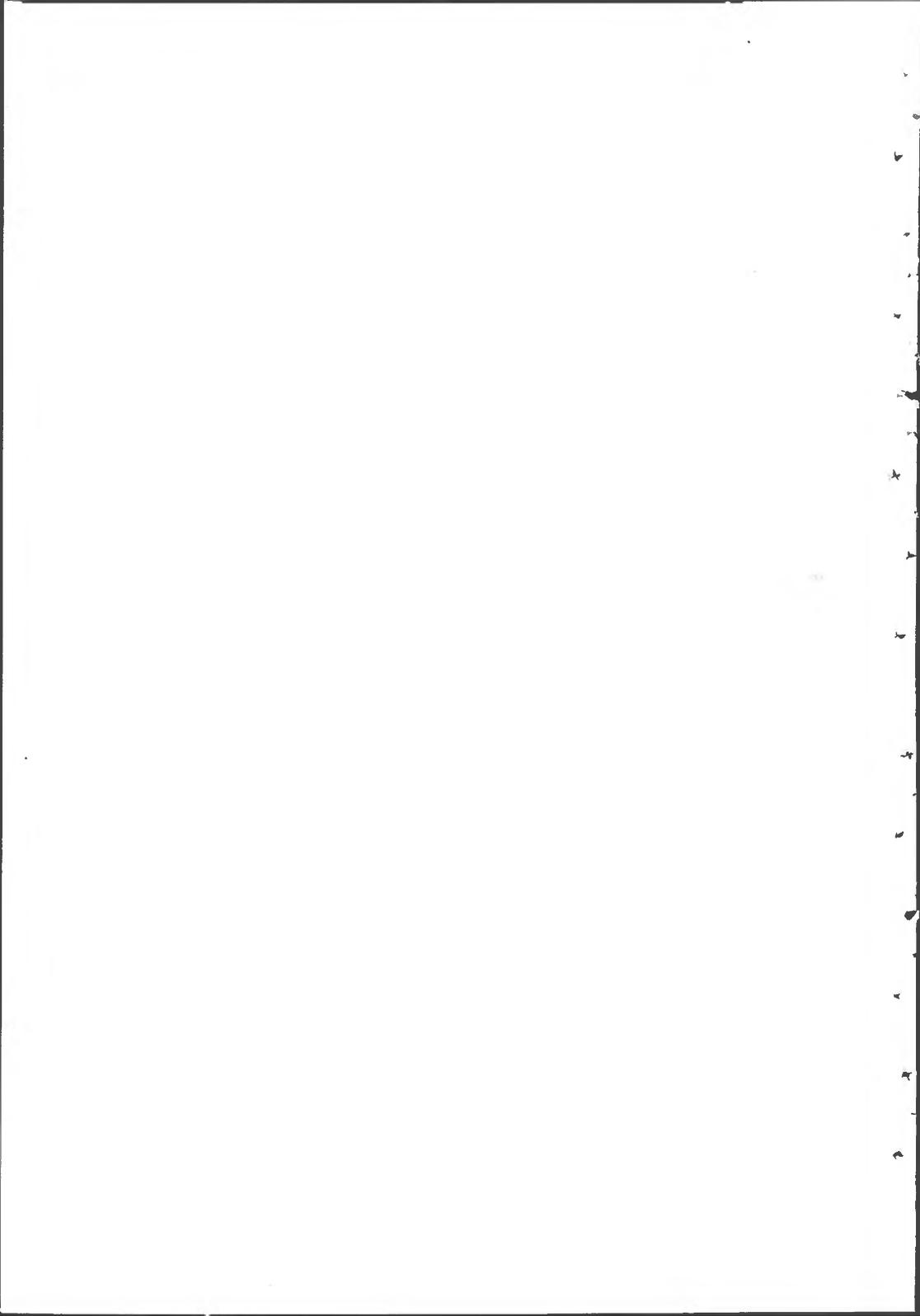
Syed Hashim Ali
Secretary - Command Area Development
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This paper is based on the experience of introducing the training and visit system of agricultural extension in four Command Area Authorities in the State of Andhra Pradesh, India. The extension system was introduced in 1976-77 and is planned to cover three million acres by 1981-82

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March, 1980

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I. THE CONTEXT

Generally speaking, there are three main difficulties confronting the organisation of agricultural extension in large irrigation schemes such as those in Andhra Pradesh.

Firstly, as in most irrigation schemes the operational and maintenance staff is not responsible for anything beyond the outlet after the release of water in the canal system. However, the agricultural staff is too meagre to deal with the intensive extension work among the farmers required to acquaint them with problems of water use, land development, introduction of new irrigated varieties, water management, use of better seeds, fertilisers, pesticides and other inputs. Under the existing practices they are expected to collect the funds or obtain loans, survey and design the layout of the intricate field channel and field drain system, construct the field channels, organise equitable distribution of water, etc. This, in the context of illiteracy, village factions, neighbours' disputes, uncertainty of getting water, lack of technical inputs, etc. is an extremely difficult task and has therefore been one of the major factors in the lag between supply of water and its proper utilisation.

Secondly, while the irrigation hierarchy is traditionally powerful and well-entrenched, the agriculture staff does not normally enjoy the same prestige and effectiveness except perhaps in countries where irrigation has been recently introduced. It therefore becomes necessary to strengthen the agricultural extension system simultaneously with the actual release of water so that there is enough staff to deal with their irrigation counterparts at different levels and learn to work together. An incident deserves mention here to highlight the attitudes of the irrigation engineers dealing with supply-oriented irrigation operation methods. The Government of India prepared a Manual for Water Management, and CAD and irrigation officers were invited to a seminar before finalising it. As the Chairman of one Sub-Group, when I remarked that irrigation and agriculture officers have to closely coordinate for proper water management, a senior Chief Engineer from a North Indian State, with a genuine expression of perplexity on his face, reacted with 'What has agriculture to do with irrigation?' According to him only Irrigation and Revenue Departments were concerned with irrigation problems.

Thirdly, while the command area of a large project may spread over several administrative areas or districts, the Agricultural Department has an area based hierarchy and there are administrative problems in organising them by treating the whole command areas as a single administrative unit. This, in fact, is what happened when the Command Area Authorities were set up with extension staff responsible to the New Authorities.

II THE SYSTEM

In these new authorities, an intensive extension system was introduced: Daniel Benors' Training and Visit (T&V) system. Briefly, this system aims at the transfer of agricultural technologies from the Research Farms and Universities to the farmers by a well organised system of training at different levels, and regular weekly or fortnightly visits to specified groups of farmers on a specified day at a specified time. Thus the Universities and Research Institutions train the subject matter specialists who, in turn, train the assistant agricultural officers (agricultural graduates) and the village extension workers every week or every fortnight. The AAOs and VEOs in turn visit farmers in small groups once a week on specified days and times. The training is simple and is relevant to the crop needs of that week or that particular phase of the concerned crop. Some active and good farmers are selected as contact farmers and special attention is paid to them.

In this system the emphasis, apart from training and visits, is on a single line of command so that the extension staff does only extension work and is not asked to do other duties under the orders of dual superiors. Another important factor is that all messages regarding agriculture have to be conveyed to the farmer through this system only so as to avoid the confusion caused by different persons conveying messages and imparting training in different ways.

In the beginning there was some diffidence to convey messages regarding other work like land development or water management but great success was achieved in introducing rotational water supply to farmers through the efforts of the extension staff after elaborate improvements were made

in the water supply in the canal system. This has proved that the operation and maintenance staff of the Irrigation Department and the extension staff of Agriculture are able to coordinate for a marked improvement in water allocations to farmers with excellent results in increased agricultural production in some areas.

III THE PROBLEMS

However, the introduction of this new system, the integration of the Extension Service under the Development Authority, the sudden increase in the number of staff and the many adjustments and changes necessary to bring about this integration created many problems, and deserve to be shared with those who are doing similar work elsewhere.

(a) Administrative problems

- (i) The command areas of large projects cover large administrative units called districts. These districts are further sub-divided into Community Development Blocks for development purposes and have been in existence since the planning process began. They are headed by elected non-officials, the Chairman of the Panchayath Samithis and the administrative work is done by a Block Development Officer (BDO) working under him. The field level officers of the Agricultural Department do not have any direct administrative control over them and have to operate through the BDOs. The VDOs are general development officers and deal with other problems of development in the village but are expected to spend about 80% of their time on agriculture. All BDOs in the District are administratively under the Collector and District Magistrate.

The attempt to integrate the Agriculture Staff into the Development Authority created many problems. The VDOs had to be taken over only for doing extension work and were not expected to do any other work. It was therefore decided to transfer 80% of the VDOs to the Agriculture Department and to make them work directly under the agricultural hierarchy established in the Development Authority. The collectors and the BDOs did not like this as their staff were being taken away.

- (ii) The Agriculture Department had several special schemes like cotton development, oilseeds development, etc., which were functioning directly under the Departmental officers. As the T&V system did not allow several agencies, this staff had to be merged with the T&V systems. Many obstacles had to be overcome and many changes were necessary to make the merger effective.
 - (iii) The staff had to suffer because of delays in payment of salaries, etc., as transfers from one Department, scheme and jurisdiction to another resulted in many problems for them.
 - (iv) Some staff went to court protesting against their transfer from the Panchayath Raj Department. The High Court decided in their favour. The Government had to go in and appeal to the Supreme Court and the whole arrangement was disrupted. The staff taken from the Panchayath Raj Department had to be retransferred and placed under the BDOs. They were however asked to perform the same functions as they were doing under the T&V system, but the single line of command did get a setback.
 - (v) The Department of Agriculture was not able to fill up many posts for long periods in view of the sudden increase in numbers, the cumbersome recruitment and promotion procedures and sometimes lack of faith in a new system.
- (b) The problem of technical competence
- (i) The new system required Subject Matter Specialists (SMS) on different subjects like agronomy, plant protection, water management, etc. The Department had no system of specialisation. The two main branches of extension and soil conservation had also to be merged under a court order as the prospects of promotion greatly differed between them. The extension field staff was not directly under the Department and the departmental officers were mainly doing the work of fertiliser sales and distribution. The officers had therefore an administrative experience and bias and therefore

Assistant Directors of Agriculture did not generally like the posting as SMSs as it required study of the specialised subjects and did not carry any authority. The professional pride of knowing the subject well was replaced by the taste of power. The large number of SMSs were therefore mere designations and not really specialists. There was hardly any expertise available on the subject of water management.

- (ii) **Training for SMSs:** Intensive short-term training programmes were therefore necessary at the Agricultural University and the Research Farms to acquaint the new SMSs with the technical subjects they were expected to deal with. This process was made continuous and the SMSs were made to attend many such courses.

The University professors and researchers were also requested to take training classes in the project areas to train the lower level staff of Assistant Agricultural officers (agriculture graduates) and the Village Extension officers (generally High School Certificate holders).

- (iii) **Emphasis on the technical nature of the Training Meetings:**
The training of AAOs and VEOs also posed a problem in the beginning. The senior officers of the Department who generally did administrative work were authoritarian and the lower staff was subdued, tongue-tied and obedience oriented. The training sessions were therefore one sided lectures without any sign of life and response from the trainees. I had to intervene in many of the early meetings to emphasise that these meetings were not administrative but technical and scientific meetings and that we were all equals. A remarkable change came over both the senior and junior staff after a few meetings and they became participants of technical sessions with a lot of argument and disagreement by the juniors when they gained enough field knowledge and became sure of themselves.
- (iv) **The technique of extension:** Mere imparting of the technical details or the package of practices does not make the Extension Staff effective as the message bearers of technology. Special

efforts have to be made to make them learn the technique of extension to be able to communicate better and to get a better response from the farmers. Patient and skilful extension workers get the answers to the problems from the farmers themselves instead of bluntly suggesting solutions without a proper dialogue. This aspect requires more attention than it generally receives.

(c) Supervision

The T&V System discourages reporting or maintenance of registers and depends on results in the field as proof of work. This needs a strong sense of duty and a sense of commitment. This takes some time for most workers and only when the results of their efforts become visible on the field. It was, however, seen that older VDOs who were used to a multi-purpose role (which in reality meant doing nothing much or tangible among the many items of work), found it difficult to adjust to this strict regime of visiting farmers and their fields regularly each day. In one extreme case one VEO was found to be a lively participant in all training meetings, discussed farmers problems and generally gave an impression of being a sincere worker. On a surprise check of the villages in his charge it was found that he had hardly visited the farmers and was absent for long durations.

The Extension Service therefore requires an organised system of supervision and surprise checks.

(d) The communication gap

There is generally a large communication gap between the research findings and the latest technologies developed on Research Farms and taught in the Agricultural Universities, and the instructions on technical matters issued by the Department of Agriculture. These institutions have therefore to be brought closer and all technical instructions should normally be jointly worked out and issued by the Department and these Institutions. Once issued from the Directorate they take an unusually long time to reach the last level field worker if at all they do reach him. The T&V System is meant to overcome this gap by constant one-day training sessions at least twice a month. But the problem needs attention and has to be tackled continuously.

New practices are better understood by the farmers with the help of audio-visual aids. Prompt attention has therefore to be paid to the preparation of material on the package of practices for different crops, on land development and water management, etc.

(e) The problem of motivation

The new extension system resulted in a lot of change for the existing multipurpose village level worker. He was divested of his usual role and was asked to work only for agricultural extension. The programme of work was very regular and he had to undergo weekly training in which his dormant wits had to be used afresh. Constant visits and a purposeful contact with the farmers was a big change in working style for him. The Village Extension Worker (VEW) and his immediate superior the Agricultural Extension Officer also lost their control over fertilizer sales which was considered by them as a reduction in their capacity for patronage. They were transferred to work under the direct control of an Assistant Director of the Agriculture Department who was technically more exacting compared to the BDO under whom they worked before. Extension work without patronage looked a powerless function to begin with. The younger men freshly recruited to fill the newly created extra posts did not however have such past experience to become a constraint.

The work however had to be done in very difficult conditions. Many Extension Workers had to stay and work in interior villages without proper roads, schools, medical and other facilities. There was no extra allowance for working in difficult conditions. Housing was a problem. Small villages did not have extra huts to be rented to VEOs. They had problems of transportation. The promotion aspects were very bad. Village level workers with over twenty years of service were still working in the same job without a single promotion.

The following measures were taken to improve the situation and similar measures would be necessary elsewhere:

1. New Grade One posts were created so that senior VEWs could be promoted to a higher grade while working in the same job.
2. VEWs who had done a training course were considered for position in posts of Assistant Agricultural Extension Officers which were reserved so far for agricultural graduates only.

3. Cycle or motorcycle loans were given to VEOs to enable them to travel further and faster.
4. A special project allowance similar to Irrigation staff of the same level was sanctioned to them.
5. A few houses were constructed in interior villages where there were no housing facilities.
6. A system of incentives for good work was initiated by giving advance annual grade increments when the work was of an outstanding nature.
7. Efforts were made to change the authoritarian attitude of some senior officers to enable the staff to work in a better working atmosphere and to acquire a type of professional pride in the work they were doing.

(f) The problem of coordination

Like the complex work of irrigation utilisation and command area development, of which extension is a part, successful agricultural extension work also requires multi-disciplinary coordination, as the package of technology which the extension service imparts has to be coordinated closely with the package of services (the inputs) and the package of public policy (pricing, marketing, etc.).

The new Extension System which dealt purely with the technological input had to coordinate with credit agencies, cooperative societies, fertiliser and pesticide supplies systems for timely and adequate supply for all agricultural inputs. The problems of a sudden bumper harvest created problems of storage, marketing and transportation. Cooperatives had to be reorganised and rejuvenated to meet the high demand for credit for the more costly inputs of high yielding varieties. Coordination between the traditional departmental hierarchy and the new Command Area hierarchy also needed attention as the input supply continued with the existing hierarchy and had to be closely coordinated with extension work. Introduction of new cropping patterns may require coordination with other States or areas for getting the new seeds.

The experiment of introducing rotational water supply through extension methods required closely enmeshed coordination with the Irrigation Department for the improvement of the water supply in the canals to create confidence in the minds of farmers about the reliability of water supplies.

Similar problems would arise in all newly irrigated areas and would require advance planning and meticulous attention.

(g) The problem of credibility

Agricultural statistics are generally based and may not always be found separately for crops which are both irrigated and non-irrigated. Similarly, when a new extension method is introduced following irrigation, it may be difficult to get separate statistics for this special effort. It was therefore considered necessary to have a separate statistics and monitoring cell in the CADA to get proper crop cutting experiments in areas in which intensive efforts for increasing agricultural production were being made. Such high production figures when compared to District averages (which did not distinguish between an irrigated and unirrigated crop) looked unbelievable to many people including those in the Department of Agriculture who did not know about the technique and effectiveness of the new system.

The regular Department of Statistics also was reluctant to publish the results as they were two to four times the district averages for the same crops. To overcome this difficulty and to have a proper comparison, control plots for crop cutting experiments had to be taken in areas with irrigation but without the new extension system. This could in a way isolate the effect of extension and show that the higher yields were the results of intensive extension. After about three years of effort the higher yields in Command Areas covered by the T&V system became part of the State's statistical reports and are generally accepted now.

IV Conclusions and Suggestions

1. Any new system of agricultural extension cannot be transplanted to new areas without necessary modifications needed according to local agricultural, administrative and cultural traditions and have to go through a continuous process of evaluation by making the necessary corrections and changes in view of the experience gained.
2. Introduction of an efficient extension system for delivering the package of technology to farmers requires strong administrative services (credit and other agricultural inputs) and the package of public policy (pricing, storage, marketing, etc.). Effective coordination between the three requirements can alone result in achieving the objective of satisfying the farmer and higher production.
3. There is a need for improvement of the general level of competence in Subject Matter Specialists. This can be done by training and allowing them to be in constant touch with Research Scientists and farmers. This also requires more visits by Scientists to the farmers' fields as the contribution of farmers to improvement in technology is not insignificant.
4. Closely enmeshed coordination between the Extension Service and the Irrigation Operation and Maintenance staff is necessary for introduction of improvement in water management practices such as introduction of rotational water supply among farmers or rotation in the main canal system for rationing scarce water.
5. Working conditions and terms of service of Extension Staff need special attention for improvements of the quality of work.
6. Supervision of Village Extension Workers and others requires special attention.
7. Preparation of audio-visual aids relevant to the programme of work, especially when innovations have to be introduced should be done concurrently with extension work and effective aids developed on time.

APPENDIX

Three years after the introduction of the new system the A.P. Agricultural University was asked to make an independent evaluation. Four teams headed by Professors and Research Scientists questioned 80 farmers in different command areas. Their findings were briefly as follows:

Staff reaction

(a) Coordination

- (i) Single line of command was found better than the diffusion of technical and administrative functions under the Agriculture and Panchayath Raj Department.
- (ii) Official distance between VEO/AAO/ADA was closer than in regular hierarchy. The DDA was still distant.
- (iii) Supervision and guidance not adequate More time should be given on farmers' fields.
- (iv) Direct contact of SMSs with farmers low.
- (v) Regular Departmental officers and officers working in CAD are not yet closely coordinating.
- (vi) SMSs approach Research Scientists only when there is a need. They do not find adequate time to establish a more meaningful contact with Research Personnel.

(b) Impact

- (i) Officers have a clear concept of the whole system. Some lower level staff is still not clear.
- (ii) Real impact started two years after the introduction of the new system

(iii) Higher technology is therefore reaching the farmer some time after the introduction of the system.

(c) Confidence

(i) Smaller areas of work have enabled VEOs to pay more attention to farmers. They feel involved in transmitting technical knowledge.

(ii) Creative thinking was developed.

(iii) Therefore VEOs feel they have increased knowledge and confidence.

(d) Dissatisfaction

(i) Extra emoluments

(ii) Housing

(iii) Conveyance

(iv) Other facilities and promotion prospects

Farmers' Reaction

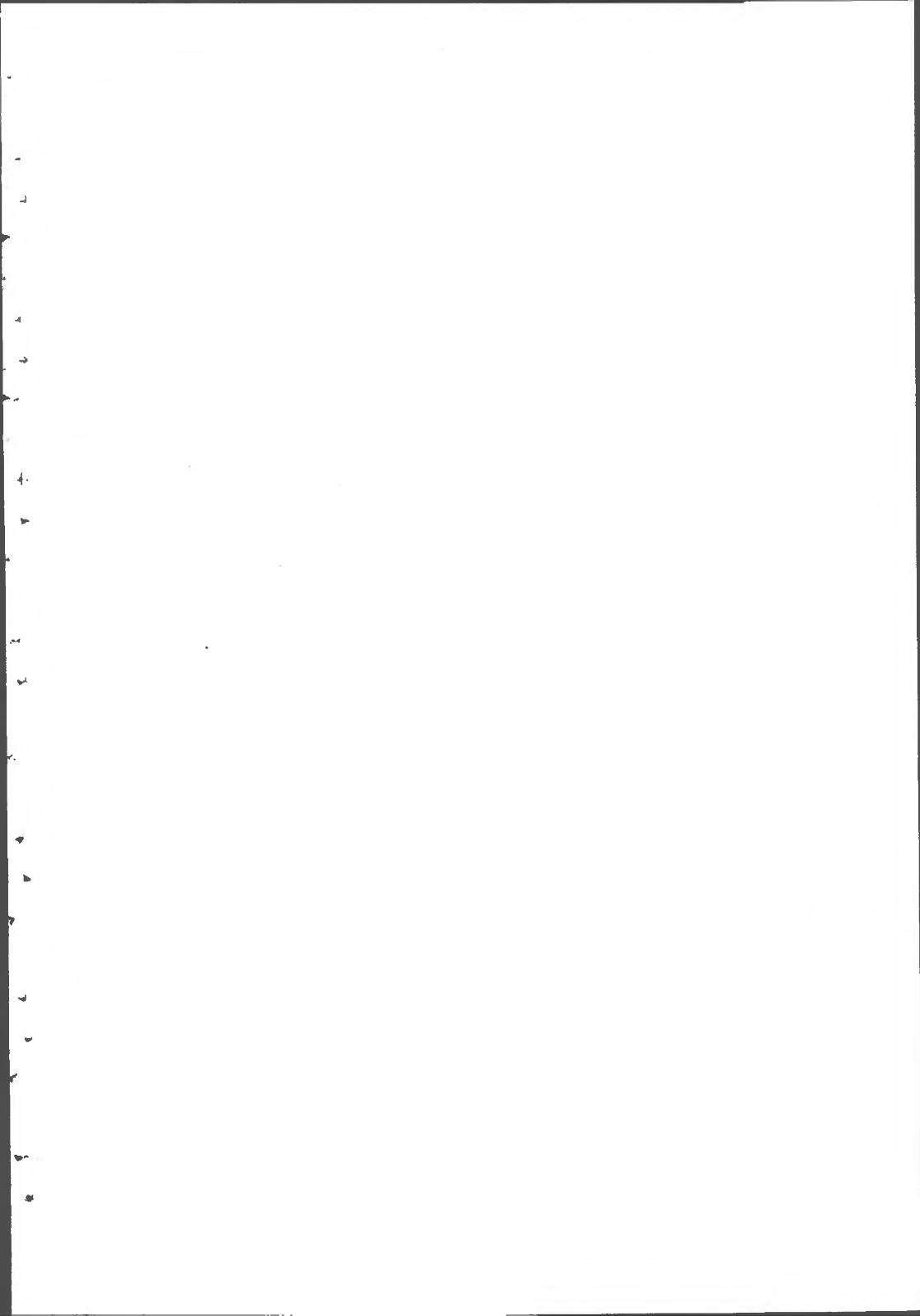
(i) Farmers very much satisfied. Sure of visit on specified date.

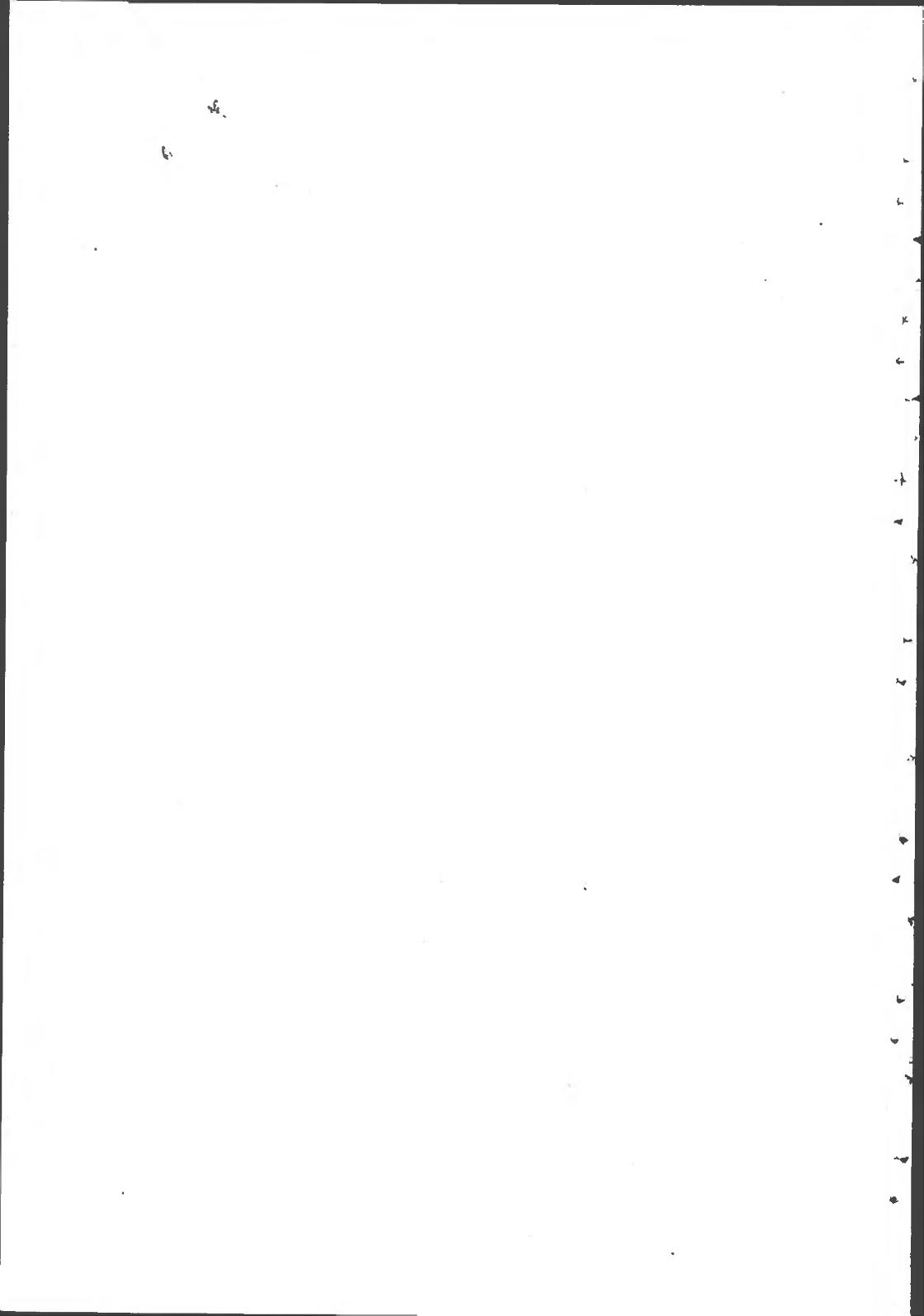
(ii) Contact farmers feel elevated as a second line of communication process for diffusion of technology.

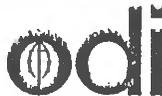
(iii) Able to save on correct (not excessive) use of fertiliser, pesticides, etc.

(iv) Increase in yield has been considerable, 25% to 50%.

(v) Subject Matter Specialists have made substantial impact in improving technical knowledge and competence of farmers.







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AGRICULTURAL ADMINISTRATION NETWORK PAPERS

No. 7

THE SOCIO-ECONOMIC ORGANISATION OF FARMING
IN THE GAMBIA AND ITS RELEVANCE FOR
AGRICULTURAL DEVELOPMENT PLANNING

by

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Records dating back to 1738 (1) show that swamp and upland rice has been almost exclusively cultivated and controlled by women in The Gambia until the present day. Since 1966 development programmes have introduced irrigated rice cultivation to men. This article sets out to compare firstly, women's control of land, labour and the crop in swamp rice production and secondly men's, and to a minor extent, women's control of these same factors of production in the cultivation of irrigated rice. It will be argued that not only have men benefitted disproportionately more than women from these development programmes but that moreover the virtual exclusion of women from the control of irrigated rice production has led to a partial failure of the programmes.

This article is based on field-work carried out between March 1977 and November 1978 in the Gambian village of Saruja which is situated 177 miles east of Banjul, in MacCarthy Island Division. Most of the 1,179 inhabitants are Mandinka, which is the largest ethnic group in The Gambia. Saruja was one of the first villages to start growing irrigated rice. A few farmers participated in an experiment on Saruja land in 1966 and the first irrigated plots for farmers were developed in 1967.

Until 1966 agriculture has been confined to a single short cultivation season dependent on erratic rainfall between June and November. The main cash crop is groundnuts which, together with groundnut oil and cake, account for over 90 per cent of The Gambia's total recorded exports. The principal food crops are rice, millet and sorghum; rice is the preferred staple. From the seventeenth century onwards numerous accounts have been published by European travellers in the Senegambia which mention periodic crop failures and famines. (2) The Blue Books show that The Gambia was already importing rice by 1836. (3) However, The Gambia's annual rice imports rose substantially after 1857 as men increasingly began to neglect food crop production in favour of the cash crop, groundnuts. Rice imports are currently about 30,000 metric tonnes a year. Since the balance of payments position is precarious, the Government has now set as a national policy the attainment of self-sufficiency in rice production by 1980. Priority is given to the introduction of a new system of cultivating irrigated rice in both the dry

and rainy season.

Irrigated rice schemes have been developed in MacCarthy Island Division and Upper River Division by three separate programmes; the Taiwanese agricultural mission (1966 - 1974); the World Bank Agricultural Development Project (1973 - 1976); and the people's Republic of China rice mission which started in 1975. All three programmes have a similar approach. The agricultural teams design irrigation schemes in units of about 30 acres. Farmers, who have at least a quarter of an acre each, help clear and level the land, and construct the bunds and irrigation canals. Water is raised from the river by means of 5" or 8" diesel pumps. The Taiwanese provided the pumps, power tillers and threshing machines free of charge, and for the first crop farmers were given free seeds and fertilisers. The World Bank project organised farmers into co-operative rice growers' societies through which farmers were given loans for capital equipment and for seeds and fertilisers. The co-operative societies were dissolved when the World Bank project ended, largely because of non-repayment of loans. The Chinese scheme is testing a different approach; the capital equipment is provided free of charge and the farmers pay cash for seeds, fertilisers, water and ploughing by power tiller. Approximately 4,000 acres of double-cropped irrigated rice land have now been developed.

A large proportion of farmers consider irrigated rice primarily as an additional subsistence crop. Considerable quantities do circulate within and between villages, both for sale and on credit, but it is impossible to assess the extent of this exchange. The Gambia Produce Marketing Board officially purchases rice through the Co-operative Produce Marketing Societies which were originally set up to purchase groundnuts. However, actual purchases of rice by GPHB indicate that the irrigated rice programmes have failed in their objective of promoting self-sufficiency in rice production by 1980. Purchases rose from 39 long tons in 1972/73, to 582 tons in 1973/74 and 736 tons in 1974/75, only to fall to 313 tons in 1975/76. At the same time, GPHB's imports of rice rose from 15,000 tons in 1973/74 to 17,000 tons in 1974/75 and 31,000 tons in 1975/76.

Since the Government is currently planning additional and very substantial investment in irrigated rice production, there is an urgent need to understand why the existing programmes have failed to fulfill the Government's objective of attaining self-sufficiency in rice production. In this paper I set out to describe the conditions under which swamp and irrigated rice are produced. It is my contention that the explanation for the poor results of the irrigated rice programmes lies in the neglect, by the development planners, of the social and sexual division of labour within household units of production.

The farming system

Production and consumption is not organised within a single, clearly defined unit in Mandinka society which could be called a 'household' or 'family farm'. On the contrary, the Mandinka terms compound, dabada and sinkiro, which are central to an understanding of the organisation of production and consumption and which also have wider social functions, themselves constitute a problem of analysis. The organisation of farming varies between cash and food crops. Moreover, the control and distribution of the crops vary according to whether or not the cultivator has the status of 'dependant'. The ascription of 'dependency' is determined by a person's gender, age, marital status and seniority within the family. Expanding economic opportunities, particularly since Independence in 1965, are bringing about important changes in traditional socio-economic institutions which are further increasing the complexity of the farming system.

The compound (korda or quo) is the basic residential unit. Compounds vary considerably in size. In Saruja in April 1977 the smallest compound had 3 members while the largest had 108 members; the average compound size was 16.5 people.

The core membership of a compound consists of a man (the korda bio or su bio) and his wives and children. At different periods in the developmental cycle of the compound there may also be younger brothers with their wives and children as well as the wives and children of married sons. Divorced or widowed daughters or sisters may return temporarily before re-marrying. Many of the larger compounds,

in particular, include a variety of other people related by blood, lineage or marriage, as well as strangers, both temporary and of long-standing.

In some cases a compound may operate as one sinkiro (a group of people who are served from the same cooking pot) and one dabala (a group of people who farm together). In this instance, the compound head will also be the sinkiro head (sinkiri tio) and the dabala head (dabada tio). However, there is an increasing tendency in the last thirty years for compounds to split into two or more sinkirolu and dabadalu, or for individual sinkirolu or dabadalu to hive off and form separate compounds. This is in response to alternative economic opportunities and, villagers say, a simultaneous desire of compound members to have more control over the product of their labour.

A dabala may consist of one or more sinkirolu. In the simplest case, the dabala will be composed of a man, his wife or wives, and their children. It is a common practice for brothers sharing the same father and mother to form a single dabala together with all their wives and children. On the other hand, brothers with different mothers usually tend to head their own dabadalu. Married sons and their wives and children belong to the sons' father's dabala.

The number of sinkirolu within a dabala will depend partly on the co-operation existing between brothers in the same dabala but more especially on the degree of harmony between the dabala head's co-wives or between his wives and his brothers' wives since the women have to take it in turns to cook. When quarrels occur, brothers may form separate dabadalu each with one or more sinkirolu, or they may sub-divide the existing dabala into two or more sinkirolu, each headed by a brother. If quarrels occur in a dabala consisting of only one man and his wives and children, he may form a separate sinkiro for each wife or group of wives. The dabala head will be the head of all the sinkirolu within the dabala. Custom does not permit a son to form a separate dabala or sinkiro from his father in the same compound or village. However, if a man is very old or ill, the eldest resident son may take over his responsibilities as dabala head, although he would usually consult his father on important matters.

Although sinkirolu are often subordinate to dabadalu in hierarchical terms,

this is not necessarily the case. Other combinations of dabala and sinkiro also exist. It is possible, although uncommon, for two dabalalu to form one sinkiro. In addition, people in two or more compounds may join to form a single dabada. An example would be the case of an old man with no living sons who joins the dabala of his sister's husband. There would usually be some relationship between dabada members living in different compounds, which might be through blood, kinship or marriage. It is also possible, although this is rare, for a person to belong to a dabada in one compound and a sinkiro in another.

The sinkiro is the basic production and consumption unit among the Mandinka although the production of certain crops may be organised at the dabada level in instances where a dabada contains two or more sinkiro. The sinkiro is almost always headed by a man. The women cook in rotation, usually for two days at a time. Since sinkiro members share food, all the able-bodied men and women in the sinkiro have an obligation to contribute labour for food production. The food crops may be stored by the sinkiro head and the crop allocated to the women for cooking every two days or every week. In other cases, he may control only the sorghum and millet directly and either each woman will have her own rice store or the senior wife may control all the sinkiro rice. The sinkiro head bears final responsibility for providing food, clothes, medicines, housing, money for ceremonies (for example, naming ceremonies, funerals, marriages, circumcision), and for looking after the general welfare of sinkiro members. He will also be expected to provide the marriage payments for the first marriage of dependent men in the sinkiro and the dowry given to a dependent woman on her transfer to her husband's compound.

The dabada is the group of people who share labour for subsistence food crop production. If the dabada consists of one sinkiro, food is both produced and consumed by the same group of people. However, if the dabada consists of two or more sinkiro, the dabada head divides the food crops between the different sinkiro. This usually takes place after harvest, but food could be distributed at other times, for example, every week.

In connection with his overall responsibility for organising the cultivation of food crops, the dabada head has a number of duties. He is expected to provide the food and kola nuts for kafo and reciprocal labour groups used on dabala fields. He sees to the purchase, repair or replacement of agricultural tools, and the supply of seed and fertiliser for dabada fields. In addition, he is responsible for allocating land among dabada members and for negotiating for more land from the compound head, other dabatalu or other compounds when necessary. In practice, other dabada members may carry out some of these functions.

When a man works as a full-time wage labourer or in the civil service, he is expected to contribute money in lieu of labour. If he lives in another town or village, his contribution will be rather less than if he is living in the compound. He would give a large proportion of his money to the sinkiro head for his food. If the sinkiro is a sub-unit of a dabada, and the sinkiro head is not also the dabada head, he would give a smaller sum to the dabada head, in addition, as a substitute for his labour. In this case, the term dabada has expanded in use from its primary meaning of a group of people who farm together (the word daba means 'hoe') to include people who have financial obligations to be met from money earned in non-farm employment.

Although the heads of compounds, sinkiro and dabatalu are almost always men, it is possible for a woman to head a dabada and a sinkiro, and more recently, especially in urban areas, women may head compounds. The head of any such unit calls his or her dependants a dimbaya.

While food crop production is the collective responsibility of dabada members, cash crop production is organised on an individual basis. A field on which a food crop is cultivated is called a waruo. The crop is under the control of the dabada head, who allocates it to the sinkiro or sinkiro within the dabada. The crop cannot be sold but must be used for feeding the sinkiro members. All sinkiro members (except the very young, the old and the sick) have a duty to work on a waruo. On the other hand, all dependent men and women have a right to a kamanyungo (called chukino in the Baddibous). This is a smaller field, on which

cash crops are cultivated by individual men and women. The cultivator has dibaoal rights over the crop. The words maruo and kamanyango are sometimes used loosely to refer to the crop alone. Dabada and sinkiro heads also cultivate cash crops on their own account. However, their fields are not called kamanyangolu but are referred to as 'groundnut field' (Lia kunko), 'coos field' (nyo kunko) or 'swamp' (faro). Maruo fields have prior claim on labour.

A final and important feature of the Mandinka farming system is a clear sexual division of labour. In rice-growing areas, women cultivate rice as both a food and a cash crop while men grow millet and sorghum (coos) and some maize as food crops and groundnuts (and occasionally coos) as a cash crop. Since 1967, men have started growing irrigated rice as both a food and cash crop also. The earliest description of this sexual division of labour was published by Francis Moore in 1738. (4)

Rice land

Throughout The Gambia the Mandinka recognise 5 types of rice land which require different cultivation techniques:

- (1) Tandako - upland with free-draining soils found only in the Kombos where rainfall is high. Short-duration rice varieties are broadcast either on land which has been hoed or onto ridges.
- (2) Banta faro ('outside the swamp') - land with hydromorphic soils. Bunded plots are hoed and broadcast with short-duration rice varieties.
- (3) Ba faro, bato faro (swamp subject to flooding by daily high tides of the River Gambia or its tributaries; ba means 'river') and wami faro (swamp subject to seasonal flooding associated with the full moon, particularly in August-October when the water level in the river has risen due to the accumulated rainfall; wamo means 'the flood at the full moon'. Because the water level in the river is high, this flood water remains in the fields and is not affected by daily tidal movements.) These swamps are sub-divided into:
 - (i) fresh water swamps - in most of MacCarthy Island Division swamps along the river are affected by both the daily tidal movement and by the

seasonal flood. Medium to long-duration varieties are either broadcast very early in the rains before the seasonal flood occurs or, where the daily tidal flood is pronounced, seedlings are transplanted. In the east of MacCarthy Island Division and in Upper River Division, there is no daily tidal effect but the seasonal flood is very marked. Medium to long-duration varieties are broadcast at the very beginning of the rains.

- (ii) saline-water swamps - in salt affected areas including mangrove swamp (manakoto faro) where salt is leached out before cultivation. These are found in Lower River Division and North Bank Division where they are generally called ba faro although there is also some effect from the seasonal flood which, however, is less marked than further up the river.
- (iii) leo - extensive, fairly flat grasslands found in Lower River Division and North Bank Division. These are found between the mangrove swamps and the banta faro and cultivation depends on rainfall and the seasonal flood. Low rainfall in the early 1960s, which also reduced the water level in the river, caused severe evaporation of surface water. This led to a condition of sulphate toxicity which the Marinka call kuno. These fields have been abandoned since the early 1960s.

- (4) Ji faro, ji kono faro ('water swamp'), wulumbango (especially in Jacra, Pond and the Baddibous) and nyamputungo (in the Baddibous) - areas away from the river and its tributaries which gradually fill up with deep water during the rainy season. Rain water is supplemented by upland run-off and streams from springs (woyolu). Medium or long-duration rice varieties are either broadcast hoed or tractor-ploughed land or transplanted in the deeper areas.
- (5) Chinese faro ('Chinese swamp') - irrigated rice fields where high-yielding rice varieties from Taiwan or the Philippines are transplanted in both dry and rainy seasons. Many of these irrigated fields were developed on wami faro. As there are no drainage systems, there are considerable problems of water control in the rainy season.

The cultivation of banta faro has been abandoned in Saruja and neighbouring villages since the middle 1960s as a result of a series of crop failures following poor rains. In Saruja this land was compensated for partly by the simultaneous

development of irrigated rice land and partly by the clearing of two tidal swamps.

In the rainy season each woman farms, on average, three fields totalling about two acres; these fields are usually situated in different swamps. Cultivation conditions, particularly an adequate water supply, vary considerably not only within and between swamps, but also from year to year. Cultivating several fields provides a way of spreading risks and ensuring a reasonable yield in at least one field each year.

Land tenure

Because there has been plenty of land available until about 15 years ago, no simple prescriptive land laws have evolved in The Gambia. However, there are certain ground-rules which are applied with a remarkable degree of discretionary power by the village elders whose only sanction is social disapproval. Disputes which cannot be settled within the village are referred to the district chief, who may, if necessary, refer cases to a higher court. The spread of Islam in the second half of the nineteenth century did not appear to affect these pre-existing practices.

The definitions of these ground-rules vary according to the source of information. This indicates that the nature of ownership and usufruct rights to land raises extremely complex issues which cannot be treated at length in this paper.

The lands (Provinces) Act 1946 states:

"All provinces' lands are hereby declared to be vested in the Authorities for the Districts in which such lands are situated, and shall be held and administered for the use and common benefit, direct or indirect, of the communities concerned.

"The occupation and use of provinces' land by indigenes shall be governed and regulated by the customary laws obtaining in the localities in which such lands are situated." (5)

However, although the Act states that land is vested in the District Authorities and the 'indigenes' have occupation and use-rights, villagers insist that individual men and women or compounds have rights of ownership over land which they have cleared. It is my contention that the Act reflected beliefs held by

British Colonial administrators that land was owned communally under indigenous land law. Thus, when the colonial government appointed the traditional chiefs as its district administrators it was logical that land, believed to be communally owned, should be placed under the responsibility of the district authorities represented by the chiefs.

Before I discuss the system of land law as described and practised by villagers, there are two problems which require mention. Firstly, there is a problem about actually defining ownership. Villagers are quite specific that land is owned by individual men, women or by compounds and that it is not just the usufruct which is owned. The Mandinka are fully aware of the distinction between ownership and usufruct and in fact the usufruct of land which the villagers claim is privately owned by individuals or compounds is lent to other individuals or compounds in a variety of ways. There are no written titles to land and it is said that people should not sell land. However, individuals claiming ownership of land have an undisputed right to give away land or pass onto their heirs any land which they have cleared or inherited from the person who cleared it. There is a proviso that land should not thereby be alienated from the village. This appears to be an ideal because in practice people claim the primacy of their right to dispose of land which they have cleared as they wish and in practice do transmit it to children or near kin residing in neighbouring villages. The right to dispose of land through gift or inheritance is usually considered sufficient condition of ownership. In the area around Banjul, where there is greater pressure on land, farm land is now being sold by people who claim individual ownership rights. Since such sales are not secret, it is uncertain to what extent sales did not take place until recently because they were proscribed in the norms governing the ownership and usufruct rights of land or because the abundance of land meant that in practice there was no demand for the sale of land. In the latter case, the norm that land should not be sold might be simply legitimising the actual practice.

The second problem concerns the specific issue of rice land. Men interviewed in a number of villages invariably said that men owned rice land while women, on

the other hand, reported that they usually did. In fact, both men and women own rice land although women own the greater proportion. This example illustrates the problem of distinguishing between the perceptions of groups with different interests. There is a related problem of distinguishing between normative rules and actual practices.

The following account of land in general, and of rice land in particular, is based partly on interviews with the District Chief of Fulladu West, and with men and women of different social statuses in Saruja and neighbouring villages, and partly on a survey of all the individual fields in six rice swamps under traditional rice cultivation and three irrigated rice swamps in Saruja. The survey, covering approximately 800 fields, was carried out while mapping the fields. It detailed the history of ownership since each field was cleared, lending of use-rights, cultivation as maruo or kamanyango, inheritance and gifts of each individual field from the date it was cleared until the present day. While the interviews tended to centre around definitions of normative customary law, the surveys in the fields yielded data on actual practices which sometimes deviated from the norm. The differences between norms and practices will be mentioned where relevant.

I shall now describe the ground-rules concerning the control and use of land in general and then discuss the application of these rules to swamp and irrigated rice land. These ground-rules can be divided into three distinct though related categories: ownership rights to land; use-rights to land; and the ownership and use of the crop.

The district chief has control over uncleared land outside village boundaries and allocates this land to either existing villages or to new villages which require land. The ownership of uncleared land within a village boundary is vested in the village and the village head is responsible for allocating this land to any villager who needs land to cultivate. When new tracts of land are brought into cultivation, the village head often allocates sections of the land to different lineages (kabilolu). The lineage head, in turn, allocates land to

individual men, women or compounds in the lineage. Land which has been cleared for cultivation becomes the property of the individual man or woman, or the compound which cleared it. If an individual man or woman cleared land, his or her compound, lineage or village has no claim on it; equally, if land is cleared by a compound, the compound's lineage or village cannot dispossess the compound. The owner has the right to dispose of this land. Ownership rights are transmitted by inheritance or by gift. The actual practices vary according to type of land and inheritance patterns of rice land will be described in the next section. If a whole compound leaves a village, or if a person owning private land dies or leaves a village with no heir to succeed to the ownership rights of his or her land, the lineage head has the right to reallocate the land to another lineage member. If the lineage were to die out or to leave the village, the village head would exercise this right of reallocation. I have already mentioned that ideally land should not be alienated from the village though in practice this sometimes happens. Compound land is controlled by the compound head who acts on behalf of compound members.

The term use-rights covers two distinct practices. Firstly, compound members have a customary right to use compound land for their own crops. The compound head has a duty to allocate the usufruct of land equitably to compound members, although in practice senior compound members will get more or better land. Secondly, the usufruct may be lent by men or women owning land, or by the compound head, or by a compound member who has been given use-rights over land by his or her compound head, to people in other compounds. Until about 15 years ago land was plentiful around Saruja, and it was customary to lend land for indefinite periods. In recent years this has led to many disputes where the person who has borrowed land and cultivated it for a number of years, is claiming ownership. Some disputes between villages are of this nature. To prevent this happening, loans are now usually made on an annual basis.

The third category of ground-rules concerns the ownership and use of the crop. The maruo crop belongs to the sinkiro and is used exclusively for sinkiro consumption. Dependent men and women in a sinkiro each cultivate a kawanyango;

this crop belongs to them and they use it for their own individual, as opposed to collective sinkiro, needs. A sinkiro head does not have a kamanyango but he has a field of his own where he will usually grow a cash crop of groundnuts. The field will then be called simply his 'groundnut field' (tia kunko). He disposes of this crop at his own discretion.

(a) Swamp rice land

This section is concerned with the application of these ground-rules to swamp rice land in Saruja. One of the six swamps cultivated by Saruja women, Jahali Swamp, is an anomaly in The Gambia, as it is Lease Land controlled by the government. Women in Saruja (who farm 162½ acres at Jahali Swamp) and in 8 neighbouring villages cultivate the swamp but compound heads have asserted control over the tenancies granted by the government. Part of this land had originally been taken from the women farmers by the Colonial Development Corporation in about 1950 to be developed as a commercial enterprise named the Gambia Rice Farm. After the collapse of this scheme, the land was lent from 1954 onwards in one acre blocks to women tenant farmers. Various share-cropping schemes were experimented with, but for about ten years now no rent has been charged. Approximately three-quarters of the other five swamps cultivated by Saruja women are owned by individual women, and one-quarter by men or compounds.

Swamp land which is owned by individual women is normally transmitted through female agnatic kin, with land passing primarily from mother to daughter. Land is very often given in advance of inheritance. As residence is virilocal, this land circulates between compounds not only on transfer of land from mother to daughter but also during a woman's successive marriages. There are circumstances when a woman's son may inherit the ownership rights to his mother's land. This land can then be inherited by the son's sons or daughters. In the former case the land would remain in the compound. However, it would not be owned by the compound but by the individual man. This may happen if a woman has no daughters, if the daughters marry into compounds with adequate land for all the compound women to

cultivate, if the daughters marry into other villages, or if the sons' wives are short of land. Where there are no children, a woman's sister will have the prior claim.

There are a number of ways in which women may have access to the usufruct of swamp land.

(1) A woman has a right to the usufruct of swamp land belonging to her compound of residence if she has insufficient land of her own. The compound head has a duty to ensure that she is given land to use. In practice, when a young girl marries into a compound, her mother-in-law will, on her own initiative, transfer to her daughter-in-law the use-rights to some or all the compound swamp land which she has held. The daughter-in-law is expected to take over gradually her mother-in-law's responsibilities for food production. In other cases, the compound head may request one of his wives or another compound woman to give up a field which she has been using. As this land belongs to the compound, its use is controlled by the compound head; it is the usufruct which passes in the affinal line from a woman to her sons' wives.

(2) Men also divide the usufruct of their own swamp land between their wives or other female dependents. A woman loses the usufruct if she leaves the compound on divorce or widowhood.

(3) A woman may borrow use-rights to land owned by her maternal or paternal relatives, especially from her mother, father or brother.

(4) When a man or woman with an individual title to swamp land dies and his or her daughters are too young to cultivate the land and the sons are unmarried, it is customary for a sister or niece to be granted the use-rights of this land until such time as the rightful owner requires the land.

(5) A woman may borrow the use-rights to land owned by other compounds, or by individual men and women who are not related to her.

(6) A man may borrow the use-rights to land owned by another compound or man for his wives to cultivate.

Although all these methods of obtaining use-rights to swamp land are found in Saruja, the most common source of access to land with use-rights is compound land.

The third type of ground-rule concerns the ownership and use of the rice crop. Women are able to decide themselves how to divide their fields between maruo and kamanyango, whether they own the fields or only have the usufruct. In practice, the acres at Jahali Swamp are reserved for maruo crops although a few women who are old and therefore no longer have an obligation to cultivate a food crop (maruo) use their acres as kamanyangolu. It is because the acres at Jahali Swamp are used as maruolu that male compound heads have established compound control over these tenancies. The maruo rice belongs to the sinkiro. However, if a woman were to leave the sinkiro for any reason she would have a right to a share of the rice which she had cultivated in order to feed herself until the following harvest. Each woman normally keeps the maruo rice she has cultivated in her private storeroom and she uses it when it is her turn to cook. On the other hand, the kamanyango rice belongs to the woman cultivator and she has the right of disposal. A few women do not make a distinction between the fields to be used for maruo or kamanyango crops, but after the harvest they put aside part of the crop for their own use. Francis Moore, writing in 1938, first noted that women put aside part of their rice crop for food and then sold the remainder of the crop over which they had absolute control. (6)

It is common for men to purchase their wives' kamanyango rice which is then used for sinkiro consumption. However, in times of food shortage, a woman may decide to use her rice to supplement the maruo rice. I know of one case where a husband forbade his wives to sell their kamanyango rice after the rains partially failed in 1977. Although he could have certainly afforded to pay them for the rice, and I noted that he spent a very large sum of money on himself, he refused to pay the women despite their reminding him of their right to payment. Neither wife has any male kin who could support her, so they were not able to enforce their rights. This is apparently a common occurrence.

These general principles raise three questions about the actual distribution of swamp land within the village. Firstly, the transmission of individually owned swamp land from mother to daughter means that although the daughter's

compound of marriage has no right over that land, the compound is nonetheless benefitting from the daughter's use of that land. This would be particularly important if the daughter's compound of marriage were short of swamp land. Such an inheritance system could potentially result in the use of swamp land being distributed to a wider group of compounds. However, the custom of endogamy (cross-cousin marriages are preferred and are common in practice) effectively keeps rice land circulating within a small group of compounds.

Secondly, founding lineages in villages (and this is true of Saruja) usually have established claims to larger acreages of rice land than settler compounds, by virtue of longer residence. The frequent lending of rice land by individuals or compounds of founding lineages to women in settler compounds with insufficient land acts as a mechanism of redistribution of use-rights.

Thirdly, women's access to land and the amount they cultivate varies with age. Girls and young married women who have not yet transferred to their husband's compounds (sunkutolu) normally help their mothers on the maruo and her kamanyango. In addition, they will often cultivate a kamanyango of their own. The land for the kamanyango may be given them by their mothers (and they may then take it with them on marriage) or it may be lent to them by the compound head, their mothers or fathers. Sometimes a young married woman who has not yet transferred to her husband's compound may be lent land by her husband's compound head. Married women (foro musolu) who are of the child-bearing and child-rearing age, are responsible for providing food for the sinkiro. They, therefore, cultivate both maruolu and kamanyangolu. The land they cultivate may be individually owned; it may belong to the compound and they exercise use-rights over it; or they may have borrowed the land. The final group of older women (musu kebalu), who no longer have any responsibilities for food production, will have given away most, if not all, of their rice land. A few of these women will continue to cultivate a kamanyango until they are no longer physically able to do so. There is one old woman in Saruja who pays wage labour to cultivate her kamanyango.

(b) Irrigated rice land

The three irrigated rice development programmes deliberately set out to introduce the techniques of irrigated rice cultivation to men only. As a result, men helped clear and construct the irrigation systems, which gave them the individual ownership rights to this land. Although two of the three Saruja irrigated rice swamps had formerly been cultivated by women, they had been abandoned for at least 20 years prior to their re-development, so no woman was actually dispossessed of land which she was cultivating. However, some women have commented that they had considered this land to be theirs should they ever require it. As rice land is becoming increasingly scarce in Saruja, women are effectively being deprived of a potential area for expansion.

Having obtained individual rights of ownership over irrigated rice land, men are now institutionalising an inheritance system whereby this land is passed on to a man's sons. Since the first irrigated rice swamp to be developed in Saruja was only in 1966, there are few examples of actual inheritance practices. However, men are unequivocal in stating that irrigated rice land should and will be inherited only by male agnatic kin. This system is justified by the need to retain within the compound the ownership and use of the land which has a high scarcity and capital value. Land may therefore be passed on as individually owned land or become compound land under male control. To date, only one woman in Saruja has inherited an irrigated rice plot from her father. Since she is married to a man in the same compound and their sons will eventually inherit the land, it seems that women may have the possibility of inheriting irrigated rice land if it will not thereby be alienated from the compound.

If a man owning irrigated rice land were to leave Saruja permanently, together with his family, his compound head would acquire the ownership rights; if the man were a compound head himself, the lineage head would have the right to take the land for himself or to reallocate the ownership rights to another lineage member.

Practices regarding use-rights to irrigated rice land are quite distinct from

those regulating swamp land. Since irrigated rice land is usually owned by individual men, compound members have no rights to the usufruct of this land. However, the owner may lend or rent the usufruct for a season. The actual practices are different for the dry and rainy season.

Men who own irrigated rice land have, on average, about a quarter or half an acre each; three rich farmers own between 5 and 7 acres each. Men generally wish to cultivate the irrigated rice land themselves in the dry season. In unusual circumstances, or if they own a large number of plots, they may lend the usufruct to a male or female compound or lineage member. Although land may not customarily be rented, and I heard of no case of upland or swamp land being rented in Jaruja, it is accepted practice to rent out the scarce irrigated rice plots for 025 or 030 (£6.25 or £7.50) per quarter acre plot per season. Since a close relative could not normally be expected to pay rent, a considerable amount of delicate negotiating precedes the choice between submitting to social and psychological pressures from a relative and the attraction of a cash rent. A number of women do borrow irrigated rice land in the dry season, although they are almost without exception married to, or closely related to, a man with a relatively large number of plots. I observed that the plots borrowed by women were almost always on the more distant edge of the swamp and were frequently subject to problems of water control.

In the rainy season, there is little demand for irrigated rice plots by men. There are three reasons. Irrigated rice requires relatively high cash inputs for power tilling, fertilisers and wage labour and most men are short of cash by the rainy season. Men also have the alternative of growing groundnuts as a cash crop. However, the main reason is that two of the three irrigated rice swamps in Jaruja are situated on the banks of the River Gambia and are subject to severe tidal flooding in the rainy season. (The land is a combination of ba faro and wami faro.) As no drainage system was constructed, in much of the swamp it is impossible to cultivate rice with the degree of water control demanded by the 'Chinese rice'. However, the fields are suitable for cultivation of local rice varieties which are more tolerant of high and fluctuating water levels. Since only women cultivate

these varieties with traditional techniques, they are given the use-rights to this land in the rainy season.

Finally, the question of whether irrigated rice land is cultivated as a maruo or a kamanyango is complicated. By custom, both men and women must cultivate a maruo in the rainy season; if a sinkiro runs out of food before the next harvest, it is the man's responsibility, as sinkiro head, to purchase grain from his groundnut income. Since the dry season crop was only introduced in The Gambia in 1966, a man has no customary right to his wives' and children's labour on a maruo in the dry season.

However, several different practices are currently evolving with respect to the use of the irrigated rice crop. Firstly, the most common practice is for men to cultivate their irrigated rice plots on their own account. They usually sell part, if not all of the crop, and they have the disposal rights over the income. Many men in practice will contribute part, and sometimes the whole crop, for sinkiro consumption; in effect, they are using the rice to fulfill their customary responsibility for supplementing rainy season food production, and so are saving their groundnut income. In these cases, women, dependent men and children will not be expected to help though they may occasionally do so as a favour.

The second practice is for men to regard the irrigated rice land as a maruo and allocate the crop for sinkiro consumption. Women, dependent men and children will then help with the cultivation.

Women who borrow irrigated rice plots in the dry season cultivate them as kamanyangolu. In a few cases they use some of the harvest for food, keeping the money from the sale of the remainder of the crop for themselves.

Sexual division of labour

It is misleading to discuss the sexual division of labour among the rice growing Mandinka without considering the control of women's labour and the product of their labour by men. Superficially it appears that there is no gender hierarchy in agricultural production, and that senior men do not control women's labour or the

product of their labour. It could be argued that both men and women have collective interests in providing subsistence needs and that they perform complementary roles in agricultural production.

Three facts support such a view. Firstly, all men and women, except the young, the old and the sick, have an obligation to cultivate a maruo to provide for subsistence food needs of sinkiro members. The importance of these collective duties is emphasised by the right of dependent men and women to cultivate, in addition, a kamanyango over which they have disposal rights. They are expected to use the money from the sale of this crop to satisfy personal, as opposed to communal, needs.

Secondly, the sexual division of labour between crops, with men cultivating the food crops of sorghum and millet (coos) and maize, and the cash crop of groundnuts, and women growing rice as both a food and cash crop, reinforces the notion of complementarity.

The third and most convincing argument for complementarity, is that women actually organise the production of both their maruo and kamanyango rice crops. They usually keep the maruo crop in their private, padlocked store-rooms and use it when it is their turn to cook. They may even cultivate their own land as a maruo. Men normally store the coos and maize in their granaries, distributing it to women for cooking. The actual arrangements vary from sinkiro to sinkiro; the most common practice is for women to cook in rota for two days at a time and to be given two days' supply of coos each time it is their turn to cook.

To a certain extent in both the pre-colonial period and today, male and female roles in food production within a sinkiro could be characterised as complementary when personal relationships between them are harmonious. However, cases of divorce lead us to question female control of the product of their labour on the maruo fields. Although a woman stores her maruo crop and controls its use for cooking, and has a right to a share of the crop for her own subsistence if she leaves the sinkiro on divorce or widowhood, in practice the crop is often claimed by the sinkiro. She may not wish to press her claim, particularly if her own children

remain in the sinkiro. The maruo rice crop is therefore essentially communal property, and while women normally are responsible for its storage and use, it is under the ultimate control of the male sinkiro head. This has two important consequences for men's indirect control of female labour. A man may occasionally "advise" his wife when to go to the maruo. On the other hand, if she is unable to work due to illness or pregnancy, he will have to provide labour for the maruo. (In fact women often work in the fields until the very day they give birth.) He, together with male and other female sinkiro members, may work on the maruo. He may also acquire non-sinkiro labour by organising a female kafo or by hiring female wage labour. The second consequence is that women could not neglect their maruo in favour of their kamanyango without incurring a reprimand from the sinkiro head. Indeed, a person's primary obligation is to the maruo.

In the period of colonial expansion after 1830 three factors reinforced the pre-existing sexual division of labour and further institutionalised men's control of the product of female labour. The most obvious factor was the spread of groundnuts as a cash crop. Among the Mandinka, men monopolised groundnut cultivation while women remained confined to the production of the less lucrative rice crop. (Women of other ethnic groups, for example, the Wolofs, cultivate groundnut kamanyangolu.) The second factor was the colonial government's agricultural development policies after the extension of the protectorate throughout the whole of The Gambia in 1902. Government programmes introduced improved seeds, fertilisers, machinery and marketing structures which increased the profitability of groundnut production to the farmer while at the same time making it less laborious. In contrast, almost nothing was done to help women in rice cultivation. Indeed, numerous reports reiterated a western ideology that rice production could only be improved if men were persuaded to overcome their prejudices against cultivating rice and actively participate in rice production. The third factor increasing men's control over the product of women's labour is the spread of Islam in the second half of the nineteenth century. The Islamic concept of men having responsibility over women in social and economic matters

had a significant effect on relations between men and women which affected control and distribution of resources within the sinkiro.

How then do these three factors turn the sexual division of labour to the advantage of men and increase their control over the product of women's labour? The answer stems from the fact that food crops are frequently inadequate to satisfy subsistence needs, not only because of unreliable rainfall and unexpected crop pests and diseases, but also because men tend to concentrate on groundnuts at the expense of food crops. In cases where a sinkiro is short of food, a man may, and in practice sometimes does, forbid his wives to sell their own rice. Since only limited quantities of groundnuts can be eaten, the men's cash crop cannot be appropriated by the sinkiro. Although men are expected to purchase food with money derived from the sale of groundnuts to supplement inadequate sinkiro food stocks, men are secretive about how they spend this money. Thus, although it is customary for men to purchase their wives' kamanyango rice and use it for sinkiro consumption, in practice they sometimes claim they cannot afford to do so. As wives have no knowledge of their husband's cash income, they usually have to agree to forego the sale of their own rice.

Labour use in rice production

Patterns of labour use for swamp and irrigated rice are different and will therefore be described separately.

(a) Swamp rice

Swamp rice production on both maruo and kamanyango fields is organised by women. In Saruja each married woman farms at least one maruo and one kamanyango and often two or more of each type of field. Women rely primarily on their own labour. This may be supplemented in certain conditions by other forms of labour which may be purely additional, such as a daughter's labour (and will vary according to the developmental cycle of the dabala), or which may be called on in times of exceptional need, such as wage labour or expensive kafu labour.

(1) sinkiro female labour

Women are invariably forced to rely on older daughters to look after younger children and help with domestic tasks such as cooking while they are busy in the fields. If a daughter over the age of about 9 can be spared from these tasks, she will help her mother in any of her fields. Girls are frequently given or lent a field by their mothers to cultivate as a kamanyango. Sometimes a woman will cultivate a kamanyango on her daughter's behalf.

There are two instances when married women in a sinkiro might farm together. Firstly, co-wives occasionally co-operate to cultivate a maruo, but not a kamanyango. Secondly, since the preferred form of marriage is cross-cousin (and a man's first marriage is usually of this type), it is a common practice in such cases for a young wife to join with her mother-in-law to cultivate a maruo and at times, a kamanyango. She would not do so because the older woman is her husband's mother but because she is her aunt. As the mother-in-law grows older, the daughter-in-law will gradually take over full responsibility for the maruo, assuming also the use-rights to this land. The mother-in-law may continue to cultivate her own kamanyango. In other cases the mother-in-law would transfer to the daughter-in-law the usufruct of some or all the fields belonging to the compound or her husband and which she had been cultivating, and the daughter-in-law would then farm these herself as either maruo or kamanyango.

It is rare for women to help co-wives or other compound women on either their maruo or kamanyango (except as part of a reciprocal labour group or ka'o), even when the latter are sick or pregnant. The only recorded instances in Saruja were at critical cultivation periods; broadcasting seed when failure to do so would mean no crop at all, and at harvest time. Weeding is neglected and there were numerous instances in 1977 when yields were low because women had been ill and had not finished the weeding. There is one occasion when women will help each other as a favour; towards the end of January the women who have finished harvesting their own fields often help their co-wives and friends.

(2) Sinkiro male labour

It is rare for men to help women in the rice fields in the area around Saruja. The only records of men weeding or harvesting in Saruja were on maruo fields cultivated by women who were either sick or pregnant. There were also a number of instances in 1977 of women being too ill to complete the weeding of their maruo fields. Although this cultural operation fell at a time when men had no work to do on their groundnut and coos fields and were relaxing, the men did not help with the weeding; as a result, yields suffered greatly. In those sinkirolu where men do help, their assistance is not regarded as creating the obligation to help other wives who are healthy. Occasionally men help their wives broadcast seed on maruo acres at Jahali Swamp and transport some of the rice from the field to the compound after harvest.

(3) Reciprocal labour (julo or sauto)

This may be organised on an ad hoc basis between two or more women. However, most married women (excepting old women who still cultivate a kamanyango) belong to a group of between 5 to 10 members who work on each others' fields in turn. The woman whose field it is, will provide lunch and kola nuts. She usually will pay these expenses whether it is a maruo or kamanyango although the sinkiro head is customarily expected to pay expenses for the maruo. Most women will have a reciprocal labour group once or twice in a season. Although theoretically they are not gaining additional labour, women enjoy these groups and say that they work more efficiently.

(4) Kafo labour

A kafo (literally, 'group') is an institution whose traditional social functions have come to include agricultural labour. There are separate kafolu for men and women, which are divided into three categories according to approximate age. In Saruja, which is a relatively large village, there are several kafolu within each of these categories. The men's kafolu are: the kambani nding kafo for boys aged 12-18 years old; the kambani kafo for men aged 19-35; and the keba kafo whose members are aged about 36-50. The corresponding kafolu for women are: the

sunkutu njing kafo for girls aged 10-14; the sunkutu kafo for the age group 15-18; and the foro musu kafo for women aged about 19 (after their transfer to their husbands' compounds) until about 45.

Kafo labour is expensive. The crop owner must provide a good breakfast and lunch, as well as kola nuts, tobacco and often drummers for kafo members who may number as many as 60. In Saruja, several rich men hired kafo labour for their groundnut farms in 1977; this permitted them to cultivate a larger acreage than they could otherwise have done. However, women's access to kafo labour is more limited, because they can rarely afford the expenses themselves which may cost as much as £25. Men's kafolu may cost between £40 - £100 as it is customary to give a bull or money as well as food.

There were seven instances of kafo labour being used in Saruja in 1977 for harvesting women's maruo rice fields and none for kamanyango fields. The kafo which is called to work on women's fields is the foro musu kafo; it is generally helped by the sunkutu kafo. In Saruja and other large villages where there are several foro musu kafolu and several sunkutu kafolu, some or all of these join together when a kafo is called for agricultural work. The kambani kafo comes to 'greet the sunkutolu', who are their future marriage partners, and to help for a while. In each case, the male sinkiro head paid for the kafo expenses because the crop was for sinkiro consumption and therefore ultimately under his control.

One of these seven kafolu was organised by a rich man; he usually pays for a kafo for his first wife who has many domestic duties including helping him in his shop. His other three wives and his daughter are preoccupied with the care of a number of young children. The other six kafolu in 1977 were organised by men of moderate means; each was a response to an exceptional labour shortage that year. One kafo was called by a small compound where the death of a woman left only one active woman and a large number of dependants. The other five kafolu were needed to make good labour shortages due to the illness or pregnancy of the women responsible for the fields. No kafolu were called for weeding rice fields. This

suggests an economy of labour and expense when unreliable rainfall largely determines the crop yield and careful weeding cannot guarantee a good crop.

(5) Wage labour

Female wage labour is used occasionally for any cultural operation. The daily wage rate varies between D1.50 and D2.00. (7) A few women make contractual payments to men to harvest and thresh a portion or even the whole of a particular field. As all women are busy harvesting their own fields, female wage labour is not available at harvest time. Men, on the other hand, are free as the harvest of the groundnut and coos crops is finished by the time the swamp rice is ripe. Women headload most of their rice to the compound each day but it is not uncommon for women to hire a donkey cart to transport the rice. The going rate is between D2.50 and D3.50 or the equivalent in paddy. The wives of the three rich men who own tractors sometimes persuade their husbands to authorise the drivers to collect their rice from the field.

The other forms of labour customarily used in The Gambia, strange farmers and dry season workers, are used by men for groundnut cultivation and not for rice. The strange farmers (sama manclalu) are rainy season migrants who work 2 - 3 days a week on the compound head's fields in exchange for the loan of a field which they cultivate as a kamanyango. They also receive free accommodation and food. The dry season workers (tili kandi dokulalu) are migrants who come to lift and thresh groundnuts for contract payments. Men are also able to hire seeders, sine hoes for weeding and lifting groundnuts, and private tractor, oxen or horse ploughing services for their groundnut and coos farms.

(b) Irrigated rice

A different sexual division of labour is emerging with respect to irrigated rice. The crop owner, whether male or female, is responsible for organising all labour and farm inputs, although the rich farmers may delegate these functions to others. He or she usually takes personal charge of preparing and maintaining seedbeds, irrigating and applying fertilisers. Levelling and repairing bunds and canals is more commonly carried out by men while transplanting and weeding is almost

exclusively done by women who are very skilled in these operations. Both men and women lift and transport seedlings to the fields. Bird scaring is done in preference by children but if necessary by men or women. Harvesting and threshing tends to be considered a man's role, but if the crop owner is a woman she will often perform these tasks herself. Although women harvest their swamp rice with a knife and thresh in a pestle and mortar, they readily take to using the sickle and pedal threshing machine introduced for irrigated rice. Women are very skilled at winnowing and are invariably relied on for this. Finally, rice is transported to the compound by donkey cart or tractor, operated by men. Women may help headload rice to the road or the water's edge in the case of fields on Kajakati Island.

New types of labour use are in the process of emerging with the extension of irrigated rice in The Gambia since 1966. It is not possible at this stage to generalise as there are already marked regional differences. In Saruja and neighbouring villages as well as at Wassu on the north bank, wage labour is a very common supplement to sinkiro and reciprocal labour. However, at Cha Kunda and Santanto, more remote villages to the east of Bansang, I was told that wage labour is rare and farmers depend almost entirely on sinkiro and reciprocal labour. The following remarks are therefore concerned with practices in the Saruja area.

While the crop owner performs many of the operations with the help of sinkiro labour, certain operations tend to be carried out either exclusively by, or with the addition of, non-sinkiro labour. Thus, female wage labour is commonly used by all farmers for transplanting and weeding. Male wage labour is occasionally used for clearing and levelling plots, and for repairing bunds and canals. Harvesting and threshing is very often done by male reciprocal labour groups; only the three rich men in Saruja regularly employ male wage labour for these operations to supplement sinkiro labour. Transport is hired from village male contractors.

The spread of female wage labour is particularly interesting. There are three reasons for this. Firstly, as we have already pointed out, since the dry season crop is of recent origin, women do not have a customary obligation to work on

maruo fields in the dry season. Although some men cultivate the dry season crop as a maruo and sinkiro women (and men) therefore help as unpaid labourers, in many cases the crop is cultivated as the sinkiro head's own field and men must either persuade their wives to help as a favour or pay them wages. Secondly the Taiwanese introduced the system of line transplanting and weeding which was continued by the World Bank and Chinese projects. This necessitates a labour force of 8 - 12 women. Few sinkiro have so many women and are forced to pay wages to attract the required labour. Thirdly, there is considerable demand for female labour in the area where farmers have to compete with Sapu Agricultural Station which offers a higher wage rate of D3.50 per day.

There is a differential wage rate in the village for men and women. Women are paid between D1.50 and D2.00 a day while men are generally paid D2.00 - D2.50. However, if men engage in 'female' occupations of transplanting and weeding, they are paid the same as the women with whom they work. Many men refuse to work for such low wages. The daily wage rate of D3.50 for all cultural operations for irrigated rice at the Sapu Agricultural Station is the same for men and women.

There are three reasons for this wage differential within the village. First, the recognition that women are skilled in transplanting and weeding rice and that these are traditional female farming roles, effectively means that men do not wish to compete for what are seen as female tasks and consequently lower in status. There is therefore no likelihood that men will participate and try to push up wage rates. Secondly, there is considerable female demand for wage labour jobs, exceeding the requirements of both farmers as well as Sapu, particularly in the dry season. Women have little alternative but to accept these rates as they have not access to the more lucrative groundnut cash crop. Women even go to other villages to look for work. Thirdly, men have greater access than women to more remunerative work. Apart from growing groundnuts in the rains, they have more opportunities than women to cultivate irrigated rice in both the dry and rainy season on their own account. There are more openings for regular employment for men at Sapu. Men are also more mobile and can migrate to other areas in search of work.

Conditions of demand and supply of female wage labour vary considerably between the dry and rainy season but wage rates remain constant. In the dry season, demand for female wage labour is high at certain peak periods but as women have no alternative economic opportunities (except for the few who cultivate irrigated rice on their own account), the supply of female labour is also high. The two neighbouring villages of Mellingara and Kerewan are short of female labour at this time and a number of Saruja women go to work in their fields. The wage rates for Kajakati Island are higher at D2.00 per day than the rates of D1.50 - D1.75 for the fields on the mainland. These higher rates are necessary as women are loath to cross the river in small, unstable canoes with their babies.

In the rainy season, women are occupied with the swamp rice. However, traditionally women do not go to their swamps on Fridays (the Muslim day of prayer) and Wednesdays, or in some areas, Mondays (when it is believed to bring them bad luck). This prohibition only applies to hoeing, sowing and weeding and not to harvesting. Moreover, the prohibition does not apply to work on upland crops or irrigated rice. Therefore, women are only available to work as wage labourers during the transplanting and weeding season on Fridays and Wednesdays - days when they would otherwise rest from the toils of days spent in the fields and catch up on domestic duties such as washing clothes. Although supply of female labour is restricted to two days, demand is correspondingly low. As I have pointed out earlier, many men cannot afford the costs of rainy season irrigated rice cultivation and they have the alternative of growing groundnuts which require lower cash inputs. Moreover, many irrigated rice fields are poorly drained and unsuitable for growing irrigated rice in the rains.

What consequences have men's, and to a limited extent, women's demand for female labour in irrigated rice cultivation had for customary practices regarding the control of women's labour and the product of that labour? Since irrigated rice has only been cultivated in Saruja since 1966 and for rather less time in most other places, and since there are regional variations in labour use, it is premature to do more than indicate two tendencies emerging in Saruja.

Firstly, where men regard the irrigated rice crop as a maruo, whether in the dry or rainy season, women are obliged to help. Since this crop is additional to their rainy season swamp rice, they are providing the sinkiro with more agricultural labour than hitherto. By definition, the maruo crop belongs to the sinkiro and is under the control of the male sinkiro head. This means that irrigated rice has, in some cases, increased male control of female labour and the product of their labour.

The second tendency emerges from women's increased opportunities to do wage labour. Their control of these wages is leading to greater independence. If women have their own money, it is easier for them to travel to visit relatives, to go to the hospital when necessary, and to purchase clothes and other items they need for themselves and their children. It will be interesting to see whether men will react by reducing their customary responsibilities for women in these types of expenditure.

There are certain differences in labour use according to the sex and wealth of the persons controlling the crop.

(1) Rich men

There are three rich men in Saruja who normally cultivate both a dry and a rainy season crop. Cultivating between five and seven acres each, they rely heavily on wage labour for most operations. Since these men are also traders, women often take items such as sugar or cloth on credit and then work in these men's fields to repay the loans. None of these rich men's wives or daughters worked for them in 1977 or 1978. The men visit the fields regularly but use younger brothers, nephews or strangers lodging in their compounds to supervise the labourers, irrigate the fields etc.

(2) Men of moderate to poor means

These men cultivate between a quarter and one and a half acres of irrigated rice in the dry season, and only in a few cases attempt a rainy season crop. Three patterns, which are all equally common, exist with respect to the use of female sinkiro labour. In some cases, the irrigated rice is treated as a maruo and the

sinkiro women work at any operation when asked to do so; their labour is generally supplemented by non-sinkiro female wage labour for transplanting and weeding. The second practice is for a man to employ as wage labourers his wives and dependent female relatives in addition to other women. The third practice is for women not to work at all for their husbands but only as wage labourers for other men. The husbands then have to employ non-sinkiro women as wage labourers.

There was one interesting exception in Saruja in 1978. A sinkiro head cultivated three quarters of an acre and lent a quarter of an acre plot each to his younger brother, his two wives, the brother's wife and a sister who lives in another compound with her husband. They all helped each other with the different operations. After harvest they each (excepting the sister) sold an equal number of bags of paddy, retaining the money themselves, and contributed the rest of the crop to the sinkiro for food.

It is a common practice for this category of men to use male reciprocal labour for harvesting and threshing the rice. This recourse to a traditional labour group is probably in part a response to the need to queue to use the few available pedal threshing machines.

(3) Women

These women cultivate on average a quarter of an acre of irrigated rice in the dry season, growing Mandinka rice in the rainy season. They do much of the work themselves but rely to some extent on female reciprocal labour and dependent females such as daughters and sisters. Some of them employ a few female wage labourers for transplanting and occasionally call on male relatives to help with harvesting and threshing.

It should be pointed out that many men and the majority of Saruja women have no access to irrigated rice land and therefore have no opportunity to cultivate irrigated rice on their own account.

Cash inputs for rice production

(a) swami rice

The seed is generally kept from the previous year but women frequently receive

as gifts or exchange small quantities of preferred varieties. About two-thirds of the swamps in Saruja are suitable for ploughing by the government's Tractor Ploughing Service, at a cost of D15.00 per acre. Women invariably pay the tractor ploughing of their own kamanyango and about half of them also pay for the ploughing of the maruo.

Women are responsible for providing lunch and kola nuts for reciprocal labour groups and also for paying for any wage or contract labour used on either maruo or kamanyango. Occasionally a generous husband might make a contribution as a gift. Kafo labour is expensive and may cost D60 - D100. The seven kafo labour groups organised in Saruja in 1977 were all on maruo fields and were paid for by men. Women will usually headload to the compound in the evening the rice they have harvested during the day. If they require a donkey cart, they will often pay for it at the going rate of D2.50 - D3.50 per donkey load or the equivalent in paddy.

(b) Irrigated rice

The man or woman controlling the crop is responsible for the cash inputs. These are higher than for swamp rice as they include water charges at D100.00 per acre for two seasons, fertiliser and wage labour. The seed and ploughing costs are the same as for swamp rice.

Men can afford to pay for farm inputs and wage labour in the dry season from their earnings from the rainy season groundnut crop. In the rainy season they often complain that they have not enough money to pay for the necessary inputs and wage labour. This is a major reason why few men engage in irrigated rice cultivation in the rainy season.

Women only cultivate irrigated rice in the dry season. They pay for their inputs and some wage labour from money earned from the sale of their rainy season swamp rice crop. In addition, they may do wage labour for men in the village or work at Saju early in the dry season and spend this money on employing wage labourers for their irrigated rice fields. Sometimes husbands with wage jobs at

Sam give their wives the money for these expenses and the wives then give some of the rice to the sinkiro for food. Women tend to rely more heavily than men on dependent female labour and on reciprocal labour. They usually manage to buy or persuade a richer male relative to give them fertiliser.

Consumption and sale of rice

Women's maruo rice belongs to the sinkiro while women have, in theory, absolute control over their kamanyango rice. On divorce or widowhood and remarriage in another sinkiro, women have the right to their kamanyango rice and a share of the maruo rice for their own food until the next harvest. When a woman dies, her sons and daughters, or if she has no children, her sisters, share equally the money obtained from the sale of her kamanyango rice.

In Saruja most women have a personal store-room, usually kept padlocked, where they store their maruo rice and the kamanyango rice until it is sold. Only young married women cultivating with their aunts (who are also their mothers-in-law) will share a store with the aunt and the rice will be under the control of the older woman. Unmarried girls will keep their rice in their mothers' stores until it is sold. When it is a woman's turn to cook, she uses her own maruo rice. Rice is usually stored in bunches (bnlolu) on the ear.

While the maruo rice cannot be sold but should be used for feeding the sinkiro, women are expected to sell their kamanyango rice and spend the money on a variety of articles for themselves and their children. The most important purchases are clothes. They also buy gold (which is regarded as a form of saving), costume jewellery, perfumes, medicines, kola nuts and tobacco. Women have to replace the worn-out items of their dowries, such as bedsheets and cooking utensils. They must also provide the money for the food prepared for reciprocal labour groups, farm inputs and for gifts and charities at ceremonies. While male sinkiro heads are responsible for providing bought-in ingredients for cooking, in practice women often buy these. Men also have responsibilities for providing their wives and children with clothes, particularly at Tabaski (Aid el Kebir in Arabic), and

with other necessities during the year such as medicines. The extent to which they in fact do so varies considerably. Major items of expenditure, such as beds and mosquito nets, are usually purchased by men but often only after repeated requests by women. Women in Saruja have important, though irregular, opportunities to supplement their income from rice to enable them to meet these expenses by working as wage labourers at Sapu Agricultural Station or on irrigated rice fields in Saruja or neighbouring villages. They have the right to spend these wages as they wish.

That women are forced to rely on their own income for most personal expenditure is underlined by the fact that the wives of the three rich men in Saruja do not have higher living standards than other village women. It is readily apparent, except in the case of very poor men, that men in general enjoy rather higher consumption levels than women. They often spend more money on clothes and their rooms are usually better furnished. Many men possess radios and bicycles while no woman in Saruja has either of these items. Men travel more frequently and when there is meat, fish or chicken for a meal, they are served (by the women) greater quantities and the more choice pieces of these luxuries. The houses and clothes of the three rich men are indistinguishable from those of poorer men. However, they own shops, tractors, honlas and, in one case a car, which are essential to their business activities which range throughout the district. The striking fact about these rich men is that their consumption level is remarkably low and they reinvest a large proportion of their income.

As maruo rice is invariably insufficient for sinkiro needs, it is common for men to buy their wives' kamanyango rice and use it for sinkiro consumption. Men with a large number of dependents relative to the number of productive women in the sinkiro may also purchase rice from other women in the same or neighbouring villages.

If maruo crops fail completely or partially, men may forbid their wives to sell their kamanyango rice and, ignoring the women's right to payment, refuse to pay them. As I have already pointed out, women have little knowledge of their

husband's financial affairs and cannot easily insist on payment if men say they are short of money.

Rice circulates within the village or between villages in three ways. Firstly, according to the Islamic prescription, after harvest, a tenth of all food crops are given away as charity. This applies to both maruo and kamanyango rice which is either given as paddy or in bunches of rice ears. These charities are traditionally presented to the village head and the Imam who are expected to entertain visitors to the village, and to the village poor. It is quite common for women to give their charities to their husbands. Rice is also given as a charity at ceremonies, such as naming ceremonies and funerals. In these cases clean rice is usually given.

Secondly, paddy from women's swamp rice kamanyangolu and from the irrigated rice fields is sold. In 1977-78 the standard rate was D15.00 for a bag called a senkanto and D30.00 for a sankilo bag. As these are volume measures, varying quite considerably around an approximate weight of 75 lbs and 150 lbs respectively, entrepreneurial skills ensure greater profits to either buyer or seller during the negotiations. Much of the rice coming on the market in Saruja is purchased by sawu workers or by the richer men in the village. The latter buy the rice after the harvest when prices are low and then sell or lend the rice for high profits when food is scarce during the following rainy season.

The third way in which rice circulates is in small quantities of clean rice. This is usually maruo rice and is used as part of the regular barter system for cooking ingredients. The government enforces a controlled price for rice which was 10 bututs per cup of clean rice in 1978. A cup is the rough equivalent of half a pound. However, when used in barter in the village, the cup was valued at 12 bututs. This is a regular practice throughout The Gambia. Since the official price of rice is tightly controlled, there are no seasonal fluctuations in the value of a cup of rice used in barter. The price of the items exchanged against the rice may, however, vary according to supply and demand.

Traders bulk the rice and sell or lend it at high interest rates in the rainy

season. Because the rice cannot easily be disposed of by traders until sinkiro stocks are exhausted, which usually happens from about March onwards, traders need substantial capital reserves to finance the purchase of new stock while money remains tied up in rice. For this reason, male and female petty traders can often only operate in seasons when they can quickly dispose of their rice. It would not be acceptable for a trader to refuse payment in kind for foodstuffs. Other articles, such as cloth, are normally paid for in cash.

Since 1972/73 the Gambia Produce Marketing Board has been buying paddy at official prices. The price in 1978 was 20 bututs per lb. Although many farmers sell some, if not all, of their surplus rice at the Co-operatives' buying stations which took over rice purchasing from the Department of Agriculture in 1974/75, it is nonetheless attractive for farmers to keep some rice in the village to lend at high interest rates in times of regular scarcity every rainy season.

Coos are usually eaten for breakfast in Saruja but rice is preferred for lunch and dinner. The introduction of irrigated rice has supplemented women's swamp rice so that rice is now consumed all year round. As a result, men are planting less coos in the rainy season and increasing their acreages under groundnuts.

Why have men benefitted more than women from irrigated rice?

As we have seen, men own the irrigated rice land and are institutionalising an inheritance system which will keep it under male control. It is only with considerable difficulty that a few women acquire use-rights to a plot in the dry season. At this time demand for irrigated rice land is high, partly because there are no alternative opportunities to farm and partly because, for agronomic reasons, yields are high in both absolute terms and relative to the rainy season yields. Average yields recorded in Saruja in the 1978 dry season were 5589 lbs per acre and in the 1977 rainy season 2206 lbs per acre (see Table 1). Women in Saruja, but not necessarily in other areas, in fact are lent the usufruct over some irrigated rice plots in the rainy season where they grow traditional varieties of rice because the land is subject to tidal flooding and is therefore unsuitable

for irrigated rice cultivation. The men, quite simply, do not require the land in the rains.

The consequence of men's control of irrigated rice land and production on this land, is that they are able to earn, for themselves, a considerable income additional to their income from groundnuts, particularly in the dry season. The three rich farmers, who cultivate both dry and rainy season crops, assured me that even in the rains irrigated rice brings a higher return than groundnuts. Women are thus deprived of an opportunity to engage in this more profitable cash crop on their own account.

Women are able to supplement their incomes by doing wage labour. However, not only is this work irregular but demand for wage labour in the dry season is so high that most women only do it for a few days in the entire season. Moreover, daily wage rates ranging between D1.50 and D2.00, compared with D3.50 at Japa, are very low. If one considers that meat costs D1.00 per lb for meat and bone and D1.50 per lb for steak, and that the cheapest pagn (cloth wrapped round the body as a skirt) is D7.00 while the traditional hand-woven ones are at least D4.00, one is forced to ask whether these wages are not in fact highly exploitative.

The importance of giving women control over some of the irrigated rice land, in addition to men, is seen from the data on consumption. This should have exploded the myth that if a man gets richer through involvement in a development programme, his increased wealth 'trickles down' to his wives and children. In Baranja, where there are three rich men, their wives are no better off than other village women. It is interesting that the women who stand out as better dressed, who have more possessions in their houses and who may have small petty trading businesses, have all done this by hard work on their own without their husbands' help. They are frequently childless or have few children, and can therefore keep a larger proportion of their incomes for themselves than women who have numerous children.

Since women are customarily expected to pay for most of their own clothes and personal requirements and also for those of their children, it is important that

this fact is recognised by development planners and that women are given the same opportunities offered men.

Partial failure of irrigated rice programmes

The government sees increased irrigated rice production as the key to its policy of raising the marketed output of rice in order to eliminate bulk imports of rice by 1980. Since purchases of local rice by the Gambia Produce Marketing Board have remained negligible at around 600 long tons a year and rice imports have risen from 15,000 tons in 1973/74 to 31,000 tons in 1975/76, the government is concerned at the failure of the irrigated rice development programmes to achieve these objectives.

There are two issues: low volume of marketed output and low production in the rainy season. Only relatively small quantities of rice are marketed as most of the irrigated rice produced is required for sinkiro consumption. Men are ultimately responsible for making up any deficit in sinkiro food production. They prefer to cultivate a dry season irrigated rice crop to satisfy these subsistence needs and use for other purposes their groundnut cash income with which they used to purchase additional rice. Also considerable quantities of irrigated rice are purchased or lent on credit within villages. Thus, although the government may consider the farmers' inability to market the rice through the Gambia Produce Marketing Board as an indication of failure of the irrigated rice programmes, from the farmers' point of view these programmes are a considerable success.

The second issue concerning the government is that apparently there is only a cropping rate of 1.25 on irrigated rice fields instead of the possible double cropping rate of 2.00. In Saruwa a key reason for low cropping of irrigated rice land in the rainy season (it is virtually 100 per cent in the dry season) is the fact that two out of three irrigated rice swamps are located in tidal swamps. This is apparently very common, particularly in Upper River Division. As no drainage was installed, many of the plots in these swamps are completely uncultivable

for cultivation of irrigated rice in the rainy season. In addition, crossing the river to the Baru swamps on Kajakali Island is a big disincentive to cultivation. Having been myself caught in a sudden storm on the river while crossing between the island and the mainland in a typical small canoe, I can vouch for the fact that it is a highly dangerous and frightening experience. However, as I have already pointed out, women do invariably cultivate these tidally flooded plots with traditional varieties of rice in the rains, particularly those on the mainland. The government is unlikely to have records of such cultivation. I am told that official figures come from the tractor ploughing returns, and these fields are not ploughed in the rains but are directly transplanted after the weeds have been cleared by hand.

The main and more generalisable point about the low cropping rate in the rainy season concerns the development planners' failure to consider the customary sexual division of labour. Because women are skilled at rice cultivation they are almost exclusively relied on by men for transplanting and weeding, operations which they carry out as either unpaid sinkiro labour or as wage labourers. In the dry season women accept these conditions because there is no alternative farming occupation, nor way of earning money apart from petty trading. Since women are not very mobile and therefore have difficulties in acquiring commodities for trading if they have the necessary capital, the demand for wage labouring jobs is high.

However, in the rainy season women have the right and opportunity to cultivate their rice kamanyangolu and even the rich men can only obtain female wage labour on Wednesdays and Fridays, days on which women do not go to their swamps. Since women are cultivating maruo rice fields, a man cannot easily demand that his wives also work on an irrigated rice maruo, for the women's labour is already fully stretched. Wednesdays and Fridays are looked on as days for badly needed rest and for catching up on domestic tasks neglected on days spent in the fields. This is emphasised by the fact that women do go to the swamps during the crucial harvesting period on Wednesdays and Fridays despite the

general prohibition on working in the swamps on these days. In order to attract female labour on these days men have to pay wages. Since few men have enough money left by the rainy season to pay wages in addition to farm inputs, they cannot grow irrigated rice. The rich men can afford these costs but they are few in number and can absorb the low supply of female wage labour. This means there is no pressure on wages to rise at this season.

I would argue that if irrigated rice plots and the whole technology of growing irrigated rice together with the credits originally given the men by the Taiwanese and World Bank programmes had been made available to women as well as to men, it is probable that double cropping of irrigated rice would have been achieved on the women's fields at least. Women are in a much stronger position than men to cultivate irrigated rice in the rains as labour demands fit in with the customary sexual division of labour and the various ways women organise labour. To start with, it is not essential that irrigated rice is transplanted and weeded by teams of women working together; these operations can be done by women working alone or with their daughters, as indeed some of the women growing dry season irrigated rice have proved. However, if women wish to carry out these operations in labour groups, they already have traditional reciprocal labour groups operating for their swamp rice. These groups could easily work on the irrigated rice fields. Men do not have access to these female reciprocal labour groups, nor do they have equivalent groups for male crops as the men's food crops are grown by datada men (who may only number one or two men) and cash crops by individual men with additional labour provided, where necessary, by strange farmers, dry season workers and kafolu. The big advantage of these female reciprocal labour groups is that they are inexpensive, the only cost being food.

The longer women are deprived of opportunities to cultivate irrigated rice on their own account, the harder it will become to involve them in future schemes. This will be at the cost of psychological and financial security for women.

Improvement of women's swamp rice

A consideration of yields obtained in Saruja for different types of rice cultivation and given in Table 1 is instructive. The very high average yields in the dry season are due largely to good conditions for water control as well as long hours of sunlight and the relative absence of diseases and pests. Of more interest, however, is a comparison between rainy season irrigated rice and swamp rice. The difference in yields can be largely explained by the use of improved seeds and fertilisers for irrigated rice. Moreover, provisional data on labour inputs in Saruja indicate that the labour requirements for irrigated rice are substantially higher than for swamp rice.

There is a priority need in The Gambia to investigate ways of increasing yields on women's swamp rice. This should prove a more cost-effective way of increasing overall rice production in The Gambia than by concentrating exclusively on expensive capital intensive development programmes to clear, level and put in canals and bunds in irrigation schemes. Such improvements would include: provision of high yielding seed varieties; fertilisers where advisable; expanded and improved tractor ploughing services; roads and bridges in the swamps to facilitate access to the fields and evacuation of the crops; threshing machines to enable women to harvest their rice more quickly with the sickle and thresh in the field. At present, lack of threshing machines, which are confined to the irrigated rice swamps, and poor access to the swamps forces women to harvest their rice by the panicle in order to headload it out of the swamp; rice harvested by the sickle is too bulky to headload long distances and has to be threshed in the field. The method of harvesting by the panicle is time-consuming and accentuates the acute labour shortage at harvest time. As a result, fields are often harvested when the crop is over ripe; this leads to shattering and the loss of a considerable quantity of grain. However, this would have to be part of an overall, integrated programme also introducing improved seeds, as harvesting by the panicle is often the only convenient way of harvesting indigenous varieties which are sometimes subject to heavy lodging or mature at different times in the varying cultivation conditions

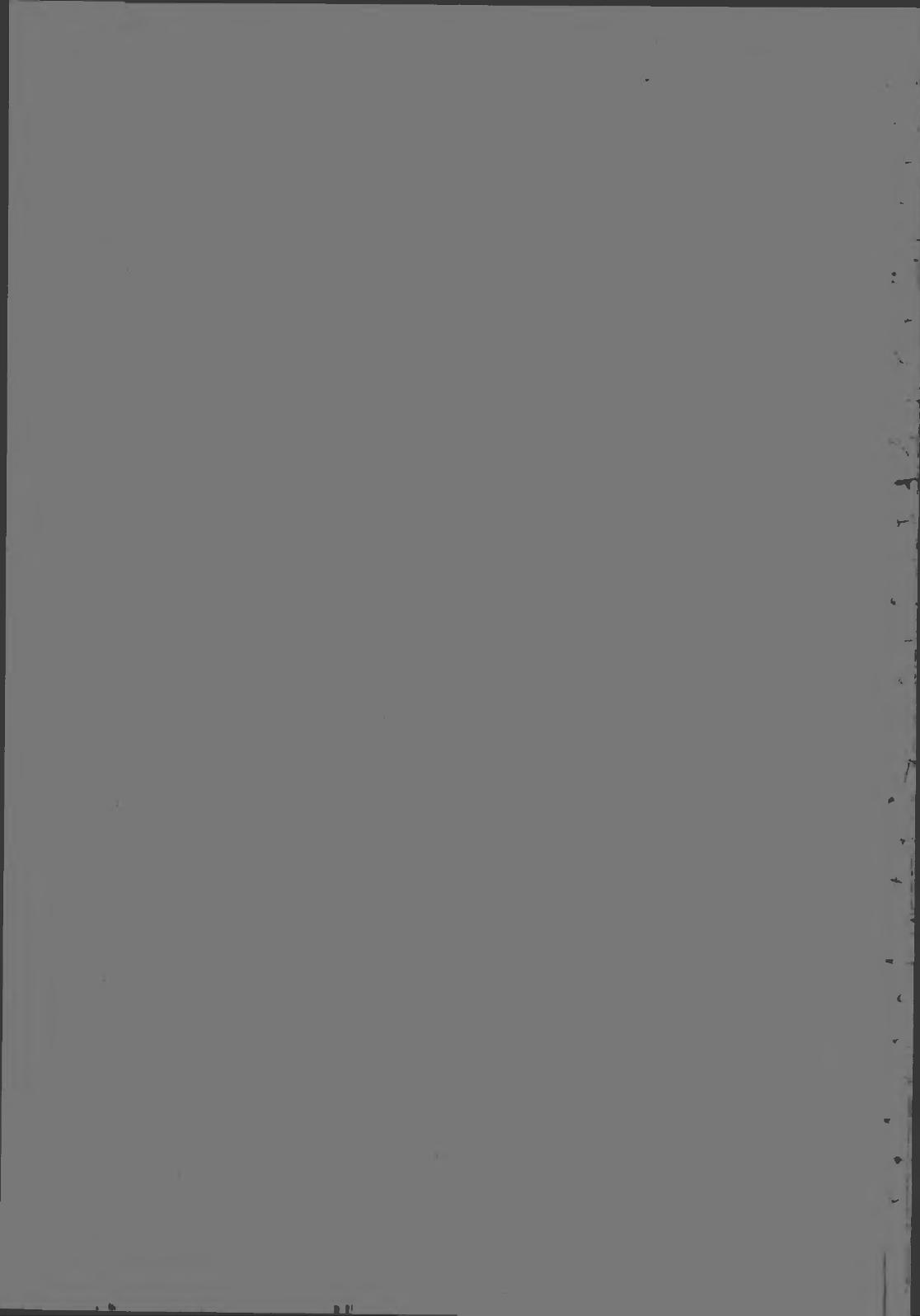
found even within a single field. In addition, yields could be considerably improved if the government helped construct low cost bunds to control flooding along stretches of the River Gambia and its tributaries and, in other areas, to retain water in fields which tend to dry out too early in the cultivation season.

Table 1 Rice yields in Saruja 1977-78

Crop	Number of fields in sample	Yield lbs/acre
Irrigated rice dry season 1978	148	5589
Irrigated rice rainy season 1977	14	2256
Swamp rice rainy season 1977	48	1800

Footnotes

- (1) Francis Moore, Travels into the Inland Parts of Africa, London: Edward Cave, 1738, p.127.
- (2) Francis Moore, op. cit., p.75-6.
Hugo Mack, Travels in Africa, London: J.N. Dent & Sons Ltd., reprinted 1962, p.189; p.257; p.190; p.226.
- (3) Colony of Bathurst, Blue Book for 1836. Also Blue Books for the years 1837-41; 1843; 1845; 1848; 1850.
- (4) Francis Moore, op. cit., p.127.
- (5) The Laws of The Gambia, 1966, vol. V, ch. 103, p.2832, paragraphs 4 & 5.
- (6) Francis Moore, op. cit., p.139.
- (7) Dalasis 4.00 is equivalent to £1.00.





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AGRICULTURAL ADMINISTRATION UNIT

AGRICULTURAL ADMINISTRATION NETWORK

NEWSLETTER NO. 3

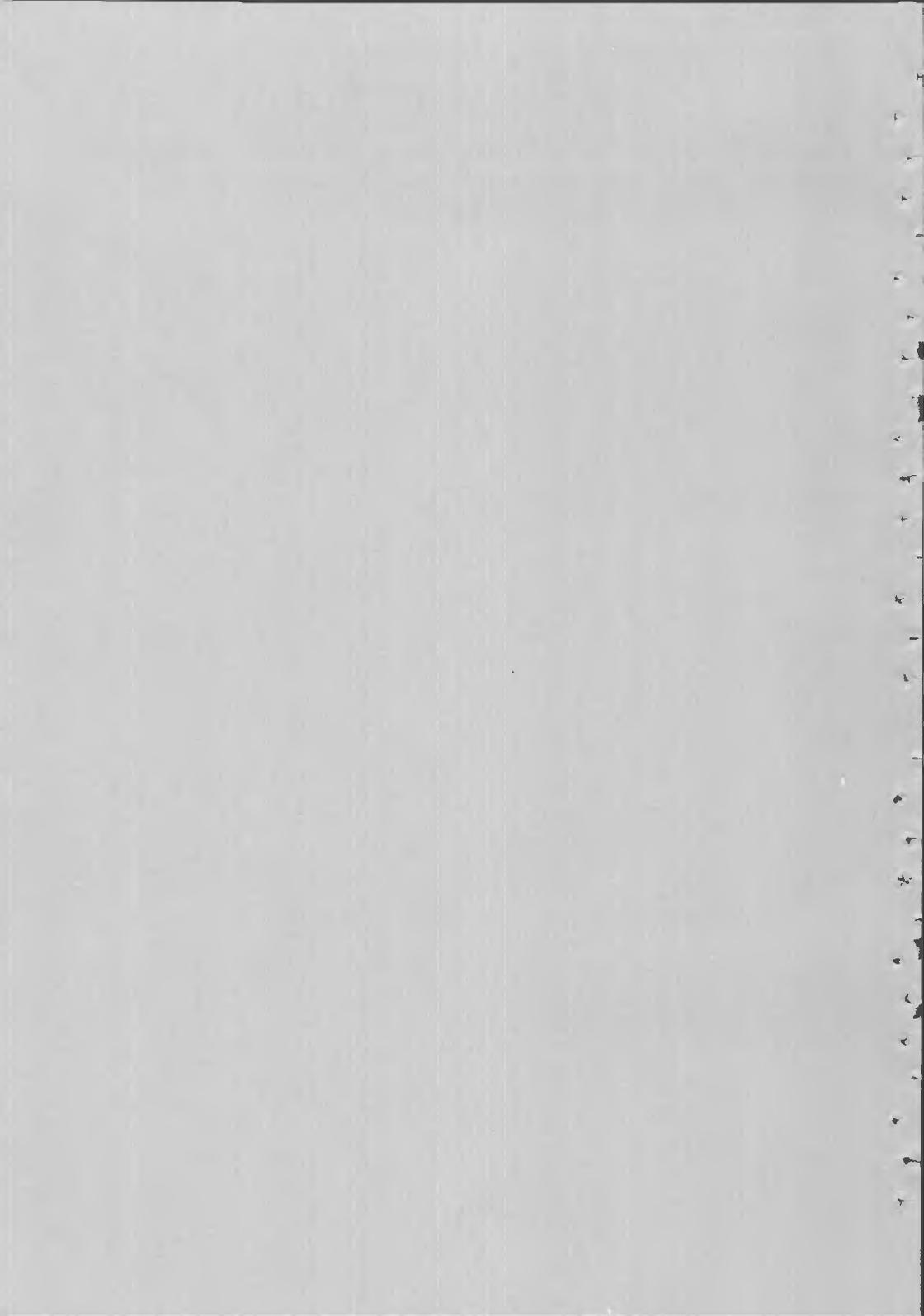
JULY 1980

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* *Discussion Paper 3 is enclosed as a separate booklet*

** *Questionnaire responses (updated) is enclosed as a separate booklet*



I NEWS OF THE AGRICULTURAL ADMINISTRATION UNIT

(i) RECENT/FORTHCOMING MEETINGS

On 29 May 1980 an all-day meeting was held as part of the series on the assessment of management and organisations in agricultural development which began in September 1978 (see Occasional Paper 3: *Institutions, Management and Agricultural Development*). This meeting discussed criteria for the assessment and design of local-level rural organisations. Six discussion papers were presented:

1. Guy Hunter (ODI): "*Criteria for Choice of Institutional Forms*"
2. Clare Oxyby (ODI): "*How to Benefit the Poor via Local Organisations?*"
3. John Pilgrim (Crown Agents): "*The Evaluation and Planning of Local Non-Government Organisations for Agricultural Development in Ghana*"
4. Donald Curtis (University of Birmingham): "*Local Organisations and Water Supply in Lesotho*"
5. Anthony Bottrall (ODI): "*Planning Local Organisations: In Search of a Method*"
6. Geof Wood (University of Bath): "*How the Interests of the Poor can be Included in Bangladesh's Second Five-Year Plan*"

The paper by Donald Curtis has been revised and is available as an Agricultural Administration Network Paper (No. 8, see page 6)

On 27 February 1980, Dr. Roderic Dutton spoke at a lunch-time meeting on "*External Intervention and Local Support: A Rural Development Project in Oman*". Dr. Dutton is the Director of the Durham University Khabura Development Project which (in collaboration with the Government of Oman) is involved in action research in small-farm production systems, rural crafts, wind-pumps and solar energy. Dr. Dutton has subsequently written a paper based on this talk and it is available as Agricultural Administration Network Paper No. 9, (see page 6).

On 16 May 1980, Stephen Biggs (Institute of Development Studies, University of Sussex) led a discussion on "*Generating New Agricultural Technologies*". Dr. Biggs has recently worked in New Delhi for the International Maize

and Wheat Improvement Centre (CIMMYT) and with crop improvement programmes in India and Bangladesh. In the talk he discussed experiences and lessons coming out of work involving inter-disciplinary analyses for establishing agricultural research priorities and the use of on-farm experiments and village level surveys for helping to monitor and direct agricultural research activities. On the basis of this meeting, he is preparing a discussion paper which will be circulated with Newsletter No. 4 in November 1980.

Forthcoming meetings in the Agricultural Administration series include David Evans (Principal Agricultural Adviser, Overseas Development Administration) talking on *"Policy Issues in Zimbabwean Agriculture"* and Ken Pickering (University of Birmingham) talking on *"Soil Conservation in Java"*.

Four meetings have recently been held in the Irrigation Management series. The first was on 29 April 1980 at which Herbert Farbrother, an irrigation agronomist, talked on *"Irrigation Operations: the need for new career structures and training courses"*.

On 9 May 1980 Richard Palmer-Jones, Lecturer in the Agricultural Economics Unit at Wye College, talked on *"Managing the peasants unsuccessfully; or how not to learn from pilot irrigation schemes. The evolution of irrigation scheme management strategies in Nigeria"*

Arthur Hazlewood of Queen Elizabeth College Oxford and Ian Livingstone of the School of Development Studies, University of East Anglia, gave a talk on the 21 May 1980 on *"Issues concerning irrigation in Usangu Plains, Tanzania"*.

On 10 June 1980, Mick Moore of the Institute of Development Studies at Sussex gave a talk on *"Against the Current: Sources and Methods of Resistance to Better Water Management in Sri Lanka"*.

(ii) RECENT WORK

John Howell has completed a study for the Development Organisation and Institutions Service of FAO on *"Administering Agriculture and Rural Development: Guidelines on Decentralization and Participation"*. This has five sections: the general framework of decentralization; the central organisation of agricultural and rural development; district-level administration and planning; the administration of agricultural services and inputs; and local community organisation. It draws largely upon experiences in Africa and Asia. Details on availability will be given in the November issue newsletter.

II NOTES ON DISCUSSION PAPERS

Discussion Paper 3

The Management of Agricultural Development: Field Level Planning and Management from India and Sri Lanka by Guy Hunter

Guy Hunter's paper is enclosed with this newsletter. An earlier version had a limited circulation and responses to this will be included in the next newsletter. A new section has been added (pp. 20) which is particularly addressed to networkers and responses are invited on Guy Hunter's general thoughts on the organisation of agricultural departments and agencies, the relationship between private and parastatal sectors, levels of planning and decision-making, and the relationship between politics and administration.

Discussion Paper 2

Rural Development and Traditional Institutions - the example of Gandu in Hausaland by Clare Oxby

Networkers who responded to this discussion paper commented on different points. On power and status in rural communities, Sean Conlin writes on the links between roles, power and project success in Nepal.

"Water rights are not codified. The distribution of water is accomplished as a result of the political manipulation. While we might point to benefits being obtained by men of influence we also have to recognise that where the use of technology is politically "neutral" it also often fails to meet its objectives. I will explain with contrasting examples.

"Irrigation. This is the type of scheme where men of influence fight to obtain the benefits by having the canal sited near their land. Having won this point there is a continuous need to regulate and distribute flows of water - they are thereby constantly demonstrating and maintaining their power. And to ensure the maintenance of their power they ensure the maintenance of the flow by arranging for the canal to be cleaned regularly. Technical success - the maintenance of water flow - therefore can be related to political considerations.

"Drinking water. Here the siting of taps might also be influ-

enced by political considerations. However (because of lack of storage at the head) there is no need for taps to shut off water supply and schemes are generally to lay pipes only. Some technical skill is required to oversee the maintenance of pipes, and repairs require a capital outlay (not just "forced" labour). Moreover the distribution of water is set by the pipeline - once established there is no further "political" position controlling water distribution. As a result, I think, water supply schemes fall into disrepair very quickly - no power therefore no one is responsible. Where departments concerned with water supply have tried to train a maintenance worker he is often selected by village authorities because he is weak politically and unlikely to develop his role into something to threaten theirs."

On tradition and change Professor Lucy Mair comments, "It is just as dangerous to assume that "traditional" ways of doing things are still valid as it is to ignore them altogether. It clearly applies as well to the reciprocal working parties which were all right for busy times as long as there was nothing else, but which the more go-ahead farmers are now finding inefficient and less worthwhile than wage labour."

Several correspondents provided references on traditional institutions, but Professor E. Bortei-Doku has described a particular example from his own work in Ghana which we include in its entirety.

"Of the possible problems that may arise out of using a rural institution as basis for rural development, ignorance of the structure, functions and objectives of the institution is perhaps the most important factor that can lead to total failure. This was demonstrated in an agricultural development programme in Ghana from 1974 to 1978.

"Farmers in rural Ghana except in some parts of the North, live in villages, and each farming unit from a household, develops about one to three acres of land each year for subsistence-cum-cash cropping. Farm labour is limited to the household unit, but in order to have adequate labour at peak farming seasons, e.g. initial slashing or at harvest time, farmers form a loose association called a *nnoboa* group. This group can consist of any number of farmers usually from about 10 to 20 with either kinship or friendship ties from different households. They come together as a group upon invitation, and work on each other's farm. A group normally completes the work on a member's farm in a day, and the 'host' provides food and drinks. It is both a working session and a social function.

"During the period in question, (1974-78) the Government of Ghana encouraged *nnoboa* groups to form co-operatives. The objective of this was to enable such a co-operative to obtain credit and services from the Agricultural Development Bank

and other Rural Banks. Some *nnoboa* groups were suspicious of co-operatives and did not form any. Other groups did form co-operatives, but discovered that they were subjected to rules and regulations which they did not expect. Some farmers did not like the idea of collective responsibility and accountability for loans granted to individuals, and for various reasons many erstwhile *nnoboa* groups were killed by the 'upgrading' exercise of turning them into co-operatives.

"This was a problem arising out of imposing a 'modern' idea on a purely traditional institution without understanding the simple objectives of the traditional institution.

"Rural people appreciate rural development and they in fact demand it. They often appeal to the authorities for better feeder roads, good drinking water, health services and for inputs for increasing their productivity. They are prepared to help to contribute their labour and any inputs at their disposal for the purpose. Most traditional institutions would welcome their involvement in rural development programmes.

"However the important thing is to study the traditional institution and use it as it is without imposing any alien structures on it, and without carrying their objectives too far.

"Most rural people in traditional institutions are illiterate, and in this respect do not want to be involved in situations they do not understand. The important thing is to limit their involvement to what the rural institution, as constituted at present, can achieve. Any changes should come from within and not from outside.

"Traditional institutions when fully understood, can play a very useful role in rural development. In many villages they meet weekly to perform various communal duties e.g. cleaning their sources of water supply, brushing the foot-paths or feeder roads leading to the village, building a school, a post office or a health centre. These are all very useful functions, and so long as we do not complicate their ideas it should be possible to get maximum contribution from them in rural development programmes. Many traditional institutions exist in most parts of Ghana and can be effectively used in Rural Development programmes when the correct approach is adopted. Some of these are:

1. The village administration comprising the chief and his people
2. Religious groups
3. *Asafo* companies or other village social groups including "drumming" groups

4. *Susu* self help groups

5. The *nnoboa* groups

"All these are traditional human resources with defined leadership, and with proper planning can make an excellent contribution towards supplying some of the manpower needs and skills needed for rural development.

It is regretted that studies in this field are limited and we have not made adequate use of the institutions in the rural areas for promoting rural development."

III AGRICULTURAL ADMINISTRATION NETWORK PAPERS

There are two papers which are available on request (write to the AAU Librarian):

- No. 8. Donald Curtis *"Appropriate village - level institutions: Some generalisations from the case of Lesotho's village water supplies"*

The author argues from this Lesotho case material, contrary to conventional community development thinking, that new institutions should be created rather than utilising existing ones; that special purpose bodies should be the norm rather than multi-purpose bodies such as village development committees; and that organisations more widely based than villages should be taken as the natural unit of local organisation.

- No. 9. Roderic Dutton *"Rural Community Development in Oman"*

The author writes about how Durham University's earlier survey work in Oman led to involvement in rural community development work involving the development of small-farm systems based upon the rearing of sheep and goats. Different aspects of the project are discussed, including irrigation and cultivation of fodder crops, stock marketing, and the use of by-products. The contribution of the Intermediate Technology Development Group (ITDG) in the design of wind pumps is also outlined. The paper also discusses the relationship between trials and demonstration and extension work generally. There is growing Omani Government involvement in the project and the paper concludes with a discussion of the impact of such small-scale projects on the five-year plan strategy.

IV SOME RECENT PUBLICATIONS ON AGRICULTURAL ADMINISTRATION

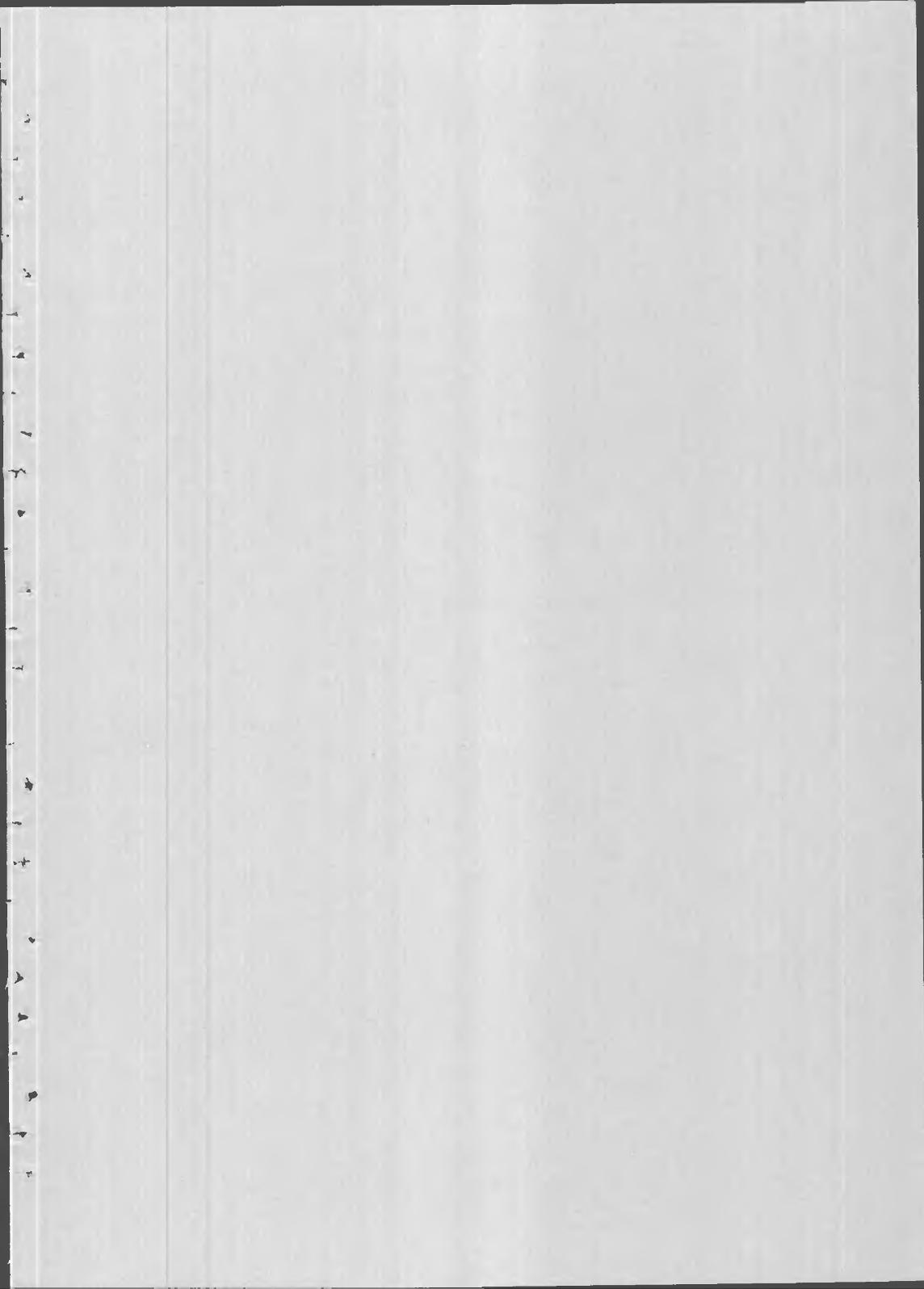
A note to new members - this section is primarily designed to notify members of publications and papers which they are unlikely to come across unless they happen to be on a particular commercial or international agency mailing list. There may be restrictions on distribution for some of the entries, but network members are welcome to use the AAU library in London where there are copies of every entry in this section.

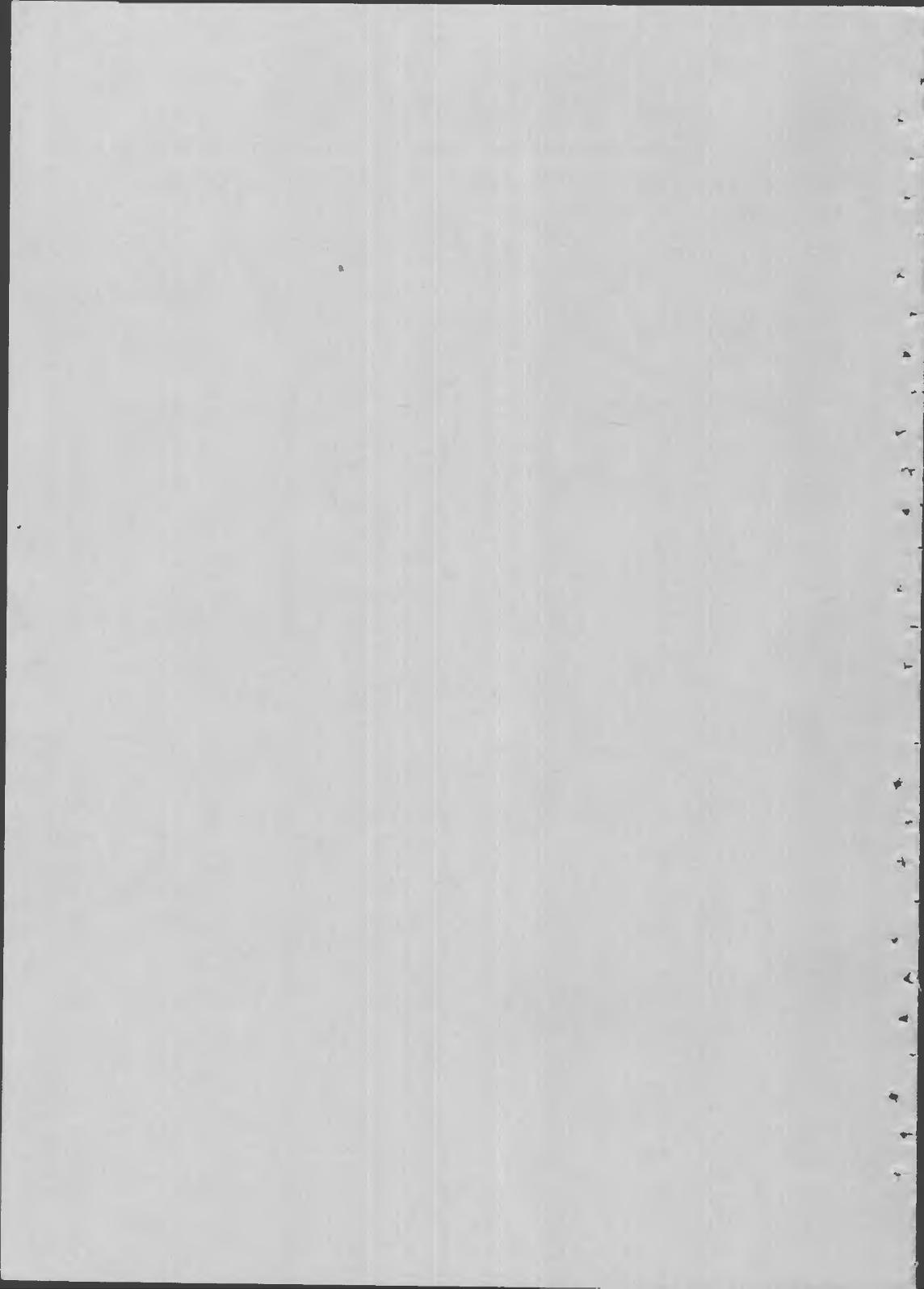
1. Symposium Papers on Small-Scale Fisheries in Developing Countries - This symposium was held in May 1980 at the Royal Tropical Institute in Amsterdam and several of the papers dealt with the social and administrative aspects of developing small-scale fishing activities. Country studies include Kenya, Ghana, Sri Lanka, and Indonesia. For a full list of papers write to Dr. P. J. van Dooren, Director, Department of Social Research, Royal Tropical Institute, Mauritskade 63, Amsterdam, Netherlands.
2. N. V. Ratnam and B. Bhashava Rao, Management of Social Development in the Rural Areas - A study of Dharmapuri District in Tamil Nadu which examines in detail the functional relationships between agricultural administration and the administration of 'social development' programmes, (pp. 245). Available from Indian Institute of Management, 33 Langford Road, Bangalore 560 027, India (UNICEF/Government of India publication 1979).
3. J. M. Siann, Conflicting Interests in River Basin Planning: A Nigeria Case Study - Revised version of a paper presented to a seminar on River Basin Planning held at the Centre for Development Studies, University of Swansea in May 1980. (Publication of seminar papers anticipated towards the end of 1980.) This paper provides an engineering consultant's perspective on the ways that the organisation of government agencies (i.e. for Ogun-Oshun River Basin Authority and the Oyo State Water Corporation) can undermine the prospects for effective resources utilization. Copies of the paper can be obtained from J. H. Siann, Ian Hunter and Partners, 46 Palmerston Place, Edinburgh, EH12 5BP, Scotland.
4. ed. David Brokensha, D. M. Warren and Oswald Werner, Indigenous Knowledge Systems and Development - This is a collection of 25 articles which examine the role of indigenous knowledge systems in the planning and implementation of projects, particularly in agriculture. The main geographical focus is on Africa. Several network members are contributors. Available from Customer Services, University Press of America, 4310 Auth Place, Washington D.C. 20023, USA. pp 464 (1980) \$15.25 paperback, \$23.25 hardback.

5. Commission of the European Communities, Integrated rural development projects carried out in Black Africa with EDF aid - A report based on evaluation studies of ten small farmer projects in Francophone Africa, with particular emphasis upon social and organisational issues. Available from Publications Office, EEC, B.P. 1003, Luxembourg. pp. 242 - £5.20
6. Agricultural Sector Implementation Project (ASIP). ASIP - then under the Directorship of Albert Waterston - produced a major reference work for training purposes on Managing Planned Agricultural Development in 1976. They have now produced two short documents describing their approach "Bridging the Gap Between Planners and Farmers" and work in Nepal and Egypt "Going to the Field", which are available from John Hannah, Director, Governmental Affairs Institute Division, Public Administration Service, 1497 Chain Bridge Road, McLean, Virginia 22101, USA.

V NETWORK MEMBERS QUESTIONNAIRE

A separate pamphlet is enclosed on the names and interests of network members. We shall revise this pamphlet for July 1981 circulation but meanwhile any new members - or existing members who have not yet responded - are invited to send details of their professional responsibilities and interests in the field of agricultural administration. This information will be included in the next pamphlet.







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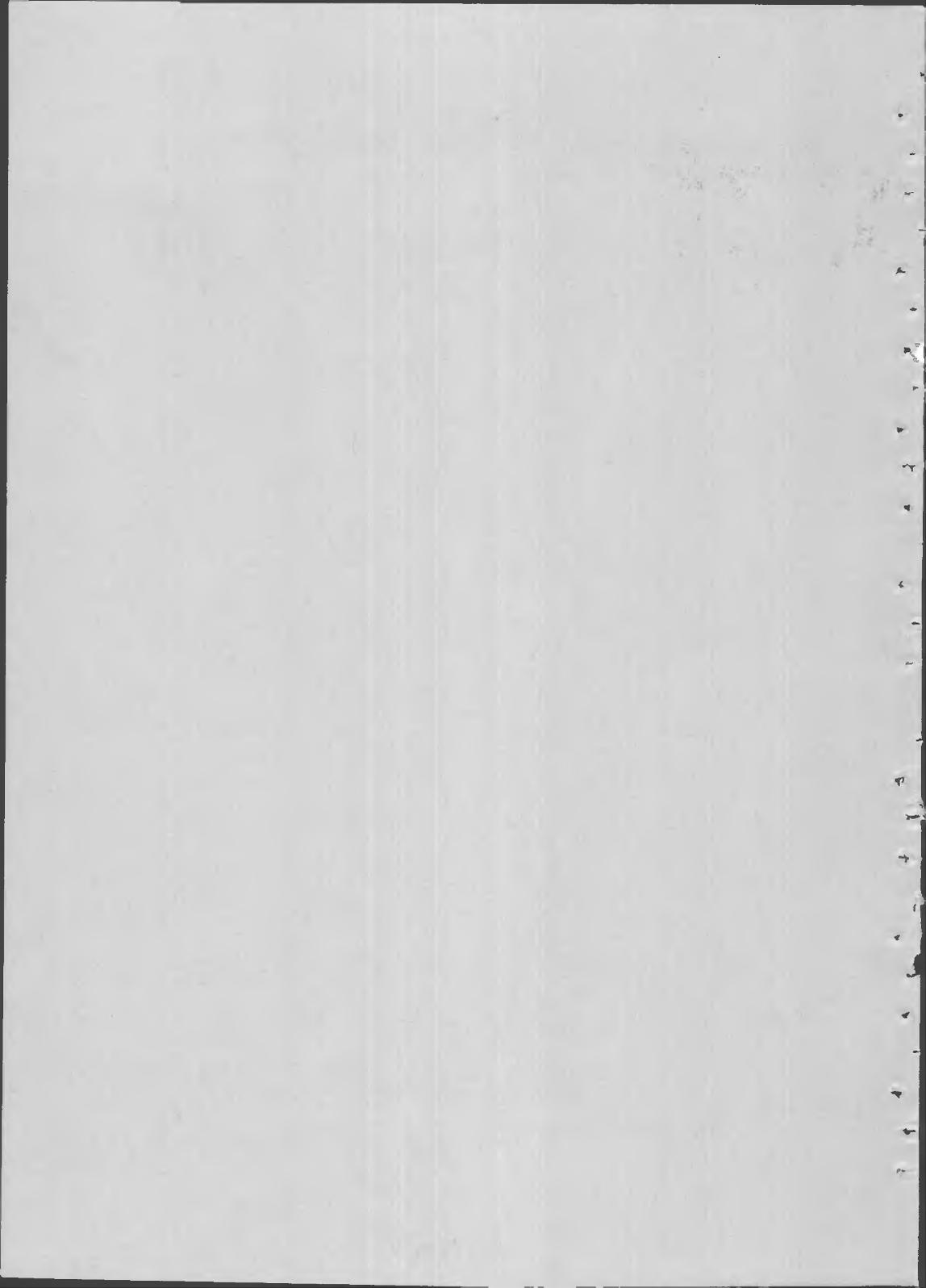
NEWSLETTER NO. 4

NOVEMBER 1980

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* *Discussion Paper 4 is enclosed as a separate booklet*



NEWS OF THE AGRICULTURAL ADMINISTRATION UNIT

(i) PUBLICATIONS

John Howell has edited the papers of the 1979 Wye Workshop on Rural Financial Markets and Institutions which was held in collaboration with Ohio State University. These papers are now published by ODI under the title *Borrowers and Lenders*. The contents are as follows

*Introduction**Part One: POLICY AND THE PERFORMANCE OF FINANCIAL MARKETS*

Recent Performance of Rural Financial Markets Dale W. Adams

Lending to Small Farmers: The Indian Case L. D'Mello

Agricultural Credit and Rural Progress in Jamaica
Douglas H. Graham and Compton Bourne

The Political Economy of Specialised Farm Credit
Institutions J. D. Von Pischke

Part Two: FINANCIAL INTERMEDIARIES AND INSTITUTIONS

Money and Commodities, Monopoly and Competition
Barbara Harriss

Commercial Banks and Rural Credit Frank A. Wilson

Small Farmer Credit Delivery and Institutional Choice
Anthony Bottrall and John Howell

Applied Research and Training in Agricultural Credit
Institutions R. A. J. Roberts

Agricultural Co-operatives and Credit B. J. Youngjohns

Part Three: FARM HOUSEHOLDS AND CREDIT USE

Measuring the Farm Level Impact of Agricultural Loans
Cristina C. David and Richard L. Meyer

Rural Credit, Farm Finance and Village Households
Michael Lipton

Farm Level Credit Use Among Co-operative Farmers in Nigeria
Adeniyi Osuntogun

Loan Repayment Delinquency in Upper Volta
Thomas Stickley and Edouard Tapsoba

Index

The book is available from ODI Sales, Montagu House, High Street, Huntingdon, Cambs., U.K. at £2.95 postage paid.

(ii) STAFF

Clare Oxby has been working on a study of group and co-operative ranches in Africa for the Tsetse Controlled Area Development Co-ordinator of the Animal Production and Health Division, FAO. The provisional title is: *Group ranches in Africa: a study of group and co-operative livestock production enterprises and their application in tsetse and trypanosomiasis control programmes, with special reference to cattle.*

John Howell is currently in Nigeria helping in the preparation of the Benue State Agricultural Development Plan, an extension of the World Bank-assisted Ayangba Agricultural Development Project. Other members of the Unit have also been involved recently in overseas work: Anthony Bottrall in Indonesia investigating irrigation financing as part of a larger study undertaken by the Institute for Local Government Studies (University of Birmingham) of central and local finance; and Stephen Sandford in Africa evaluating livestock sector projects of the World Bank.

II

NOTES ON DISCUSSION PAPERS

Discussion Paper No. 4 *Ministries of Agriculture and the Administration of Agricultural Development*
by John Howell

This paper briefly outlines the sorts of investigations into agricultural development that currently constitute the study of 'agricultural administration' and points to the relative neglect of *Ministries of Agriculture* as a subject of interest. John Howell suggests that these are at least four aspects of MoAs worth investigating on a comparative basis:

- (a) the reasons why MoAs often have been neglected in importance in small farmer development programmes
- (b) the different administrative components of agricultural development and the 'appropriate' role of MoAs
- (c) the relationship that MoAs have with 'rural development' ministries
- (d) the internal structure of MoAs particularly as service institutions for farmers.

All of these four areas are, of course, regularly under discussion within agricultural sector ministries and agricultural projects. But, as far as we know, there is little written up on these areas; and there is perhaps an unwillingness among practitioners and academics to draw, from particular countries, lessons which are generally-applicable. Evidence on individual countries would be welcome as well as any detailed criticism and general reflections on the appropriate role of MoAs in agricultural development.

III AGRICULTURAL ADMINISTRATION NETWORK PAPERS

- No. 10. Gordon A. Bridger *"Guidelines for the Appraisal of Agricultural Projects"* (43pp)

These guidelines are based upon the long, practical experience of the author in agricultural development, particularly in the UK's Overseas Development Administration. The guidelines are in three sections:

- I The Analytical Framework: Natural Resources, Economic and Social Structures, Farm and Village Situation
- II Agricultural Inputs: Land Settlement, Irrigation, Labour and Training, Seeds, Fertilizer, Farm Machinery, Storage, Credit
- III Agricultural Organisation: Ministries of Agriculture, Regional Development Institutions, Commodity Boards, Co-operatives, Research and Extension, Role of the Private Sector, Marketing.

This paper is available on request from the AAU Librarian. Other papers available are

- No. 1. Richard Heaver *"Planning and Management Problems in the Implementation of a Major Scheme: A Case Study of Mahaweli (Sri Lanka)"*
- No. 2. Gilbert Etienne *"Some Field Observations on Rural India's Development"*
- No. 3. Nici Nelson *"Involving Women in Rural Development Processes"*
- No. 4. John Howell *"Training Managers for Agricultural Development Projects"*
- No. 5. Anthony Bottrall *"Evaluation and Action Research as Tools of Management Reform"*
- No. 6. Syed Hashim Ali *"Practical Experience in Implementing the Training and Visit Extension System in Large Command Areas in India"*
- No. 8. Donald Curtis *"Appropriate village-level institutions: Some generalisations from the case of Lesotho's village water supplies"*

No. 9. Roderic Dutton "Rural Community Development
in Oman"

IV

SOME RECENT PUBLICATIONS ON AGRICULTURAL ADMINISTRATION

(This section is to notify members of publications or papers which they are unlikely to come across unless they happen to be on a particular mailing list.)

ESCAP/Government of India, *Public Service Delivery Systems for the Rural Poor* - This is based on a workshop held in New Delhi in November 1979 attended by senior Indian administrators. It examines the planning and organisation of delivery systems for production and social services in India. Available from Development Planning Division, UN Economic and Social Commission for Asia and the Pacific, UN Building, Rajdamnern Ave., Bangkok, Thailand.

David Barker, Julius Oguntoyinbo and Paul Richards, *The Utility of the Nigerian Peasant Farmer's Knowledge in the Monitoring of Agricultural Resources* - MARC Report no. 4 (53pp) A report on investigations into the ways peasant farmers identify constraints and opportunities and the ways that this information can be used. Available from Monitoring and Assessment Research Centre, Chelsea College, University of London, 459 Fullham Road, London SW10 0QX.

Benedict Stavis, *Agricultural Extension for Small Farmers* - MSU Rural Development Working Paper no. 3 (81pp) An overview of the problems facing extension programmes and the different approaches to agricultural extension. Available from Department of Agricultural Economics, 206 International Center, Michigan State University, East Lansing, Michigan 48824 USA.

Land Tenure Center Newsletter - This is a well-established newsletter in a new format. It is published by the Land Tenure Center at the University of Wisconsin and the first of the new series describes a new project on "Access to Land, Water and Natural Resources" funded by USAID. Available from L.T.C., University of Wisconsin-Madison, 310 King Hall, 1475 Observatory Drive, Madison, Wisconsin 53706 USA.

John M. Cohen, *The Administration of Integrated Rural Development Projects* (Harvard Institute for International Development, October 1979, 111pp) - Development Discussion Paper no. 79. This is a working draft for discussion on work which John Cohen is preparing on a framework for integrating different sorts of public services for rural development. Available from Publications Office, H.I.I.D., 1737 Cambridge St., Cambridge, Mass. 02138, USA at \$2.00 surface mail.

The Role of Co-operatives in Community Development
Conference organised by A.I.D.A.C. (Association Inter-
nationale de Developpement et d'Action Communautaire)
and held in Kigali, Rwanda, in August 1980. Papers
include:

Felicien Kayinamura (Ministère des Affaires Sociales et
du Mouvement Coopératif, Kigali) *Création et promotion
des coopératives.*

Michael Mernagh (Director of Combat Poverty Programme,
Dublin) *Elaboration des projets.*

Narcisse Munyambaraga (Ministère du Plan, Kigali) *Les
ressources locales et le développement.*

Yvon Pomerleau (Bureau d'Orientation des Banques
Populaires, Kigali) *Analyse du milieu en rapport avec
les coopératives et le développement.*

Abdoulaye Sar (Organisation Mondiale du Mouvement Scout,
Geneve) *Leadership.*

Antonio Scaglia (University of Trento, Italy) *Applications
pratiques: participation des membres dans le fonctionnement
des coopératives.*

François Somayire (Coopérative TRAFIPRO, Kigali) *Assistance
technique aux Coopératives.*

Individual papers available from:

Association Internationale de Developpement et d'Action
Communautaires-International
(Association for Community Development)
rue de Debarcadere 179
B-6001 Marcinelle
Belgium.

V

OTHER RESEARCH

Project on Managing Decentralization

The University of California, Berkeley, has embarked upon
a five-year project to provide applied research and consult-
ancy to less-developed countries on strategies and
techniques of governmental decentralization. Forms of
decentralization can include delegation within central
ministries, deconcentration to prefectorial administrations,
devolution to local governments, and debureaucratization to
non-governmental organisations.

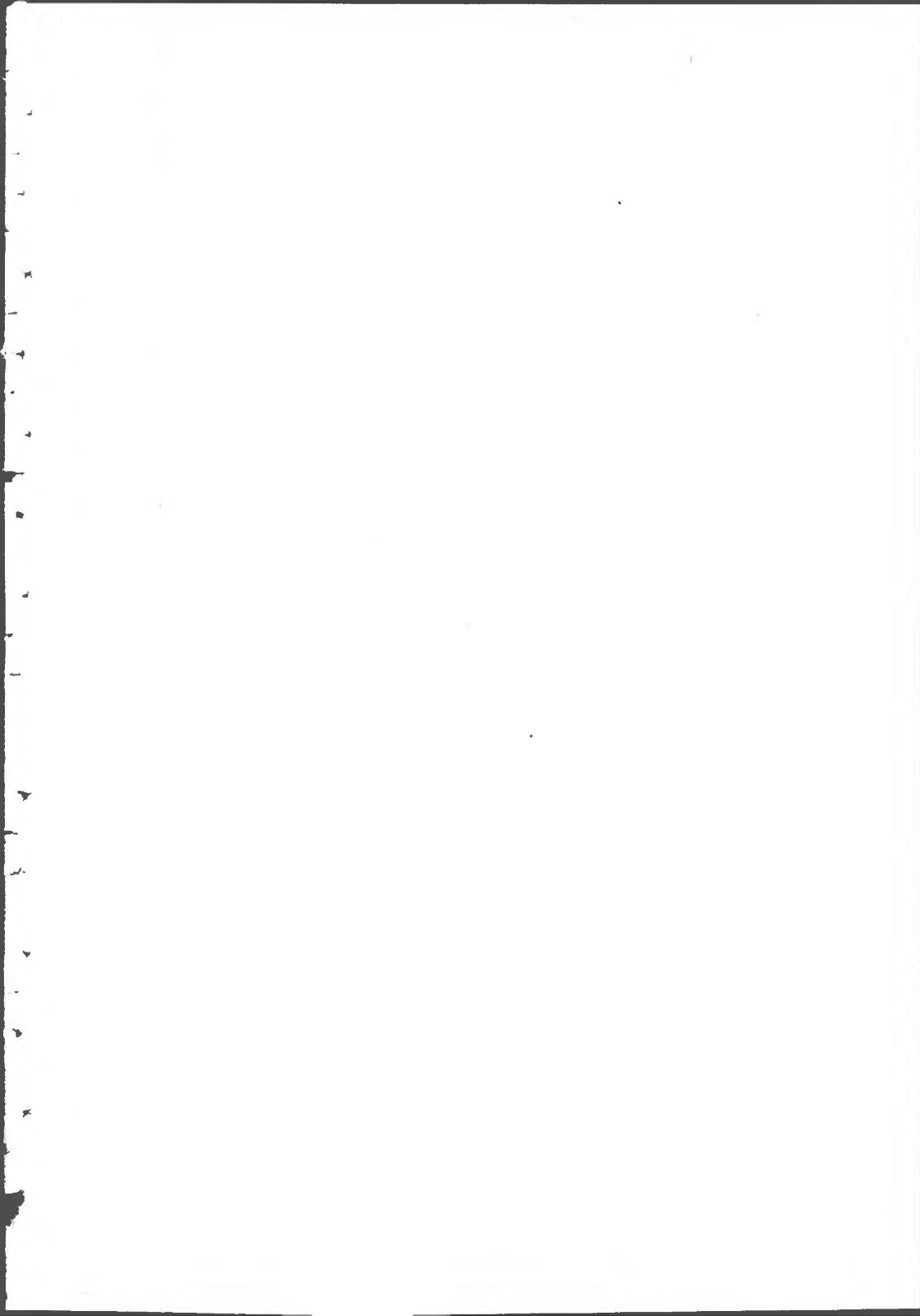
A major concern of the Project is how to link decentralized structures with overall national policies and to make them work effectively. A study is underway comparing various methods for linking governmental activities at different levels. Another study is being undertaken on methods and consequences of decentralized planning. A third study examines the management methods for decentralized systems. It identifies personnel, managerial and budgeting systems that can strengthen small organisations which are short of well-qualified staff.

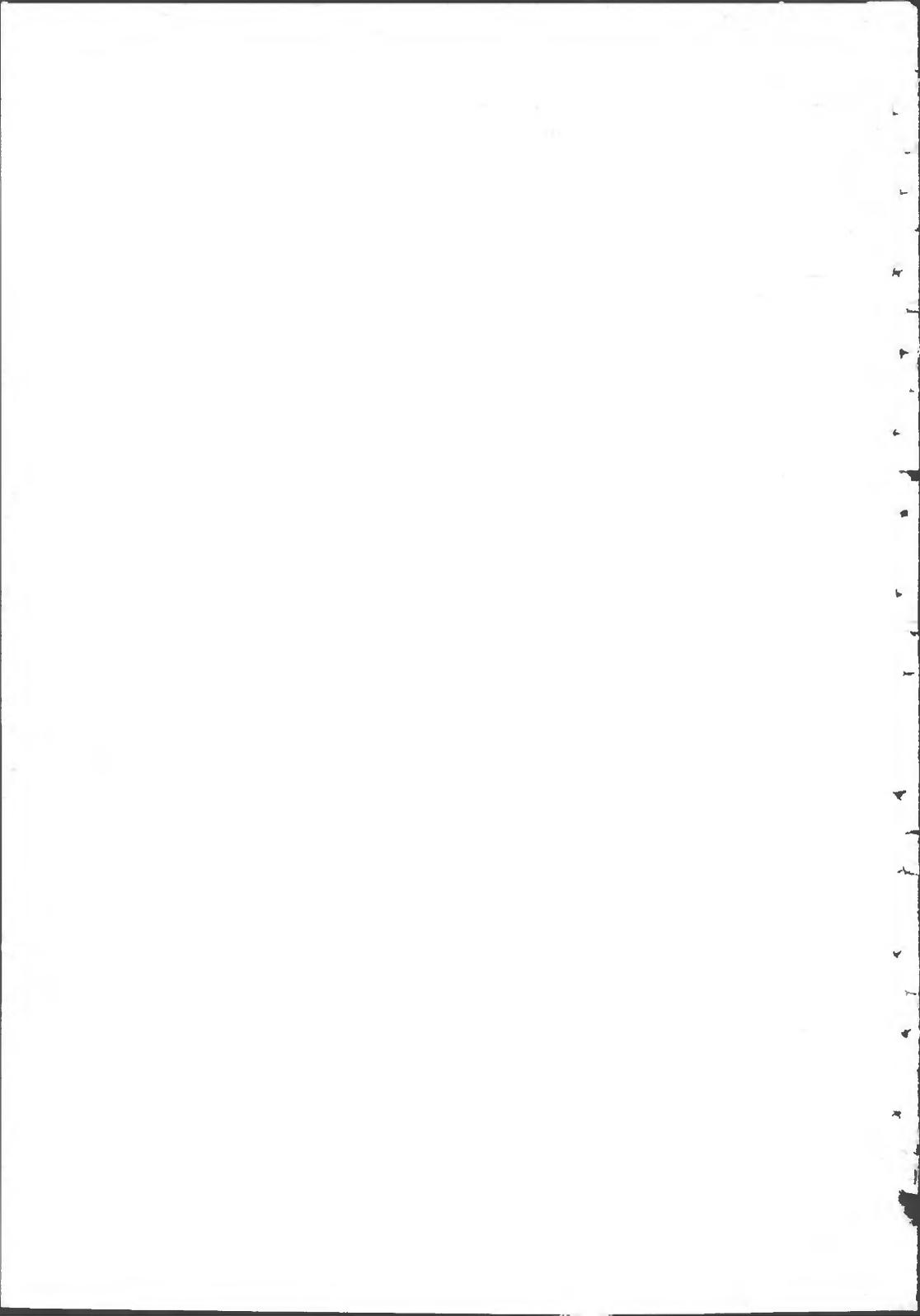
Short-term consulting and long-range research on a wide variety of relevant problems associated with different development strategies and their applications will provide the basis for the production of a series of special studies, comparative analyses, and monographs of interest to both academic and practitioner audiences. There will be also a quarterly newsletter. These will be distributed to interested persons and institutions both nationally and internationally.

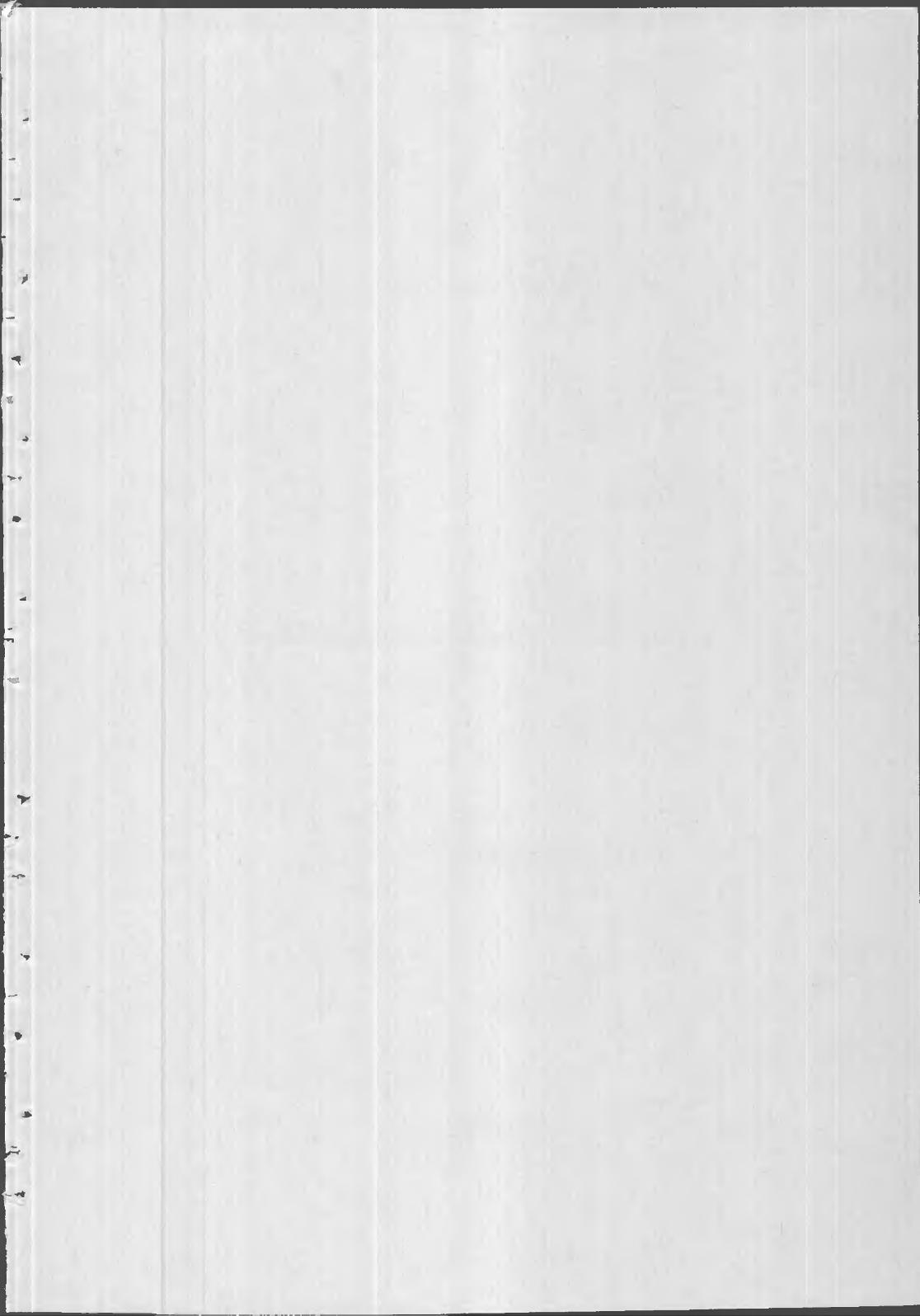
The co-principal investigators are Kenneth Phillips and David Leonard.

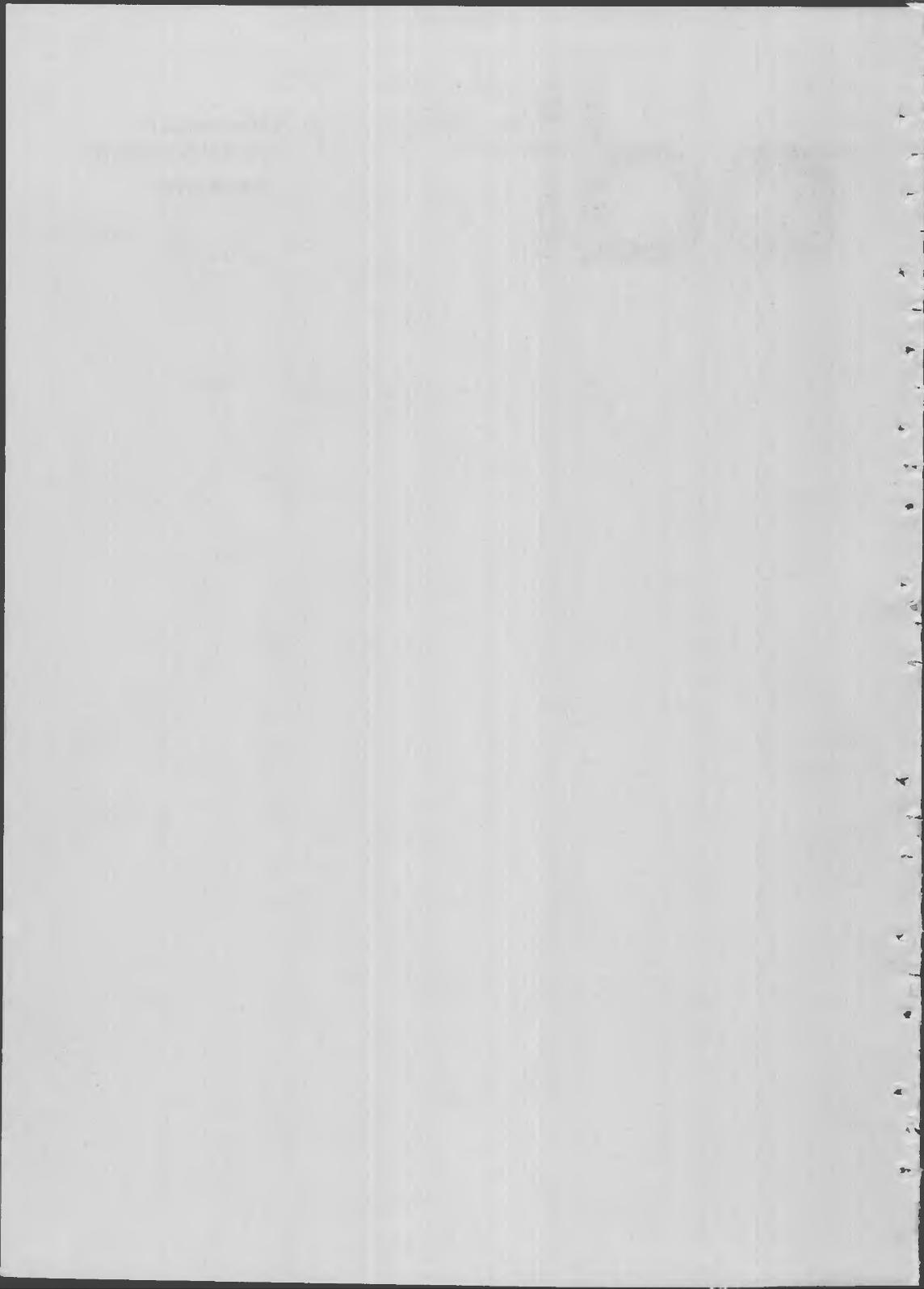
Those who are interested should write to

Project on Managing Decentralization
Institute of International Studies
215 Moses Hall
University of California
Berkeley, CA 94720
USA.











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No. 8

**APPROPRIATE VILLAGE-LEVEL INSTITUTIONS:
SOME GENERALISATIONS FROM THE CASE OF
LESOTHO'S VILLAGE WATER SUPPLIES**

by

Donald Curtis

*Mail Address: Institute of Local
Government Studies,
University of Birmingham
P. O. Box 363,
Birmingham 15 2TT*

July, 1980

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There is now both wide recognition of the need to get the institutional arrangements of rural development right, and considerable debate as to what this entails. This paper contributes a case study to the debate and outlines some of the principles that were developed, in a rather rule of thumb manner, to try to sort out what was going on in the case of Lesotho's village water supplies and to make sensible recommendations for their future.⁽¹⁾

Analysis of local level institutions is complicated by the necessity of examining both organizational structures and the social environment in which these must survive. Two rather different modes of analysis have to be juxtaposed here, one which I think of as typifying much of the administration and management literature; the other belonging more clearly to sociology or social anthropology. The first is concerned with powers and functions (meaning activities), definition of roles and delineation of areas of control. The second seeks an understanding of the world through study of the values and interests of its actors. The first of its nature leads towards prescriptions while the second, insofar as it rests upon any determinist theory of social interaction, tends to see immutable trends in economy and society so the two approaches do not necessarily make good bedfellows, but, as I hope to illustrate, both are necessary.

In the first stage of analysis then, the various requirements of the local organization have to be identified. These may be objectives; assessed through analysis of impact or outcomes, or tasks; the things that have to be done to achieve these objectives.

(1) This paper is based upon an evaluation conducted in 1977 in Lesotho, sponsored by the Overseas Development Administration (London), Oxfam, and the Lesotho Government. Sociological fieldwork was conducted principally by Piers Cross and Aron Cronin, backed up by Sandy Cairncross and coordinated by myself. The results were published in 1979 as Feachem and others, Water Health and Development Tri-Med, London.

Objectives in the Lesotho case could be described broadly as

- well maintained supplies
- favourable impact upon health and economy
- equitable access.

Adequacy in terms of objectives can be seen as the governing condition in organizational assessment, and much of the evaluation in Lesotho was taken up with assessment of whether the village water supplies were having an impact upon health, whether there were any 'spin-off' effects upon the economy in the form of communal gardens or industries, and whether the right people were getting access to them. If the local organizations do not produce the goods then this is good reason why they should be changed. However it is often quite difficult to get organizations to work at all, and in the paper I leave aside further consideration of the broader social, health, and economic objectives: apart from a brief discussion of distributional effects: and concentrate upon the question of how to achieve well maintained supplies.

In Lesotho village water supplies were being constructed by the Department of Community and Rural Development through a 'self-help' programme in the villages. Villages contributed some cash and labour, the Department provided the materials and a technical team to build the supply and supervise the voluntary labour. Village Development Committees were expected to take the initiative in raising funds and approaching the Department and to look after the supply once it had been built.* In the field we found that the Committees which took on this role were constituted in a variety of different ways, as illustrated below, but the tasks which were implicit in water supply management were the same, and can be broken down as follows:

- | | |
|---------------------------|--|
| Construction | <ul style="list-style-type: none">- fund raising- liaison with government- organization of 'self-help' labour |
| Operation and Maintenance | <ul style="list-style-type: none">- fund raising for repairs and maintenance (and in some cases running costs)- 'first-aid' repairs- liaison with government |

* All sorts of administrative problems were associated with this process; delays; unregulated demand leading to backlogs in construction.

Having identified the tasks, some of which were in practice rather neglected, particularly on the maintenance side, it was then possible to judge what was necessary organizationally. This we took to be:-

- clearly defined roles,
- adequate powers,
- sufficient rewards for the management.

Definition of roles follows simply from the specification of functions. It is merely a question of asking who is to do the fundraising, the repairs and so on.

The question of adequacy of powers also entails some 'a priori' judgements but we did find some indications of what might be required from the field. Evidence came in the form of attempts by different village committees to overcome the limitations of their position as voluntary bodies providing a village wide amenity. Problems emerged in the form of people not coming forward to dig trenches, not contributing to the initial cash collection, and critically, the trailing off of contributions towards running repairs, maintenance or operating costs. Two responses to this dilemma were apparent. One was for Committee Members to appeal to higher authorities to back their demands that defaulters pay up. In several cases their demands were successful in that Community Development Officials wrote to the defaulters threatening to take action if they did not comply. This was entirely without legal backing and the defaulters may have been able to call the bluff of the authorities. But the point is that the village committee acted as if they were a legally constituted body because they needed some ability to check defaulters.

The other response, adopted by some committees was to act like a voluntary association. Attempts were made to exclude non-contributors from the use of the supply: something that could be attempted when alternative, albeit unprotected, sources were available.

From these two responses we could identify the nature of the water supply management problem and could also derive two possible models which reorganization could follow. To this I return below.

Adequate rewards for management could also be seen as a problem, but one for which we were not really able to find a solution within the

constraints enforced by the resource raising limitations just described. The problem lay in the unglamorous business of maintenance. Prestige or political favour might carry the project through from fundraising to the organization of village labour for pipelaying but maintenance was conspicuous for its near absence (one well organized village in the mountains provided the exception which proved the rule). Checking fittings, lagging pipes against frost damage or replacing washers were activities which attracted no social rewards and for which there was no possibility of legitimate financial rewards. So the not very satisfactory solution to the problem which we advanced was to select and train a village water supply minder who would be equipped to carry out 'first aid' in the case of bursts and blockages, while routine maintenance would be the responsibility of government and paid for out of taxation.

Now to the other dimension of the problem: how an organization will work within its social environment. The need to understand local politics will be apparent to anyone who has any experience of local level institutions. At village level a lot of schemes fail not for technical reasons but because of local disagreements. In a Kalahari village Adam Kuper found that the water supply was out of action when the pumper whose sponsorship by one village faction caused the other to cease paying for the service, went off with the handle for the engine; an extreme case of disruption taking place in spite of the fact that roles, procedures and rewards were clearly stipulated.*

Of the many attempts to find a theoretical basis for generalization about village politics two may be useful here. Competitive political activities at this level involve people who play a variety of different roles in relation to each other (Gluckman's 'multiplex relationships') and spread over a whole range of local social, political and administrative activities to form a loosely structured political field (Swartz 1968**). Two dimensions of this field are significant for development work: relationships between groups in the village and relationships between these groups and higher authorities. Beyond this description of what needs to be examined, generalizations are crude. Nevertheless analysts

* Adam Kuper, Kalahari Village Politics, 1970.

** Marc J. Swartz, Introduction in Swartz ed, Local Level Politics, 1968, London.

do carry interpretative models with them into the field and these might as well be frankly stated. In Lesotho our model could be described as follows. Three laws of human perversity govern the operation of village politics:

- 1) Village society tends to polarize, forming factions, and leaders take advantage of this.
- 2) In relation with the wider society, if one faction identifies with one national faction (since the wider society also follows perverse law (1) the other will align with the other, regardless of stated political philosophy or policy positions.
- 3) If relations with higher authorities become oppositional villagers will tend to put aside their differences to achieve short term objectives by cooperating together.

These are the rules of the game, so to speak, but the nature of the game also depends upon the question of what is to be gained or lost. So a further generalization which we made was that factional conflict will be most pronounced, where 'winner takes all' situations prevail (the 'Zero Sum' game). It is at this point that intervention is possible because local institutions tend to be established by government. In principle, there is scope for choosing an institutional structure that minimises conflict, though one has to remember that for governments the exercise of control or influence at village level has several purposes other than the promotion of good management.

There are three ways in which 'winner takes all' situations can be avoided in the design of local level institutions.

- single purpose organizations within a village can be created to take the place of unitary multipurpose bodies.

In Lesotho we found examples of single purpose, that is, water supply committees where there were other committees as well, and unitary village development committees which were involved in a number of different activities. The indications were that disputes within the latter were likely to bring all activities to a halt while the former had more chance of avoiding the mainstream of village politics and becoming an effective management body.

- voluntary associations, which can exclude non-members are better than village wide authorities because their boundaries can reflect social divisions. If several such bodies can be created they may compete but one faction is not excluded by the success of the other.

The obvious constraint upon this option is the available 'technology': interpreting this broadly to mean the means whereby a service is provided. Some services are indivisible; in other cases the choice of best social arrangements can usefully influence the choice of technology. For instance, in Lesotho, where it was necessary to pump water there was a choice as to whether this should be done in each village by one diesel or wind pump with reticulation to stand pipes, or by several separate handpumps.

- organizations can be on a scale larger than the village or residential unit, encouraging members into wider patterns of association and avoiding involvement in the narrowly competitive political field of the village.*

These generalizations reflect a liberal view of the world in which the aim is to allow free rein to a plurality of forces within the society while avoiding situations of directly conflicting interest. The Lesotho case illustrates the kinds of complexity that may be found in practice. There the intertwining of political and administrative responses led to deceptively complex reactions. Administratively the relationships formed around the self-help process which, inspite of its rhetoric is actually a bargaining process and should (following perverse Law 3) have led to a situation in which village factions unite to squeeze resources out of government. However politically the water supply programme was captured by the ruling party which persuaded the Department of Community and Rural Development to establish and work through Village Development Committees run by party members. Since in many villages factional divisions were perpetuated in rival party loyalties this led to a situation in which one faction was allowed and encouraged to control the way in which government resources were brought to the village. Control was not easy or complete because committee members lacked sanctions over fellow villagers and because Government was not always in a position to produce the goods. But conflict was increased by this procedure.

* a possibility which we failed to explore in Lesotho.

The Lesotho case illustrates one at least of the weaknesses of the 'liberal' response to conflict management in village level institutions set out above. In many cases governments 'solve' problems of social conflict by ensuring that their supporters win, or that the 'winners' become their supporters. Most governments are illiberal, even when they could afford to be otherwise.

It should be noted also that solutions to the problem of conflict management do not necessarily coincide with the requirements of good management which were set out in the first part of the paper. At its simplest, good management requires adequate powers, but differential access to power is the source of conflict. Our solution to the dilemma was to choose those formula which provide many sources of limited power rather than few sources of absolute power.* This ruled out the first managerial option outlined above, that of a legally constituted village authority with power to raise funds and control defaulters and left us with the option of the voluntary association type organization. However this was not an altogether satisfactory solution either since in most villages, where the simplest water supply was a gravity fed reticulation system from a single protected spring above the village, it did not make sense to envisage more than one supply, so a compromise was arrived at. (Feachem and Others, p. 76).

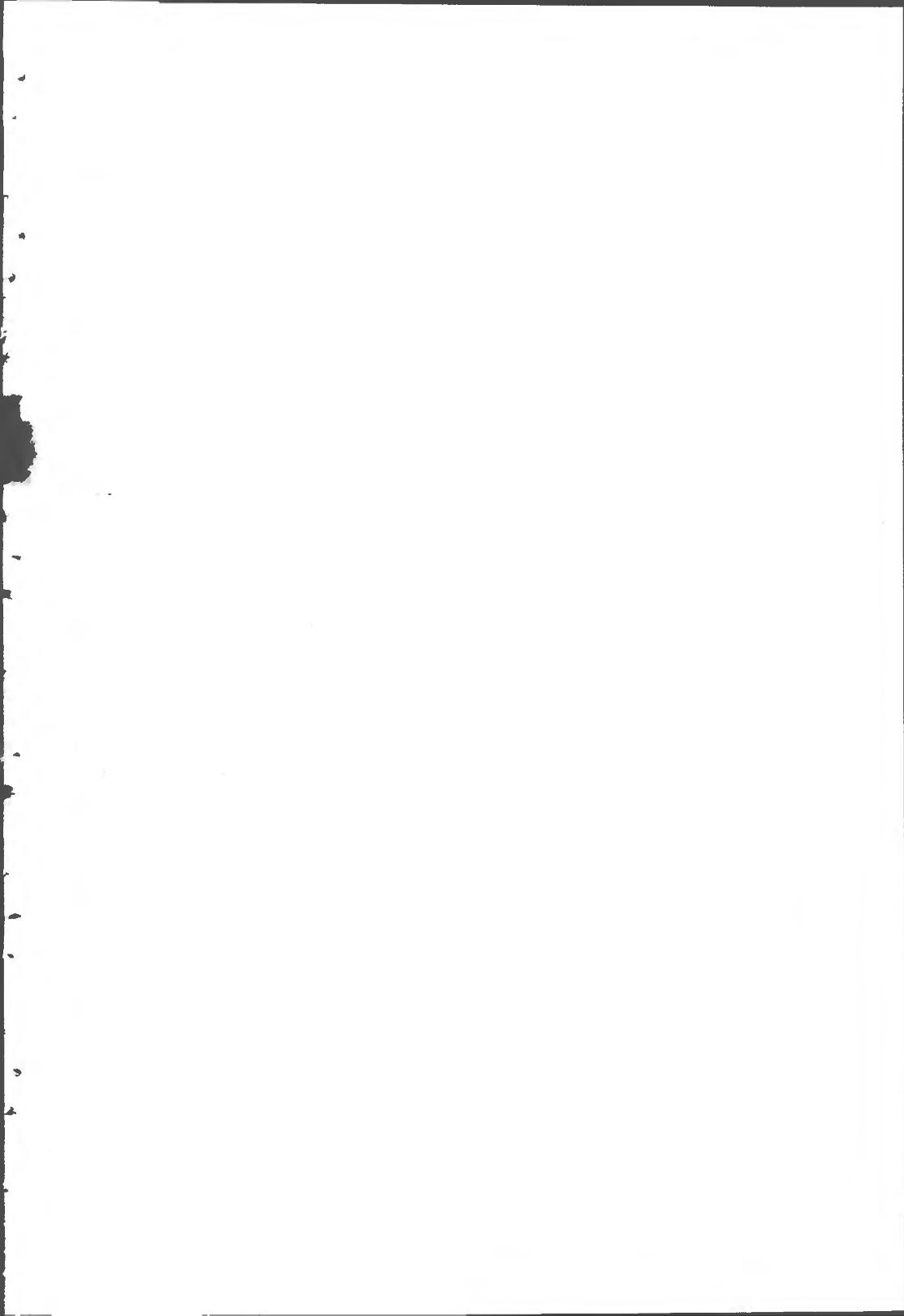
A further difficulty with the liberal solution could be that it is non-directive. It does not suggest means of intervention to favour specified target groups within the population. In Lesotho we concluded that the distributional effects of the water supplies were non-discriminatory so the problem did not arise.** However, where positive discrimination is required organizations that will represent underprivileged groups have to be created, vested with powers and backed up so that they do not succumb to social pressures from more powerful groups within the society. Such organizations would probably have a rather different set of relationships both with other groups or classes in society and also with government authorities.

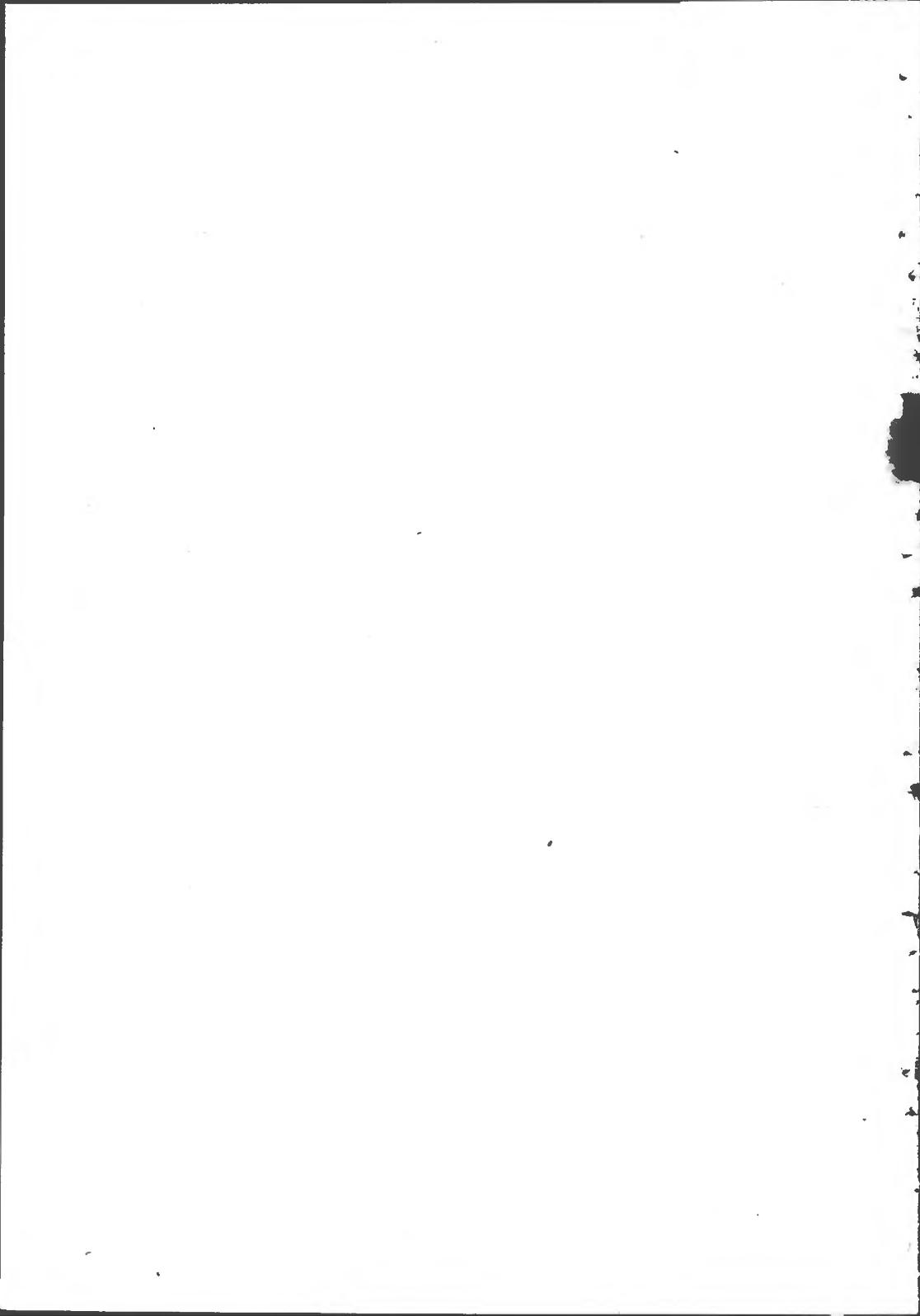
* Where indivisible services require single sources of power the usual response to conflict is to seek agreed rules of succession. But agreement is not possible when oppositional groups fear that they will not in practice be allowed to succeed.

** No social groups or classes were discriminated against, but we did suggest means whereby villages with poor access to water could be selected for priority treatment (Feachem and Others p. 195).

Our line of analysis in Lesotho did however bring us to conclusions as to what constituted effective local organizations which may have some applicability in other places and for other kinds of service organization. Where factional divisions are more important socially than class divisions, and where serious effects are being made to get public participation in the management of public services, some means of devolving powers to local bodies, without generating conflict are necessary and the problems that were encountered in Lesotho's villages will be faced again.

Curiously, our line of analysis led to conclusions about local organisations that are in many ways diametrically opposed to conventional community development thinking. Where it has been conventional to argue in favour of utilizing existing institutions we advocate creating new ones. Where multipurpose bodies such as village development committees have been the norm we advocate special purpose bodies. When the village is taken as the natural unit of local organization the suggestion is now that more widely based organizations may be better. But these conclusions are the result of looking at local communities as dynamic and conflictful areas of change rather than traditional and static remnants of a passing age and as such may have a better chance of being useful guides to policy.







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AGRICULTURAL ADMINISTRATION UNIT

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No. 9

RURAL COMMUNITY DEVELOPMENT IN OMAN

The Durham University
Khabura Development Project

by

Roderic Dutton

July, 1980

Mail Address: Department of
Geography,
University of Durham,
Science Laboratories,
South Road,
Durham DH1 3LE

C

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Abstract.

The paper explains how Durham University became involved in rural development work in Oman. It continues by seeking to define the concept of community development and the changing need for this in present-day Oman. Then the final sections of the paper discuss the progress of different aspects of the Durham project to date and the relationship between the basic trials and demonstrations undertaken, the extension work, and the community development strategy. Finally the paper outlines the likely outcome of growing government involvement in the work and how the project might contribute to the forthcoming five-year plan.

Introduction.

Durham University has long been interested in Middle Eastern affairs. One important aspect of its interest has concerned developmental problems. Studies have been made and field research undertaken in most countries of the region. Staff members either working under the auspices of the University or as consultants with other groups, have been involved in various development projects.

With this background Professor H. Bowen-Jones, Director of the University Middle East Centre, was asked to design and direct a rural survey project in northern Oman (1972-1976). The surveys aimed to make a detailed examination of the resource base and of rural social and economic systems of a cross-section of Oman stretching between the villages of Khabura on the coast and Ibri in the interior.

On the basis of the information resulting from these surveys a Durham University group, initially under the direction of Professor Bowen-Jones was asked to design and implement a rural community development project based at Khabura. At that stage the author was the project's field director, living at Khabura.

Defining the Goal.

Before the work undertaken by the Durham project could hope to succeed it had to be given direction by defining the goal - 'community development' - to which it aimed. Rural Oman was both technologically backward and under-using its resources, if judged by levels of technology and productivity attained elsewhere in the world. Yet members of the survey project, who were therefore familiar with rural Oman could identify social and economic structures which were undoubtedly highly desirable and surely an important ingredient of the concept of a developed rural community. Over the centuries indigenous village and Bedu communities had attained a balance between the desire to satisfy their immediate wants and the obligation to cater for future needs. They had learned to live in harmony with their physical environment, acting under a system of responsible local control to feed as much back into the corporate system as they were taking out of it. The control was maintained by a collective understanding that to break it would court disaster, in the harsh environment in which they lived.

People were drawn together by a mutual dependence on each others skills. They used these skills to fashion most of the things they required from the raw materials around them. They therefore understood the nature and the value of these raw materials and treated them with due respect. Most members of the community were skilled producers, even the old and blind made fibre rope and mats. The community was also responsible for its own education and physical and spiritual health. It had the security of considerable independence from change

in the world outside because it provided most of its own requirements.

Briefly, the members of a typical rural community were skilled and productive, they were mutually dependent on each others skills, and they understood how to work in harmony with their physical environment. They had evolved a system of dynamic control which responded to internal changes and they thereby created a balance in which people could satisfy their immediate wants with due regard to future needs. In a word, they lived in a developed rural community.

It is perfectly possible to adjust the dynamics of such a community so that a new range of 'wants' can be satisfied, as long as an equivalent extra input is fed back into the system. This can be done by harder work, by more productive work, or by undertaking new types of work. In this way a true community may undergo extensive modification and yet remain a community but this is an evolutionary process of adjustment that takes time. It is the need for time that makes a traditional rural community vulnerable; it can be overwhelmed by rapid change from without, change that lies beyond its control.

The Need for Development.

In Oman the overwhelming change came with the exportation of oil from Saudi Arabia and the Gulf States after the Second World War, and from Oman itself from 1967. Rural Oman was affected primarily as a source of relatively plentiful and cheap labour. By the early 1970's

the impact of the oil boom on rural Oman was becoming apparent even to the casual observer. The new Omani Government, under Sultan Qaboos, was anxious to aid rural Oman and it therefore invited various organisations into the country to evaluate the rural resource base and make recommendations for the 're-development' of the rural areas at a higher production level than before. The University of Durham, as stated above, was asked to participate in the survey work. The Durham surveys revealed, amongst other things, the extent to which the traditional rural communities were being affected by the impact of oil. In particular a high proportion of the most active age group of men were employed outside their villages, often outside Oman in the Gulf States. Only rarely did they use their inherited artisanal skills in their new jobs and they learned no new skills that would benefit their village economies. Usually these men return to their villages with a range of newly imported goods, thereby undermining the position of the remaining village artisans. The villages were becoming less reliant on local resources and indigenous skills and more dependent on external supplies.

At the same time as the most active men from the rural areas were being offered easier work and a regular salary in the urban centres in the police or the armed forces, the market for the main agricultural crop, dates, was collapsing. Within Oman people were seeking a wider range of foodstuffs so dates, particularly the poorer quality of dates that grow on the Batina, were in less demand. One could even find dates in local markets imported from Basra. Meanwhile, the export

market of dates to India was ending which left a further surplus within Oman to reduce market prices.

The reduction of the date market was very serious in northern Oman where date production formed the basis of the only major farm system. Of the other crops alfalfa, limes and wheat held only a very subsidiary position while everything else - with the exception of a rough tobacco and onions in certain restricted localities - was grown only as a casual garden crop. Unfortunately the rapid fall in the value of dates combined with the sudden increase in job opportunities outside the rural sector meant that there was neither the time nor the obvious incentive, nor the necessary base of knowledge and experience to evolve new farm systems to cater for new circumstances. Moreover, in addition to the date problem, the limes suffered during the 1970's from increasing pest problems with a peak in 1976/77 - citrus black fly and snowy scale insects - which decimated yields. And wheat, an important subsidiary crop in some villages in the interior of Oman, became uneconomic to grow in the face of rising labour costs and cheap Australian imports.

Yet Omanis were proving that they could respond to changing circumstances and new ideas. For example, almost all those farmers who had drawn their irrigation water from shallow wells using an ox and trip bucket, replaced the ox and trip bucket with a 6hp. diesel pumpset during the 1960's and 1970's. Again, starting in 1974/75, a new market for alfalfa opened in Al Ayn offering three to four times

the local price of 100 baisas per munn (4kg.) The response to this opportunity has been dramatic: the area of alfalfa has rapidly expanded and truckloads of alfalfa are taken daily to Al Ayn from many parts of rural Oman. Finally, there are smaller but new areas of onions, garlic, tomatoes and melons that are producing useful incomes for a few farmers.

But the general problem remains that there are no new but tested farm systems to replace the one based on date. There has been no opportunity to make a thorough examination of the problems and possibilities - from water usage and cultivation to processing and marketing the produce - of alternatives that might fit current social and economic circumstances.

Devising a New Small-Farm System.

One of the central aims of the Durham project was to devise a suitable small-farm system that, once proven viable, might be emulated by a number of other farmers in the region. Project resources allowed only one small-farm system so it had to be one of central relevance to the needs of a large number of people. If successful, it might encourage a truer 'farming' attitude by the local farmers most of whom were part-time; relying, for a high proportion of their family income, on relatives working outside the village. This in turn might encourage the evolution of other farm systems.

It was hoped that even before the new farm system was fully

proven, parts of the system could be adopted and gradually incorporated into local farming practice.

The other central aim was to integrate the farm with other village activities in order to help recreate the sense of mutual dependence on complementary skills that had characterised rural Oman in the pre-oil days.

The farm system to be developed was based around the rearing and breeding of sheep and goats. The decision to do this was made on the following grounds

- improved sheep and goat management potentially affected everyone in the village. Most households own goats and sheep; two or three in the village, rather more in the gardens and up to fifty or more by the shawawi in the gravel plain. All households were obliged by tradition to slaughter a goat, or alternatively a sheep, at the Id al Fitr and the Id al Adhha.
- the traditional practice of having the animals scattered in small numbers throughout the village was unsatisfactory in various ways. It was impossible for vets or other specialists in livestock husbandry to reach them. They carried dirt, flies and flyborne diseases into the homes. And they were fed on household scraps but although this reduced waste it also led to unsuitable and even rotten food being eaten by the stock, causing intestinal diseases which are common in the region. (Cooke and Massey, 1979).

- the other traditional practice of rough grazing and browsing sheep and goats, common in the plains and mountains of Oman, is also problematic. It has the merit of being cheap but also the major disadvantage, in a climate as dry and unpredictable as Oman's, of being totally dependent on the rainfall for the well-being of the stock. In a dry year goats and sheep can be so weakened by lack of food that they have no defence against disease or predators, they produce no milk, they cannot conceive or carry a foetus the full term and they endanger the sparse vegetation to maintain a carcass that has very little flesh on the bone.

The new farm system had to be seen to evolve from traditional practices whenever possible. As Schumacher (1973) put it, 'proposed change must stand in some organic relationship to what the people are already doing'. Nearly all the farms in rural Oman are small - an average of 1-2ha - with an owner/operator working by himself, with his family, or with a very limited amount of paid help. The project obtained, therefore, a 2ha. piece of land whose water resources and quality, and soil quality, were average; a piece of land in the midst of a cultivated area yet visible because it lay on the main track leading to Khabura village.

But although on the one hand the new farm system had to have an obvious relationship with local practices it had also to make effective use of the productive potential of the land. The management techniques

had to remain relatively uncomplicated and minimise the labour input. To be attractive the system had to be visibly more productive yet neither labour intensive nor capital intensive. It had to function without the volume of labour associated with marginal sophistications to the basic system, but if a particular labour intensive operation could be overcome by use of a suitable machine then this should be used.

Although concentrating entirely on only one sector of agricultural development, the farm gave the project the opportunity to examine each part of the livestock farm system from irrigation and cultivation of fodder crops to marketing stock and the use of animal by-products. Progress to date, in some of these fields is summarised below in order to illustrate how the techniques used attempt to cope with the constraints listed above.

Firstly, irrigation. The farm uses the traditional method of distributing irrigation water - from the well along water channels to irrigation basins. But by making the basin larger (see below) the number of channels required was reduced, with a saving of time, effort and space. The traditional channels are mostly earthen throughout but the project initially lined its channels with black polythene to stop water loss, weed growth and erosion damage - water was syphoned into the basins. The polythene however, holed easily and even ultra-violet resistant sheeting rotted fairly quickly in the intense sunshine. The channel, made of earth, also occupied too much space. Design criteria were therefore drawn up, based on experience

at Khabura, and a new type of channel was devised and tested in England by the Intermediate Technology Development Group (I.T.D.G.). The design criteria included: strength, cheapness, use of local materials, capability of local manufacture and repair in a 2-3 man workshop, mobility and space-saving. The channels are now under test manufacture at Khabura. If they work they will not only provide an efficient channel but also develop skills, create remunerative local employment and, above all, create a bond of mutual respect and dependence between manufacturer and farmer; an essential element of the development of a true rural community.

Secondly, cultivation. Typical local irrigation basins measure as little as 4m x 5m or less. The project uses the same system but with irrigation basins measuring 10m x 20m. This simple modification to the traditional system has the following advantages stemming from the fact that large basins mean fewer ridges: less time to build the ridges, less space lost in ridges (up to one third of a traditional field can be lost in ridges), fewer crop edges for weed infestation, less opportunity for salts to accumulate at the surface and burn the plants at the crop edge after rainfall, and less time taken up by ridge repair. In addition, the large basins also have advantages: they allow a rotavator to cultivate within the basin without endangering ridges or channels, they allow the crop to be machine harvested, and they allow the irrigator to leave the basin filling while he attends to other work. Perhaps the main advantage of large basins is that because they can be recultivated without destroying the accompanying

ridges and channels there is much more incentive to recultivate and recrop them - one of the best ways to increase average yields of perennial crops in Oman (such as alfalfa) would be to resow old stands before they become weak and unproductive.

It is in cultivation that a suitable machine could make a major impact on land use and total production. Traditionally all cultivation was done by hand and was therefore very slow. Today people will not cultivate by hand but the 4-wheel tractors provided by the government extension services are not well suited to cultivate irrigation basins - the tractor is too large and destroys ridges and channels while it works. The project has successfully overcome this problem with the use of the Howard Gem Rotavator. The rotavator works easily within a 20m x 10m basin, copes well with cemented soils and produces a good tilth in one pass. In the restricted space of most small Omani farms it works almost as quickly as a four-wheel tractor and leaves the soil much easier to work thereafter. The use of the rotavator encourages farmers to use larger irrigation basins, and vice-versa.

Thirdly, crops. The project has introduced Rhodes grass as a forage crop additional to alfalfa. This grass has the advantages of being very dense in its growth (no weed problem), of being perennial (no annual resowing), of vegetative reproduction by stolons (will colonise bare patches resulting from initial salinity, as the salts are leached - but still not become a weed like the rhizomatous grasses), of drought and salt tolerance, of round the year cropping with a peak

in the summer, of easy drying to make hay (for the winter dip in production), and of suitability for grazing both sheep and goats (no cutting needed, feeding on demand, returning dung and urine to the field). Thus Rhodes grass fulfils the requirement of being both very productive and labour saving. It is also relatively easy to grow and, because it is perennial and good for grazing, requires a minimum of machinery in its cultivation. Its one complexity, over alfalfa, is that it requires nitrogen fertilisers.

Fourthly, use of wool. Rearing sheep gave the project the potential of using the wool as a raw material to stimulate the local spinning and weaving crafts. Weaving has been practised in Khabura but the craft had died under the impact of the oil boom. By the mid 1970's most wool was being thrown away and many sheep were not even being shorn.

Working with the Ministry of Agriculture in Oman the Durham University Khabura Development Project established a spinning and weaving project. This has so far involved dozens of women who have restarted wool spinning. Furthermore, a smaller number of women are now weaving a mixture of traditional and new goods. These have been successfully sold in Muscat, and some yarn has been exported to England and Australia. The work has therefore revived and expanded traditional skills, made effective use of a local raw material and helped to link the farmers and pastoralists, as suppliers of the raw material, with the artisans; a further example of mutual dependence on complimentary skills.

Associated Projects.

Apart from the farm the project also had other points of departure. Two of these, and their links with the farm, have already been mentioned - the water channel project (a small-scale village manufacturing unit) and the spinning and weaving project (an agriculture-dependent village craft). Two others, the honey production project and the renewable energy project, have rather more tenuous links with the farm activities. Both of them, however, are designed to make more effective use of local resources and to create local skilled employment. The work would, in the longer term, tie these projects to the others, in the manner explained below.

Traditional honey producers are found in only a very restricted area of northern Oman. They use hollowed date logs as hives, which make it impossible to manipulate the bees, and they extract honey by squeezing it from the comb; the wax is then thrown away. The honey project was initiated in the belief that modern methods (which in any case are intermediate in scale being based on the small module of the hive) would allow greater control over the bees and the re-use of the combs, and therefore increase honey production. The hives could also be introduced to other parts of Oman with a similar flora, which would greatly increase total honey production. However, the concentration of flowers in Oman is nowhere sufficient for one to envisage full-time honey farmers but it is easy to imagine a stock farmer for example, keeping a number of bee hives. They would provide him with honey for his family, with a supplement to his income, with pollinators for his crops and with added respect from his neighbours as a skilled man. They

would therefore tend to keep him in the village and discourage him from drifting into the capital.

The central part of the renewable energy programme is the use of a windmill to pump water. Central to the concept is the hope that the windmill (designed by I.T.D.G.) will be capable of local manufacture. The manufacture involves neither castings nor gears, only cutting, welding and milling - with some special parts (notably bearings) bought from overseas. The initial windmill was built in the workshops of the oil company (P.D.(O) Ltd) and is now - May 1980 - under test near their workshop, pumping water from a shallow borehole.

Such a machine could form the base of a regional - not a village - manufacturing enterprise where it would both use and further develop workshop skills. A windmill would still cost more than a conventional diesel pump but it should require far less maintenance and would not use expensive fossil fuels. It might be ideal for remote locations, where the wind regime was suitable.

At its permanent site, near to Khabura, this first windpump will provide domestic water for a particular group of houses in the coastal plain and their livestock. Only when the average daily pumping rate has been fully tested and shown to be sufficient could the project recommend that it was used for the more demanding requirements of agriculture. At that stage one could envisage it being used in conjunction with the new irrigation channels to irrigate, amongst other crops, alfalfa and Rhodes grass for livestock.

Meanwhile, the sun's radiation is being test-used to run a solar still to produce distilled from brackish water. In conjunction with the windmill it is hoped to heat some of the water by running it through a specially designed 'solartube', storing it in a lagged tank.

Extension Work.

The success of all aspects of the project locally depends on successful extension. Ideas have to prove their value and then be adopted by an increasing number of farmers and craftsmen.

In each project there is, in concept, a centre for trials and demonstration together with the working principle of direct and frequent contact with the villagers. The emphasis on the centre has varied from project to project depending on the amount of experimentation and demonstration considered necessary and also on the complexity of the system being introduced. For example, with the livestock the greater part of the emphasis for the first three years was on developing the project's own farm. The farm was necessary because there was no body of local knowledge on which the project could draw to make proven recommendations to local farmers about the methods and the likely success of small farm livestock units. Also the required investment in capital and time and land resources by any one farmer would be such that he could not be encouraged to do it except when more proof of success was available. The farm also gave the opportunity for testing and modifying each part of the farm system aiming, as mentioned

above, for visible increase in productivity and for simplicity of management.

At the present stage we have shown that, agriculturally, the system works. Parts of the system can still be improved or changed - such as the water channels that are now being replaced - and one or two things remain to be tested e.g. milking. But ideas such as cross-breeding local with imported goats, use of Rhodes grass, making larger irrigation basins, and cultivation with the rotavator are liked by local farmers, and their own practices are now being influenced by them.

The farm work has therefore reached a turning point. The farm is fully functioning and can now be left more and more in the hands of Omani assistants while the emphasis of new work moves more fully in the direction of extension. Extension involves explaining, with the help of the visible evidence, exactly what we are doing, providing the means for farmers to follow our ideas (e.g. supplies of Rhodes grass seed, water channels etc). It also involves working with the farmers during the critical early phase of their implementing one of the new techniques, when it is important that they fully understand what they are doing and are not put off by a teething problem.

The weaving project has always had its workshop in which, when the project started, trials with spinning and weaving the local wool were conducted. Indeed, the market for woven rugs and bags was tested by goods made by the weaving specialist in this workshop; until

the market had been tested it was unreasonable to ask someone to train as a weaver. However, from the outset the spinning extension work took place in the village homes of the women doing the work. There they have been able to compare spinning wheels with the traditional spindle and they have been successfully encouraged to improve the range of yarns and their average quality. Weaving is now also taught in the same way. New ideas and techniques are taught in the home where it can straightaway be seen if they fit into the women's way of life. The women are definitely both skilled and enthusiastic and now, after two successful sales in Oman, it appears that the market is strong. New products can be devised but the main outstanding problem is one of organisation; the women working together (in a cooperative?) to sell their goods at a fair price to a retailer or an exporter.

Like the weaving project, the bee project has only a small centre composed of a workshop and a small apiary. The bee specialists have had to learn about local conditions and about the local bees so the apiary has been of value to them as well as demonstrating the advantages of the new equipment to local beekeepers. But here it has been possible to try and persuade beekeepers to conduct trials on their own ground. At the worst they might lose a traditional hive of bees (value perhaps £20) but the loss would not affect the rest of their traditional hives. At best, the hive begins to demonstrate its varied advantages to the owner and starts to act as a secondary demonstration unit to all the beekeeper's neighbours. This approach, in the early period, throws an extra burden of work and responsibility onto the specialist. He has

far longer rounds to make and he has to make sure that no hive fails for lack of good attention. But he has the immediate opportunity of explaining to the new hive owner the techniques of manipulating the bees and of instructing him in a sounder understanding of basic bee biology.

All aspects of the renewable energy projects are still very much at the trial stage. The windmill first pumped water, in its test site at the oil company workshop, in May 1980. The solar still has never achieved near its maximum theoretical output but more work will be put into design modifications in an attempt to improve the performance.

Institutional Involvement.

At the time the project began in Khabura the Omani government was more interested in large-scale projects. But in any case, because of the pilot nature of the project there was little information that could usefully be imparted to the government.

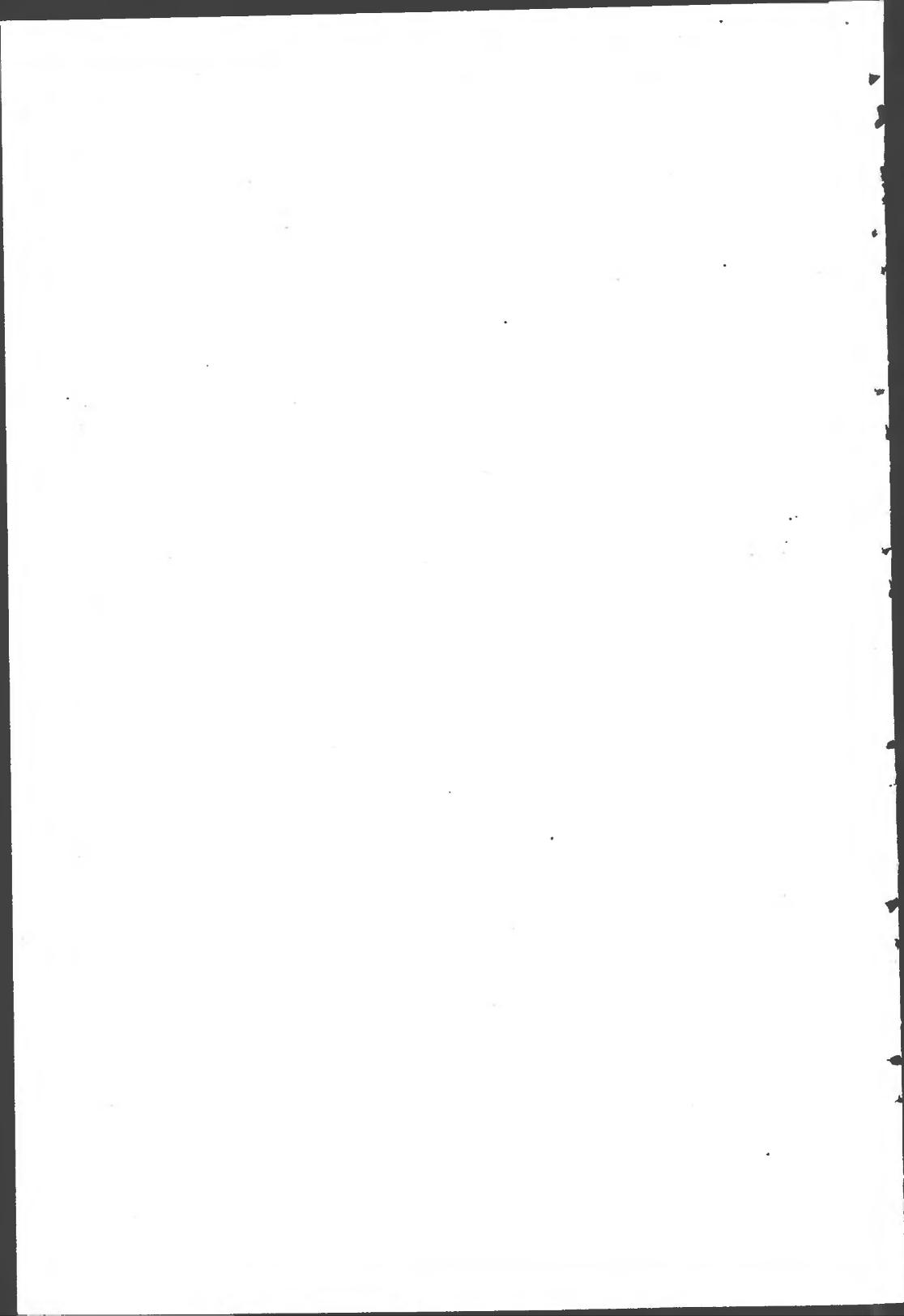
Since then it has become clear that some of the large projects have not had the results initially expected of them. In particular, their demonstration effect has been very slight as far as the small farmers are concerned. Moreover, government thinking has gradually shifted so that the National Development Council, for example, recommends that a much greater emphasis should be given to the small producer - this partly for social reasons, keeping village life more viable and reducing the tendency for rural-urban migration. In the meantime the project at Khabura has become firmly established and is clearly attracting

considerable local attention and it is realised that as Khabura is very similar to most of the rest of coastal northern Oman, which is the major area of agriculture in the country, a successful project at Khabura could almost certainly be repeated in any other coastal village.

The government is thus more aware of and more prepared to be interested in the Khabura project than previously. As it is now engaged in preparing its next five year plan (1981-1985) useful discussions have therefore taken place with a view to incorporating the working principles of the project and the knowledge gained so far into the strategies for the plan. It is to be hoped that in the long term, as a result of this, a growing number of farmers will rear goats and sheep and therefore Oman's dependence on imported meat will be reduced.

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AGRICULTURAL ADMINISTRATION UNIT

AGRICULTURAL ADMINISTRATION NETWORK PAPERS

No. 10

GUIDELINES FOR THE APPRAISAL OF AGRICULTURAL PROJECTS

by

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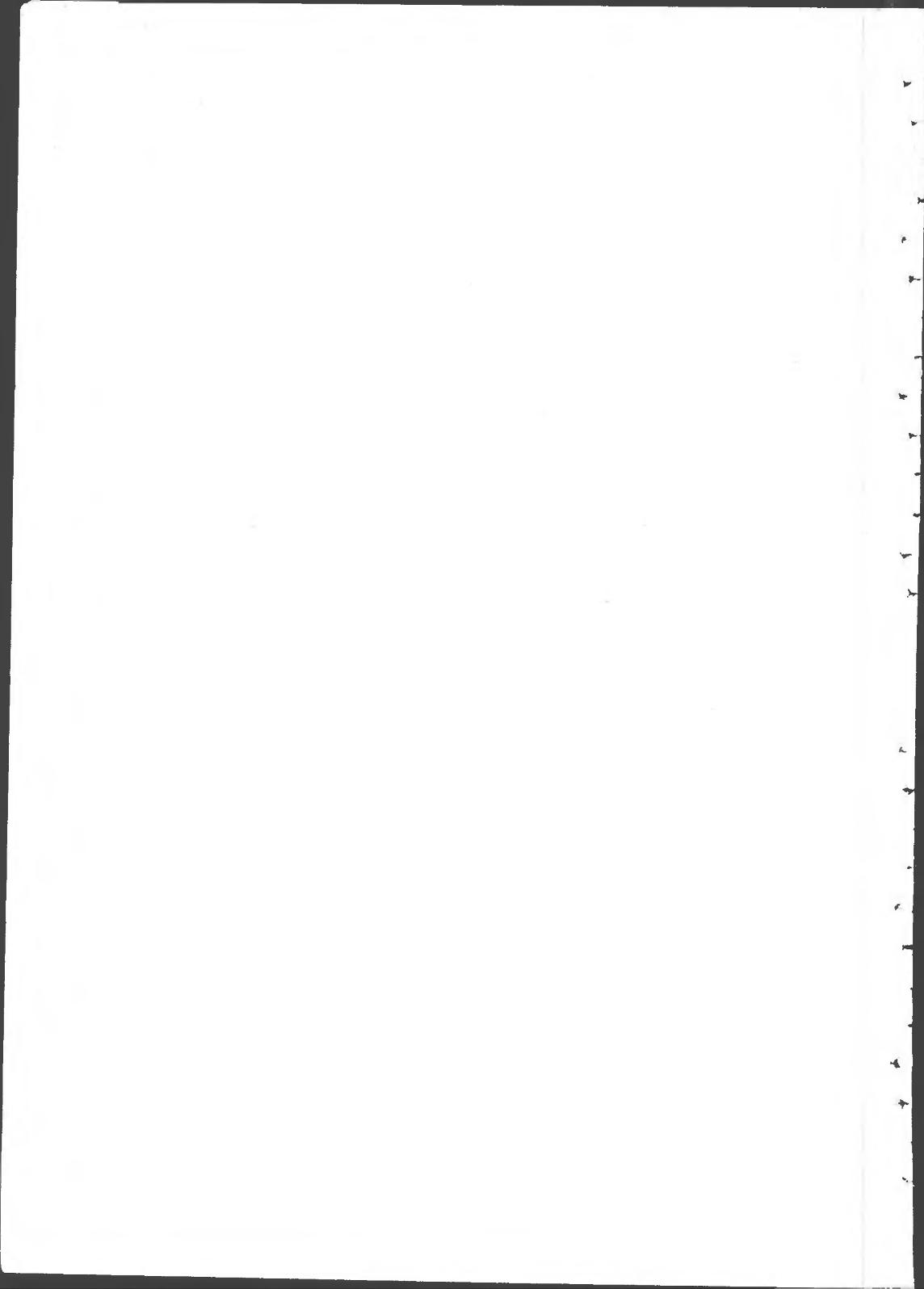
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GUIDELINES FOR THE APPRAISAL OF AGRICULTURAL*
PROJECTS

Agricultural projects appear in so many forms and often cover so many disciplines that it is particularly important to establish an analytical framework in order to ensure that there is a systematic appraisal of proposals. This framework is discussed in section 1.

All proposals for agricultural improvement entail a series of changes which are closely interwoven and which can be approached from different angles. For this reason it is not particularly helpful to attempt to categorise projects on an institutional basis since each one contains very many of the same problems which would have to be examined if the approach were based on particular crop developments or certain types of area development. What is proposed, therefore, is to examine the component parts of agriculture, or inputs (section 2), and then examine (in section 3) the different forms of agricultural organisation.

1. THE ANALYTICAL FRAMEWORK

1. The complex nature of change in the agricultural sector could be more easily comprehended if agricultural change is envisaged in a *three* dimensional manner (with a possible fourth dimension of changes over time). This helps to understand the interaction of the different aspects of agricultural change:

- (a) The Base This is the natural resource base and the social and economic structure upon which agriculture depends. Agriculture is distinguished by being a biological science, much more vulnerable

* For the purpose of this paper the term 'agricultural' is restricted to crop production.

to the ecological environment than most other industries. There are also special social and indeed economic factors which are peculiar to agriculture which need special consideration. The 'base' essentially consists of those factors which are of long standing and which are 'given' in the sense that changing them entails a radical alteration in social and political policies. This is not to argue that there are not occasions when fundamental change is inevitable and desirable.

- (b) Inputs These consist not only of the standard purchased inputs which are frequently imported, such as fertilizers, seed, farm machinery and locally acquired physical needs, but also basic resources such as land, labour and water.
- (c) Institutions and Ownership There are differing forms of institutions and organisation which will of course be influenced by technical factors as well as the economic and social structure of the region.

Natural Resources

2. The natural, as opposed to human, aspects of the environment contribute a complex variable in appraisal. Significant variations in natural land qualities are to be expected *within* a development site and must be anticipated over time. Particularly in agricultural development, natural land qualities are major factors deciding which production objectives are economically feasible for they decide the level of inputs and expertise necessary to attain the required level of productive return. Land qualities have an important bearing on the risk of an enterprise for land differs in its versatility and a false step on land that is not versatile

can cause damage which, in practical terms, is irreversible. It is equally important to remember that the speed of change in land qualities, even under the influence of unsophisticated development, can be very rapid. In the appraisal equation land is a complex function - not a constant.

Economic and Social Structures

3. Clearly no project is likely to succeed in the face of opposition from central or local government authorities, or in the face of policies which are so detrimental to the agricultural sector that assistance to it is doomed to failure. In many cases, however - indeed perhaps in most cases - authorities may take a lukewarm attitude (correctly in some instances) and in these cases a judgment needs to be made as to whether the proposal is likely to succeed under these circumstances; a very strong case for going ahead will be required if there is not a strong government commitment. So a compromise or bargain will have to be struck between different groups.

4. The major political problem facing most countries is the understandable need of many governments to ensure that the rural sector provides the resources for investment in non-agriculture while ensuring that this does not act as a disincentive to agricultural growth. At the same time, the need to placate the urban consumer often means that prices, particularly of food, are kept at artificially low levels, thus either seriously reducing agricultural output or leading to blackmarket distortions. Many governments compensate for low farm prices by subsidising farm inputs. If there is an efficient administration capable of determining what the real needs of farmers are, then this can be justified. This is all too often not the case. Governments, however, often prefer this policy as it enables them to keep consumers happy and to control farmers directly.

5. It is, however, not only food production which is penalised but also export crops. Their production can be seriously jeopardised by high levels of taxation required to finance either a subsidised industrial sector or high levels of consumption of imported goods for the towns. The terms of trade therefore between the urban and rural sectors need to be examined carefully to ensure that investments in the agricultural sector are not to be used to support economic and political policies which will nullify the positive effects of investment.

6. At a national level important influences which could undermine attempts to promote rural development include the patterns of land ownership, and the industrial structure. Industrialists may have an interest in obtaining cheap agricultural materials, or preventing competition in the provision of imported agricultural equipment.

7. Prices of agricultural products are particularly important, because farmers, like any other group, will respond to price incentives. It has been argued in the past that traditional farmers have certain 'target incomes' and if these are achieved they will not respond to price incentives. In this respect, however, they are no different from any other social group and while it is true that price incentives which are insufficient for them to reach a particular target may not lead to a positive production response, it is not unreasonable to assume that, over time, farmers do raise their targets as economic and social aspirations change. As with most social groups there is not always a linear response to price incentives. Response can proceed on the basis of a series of jumps to new levels of satisfaction - much will depend upon the availability and cost of services and goods which farmers want.

8. A major difference between farming and industry is the very large numbers of producers engaged in the agricultural

sector. This often means that farmers responding in a uniform way to external factors such as high (or low) prices can produce a massive over- or under-supply of produce. This is particularly obvious with crops where supply can rapidly be altered - as with annual fruit and vegetable crops.

9. The very large number of producers in the agricultural sector makes it far more difficult to plan changes for them, as there are so many differences between one farm and another. It is particularly difficult to assess what changes farmers will be prepared to accept and how quickly they will do so, yet forecasts of these reactions are essential in agricultural planning.

The Farm and Village Situation

10. This category of social and economic problems at this level is no less important than the problems at the macro and policy level. Indeed it is probably more important as, under certain circumstances, individuals and small social groups can, through determination and ability, achieve objectives despite difficulties imposed at a higher level.

11. As stated earlier there is no evidence to believe that in the longer run farmers within traditional rural societies are any less interested in improving economic welfare than their colleagues in other spheres of economic activity. However, they do operate in a very different environment and the problems of change are normally very much greater.

12. One major problem is that the general poverty which exists, and the narrow margin which exists between survival and starvation is such that few farmers are going to take risks with subsistence crops. The amount of ill-considered and ill-researched technical advice which farmers have often

received, more than justifies this caution. Certainly a sensible farmer is not likely to respond very readily to advice which entails transforming an age-old technology. At best, after having seen the measure of success on the part of farmers whom he thinks he could emulate, he will embark upon change. Schemes which depend upon results under controlled situations in government research stations make them untested as far as farmers are concerned, and are unlikely to be accepted - and too often research is of this sort. On the other hand, research which has been applied on a demonstration basis by large or small commercial farmers is likely to be taken much more readily. Risk aversion is therefore a more important consideration amongst poor farmers than those who are fully commercialised with resources sufficient to carry them over a bad season. Plans envisaging rapid rural transformation must be regarded as suspect.

13. Another important factor is the amalgamation of home and work places in agriculture. In industrial activities the home is seldom the work place and it is therefore much easier to introduce changes, and indeed to supervise them. The farmer has to live with changes not just during his working hours but in his spare time. His family, who almost always have a vital role to play on the farm, will be affected and may resist changes which do not benefit them. Supervision is also more difficult and costly than it is in industry.

14. Age-old techniques of production create work allocations and rewards between members of the family which are difficult to change. The role of men, women and children in carrying out different types of agricultural activity is well established and the rewards arising from these efforts well recognised. Technologies which benefit one member of the family at the expense of others are not likely to be enthusiastically embraced by the family as a whole, unless compensating benefits are likely to emerge. The role of women (and indeed of children) is all too often insufficiently recognised.

15. The relatively closed nature of traditional society often makes it invidious for individuals to innovate, and costly in financial terms. It is frequently the outsider, the nonconformist (either as an individual or a group) who is responsible for change. An understanding of the social hierarchy structure and kinship patterns is a sine qua non of successful change in the rural sector.

16. On the other hand, it is important not to exaggerate the social problems which will emerge in agricultural improvement as these are common to any forms of economic change. Economic development can never be an egalitarian process as areas have different resource endowments, and individuals have potentially different skills and different motivations. The important thing is to try and ensure that while it is recognised that those who benefit should do so with a minimum of disbenefits to others (e.g. via compensations), that in the end the increases in efficiency which result will eventually bring much broader benefits to society as a whole.

2. AGRICULTURAL INPUTS

1. Agricultural inputs can be divided into those physical resources available to the farmer, i.e. land, water and labour, and purchased inputs which cover a very wide range of goods but are primarily seeds, fertilizers, chemicals for pest control, machinery and implements and a whole series of fixed capital investment. Using them efficiently in order to obtain as high as possible financial returns to the farmer entails combining technology and management. It should be stressed that technological innovation which, for example, leads to high yields per hectare may not be a suitable solution if land is not short and labour in ample supply. Equally it would be better not to embark on development if the physical constraints are such that sustained production increase can only be achieved at a level of technical input that is unrealistically sophisticated for the local community.

Land Settlement Projects

2. The opening up of new lands for settlement (as opposed to intensifying existing farms) is a diminishing, but by no means defunct option. Even within existing farming systems there is often scope for expanding the amount of land which can be cultivated. Intensification of farming is usually seen as the only solution.

3. Because of this belief, and because professional education tends to concentrate on training in intensive systems of agriculture, mistaken proposals for agricultural improvement are frequently made. Emphasis on increased use of fertilizers, soil conservation, pesticides, water, is often not the right solution. It is important therefore to assess in the first instance whether farmers are likely to

be able to extend the frontier of cultivation. This extension is, of course, inadvisable if it entails moving into areas that are environmentally fragile (e.g. subject to soil erosion, excessive depletion of fertility, drought, etc) or are better suited to some other purpose (e.g. forestry, plantation crops, irrigation, etc). It is important therefore to see the farming system as a whole.

4. Land settlement schemes can be the social answer to increased output and employment where land is still available. They entail a process of migration in which governments play a role. Their degree of involvement will vary. Generally speaking, a major participation by governments in those countries in which there is a modicum of freedom has seldom led to successful land settlement schemes. This is not a doctrinaire issue but one which arises from the very complexity of planning from the centre a comprehensive settlement scheme. No one person, or no committee, can plan for all the problems likely to be encountered by new settlers. Only in a totalitarian society can centrally directed schemes work, but at great economic, social and human cost.

5. The major criteria for successful land settlement schemes include:

- (a) Choice of farmers who, due to population or other pressures, are prepared to move into new areas and who thus have a strong motivation to succeed, and who can expect a sufficient income increase to justify this move.
- (b) The availability of an acceptably high proportion of satisfactorily distributed land suitable for growing a sufficient quantity of saleable crops to provide an income greater than that obtainable elsewhere. This income to be obtained after essential inputs and transport costs have been met and using management methods within the compass of the settlement community.

- (c) Provision of demarcated plots, with a prospect of title and access to roads and water.
- (d) Provision on credit of certain basic equipment for clearing and preparing land, and for house building materials.
- (e) Possible clearing of some land for first year crops and provision of foodstuffs and seeds for the first season, though it is vital that settlers make some form of physical or financial contribution in order to have a stake in it.
- (f) Technical knowledge and guidance via agricultural extension which is directly relevant to land conditions and the settlement rate.
- (g) Ensuring an adequate marketing system exists.
- (h) Blueprint, if relevant, for a village, with such social facilities as a health post and perhaps a school, possibly shops, bank, religious centre, central meeting place.
- (i) Good management of settlement.

6. To be successful a settlement scheme must depend on the determination of the settlers to succeed. The more public assistance the less will be the will of farmers to establish themselves. The capital investment per former should be as low as possible in order to ensure replicability, and the loans advanced to him should not be so excessive as to become a psychological burden. Loans which exceed in total two or three times gross earnings per annum are likely to be counter-productive.

Irrigation Projects

7. The application of water to land by farmers is as old as the history of settled agriculture. Most developments

have been the result of gradual technical and social improvements at very low cost by using farm labour. Large scale systems of irrigation with highly centralised forms of social control characterise many early civilisations. The success of these systems was, however, heavily dependent upon a despotic system of government which was able to ensure that the technically complex nature of water control was adhered to, as well as upon annual self-fertilising floods which maintained yields and kept salinity levels low. In recent years the technical capacity to build immense dams for hydro-electric purposes has encouraged the development of large scale irrigation systems. Integrated river basin development has become popular but has proved to be far less successful than planned.

Large Scale River Basin Schemes

8. The most common fault is to attempt to emulate the success of individual irrigation schemes on a very large scale without appreciating that individual on-farm irrigation has advantages denied to a large scale public sector scheme. These include:

- (a) Farmers using off peak labour, usually over years, can develop schemes at very low costs.
- (b) Control and management of water supplies is easy on individual farms.
- (c) The small scale nature of these schemes enables farmers to produce high value crops for sale without encountering the marketing problems which large schemes encounter.
- (d) High overhead costs are avoided.

9. The ability of these small scale schemes to minimise costs enables them in many instances to justify providing water for supplementary irrigation, to produce two crops a year. Large scale irrigation schemes, however, are so

costly per hectare that they are seldom, if ever, justified on the basis of providing merely one extra crop per year, i.e. for supplementary irrigation. Large scale public sector irrigation projects are only likely to be justified in extremely dry areas of the world where average rainfall does not allow annual crop production or makes it very risky.

10. The success of large scale irrigation public schemes will therefore depend largely upon:

- (a) The technical, social and economic prospects of producing crops which will find a large enough market without depressing prices to an uneconomic level. This usually means cotton, sugar or rice as the economic mainstay of the project. A scheme dependent on intensive crops yielding potentially high incomes will almost certainly encounter serious marketing problems.
- (b) The existence of a social system, or modes of social control, which will make it possible to introduce and enforce the management systems and disciplines which ensure that water is used efficiently. Payment for water used will be essential for success, but difficult to implement.
- (c) The absence of natural conditions which enable annual crops to be grown on any scale without irrigation. If these exist the implications are that this additional investment is only justified for a limited period in the year - it will only facilitate the growing of one additional crop. This is unlikely to justify heavy capital investment. In order to be justified the investment is likely to require the growing of at least two additional crops per year.
- (d) Land conditions, particularly those relating to topography, soil and water quality, which will not result in the development of salinity, water-

logging, excessive water use or an excessive need for other inputs.

- (e) The willingness to accept that the technical, and particularly the social problems of adaptation are likely to be formidable and will at best take many years to resolve in those societies unaccustomed to strict social discipline.

11. While large river basin development schemes stir the imagination, their success rate has been low. They need to be appraised with the greatest of caution by fully experienced interdisciplinary teams in which social and managerial problems are analysed at the earliest stage.

Small Scale Schemes

12. Widespread success has been achieved, as stressed above, by individual farmers in improving their own farming systems with irrigation. Water can be applied from rivers in the age-old fashion by building canals which use gravity to spread the water, or through lifting water from rivers with human or animal effort or simple low lift pumps. On-farm storage of water has also been important. The introduction of pumps enables water to be applied with greater speed and ease, and of course in greater quantities. The introduction of pumps has, however, not always been successful; there are technical, social and economic problems. The most common problems are:

- (a) Failure to ensure that there is a system of administration responsible for the servicing and maintenance of the pumping equipment.
- (b) Failure to ensure that there are sufficient high value crops to justify the investment.
- (c) Failure to control the number of groundwater pumps, thus leading to resultant ill effects on the water table, or to control grazing in cattle areas, with disastrous ecological effects.

13. Successful pump irrigation will therefore depend upon:

(a) A social structure which is able and willing to maintain the pump. Individuals and large social groups may be able to do this. Unfortunately in small communities it will be difficult to find trained staff; it will be difficult to finance them, and the social pressures on anyone seeking to ensure that water usage is controlled are likely to be such as to render the task impossible. Certainly in grazing areas the introduction of pumps has created deserts where no satisfactory system of control has been socially or politically feasible other than through individual farming systems.

(b) The amount of water needed for a given crop will depend on water quality, the nature of the soils and the climate. The cost of pumping depends on the height to which this amount of water must be raised. These factors determine the type of crops which it will be possible, economically, to produce. In the vicinity of large urban markets deep wells applying water to intensive crops are likely to be more justified. Further from markets, annual extensive crops might be justified with low lift pumps. In distant, drier areas only capable of producing cattle, pumped water supplies are not likely to be justified.

14. Irrigation development has often been held out as the solution in rural areas in drier parts of the world. These hopes have often been greatly disappointed and many of these schemes have failed as a result of inadequate maintenance or through water or pasture depletion.

Labour and Training Projects

15. While there are no labour projects per se (other than training projects), labour is the critical input into all projects, but possibly the one least understood and analysed. Both labour motivation and labour availability need to be carefully considered.

16. Motivation will be particularly important, but it may be lacking. In areas dependent on rainfall or endowed with perennial crops, the average amount of work per year per adult in agriculture can be as low as three or four hours per day. There will, however, be peak planting and harvesting periods which could be severely jeopardized by withdrawal of labour. In those areas of the world where rainfall is higher, and/or irrigation possible, average hours worked are likely to be double. Harsh environments, hunger and sickness will act as a brake on greater human effort unless significant economic rewards are thought certain. Social structures which allocate certain forms of work to men and women can inhibit change if all the benefits accrue to one group and the costs accrue to another. The sharing of surpluses throughout the community can also discourage above average individual effort. Selling prices will also act as a critical brake or incentive to effort.

17. Over the last two or three decades it has been all too commonly assumed that there is a vast pool of unemployed labour in rural areas which can be used in other economic activities at no economic cost to the community. This is very seldom so. Families cannot afford to subsidise non-productive members capable of working; and because the seasonal pattern of rural work enforces long periods of idleness during the year, labour is usually short, and valuable, at planting and harvesting time.

18. While labour productivity in rural areas is generally low, it is certainly not negative, except in some exceptional areas of the world. Projects planned in other sectors must therefore assume that in most cases labour has a significant cost to the rural sector, though it may be less than the annual market wage. Labour moving out of the rural areas temporarily during the off season does have a very low, possibly zero, opportunity cost, but it is not feasible to plan on any scale for economic activities based on seasonal labour, although when organisation is good, or compulsion possible, seasonal labour is being used for public works programmes.

19. But more important has been the failure to realise that the introduction of new technologies, new crops, fail because of a lack of appreciation of labour implications. Crop planting machinery which increases output will create labour problems during harvesting. Technologies which, through better pest control, increase yields will require more labour, possibly more experienced labour. It is surprising how rapidly successful peasant farmers turn to hiring labour - a logical but expensive occurrence. Many attempts at bettering the conditions of farmers through technological change have failed because of a lack of understanding of their labour implications.

20. There is vast scope for increasing labour productivity in rural areas in developing countries, but only if it is appreciated that labour motivation and availability must be analysed.

21. The *training* of labour either informally or through educational institutions is important, but all too often a failure. Apart from the frequent irrelevance of the training courses, the other main factors relate to lack of knowledge of what is relevant, poorly trained teachers, lack of central government support for recurrent costs, and/or high cost of teaching per student. Equally important is the lack of

effective demand for the output of training institutions. For this reason trainees need to be provided with means to implement their newly acquired skills - for example, land, credit, seeds.

22. The main issues to bear in mind in establishing training systems and institutions are:

- (a) The likelihood of there being an effective demand for the numbers of people it is proposed to train.
- (b) Availability of relevant material - appropriate to their real needs - with which to train students.
- (c) Suitable training staff.
- (d) Suitable numbers of potential candidates of the right calibre.
- (e) As low as possible cost per student trained in comparison with other forms of training.
- (f) A willingness of those in power, or those to be assisted, to accept the recurrent budgetary burden which training entails.
- (g) Provision for re-training.

Seeds Projects

23. The introduction of new and improved varieties of seeds has perhaps been the most successful of all technological changes which have occurred in agriculture over the centuries. New methods of cross breeding carried out in research stations need to be adapted to local environments both in the technical as well as the economic and social sense. Research needs to be carefully planned if maximum results are to be achieved. Apart from concentrating on crops which are most likely to be of greatest benefit to the largest possible number of people, research should, in the first instance, concentrate on varieties likely to produce the most cost-effective results.

Technologies requiring improved husbandry practices and requiring locally available inputs should take precedence over research requiring purchased inputs, capital investment and complex managerial control.

24. Continual consultation with farmers in formulating and implementing research is critical to success, as well as with extension agents and other commercial organisations likely to be the beneficiaries of research.

25. The building up of certified seeds through a multiplication process needs a series of reliable producers. These are not easy to find. Further, new seeds often require complementary inputs which may require considerable managerial skill and financial outlays and credit, which could be costly.

26. Normally, yield increases in agriculture are of the order of 1% - 2% per year as gradual improvements take place. With improved varieties, startling increases can be obtained on an individual basis; 5% - 15% is not uncommon for short periods of time. However, it is not possible to obtain increases of this order on a widespread basis at all quickly - even with massive technical assistance and subsidies. With an efficient organisation it might be possible to average increases, over a large number of farmers, of 4% - 5% per year. To expect much more, other than in special circumstances, would be unwise.

27. Seed improvement schemes need to ensure that:

- (a) There is likely to be a market for sales.
- (b) That a reliable system of production and distribution exists or is built up.
- (c) That the quality of technical staff is high and that research has been good enough to justify embarking on building up seed farms.

- (d) That relevant farmers are fully acquainted with complementary requirements to maximise best use of seeds and have the prospect of obtaining them.

Fertilizer Projects

28. Fertilizers are normally important complementary input in rural development projects. Few inputs have had such a successful impact on farm output as purchased fertilizers. However, there have been very many failures resulting from the belief that they are a universal panacea.

29. The main reasons for failure result from lack of research to justify the programme. Research results, if carried out competently, will always be far better than farmer results. More detailed and skilled management, lack of financial restrictions on investments and the small scale nature of research plots can lead to quite unrealistic expectations. On-farm trials are essential before fertilizer recommendations are applied and should be carried out for a minimum of three years - and more in areas with very variable conditions, as field trials are likely to achieve yields little better than 25% - 40% of those achieved in trials.

30. Failure to assess the risk of applying fertilizer is all too common. In the first place, without irrigation expenditure on fertilizer could be a total write-off if rains do not fall at the right time. Secondly, fertilizers simply may not be economic. This occurs all too frequently. In those areas of the world where land availability and tenure provide room for rotations that will maintain soil fertility, there is little need for fertilizer. Fertilizers must be available to farmers at the right time; often this is not the case as delivery systems fail. Finally, farmers need training in how and when to apply fertilizers.

Farm Machinery Projects

31. While a vast range of equipment is encompassed under this heading, for practical purposes it is proposed to restrict this to tractors and their equipment, as they account for most of the purchases of farm machinery.

32. Tractors serve to increase the speed with which land preparation and cultivation is carried out, thus allowing for an expansion of production in some situations. They can also, because of their speed of operation, ensure much more timely planting while their strength gives them the power to cultivate soils which animal traction cannot. As well as being useful transporters and prime movers for threshing machines, etc, other benefits which may result from their use include better quality operations, and reduction of land required to feed animals.

33. Tractors can be labour displacing. The degree to which this happens will vary with the amount of labour availability and the efficiency with which tractors are used. Efficient use can generate considerable demand for labour through increased output. In fact they may create labour shortages during harvest.

34. The effective use of tractors requires skilled and centralised management, with a personal interest in maximising usage and a culture, or work force, able to maintain machinery. Tractors have, however, often been introduced into communities where there is no one with these skills, without back-up services to maintain them, and without ensuring that labour is available to cultivate and harvest larger areas which have been tractor planted.

35. When considering proposals for the introduction of tractors, the following should be borne in mind:

- (a) Farming conditions which allow tractors to be used between 800/2000 hours per year (depending on costs of operation and the value of extra output) are essential.
- (b) A social system likely to encourage use of machinery on a joint basis (although not via state controlled bodies, all of which have required vast subsidies).
- (c) Areas where timeliness of planting is important.
- (d) Farmers who can repair and service machines (or who can be trained to do so).
- (e) A back-up system for providing major repairs and spares.
- (f) Adequate labour willing to carry out extra work generated by tractor plantings.

Storage Projects

36. Crop storage is carried out for two purposes. One is to prevent crop losses. The other is to influence seasonal price fluctuations. The benefits from this interference will accrue to whoever controls the storage facilities. They could be farmers, middlemen, consumers or government.

37. Crop losses are extremely difficult to assess and little or no credence can be given to generalisations about 25% - 50% of crop losses in storage. In part this is because a national figure for losses can never be anything more than a guess but secondly, and in practice more importantly, it is very difficult to measure *economic* losses of crops held in storage. This is because it is difficult to relate physical losses with economic losses since the first are gradual and price changes frequent. It needs constant monitoring to assess farm level crop losses. The few detailed studies which have been carried out suggest 5% 'on farm' storage losses. This seems plausible,

otherwise farmers would have acted to reduce them. Under the circumstances expensive and purchased farm storage is likely to be unjustified.

38. The provision of storage, and possibly credit to farmers, or groups of farmers, to enable them to hold back supplies does not generate benefits to society as a whole (as reduction of crop losses would) but entails transferring income from one group (e.g. traders) to another (producers).

39. Central storage systems can be controlled by the state, or by traders or farmers, but whoever controls storage of this sort wields great political and economic power. An assessment is needed of how this power is likely to be used.

40. Strategic reserves are often built up at a great, and unjustifiably high cost. The cost of keeping stocks can be very high as it ties up capital. It is important, therefore, to ensure that stocks are kept at as low a level as possible consistent with food security. The cost and speed of obtaining imported stocks in an emergency should be the main criteria for determining how many months of supplies are required to maintain food stocks.

41. An appraisal of crop storage proposals should thus:

- (a) Determine in the first instance which purpose storage facilities are to serve: reduction of losses or a transfer of benefits from one group to another (strategic storage implies benefits to local consumers instead of foreign sources who would need to supply the food in any emergency).
- (b) In the case of storage losses, ensure as far as possible that claims made for economic losses have been substantiated. The claims made for crop losses are related to economic, not physical losses, and the data is represented in terms of number of stores and losses over time.

- (c) Ensure that since on-farm losses are likely to be low, the remedies are simple and cheap.
- (d) That when central storage systems are appraised, it is appreciated that new production is not being created and that central systems of storage will give great political and economic power to those who control them. These powers will not necessarily be used in the interests of producers, and sometimes not even in the interest of consumers.
- (e) Be clear that central systems of storage require local funds for the purchase of products to be stored therein. The recurrent financial cost of this may turn out to be unacceptably high to the local financing agency.
- (f) Make certain that central storage systems will have methods of financial control and management so as to maximise financial benefits, and that there are staff trained in the physical management of crops to be stored.
- (g) Make certain that ancillary handling systems are available and that a system for ensuring orderly stock flows is set up.

Credit Schemes

42. The provision of credit is not an agricultural input, but is merely a business transaction which enables a borrower to bridge the time gap between present expenditure and future income. Not all farmers will need access to credit, but it has become recognised as a crucial factor in agricultural development. It has been found, for example, that when credit is made available, it provides some additional inducement to the farmers to apply new technologies or to purchase improved inputs.

43. When appraising proposals for credit to be provided, either under a separate programme or as part of a project involving a package of inputs, it is important to ensure that:

- (a) The most suitable form of credit will be available. this will be determined by the purpose for which the credit is to be applied: i.e. production may need to be financed by the provision of short term seasonal credit; and capital investments in livestock, mechanisation, irrigation schemes or other farm improvements may need to be financed by long or medium term loans.
- (b) The target group of borrowers can be identified. The better-off farmers can usually obtain their credit needs from banks or other commercial sources. Most credit schemes, therefore, are provided for small farmers. The target group of borrowers should be clearly defined. It has been found, however, that it is difficult to ensure that only members of an identified group will gain access to the credit or that loans will be used for the purpose intended.
- (c) The borrowers will benefit from the use of credit. The income generated from the use of credit should cover not only its cost to the borrowers but should result in a net incremental gain to them. Inducements and opportunities should be provided, which will encourage the borrowers to save part of their gain thereby building up their own capital.
- (d) Local funds are mobilised. The financing of agricultural credit depends largely upon funds provided by governments or aid donors. However, it has been found that the use of locally raised funds within a credit scheme provides some additional incentive to the borrowers to repay their loans. In addition, where at least part of the capital at risk has been contributed by the borrowers themselves,

more effort is likely to be made by them to ensure that the objectives of a project are achieved.

- (e) The credit scheme is administered by the most suitable lending institution. Various institutions, including development banks and commercial banks as well as cooperatives, are involved in channelling loan funds to farmers. The institution responsible for administering credit should: (i) have corporate existence (informal associations are best for doing informal things); (ii) have the ability and the capacity to reach the target group of borrowers; and (iii) be operated efficiently.
- (f) Interest rates are realistic. As far as borrowers are concerned, particularly regarding production credit, the rate of interest is usually less important than the timely availability of loans. However, cheap credit is sometimes made available by government as a form of indirect subsidy, to offset the effects of high input prices or low produce prices. Where there is no government intervention rates of interest need to be set which will cover the high cost of administering agricultural credit and will attract lenders by offering positive real returns on their investments. Interest rates need to cover costs of defaulters.
- (g) Security requirements are reasonable. Crop liens, mortgages of land, charges on moveable property, and the provision of guarantors are amongst the types of security which may be available from the borrowers. However, when there are defaults in repayments it is often very difficult to realise securities or obtain payment from guarantors. Whenever possible, credit should be advanced after an assessment has been made of the viability of the

project to be financed, or of the capacity of the borrower to repay, rather than on the basis of the security available.

- (h) Adequate supporting services and supervision are available. The provision of credit should not be considered in isolation, but should be linked with input supply, storage, transport and the other factors contributing to agricultural production. Advisory and supervisory services need to be available to help ensure that the best use is being made of these factors and that loan funds are being controlled.
- (i) Marketing should be coordinated with credit. Marketing outlets should be available for the increased produce obtained from the use of credit. Wherever possible, arrangements should be made for loan repayments to be collected by deduction from the proceeds of the sale of produce.
- (j) The credit offered should relate to farmers' perceived abilities. Often farmers are mistakenly encouraged to accept sums of credit many times larger than their current incomes on the assumption that many technical changes will enable them to increase incomes rapidly and repay their loans. Apart from the often misplaced optimism which this policy depends on, there is the psychological impact on farmers of a debt overhang which is likely to discourage rather than encourage them. Loans should bear some relationship to a farmer's current income and his realisable ambitions. Loans several times his current annual income should be avoided.

3. AGRICULTURAL ORGANISATION

1. The effective management of agricultural activities is one of the critical components of rural change. An understanding of existing systems of decision-making and the power structure and vested interests which they depend upon is critical. Attempts to alter organisations always encounter resistance from existing systems and should not be embarked upon unless strong and continued political and economic support will be available for new institutions.

2. The managerial efficiency of an institution will largely be determined by the following:

- (a) Clearly defined objectives.
- (b) Limited number of objectives and responsibilities.
- (c) Clearly established freedom of management to be responsible for day to day decisions.
- (d) Stability of staffing so as to allow for experience to be acquired.
- (e) Reasonably well-paid staff and an especially well-paid manager, accountant and secretary, all with well defined job descriptions and terms of service.
- (f) The use of effective accounting and control systems for the timely payments and production of information.
- (g) Freedom to obtain and use funds according to clearly laid down conditions.
- (h) An effective link between marketing of produce and production.

3. Organisations burdened with a multiplicity of responsibilities, dealing, for example, with a wide range of crops, or with a large number of farmers' needs, are far less

likely to be managed efficiently than the organisation which deals exclusively with one commodity or one function. The Commodity Boards, for example, which are responsible for the marketing of single crops can be very efficient provided the basic criteria for good management are observed and they are not obliged by government policies to embark on uneconomic activities.

Ministries of Agriculture

4. Agriculture contains invariably a spectrum of public and private activities. At one end a Ministry of Agriculture has to be responsible at least for policy issues while at the other end the individual farmer is basically an entrepreneur. Central government must have an organisation for policy formulation but normally also assumes a wide range of executive functions through Ministries of Agriculture, including research and extension responsibilities. Ministries may also be responsible for marketing, credit and development projects.

5. The efficiency of Ministries of Agriculture is seriously weakened by their great diversity of responsibilities and usually through their lack of experience and responsibility in marketing. Lack of management by objectives, the sheer lack of physical oversight of field staff in distant areas, combined with frequent political involvement in management ensures that few Ministries are effective executors of government policies. In order to solve these problems, quasi-governmental bodies are frequently set up whose function it is to ensure that efficient, co-ordinated staff can get on with project implementation. Some countries have divested Ministries of Agriculture of almost all direct executive authority and left them only with responsibility for policy.

Regional Development Institutions

6. These have become common in the last few decades, partly as a result of the integrated river valley approach and later through the desire to ensure integrated rural development projects in dryland areas.

7. The advantage of such regional bodies should lie in
- (a) a greater knowledge of the area they work in than a centralised body,
 - (b) freedom from central day to day interference, and
 - (c) greater ability to control and co-ordinate staff and work in the field.

8. However, these regional development institutions have seldom proved successful when they have sought to spread their responsibilities over a range of activities. The two main problems which they encounter are:

- (a) Political and/or bureaucratic resistance from existing institutions. Centralised political resistance will normally be encountered as the delegated responsibility which regional systems permit, establishes new foci of power and patronage. The central bureaucracy will also tend to resent or envy these new centres of power. Lack of financial control can be a genuine concern of central government since it is they who, in the last resort, are financially responsible.
- (b) Those working in these regional bodies may also feel that they are isolated in remote unattractive areas far from promotion and power. Staff will find that in a small regional body the promotion ladder is too short or non-existent.

9. Nevertheless, regional bodies are set up from time to time as a result of extreme pressures but few have survived loss of external support. Some survive only where they have developed some specialist expertise, such as production of hydroelectric power.

Commodity Boards

10. These are another form of organisation which governments establish. They have the advantage, normally, of being responsible for marketing of single crops, and frequently for processing them, and helping with research and extension. This has the great advantage of ensuring that market forces are not ignored, that considerable experience is built up by staff about one commodity, and this assists such Boards to ensure a properly guided research and extension programme. For these reasons they have a high success rate.

11. Some governments, however, have used these Boards to siphon off resources from farmers to such an extent that they have led to diminished production.

12. Their main weakness can be their concentration on one crop, for most farmers grow a wide range of crops, all of which are interrelated. Nevertheless, attempting to cope with all aspects of farm production is normally best left to farmers rather than outside organisations.

13. Some governments set up Commodity Boards dealing with a multiplicity of crops and sometimes with farm requirements. The problems, as set out earlier, which this creates for management are formidable and they seldom operate successfully. The problem becomes accentuated as government bodies move into the production, processing and marketing of perishable crops. These require rapid decision-making and specialised knowledge which large organisations cannot easily provide.

Co-operatives

14. Co-operatives are voluntary associations which farmers can form and use to gain some economic benefit. Most of the activities which are carried on within the agricultural sector

can be undertaken on a co-operative basis. Co-operatives have been established, for example, to mobilise savings and provide credit, to supply inputs, to undertake production and to market produce. The basic requirements for the development of successful co-operatives are the same as for any other type of business - clear objectives, access to capital, trained staff and competent management free from outside interference.

15. Co-operatives differ from other types of businesses in that they are owned and controlled by their customers or, in the case of those formed to undertake production, by their workers. They provide their members with the opportunity to become involved in the management of their own development. In many countries a Registrar of Co-operatives heads a government department established to administer the Co-operative Laws under which co-operatives are registered. Officers of these departments assist in the promotion of co-operatives and provide advisory and supervisory services.

16. By and large, agricultural production co-operatives have been a disappointment in developing countries. They have proved to be extremely difficult to operate and there have been many failures. Generally, it has been found that the complex technical, economic, social and psychological issues involved in agricultural production decisions do not lend themselves to this form of co-operation, although traditional help is, of course, common in most farming communities. This, however, is quite different from co-operative farming as is communal farming undertaken where coercion has been used.

17. Other types of co-operatives have met with some success where their members have been made fully aware of what co-operatives can do and what they as members are expected to contribute. In too many cases, however, co-operatives have been formed under government fiat, rather than from farmers' conviction that they need them and are prepared to participate

in their operation. In addition to government interference, social pressures to favour family or region, inexperience in business, corruption by those financially responsible, combined with other management responsibilities which conflict with the basic tenets of successful management, have all accounted for some of the failures.

18. Despite frequent failures, co-operatives have contributed to the development of the agricultural sector. The most successful co-operatives are those engaged in the field of marketing. Once a successful marketing operation has been established, it has been found that cost savings can be achieved and further benefits obtained for their members, when co-operatives then venture into other related activities. This has led to the development in some areas of multi-purpose co-operatives which can provide a wide range of services including the provision of credit, the supply of inputs and the marketing of produce.

Research and Extension

19. It is all too easily accepted that investment and effort dedicated to research and extension must have a positive effect on rural change. While both these activities are keys to the success of farming changes in agriculture, it is becoming increasingly obvious that much of the effort has been misdirected; bureaucratic structures have been established which are highly inefficient, and, in fact, have only served to retard rural projects.

20. As far as research is concerned, major problems arise from the shortage of experienced natural research personnel at all levels, inadequate of research facilities, shortage of funds, lack of appreciation of the constraints of a social and economic nature facing farmers, and the understandable desire of researchers to seek status and promotion by the publication of scientific research.

21. Research is likely to be most successful when:

- (a) The location of the research replicates conditions in areas where advice is needed.
- (b) The crops chosen (or the subjects chosen which apply to crops), have a large potential market.
- (c) The proposed research has in the first instance been appraised against the social and economic requirements of individual farmers to ensure that there is a reasonable chance that successful research will be implemented and the direction of the research is periodically evaluated to ensure it remains relevant.
- (d) The results have been tested at farm level, by farmers.
- (e) The organisation responsible for research is composed of researchers, farmers or (if they are not educated enough to deal with researchers) effective substitutes such as extension workers, who should meet *at least* annually.
- (f) Where long term research (e.g. plant breeding) is essential, management systems and funds need to ensure long term commitments and recording systems to match.
- (g) An adequate supply of competent research workers and technicians and administrative structures which ensure that good staff can be recruited and retained.
- (h) Adequate laboratories and experimental stations with funds to maintain them.
- (i) Interdisciplinary co-operation between scientists of different disciplines.
- (j) A proper balance of research between local and national levels.

22. Extension work has also very often been promoted to a level which experience suggests has been unjustified. Over

the last few years there has been a massive proliferation of government extension workers, few of them properly directed, few of them supervised carefully to ensure that they visit farms regularly, and, in many instances, lacking research back-up to make their visits worthwhile. Generally under-educated and often arrogant, they make no impact on the farm situation and merely become a massive recurrent cost burden to governments.

23. However, there are successful extension agents and institutions. These tend to be the ones which are carefully supervised by farmers, by commercial organisations or Commodity Boards. Where there is a direct link up with the marketing process, and financial responsibility, excellent extension work can be carried out, especially if the extension agent concentrates on one or two commercially viable crops and is well trained to concentrate on one or two technical improvements at a time. Excellent results have been obtained by extension (and research) fundable by commodity organisations (whether public or private), or farmers' organisations. On the other hand, Ministries of Agriculture's extension work suffers too much from lack of direction and direct financial and marketing responsibility to have much chance of success.

24. Successful extension schemes will flourish when:

- (a) There is a direct link with feedback between research, extension and marketing. Extension workers should always have a major say in research priorities and be conscious of or directed by marketing opportunities.
- (b) For reasons of good management the extension work is directed to concentrate on a very limited number of technical improvements at one time which make economic and social sense to the farmer. Seldom will extension workers have the knowledge or education to cope with all problems at the farmer