
From the AgREN Coordinator

Many thanks to all of you who took the time to share your thoughts with AgREN about possible future activities. We have incorporated many of those ideas in a proposal for continued support for AgREN and we are currently awaiting a decision.

Because of the uncertainty about funding, we are not conducting an e-mail discussion at this time, but assuming we receive a favourable decision and AgREN continues, we will be seeking your views on appropriate topics for further email discussions.

One of the keys to AgREN's continued success is its ability to offer in-depth analysis from the 'front lines' of pro-poor agricultural research and extension. The current issue is an excellent example of the range of subjects and the high quality of analysis that AgREN

attracts. It includes examinations of two very different extension strategies (a private effort in south India and farmer field schools in Vietnam) and two detailed cases of innovative research efforts (participatory plant breeding in Honduras and the application of indigenous technical knowledge in Uganda). AgREN is slowly expanding its net and capturing a wider range of papers; all AgREN members should consider how they can contribute to this effort at providing reliable, objective commentary on rural development issues.

The AgREN Newsletter continues to grow as well, and AgREN members are increasingly seeing this as an excellent opportunity for reporting work in progress (some of which will eventually be reported in full papers). The Newsletter welcomes your contributions.

Contributions from members

Developing crop protection research promotional strategies for semi-arid East Africa

This action-research project is promoting validated Crop Protection (CP) research outputs to communities in semi-arid areas of East Africa, whose livelihoods are heavily dependent on settled agriculture. Promoting the uptake of research outputs in semi-arid areas is challenging because of the biophysical environment, and also because agricultural extension, input supply and markets are poorly developed. Using CP as a focal point, the project brings together key stakeholders in three sites; Western Kenya, Eastern Kenya and Central Tanzania. Each site has a distinct environmental and institutional context, and hence the approaches used to develop promotional strategies vary, facilitating comparison and learning across the sites. Stakeholders include government extension, researchers, NGOs, CBOs, seed companies and farmers trained as para-extensionists.

The project aims at modest direct impact, while simultaneously generating lessons to inform policy. The focus is on 'sub-national' processes of communication and dissemination within the framework of decentralising research and extension systems. The approach is to incorporate the technologies and lessons into existing programmes of the collaborating stakeholders. Specific activities around the theme of CP include:

- Stakeholders' workshops for planning, review and documentation of the process;
- Survey and analysis of information access practices and preferences among farmers and agricultural service providers;
- Inventorising and quality checking of available CP protection technologies for the semi-arid areas;
- Review of demand for crop protection information in pilot districts;

- Literature review of existing mechanisms for research to update demand and respond to CP issues;
- Local preparation, production and dissemination of CP training and information materials;
- Training of trainers (ToT) and farmers on key CP technologies;
- Monitoring/follow-up of the cost-effectiveness of farmer training through various media and pathways.

Emerging Findings

Twelve months into the project, as the first cycle of learning is almost complete, provisional findings are emerging.

Mechanisms for updating demand for CP information and providing feedback on research products

Existing demand identification mechanisms for research, including rapid appraisals and research centre advisory committees do work to some extent, although there are problems with specificity and problem diagnostic capacity. Feedback mechanisms for assessing the uptake and performance of current crop protection technologies are much less satisfactory. Participatory learning processes, using existing farmer field schools and demonstrations do assist in establishing 'effective demand' for new crop protection knowledge – seeing and understanding creates demand. The decentralisation of services provision, such as the development of zonal communication functions and district extension planning in Tanzania, provides opportunities for improving demand identification and feedback mechanisms. However, ongoing capacity building in both crop protection knowledge and the planning and evaluation of service delivery is needed for more

effective demand identification and feedback within more decentralised research and extension systems.

Improving extension service providers' access to crop protection research outputs

Surveys undertaken in Kenya and Tanzania show that most farmers and service providers currently access CP information through face-to-face interactive methods. There is limited use of the written materials produced by researchers and of information provided by the mass media. Researchers' frustration centres on the limited use of their reports and literature, while extension workers and farmers often find written materials produced by researchers inaccessible. Moreover, there are few incentives in place to stimulate exchange of information between key stakeholders. Researchers are not well rewarded for making their knowledge more accessible. Agricultural extension providers (private sector, public sector and NGOs) make limited efforts to seek new agricultural information. Major reasons for this appear to be that their activities are driven by the interests and agendas of their funders, with few resources and/or little incentive to be proactive. The conditions and factors which encourage dynamic information seeking and marketing of information need to be further explored.

The project has experimented with various interventions to improve access by extension service providers in the pilot districts. Those that have been well received include locally produced training of trainers manuals, posters, pamphlets and a CP research product catalogue. The issue of quality control of information provided has been raised by service providers, as well as how to manage information in the context of efforts and policies related to the commercialisation of research and extension services in the region.

Learning about effective communication of crop protection information to farmers

Stakeholders have clear views, based on their experience, on options for communicating with farmers; on what is, and what is not, effective and also on what is more sustainable. However, the stakeholders are often not able to produce evidence to support their existing views, nor do they have clear frameworks for deciding how to use scarce resources to address a particular crop protection information need among farmers. Favoured methods and pathways are being compared and evaluated in three pilot sites covering seven districts. Pathways being compared include; farmer field schools, para-extensionists working through self-help groups, farmer to farmer extension programmes, use of drama and primary schools and more conventional public sector extension approaches such as demonstrations and public meetings (*barazas*). Developing the participatory tools for comparing these pathways, is proving challenging. Using community notice boards as information centres and to record progress with demonstrations proved popular in Tanzania. Farming communities rely on oral communication of knowledge. In-depth studies of how

farmers perceive the usefulness of different communication tools and approaches has provided further evidence that a combination of tools is needed. Radio, when broadcast at the appropriate time of day, or village video shows are useful for creating awareness, while posters and leaflets provide reference material. However, there is no substitute for interactive question and answer approaches at seminars, participatory learning plots and field days for the detailed learning that farmers demand so that they can adapt technologies to their particular circumstances.

Learning how to learn about effective promotion of CP information

During workshops held at the end of the first season/learning cycle, it became clear that many extension providers viewed the project more as an opportunity for 'doing' (more and better extension), than as an opportunity for learning about how to do better communication and dissemination. It is taking time to develop a learning culture with the participating organisations along with fostering an appreciation of the potential benefits that more rigorous monitoring and evaluation of training and dissemination efforts can deliver.

While the current policy emphasis in East Africa is on pluralism and decentralisation of agricultural service provision, there has been limited progress in developing dialogue between lesson learning at field/site level and those implementing and formulating policy at higher levels. Detailed information seems to get stuck at the centre, and it takes time for information about national policy initiatives relating to decentralised services to reach districts. Moreover, in the rush to meet spending and impact targets, there is a major risk that large programmes will not provide adequate room for the learning, reflection, and accurate reporting needed to develop more responsible and sustainable agricultural information services.

It was clear from that outset that 16 months was an ambitious time frame to develop a fully inclusive learning process, sufficient to influence national policy, around this quite complex issue. 'Growing' a learning culture needs to be at a pace that fits with the current organisational cultures and activity timetables of the various players. For example, one NGO partner became heavily involved in relief work and as a result was not able to participate in an end of season review workshop. This type of action-research requires some flexibility in timing, and this may be challenging when nested within different programmes and organisations, each of which has its own deadlines and priorities. Nevertheless, the returns to such an investment are likely to be high in the longer term.

Further information

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Developing sustainable agricultural programmes among Nigerian children/youths: The Children-in-Agriculture Programme (CIAP)

The role of agriculture in sustainable economic growth in Africa can not be over emphasised. After Independence, successive Nigerian Governments saw the need for the development of sustainable agricultural programmes for food security, and they initiated different agricultural programmes, projects and institutions for the enhancement of agricultural productivity. These included Operation Feed the Nation; Green Revolution; River Basin Development Authority; Directorate of Food, Roads and Rural Infrastructure; Mass Mobilisation, Social Justice, Self Reliance and Economic Recovery and World Bank assisted Agricultural Development Projects. All of these have failed the people rather than enhancing the acquisition of agricultural skills and increasing productivity. The programmes remained avenues for siphoning public funds.

Children are the future leaders, and as such have a key role to play in agriculture. Evidence abounds that children are engaged in planting, caring for livestock, harvesting, watering and marketing of farm produce. It is on this platform that researchers came up with the Children-in-Agriculture Programme (CIAP) which has gained recognition within Nigeria and in other African countries.

Evolution of CIAP

CIAP came into existence in March 1995 as an output of the Rural Farm Family Resource Research and Development (RFFRRD) effort. The researchers identified a missing link in the process of ensuring continuity of farming as a worthy profession. After a series of initial development activities on CIAP, the idea was shared with other Nigerians, policy makers, and development practitioners. The positive reactions obtained were encouraging and as a follow-up, the National Research and Development Network (NRDN) of CIAP-Nigeria was established in March 1998. The Network holds annual conferences and meetings rotated among state chapters of the network, with proceedings published for wide circulation. The success of CIAP in Nigeria stimulated an international roundtable discussion on the theme, 'Children, Agriculture and Development' held in Lagos with participation from 12 African countries on 6th August, 2002. At the discussion, the NRSM of CIAP in Africa (CIAP-Africa) was established.

The philosophy of CIAP

The CIAP club is an out-of-classroom agricultural-based project, open to farm children/youths of 6-18 years. The activities provide the opportunity for each club member to improve his/her knowledge and skills through learning by doing. They are organised as boys', girls' or mixed groups and school- or community-based projects such as cultivation, processing, storage/packaging and marketing of indigenous crops,

management of poultry, livestock, beekeeping, raising snails or grasscutters, handicraft production, fisheries, forest/resource management, use and maintenance of farm machinery. Home-making and management projects include kitchen, gardening, food preparation/preservation, clothing, knitting etc.

These contribute to capacity building in agriculture, and produce a conducive atmosphere for effective sustainability of the club project. The CIAP is a tripartite arrangement between the CIAP, the extension service and participating schools or community. This research and network design is extremely important for the following reasons:

- It is based on careful studies of the current situation of school-based and community-based children's participation farming activities in Nigeria.
- It advocates extension service programmes both for schooled and unschooled children who are participating in farming activities.
- It considers the need for linkage between children's current interest in farming and their future aspirations.
- It establishes local centres for participatory schools and community-based programme activities.
- It employs a state coordinator approach to monitor its programme activities.

The three tier administrative structure of CIAP guarantees effective supervision and coordination of the CIAP club projects coupled with the educational training/child component of continuity and sustainability of enhanced agricultural skills development among children/youths.

Sustainable funding of CIAP

Financial aids to CIAP school club project are funded by the money generated through membership fees, conference, participation fees and donations from corporate organisations, individuals, foreign organisations etc.

Strategies and expected CIAP result

CIAP is an integrated human development and agricultural development initiative aimed at building farming knowledge, skill, experience and the dignity of honest labour into the socialisation process. The overall goal is to strengthen farming as a profitable livelihood option for rural transformation.

Further information

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The desert locust upsurge in West and North Africa: a threat to livelihoods, food security and regional in the short and medium term.

Since mid-2003, West and North Africa have been confronted with a desert locust upsurge that jeopardises agricultural production, livelihoods and the socio-physical environment in the region. This situation worsened in July–August 2004. The potential risk of crop losses in West Africa is estimated at up to \$2.5 billion according to the FAO and the CILSS, in other words, up to 25% of the 2004 harvest.

The present desert locust upsurge can be traced back to good rains throughout the Sahelian region that started in 2003. Desert locust invasions recur periodically in West Africa and are a regional problem since the swarms pass rapidly between countries, devastating crops and pastures on their way.

Part of the reason for the present situation is that the national and regional locust monitoring and control services have weakened over time. In the 1960s and 1970s, a monitoring and treatment system was established by FAO in conjunction with the regional and national locust control units. The Organisation commune de lutte antiacridienne et antiaviaire (OCLALAV)¹, a regional organisation created in 1965, had monitoring experts and stocks of pesticides, as well as aircraft and spraying equipment. From 1988, it lost its mandate for locust monitoring and control. After the last serious desert locust crisis in 1987–9, a monitoring mechanism was set up by the FAO and regional authorities but with insufficient operational means.

Despite warnings launched by both FAO and the Commission de lutte contre le criquet pèlerin en région occidentale (CLCPRO)² in 2003, regional and national organisations had insufficient resources to be able to cope with the scale of the desert locust infestation. The slow reaction of the international community and the cumbersome procedures for aid disbursement made it impossible to respond to the desert locust threat. This led to the costs of treatment soaring. The consequences are that a very small proportion of the infested areas were rapidly treated. For example, in one of the most affected countries, out of 1.6 million ha infested in Mauritania, only 280,000 ha were treated at the end of September.

Nevertheless, several initiatives have been undertaken by national and regional authorities in West Africa and the international community:

- In February 2004, the FAO launched a call for the international community to provide \$9 million to eliminate desert locusts;
- In July 2004, a meeting of Ministers of Agriculture of CLCPRO Member States was organised at the initiative of Algeria;
- In August 2004, a Ministerial meeting was held in

Dakar at the initiative of the Senegalese President. One of the recommendations was to share efforts, resources and material to combat desert locusts at the regional level;

- In October, a joint CILSS/FAO/WFP/FEWSNet Mission to Mali, Niger, Mauritania and Senegal to estimate crop losses and damage caused by desert locust outbreaks was conducted.

The outcome of these initiatives highlighted the need for better regional coordination and the urgency of mobilising resources to combat desert locusts.

In this context, the Sahel and West Africa Club/OECD (SWAC/OECD) organised an information meeting in September in Paris on the desert locust upsurge to respond to calls from West Africa partners. The SWAC Secretariat serves as an interface between West Africa and OECD Member countries on key challenges in West Africa. The meeting was part of Secretariat's work on 'Agricultural Transformation and Sustainable Development'. Documents and presentations made at the meeting, as well as further information on the SWAC, are available on the following web pages: www.oecd.org/sah/agritransformation.

This SWAC meeting provided an occasion to examine the process which led to this upsurge and the threats it poses for the region. All actors agreed that the recurring nature of desert locust outbreaks necessitates a regional response and collaboration between North and West Africa. The importance of south-south cooperation was underlined, particularly the contributions of Algeria, Morocco, Libya and Tunisia in controlling the desert locust infestation. This was an important sign of inter-regional cooperation that could strengthen the New Partnership for Africa's Development (NEPAD) and African Union (AU) initiatives. The creation of a single unit for effective locust control and an efficient communication system which interconnect the local, national and regional units was stressed by many participants.

Other operational conclusions from this SWAC meeting include the effects of pesticides. For large-scale treatment, chemical pesticides are the only reliable products for the near future. However, chemical pesticides have harmful effects on the environment and water supplies. The alternative is to use organic pesticides such as 'Green Muscle' developed by IITA, CILSS and CAB International. But using bio-pesticides have three major problems: high cost; insufficient quantities available for large-scale treatment and longer reaction time on the desert locusts. However, research underway shows that in the medium and long term, the cost of bio-pesticides could be the same as for the chemical pesticides. To address immediate and strategic

issues raised, the SWAC will assist ECOWAS in organising a meeting with its members on the desert locust outbreak in the first half of 2005.

Finally, two further strategic questions need to be addressed:

- What is the appropriate division of roles between national units and aregional coordination body? In what organisational framework should regional units operate? What links should there be between the local, national and regional units and the international organisations? What sources can ensure sustainable funding for these entities?
- What roles can be played by the regional and international organisations such as the Economic Community of West African States (ECOWAS), the

Comité permanent inter-etats de lutte contre la sécheresse au Sahel (CILSS)³ and the FAO in the coordinating monitoring and prevention systems for desert locust control operations?

Further information

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- 1 Joint Anti-Locust and Anti-Aviarian Organization
- 2 Commission for controlling desert locusts in the Western Region
- 3 Permanent Inter State Committee on Drought Control in the Sahel

LEISA Magazine now available in six languages

The global edition of LEISA Magazine, formerly the ILEIA Newsletter, has been published for twenty years now. This quarterly, thematic publication is very well known in the South and has an extensive outreach. At present the global LEISA Magazine has about 14,500 subscribers in some 160 countries, and is read by an estimated 3–5 times as many.

The Magazine documents successful agricultural approaches and promotes low external input, sustainable agriculture (LEISA). It offers people working in agricultural development an opportunity to publish firsthand experiences on LEISA and read about the experiences of others. The practical knowledge and experience of this approach is not found within the formal agricultural training and research system, making the magazine an extremely useful tool for field extensionists, members of NGOs and farmer organisations, students and researchers.

LEISA Magazine is published by ILEIA, the Centre for Information on Low External Input and Sustainable Agriculture. Over the years ILEIA has developed formal partnerships with a number of organisations for the production of regional editions of LEISA Magazine. The production of regional editions in languages other than English makes the content more accessible and relevant to the needs of the readers in each specific region. It also serves as a way of bringing partners in LEISA closer together through a joint activity, and thereby offers the opportunity of taking the experiences of the respective organisations out to a wider audience.

During 2004 two new editions were launched: *Mambo LEISA* in Swahili, produced by KIOF in Kenya and *Agriculturas – Experiências em agroecologia* in Portuguese, produced by AS-PTA in Brazil. The number of regional editions has now increased to six (Latin America, Brazil, India, Indonesia, West Africa, East Africa) in addition to the global edition produced by ILEIA in the Netherlands.

Regional editions of LEISA Magazine

LEISA – Revista de Agroecología

Starting as a translation of the global edition in 1996, the Spanish language edition for Latin America is now a truly regional edition, reflecting both global and regional perspectives. It has an extensive and engaged readership and has over the years built up an expanding network of contributing individuals and organisations. The current number of subscribers is about five thousand. The production of this regional edition is in the hands of the Peruvian NGO Asociación ETC Andes (AETCA).

LEISA India

In India, ILEIA collaborates with the Agriculture, Man and Ecology Foundation (AME) in South India for the production of the Indian edition. This English language edition has also become a truly regional magazine, reflecting both global and regional perspectives. Its subscriber database includes more than five thousand people and organisations.

SALAM – Majalah Pertanian Berkelanjutan

The Indonesian SALAM Magazine, published in Bahasa Indonesia, is produced by VECO in Indonesia, who have so far produced eight issues. VECO Indonesia and its partners are leaders in working towards sustainable agriculture and Participatory Technology Development (PTD) in the region and have managed to source an unprecedented amount of direct contributions for the magazine through their own networks. The current number of subscribers is estimated to be one thousand.

AGRIDAPE – Revue sur l'Agriculture durable à faibles apports externes

In West Africa, ILEIA has linked up with IIED Sahel.

IIED has produced its first four issues of the West African edition AGRIDAPE in French. So far, it mainly comprises translated material from the global edition but the share of local experiences will increase in the coming years. Around two thousand five hundred persons and organisations are subscribed to the magazine.

AGRICULTURAS – Experiências em agroecologia
AS-PTA in Brazil, a long time partner of ILEIA and one of the organizations that were involved in the development of the Spanish edition, started producing an issue of a LEISA magazine in Portuguese for Brazil, in collaboration with the editors of the Latin American edition. The first issue appeared in August 2004.

Mambo LEISA

Also in 2004, the Kenya Institute of Organic Farming (KIOF) produced the first Swahili edition in 2004 called Mambo LEISA. This latest edition of LEISA Magazines is initially intended primarily for KIOF members and collaborators, and KIOF will try to integrate it closely with its extension activities.

Global edition of LEISA Magazine – Themes 2005

LEISA Magazine documents on Low External Input and Sustainable Agriculture. It is thematic and published four times a year.

Following are next year's themes for the global edition of LEISA Magazine. People are invited to contribute to the magazine by writing up their experiences about a particular theme and sending their contributions to us (ileia@ileia.nl). The Author's Guide can be consulted at our website www.leisa.info

Issue 21.2 June 2005: Economics of LEISA

Conventionally, the economics of agricultural production is assessed only in terms of direct financial costs and benefits. To understand the real value of an agricultural system, however, many other aspects should be taken into account. For example, the impact of agricultural practices on social and cultural relationships; on the long-term sustainability of the environment; and on the health and well-being of humans and animals. In LEISA systems, these aspects are considered at least as important as purely financial performance. In this issue, we are looking for articles that illustrate how a change to or development of LEISA practices has improved the situation of farm households, the community and/or the environment, for example through improvements in production, nutrition, food security or freedom from debt. *Deadline for contributions: 1 March 2005.*

Issue 21.3 September 2005: Small animals on the farm

Smaller animals like sheep, goats, rabbits, pigs, guinea pigs, chickens, ducks and fowl as well as sweet water fish are often overlooked components of small-scale agricultural systems. For smaller farms and in particular poorer households, they are often a major source of

protein and additional income. These animals are usually easy to handle and require little in terms of feed and care. They can thrive on waste products such as crop residues, weeds and household waste – and their manure can be used on the farm. In many cases, improving knowledge and management of small animals can considerably enhance their contribution to the livelihoods of small-scale farming families. *Deadline for contributions: 1 June 2005.*

Issue 21.4 December 2005: From practice to policies
Agricultural policies have considerable influence on farming practices as well as on possibilities for change. They influence not only farmers and the way they farm, but also agricultural research and training institutions and commercial companies. At present most agricultural policies are supportive of conventional, export oriented and large-scale agricultural production, and provide little support to small-scale family farming and LEISA practices. This makes it increasingly difficult for small-scale farmers to benefit from and further develop their small plots of land. In spite of this negative policy environment, there are examples where initiatives driven by farmers or local communities have influenced change at policy level, sometimes leading to further positive changes at local level. Showing how local initiatives have led to policy change can provide important insights into the process involved in creating a supportive policy environment for LEISA. *Deadline for contributions: 1 September 2005.*

Further information

All LEISA magazines (except for Mambo LEISA) are available online at www.leisa.info

Subscribing to a LEISA Magazine

Subscriptions are free of charge for individuals in the South. To subscribe to one of the LEISA Magazines, please write to: ILEIA, POB 2067, 3800 CB Amersfoort, The NETHERLANDS, or send an email to:

Global edition: subscriptions@ileia.nl
Spanish edition: base-leisa@etcandes.com.pe
Indian edition: amebang@giabg01.vsnl.net.id
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French edition: agridape@sentoo.sn
Portuguese edition: aspta@aspta.org.br
Swahili edition: kiof@iconnect.co.ke

Radio as an ICT tool for disseminating poultry outreach information: Experiences and lessons learned

The experience of the Central Avian Research Institute (CARI) in disseminating carefully designed poultry outreach information through radio illustrates the type of interaction which can be achieved with farmers living in remote and rural areas. Partners in this programme include Bareilly and Rampur All India Radio (AIR) stations, scientists from CARI and 1040 farmers. The programme aimed at disseminating the knowledge of poultry production to farmers by linking them with poultry researchers through radio in an effort to strengthen the institutional capacity of both groups to collaborate, identify needs, and addresses these needs through training and subsequent application of new or improved knowledge, attitudes and skills.

Programme design

CARI registered 1040 farmers, including 104 women, from 28 districts of Uttar Pradesh and Uttranchal States to act as target listeners to two detailed programmes, each with 13 serialised lectures about different aspects of poultry production. Programmes were broadcast on AIR Bareilly and AIR Rampur. It was found that a minimum 51.01% and 67.80% of the targeted listeners for the Bareilly and Rampur programmes respectively listened to at least one of the programmes. It was also found that a large number of regular listeners of the farm radio programmes also benefited from these broadcasts. The lecture notes of the broadcasted topics was compiled and distributed to the target listeners.

Outputs

Beyond the mere dissemination of new technical information to rural populations, the experience of CARI in disseminating poultry information through radio suggests some of the benefits of linking up with rural radio. Radio remains the most important medium for communicating with the rural populations in India where there are an estimated 115 million radio sets and 284 million receivers. The available infrastructure with vast radio network in the country is a promising case in assuring the percolation of the outreach programmes down to the grassroots level through radio. Illiteracy, lack of access to newspapers and televisions, plus the digital divide that exists between those who have access to the Internet and those who do not, merely reinforces the importance of radio. Use of this electronic media has been the easiest and simplest means of increasing the participation and involvement of the end-users in extension.

Provision of simplified information through radio in local languages would prove to be a powerful and cost effective tool in building the capacity of farmers. Radio as a mass media can be effectively used for creating awareness in the diffusion-adoption process of a new technology or information. Additionally, the release of scientific information is now also closely related to the growing realisation among researchers that national and international public support depends

upon their ability to engage in inclusive and interactive dialogues with farmers and the broader public. This will require new or strengthened relations between rural radio broadcasters, farmers, and researchers.

In addition to the above benefits radio can relay critical information such as disaster preparedness, weather, and market information. Radio programming can also complement the oral tradition of communication in many rural societies. Decentralised community radio maintains close ties to the local community and often provides local people with opportunities to voice their opinions and share their knowledge.

Lessons learned

- Consideration of the target audience, their needs, interests, cultural values, languages and norms, common objectives, financial resources and evaluation of radio programmes, including assessment of the added value and impact of radio/research linkages;
- A thorough assessment of needs and organisational constraints for linking researchers and rural radio broadcasters and use of the Internet to support research/radio linkages;
- Building sustainable linkages and long-term solutions that might include, for instance, identifying and linking up research and radio facilities in close proximity to one another;
- Proper information and technology transfer interventions in the cyber era need to be carefully identified, pragmatically planned and realistically implemented in view of the unique features and problems associated with broadcasting of outreach information through radio.

Conclusions

The use of radio as an ICT tool to disseminate outreach information to rural people is one of the key areas which has potential to change the economy of livestock, agriculture, and rural artisans in India. Radio provides livestock outreach services a means of reaching the unreachable and provides effective delivery of information related to animal health care and production to end users. CARI experience shows that the use of this electronic media has been a powerful means of increasing the participation and involvement of end users in extension. The available infrastructure with vast number of radio stations in the country is a promising case in assuring the percolation of the outreach programmes down to the grassroots level.

Further information

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Farmer enterprise development: Increasing market opportunities for indigenous fruit and culinary products in Cameroon through improved market skills and strategies

The humid tropics of West and Central Africa contain a wealth of forest resources. However, forest exploitation, demographic pressure and rapid conversion to agricultural land have led to considerable difficulties in the livelihoods of resource-poor farmer households. Agroforestry is now widely considered as one of the most effective means to mitigate decline in quantity and quality of useful trees and to diversify rural families' income. Recent research has demonstrated strong demand for key Non Timber Forest Products (NTFP) in the humid forest areas of Cameroon. These include: *Cola nitida* (kola nut), *Ricinodendron heudelotii*, *Gnetum africanum* (often currently unsustainably harvested) and *Irvingia*. However, in common with many other parts of Africa, farmers in Cameroon find it difficult to achieve good returns from their tree fruit and culinary products – even with viable national, regional and international markets for these products. Farmer market-ing potential is reduced by limited and conflicting market knowledge, lack of networks and associations and inadequate processing and storage methods. The project 'Farmer Enterprise Development' uses an innovative approach to assist smallholder farmers develop marketing skills and knowledge while also assisting them to increase, on-farm production of indigenous fruits and culinary products and capitalises on existing ICRAF domestication research to facilitate a well-targeted project to enable poor farmers with space for a limited number of fruit trees to benefit from returns.

The main objective of this project is to empower rural households through development of appropriate marketing strategies that can be used for a range of products. This will be achieved through the following activities: (1) Train and develop rural entrepreneurial skills of farmer households (especially women) to improve and test NTFP marketing strategies to enable better financial returns; (2) Increase market scope and dynamics to enable producers (farmers) and traders to understand and capitalise on shared opportunities and constraints and to develop the NTFP market including adding value to existing products; (3) Research, develop and test appropriate technologies to improve product processing, quality, harvesting, storage and packaging and (4) Training and dissemination.

The project uses existing strong partnerships developed between International Research Centres (ICRAF and CIFOR), National Agricultural Research Systems, NGOs and farmer groups and will be completely participatory with producers (farmers) able to adapt and develop their own marketing strategies. The advantages to this approach are that it empowers farmers and draws comparisons among groups so that successes and failures are evaluated. Two farmer organisations (ADEAC and MIFACIG) have been selected as partners based on group cohesion, interest in marketing tree products, involvement in previous

marketing research, and abundance of tree products in their localities.

In 2003, just one year after the start of the 'Farmer Enterprise Development' project, things in general have turned out well, and good results have been obtained. Between the two farmer groups, MIFACIG is more advanced with regard to capacity building and group organisation as compared to ADEAC. Consequently a centralised strategy has been adopted in MIFACIG; a more decentralised approach should be adopted in ADEAC. The sub sector approach has already been developed in the MIFACIG zone for kola spp and in ADEAC area for *Ricinodendron heudelotii* to safely achieve the objective of sustainable income generation from the sale of those products. Similarly farmer leaders training on tree domestication, marketing and farmer groups creation, scaling up and management of sustainable groups together with market study on consumer preferences and diagnosis on group dynamics all aimed to empower rural household through the development of appropriate marketing strategies that can be used for a wide range of products have been executed. At the same time, research to develop and test appropriate technologies to improve product harvesting, processing, quality, storage and packaging is going on.

The Boyo Self-Managed Cola Enterprise has been created in MIFACIG with the main objectives for 2004 of (1) organising cola group markets; (2) continuing organisation of the cola production sector in the area; and (3) continuing tree domestication and on farm integration.

The achievements and lessons learnt from this first year confirm the importance of this project for rural populations in their continuous fight against poverty.

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Livelihood Interventions for Rural Poor in the Semi Arid Tropics, India

'Enabling Rural Poor for Better Livelihoods Through Improved Natural Resource Management in SAT India' is an on-going project funded by NRSP-DFID. The project began in 2002, and aims to establish an enabling environment and appropriate social mechanisms to enable poor people, who are largely dependent on the natural resource base, to improve their livelihoods. The programme is being implemented by the Central Research Institute for Dryland Agriculture (CRIDA) at Hyderabad, in collaboration with two State Agricultural Universities (SAUs) and a grassroots NGO, the BAIF Institute of Rural Development.

The programme is functioning in clusters of two or three selected villages in three districts of two states, Karnataka and Andhra Pradesh. The project is implementing social and technological development projects to selected small and marginal farmers, creating on/off farm employment, improving livelihoods through income generation, capacity building and enterprise development, etc. Self help groups, farm advisory groups (for example *Salaba Samithis*), and central project management committees are formed with local people, project staff and subject matter specialists; members plan, design and implement interventions at the cluster level.

Based on the PRA exercises, focus group interactions, skills, interests, needs and resources available with the selected landless families, livelihoods interventions such as rearing of sheep, backyard poultry, vermi-composting, beekeeping, self-sustaining nurseries, kitchen/economic gardens etc., were promoted. Gender requirements were also taken into consideration in the project area. Some of the successful livelihood interventions are described below:

Livelihood interventions for landless and marginal farmers

Sheep rearing:

There was a great demand for this service as sheep rearing is perceived as a feasible livelihood option by villagers; families can earn around Rs 3000 within six months. In consultation with *Salaba Samithi* a list of families was prepared, families selected to participate contributed up to 40% of the costs of three lambs/sheep, which they chose themselves.

Salaba Samithi entered into an informal agreement with the participants to ensure proper utilisation of assets. The participants agreed to the following conditions:

- Lambs/sheep will not be sold for six months;
- In case of early death of a lamb they should inform *Salaba Samithi*;
- Part of the proceedings of the sale should be reinvested back into sheep rearing;
- Violators of the conditions will be penalised as deemed fit by the *Salaba Samithi*.

Vermi-composting:

Vermi-composting was selected as a livelihood activity for small and landless cattle owning farmers. The selected families contributed 30% of the costs in the form of labour. Ten units have been constructed in the Anantapur and Mahaboobnagar clusters and have started producing vermi compost.

Artificial insemination (AI):

In the Mahbubnagar cluster an unemployed youth has been trained in the use of artificial insemination for breed improvement. He provides a door-to-door service in the project area and has performed nearly 85 inseminations during the last two months, with an expected 60% conception rate. The reaction of the farmers to the project is very positive.

Custom hiring centre:

In the Mahabubnagar cluster two youths from each village have been trained to operate agricultural implements designed by CRIDA Scientists. The centre provides employment for rural youth, who charge a nominal amount to supply the implements to local small and marginal farmers.

Livelihood interventions for women

Kitchen gardens:

With the help of women Self Help Groups (SHGs) a kitchen garden programme has been implemented in backyards to supplement income and increase availability of nutritious fresh vegetables for families. Sixty women members from three SHGs groups have taken up the kitchen gardening scheme, growing crops such as cucumber, brinjal, tomato, bhendi, and clusterbean, in their back yards.

Nurseries:

Two nurseries with a capacity to raise 4000 seedlings every year have been established. Women were trained in nursery raising techniques, and were provided with the initial capital for seed and polythene bags and other equipment.

Backyard poultry:

Women were supplied with an improved breed of poultry as an on-farm livelihood option. The Vanaraja breed puts on weight in short time, thus increasing potential income.

Implications of the project results

The immediate changes that resulted from livelihood intervention are encouraging. The implications of this are:

1. Livelihood intervention planning should be based on an analysis of the village situation (through PRA) and people's priorities.

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2. Capacity development of target groups in terms of knowledge and skills should be undertaken before the implementation of the intervention to understand the potential of intervention goals.
 3. Livelihood intervention should be based on local resource availability, investment choices, access to the natural resource base, in addition to human capabilities.
 4. The contribution of local people is important for sustainability of the project.
 5. There are difficulties in running the project for selected families while neglecting others.

Further information

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On-farm irrigation efficiency, New Mexico: Lessons in forming partnerships

The WWF-US Chihuahua Desert Programme (CDP) On-farm Irrigation Pilot Project came about as a result of a report commissioned by the WWF-US CDP in 2003 – ‘Water for River Restoration: Potential for Collaboration between Agricultural and Environmental Water Users in the Rio Grande Project Area’¹. The report concluded that collaboration between agricultural and environmental water users was a distinct possibility and that farm delivery metering had a high potential for water conservation.

At present on farm irrigation efficiency in southern New Mexico is low – ranging from 65–80%.

Improving water use efficiency is crucial for all kinds of farmers in the district. Firstly all water in the region is fully and explicitly appropriated to the irrigation district, secondly rainfall has declined over the past six years and it is predicted that the trend will continue and thirdly producers are relying heavily on ground water extraction (which is outside the responsibility of the irrigation district) which is more expensive than surface water and becoming increasingly so as pump fuel costs rise.

In this context WWF proposed piloting the use of water meters as a means of improving on-farm irrigation efficiency thereby reducing production costs and protecting the reserve available for ecological functions. The nature of the project required a number of partnerships to be formed between the WWF project staff, the Irrigation District, the USDA Natural Resource Conservation Service (NRCS), New Mexico State University (NMSU) Agricultural Extension workers and local producers.

To initiate the project WWF-US CDP approached the General Manager of EBID (Elephant Butte Irrigation District) in September 2003. The EBID General Manager brought in its District Engineer for advice and a strong relationship between the WWF and EBID staff was

built up over time. The project subsequently received official endorsements from the EBID board of Directors and the local Soil Conservation Union in August 2004. WWF and EBID signed an agreement whereby EBID would install, maintain and own the water meters, funded by the HSBC grant, on the producer’s property and take part in consultations regarding producer collaboration.

While WWF-US CDP was finalising the agreement with the EBID, a consultant was brought in to provide support in determining which producers should be targeted to ensure a broadly representative sample. The consultant worked with the USDA NRCS District Conservationist and two regional Soil Conservation Technicians. Numerous field visits were made to observe existing irrigation efficiency projects, many of which had received EQIP funding from the USDA, and to meet potential collaborators. In addition Agricultural Extension workers from New Mexico State University were asked for advice. These included the Dona Ana County Horticulture Agent, the State Climatologist, a Senior Research Specialist in entomology and weed science, the Coordinator of Extension Water Resource Programs, and staff from the department of Civil, Agricultural and Geological Engineering. Based on the findings of the consultancy it was decided that producers of alfalfa, cotton and pecans would be targeted and on farms ranging between 50 and 1000 acres in size. Alfalfa, cotton and pecans are the most commonly grown crops in the region. Local producers can be broadly divided into three categories – hobby/weekend farmers, farms of moderate size (which is the majority of those in New Mexico) and very large farms (which are few and already have high on-farm efficiencies).

Once the criteria for producers had been determined the project manager and consultant asked EBID, the

NRCS and NMSU staff if they could suggest any producers who might be prepared to collaborate. Approximately 20 names were put forward of which about 10 were followed up. It was decided that the optimal outcome in regards to producer collaboration would be if one producer of each of the three crops, alfalfa, cotton and pecan agreed to take part. Finding producers to work with was the most time consuming phase of the project. It was necessary to identify and contact interested parties and visit with them to explain the project and the commitment required from them without which the project would not have been possible. In addition the parcels of land proposed by producers as possible experimental plots had to be surveyed to determine whether it was possible to meter water given the type of the equipment to be used. Technical surveys were carried out by WWF and NRCS staff. The Resource Specialist and IT Director of EBID helped identify suitable experimental parcels.

The project methodology was reviewed by NRCS staff, several NMSU Agriculture Extension workers and local specialists in irrigation and water conservation. Alfalfa, cotton and pecans will be tested during the 2006 irrigation season, with baseline data collected during 2005 (see box, right).

The techniques are experimental. All of them have been tried before in the region but without any systematic monitoring of efficiency gains. It is anticipated that as the project progresses they may be further adapted as appropriate.

It is hoped that the improvements in efficiency achieved will benefit the collaborating producers and that these benefits will provide an incentive for others to use less water. In order to disseminate the results the project will be featured on various website possibly including WWF-US CDP, EBID and local Soil Conservation District². Farm visits are also proposed – advertised through the local media. Articles will be written for local Agricultural Extension publications.

So far the project has brought together a number of organisations and individuals all with differing motivations and stakes in the outcomes. To date no such similar collaboration has been tried in the irrigation district. Relationships have taken a year to form, and

in some instances longer. Further collaboration is planned in the future. A comparative study of EBID and a similar irrigation district across the border in Mexico is also planned as part of a collaborative project with WWF among others. The intention is that the lessons learned in New Mexico can be usefully applied in Mexico and elsewhere where environmental conditions and crops are similar.

Experimental irrigation techniques

Alfalfa: Irrigation scheduling using soil moisture monitoring. Soil moisture monitoring devices will be installed at various depths and lengths of the study plot and used to determine when and how much to irrigate.

Cotton: Alternate furrow technique. Every other furrow will be irrigated either by blocking furrows or using the sweep technique where some furrows are deeper than others (the deep furrows will carry the irrigation water to the end of the field).

Pecans: No till. Voluntary plants are allowed to grow beneath the pecans forming a ground cover crop. These plants are mowed prior to each irrigation and only removed at harvesting.

Further information

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1 [www.cagesun.nmsuedu_~jpking_wwf_agHO0603.pdf](#)

2 [www.ebid-nm.org/](#)

[www.worldwildlife.org/wildplaces/cd/index.cfm](#)

[www.launionswcd.org/](#)

Guidelines for contributions to AgREN publications

AgREN members and others are encouraged to submit material for publication in both the Newsletter and as Network Papers. The type of material that is most suitable for submission is described below. Articles submitted as potential Network Papers will be assessed by an Editorial Committee and, where necessary, guidance will be given to authors in revising their papers for publication.

a) Newsletter Contributions: AgREN welcomes news from members that describes their work relating to the development of small-scale agriculture and sustainable rural livelihoods. AgREN would particularly like to hear about specific, on-going projects which are particularly innovative or other activities of interest to AgREN members. Contributions to the newsletter should be no more than 800 words, and may include photographs or illustrations. Shorter contributions are also appropriate. Please note that articles may be edited prior to publication.

b) Network Papers: AgREN Papers are broadly concerned with the design and promotion of appropriate agricultural technologies, with specific attention focused on the methods, processes, institutions and policies that promote pro-poor technical change and support equitable improvements in agriculture for developing countries. The principal focus of AgREN Papers should be adaptive research, extension or supporting mechanisms such as credit, marketing and producer organisations. Network Papers should seek to explore and promote the role of increasing agricultural productivity, resource conservation and farmer empowerment in the context of diversified rural livelihoods.

Content:

- Papers should focus on practical experience in research and extension methods as well as innovations in the public or private provision of other agricultural services.
- Papers may make reference to current theoretical issues in the field of rural development, but their principal focus should be on the provision of well-written descriptions of practical and innovative experience that will be of use to other practitioners.
- Although AgREN has an interest in novel diagnostic and evaluation methods that help practitioners understand farmers' priorities and contexts, papers that follow through on such diagnosis and illustrate applications and outcomes are particularly welcome.
- Papers may be based on a broad range of sectors relating to agriculture, e.g. crop and livestock production, aquaculture, agroforestry, extension, natural resource use, environmental management, credit supply and marketing.
- Most AgREN papers describe an experience from a particular time and location, but they are written in such a way that practitioners on other areas can draw useful implications.

Word length and referencing:

Network Papers should be between 6,000 and 12,000 words long, and include an abstract of 500–750 words highlighting research findings and policy implications. References should follow the examples below.

Books:

Carney, D. (1998) *Sustainable rural livelihoods: What contribution can we make?* London: DFID.

Journal articles:

Sanchez, P.A. (1995) 'Science in agroforestry'. *Agroforestry Systems*, No. 30, pp. 5–55.

Other information:

- Material submitted to the Network will be considered for publication on the understanding that it has not been submitted elsewhere.
- Material published by AgREN may, with acknowledgement to ODI, subsequently be published elsewhere.
- Contributors will be asked to sign a form transferring copyright for published material to ODI. This enables us to give others permission to photocopy Network material.
- Newsletter items may be submitted to the Network at any time. If it is not possible to include an item in the next newsletter it may be held over for use in a subsequent edition.
- Photographs may be submitted to accompany newsletter items. These should have a minimum resolution of 200 dpi.
- Papers should be submitted both in hard copy and on 3½" disk or by email, in one of the widely used word-processing packages.
- All material should be submitted to the Network Coordinator at the address given below:

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