

Organisational reform: a development agenda?

The models of classical economists have long dominated the minds of decision-makers in both the corporate and public-policy worlds. They have led to the belief that the route to economic growth – particularly in industry – lies in the accretion of physical capital. In the long run, of course, this is a valid perspective on the growth process, but in the short to medium term – the horizon of most decision-makers – the policy implications may be misleading. This is for two reasons. First, an emphasis on the quantum of investment too often drives out a focus on the productivity of investment. And, second, this is a period of paradigmatic change in industrial organisation. New forms of organisation emanating from Japan and Italy, emphasising changes in managerial practices and in inter-firm relationships respectively, have provided the potential for very significant gains in competitive performance.

On the basis of the experience of the industrially advanced countries, the introduction of new organisational possibilities appears to be particularly attractive to developing countries. Changing organisational methods is neither capital nor foreign-exchange intensive. It has other advantages too. By enhancing flexibility, the new techniques can reduce economies of scale and allow developing countries to respond more effectively to exogenous crises. They also facilitate the penetration of external markets and buttress domestic competitiveness with regard to imports. The diffusion of new forms of work organisation (involving lower degrees of hierarchical control and the multi-skilling of significant numbers of the labour force) has the capacity to enhance the quality of working life and, by improving quality and reliability in the products, to enhance consumer satisfaction. Perhaps most importantly, they have the capacity to reduce costs of production significantly.

The potential of organisational change is thus significant in manifold ways. The issue for research is whether there are factors specific to developing countries which are barriers to significant diffusion. Here there are a number of possible problems. Some elements of Japanese managerial practices are often believed to be culturally specific. The Italian experience of industrial districts may similarly have been built upon distinctive familial ties and a long tradition of local craft-skills and local government. The new organisational procedures are information-rich and low levels of human resource development in developing countries may impede their use. Poor levels of supplier development

(particularly with respect to small and medium enterprises) may limit the diffusion of the new organisational techniques and poor physical infrastructure may stand in the way of just-in-time production.

The diffusion of new organisational procedures in developing countries is still in its infancy, and so too, necessarily, is the research literature assessing experiences to date. Nevertheless, the early studies point clearly to the fact that many of the potential gains of these organisational procedures can and have, as Humphrey, Holmström and Kaplinsky show, been captured in a variety of developing country contexts. There are a number of striking illustrations of firms which have managed to implement just-in-time and total quality control with considerable success. Many chains of production (that is, including tiers of suppliers) have altered their patterns of production and interaction to achieve greater systemic efficiency.

Participation schemes for continuous improvement have been successful, including some in countries with a strong history of adversarial industrial relations and with low levels of human resource development. Kaplinsky notes that Japanese methods have been successfully introduced by firms with a high proportion of illiterate or barely literate workers, but whatever the pre-existing level of skills and literacy, training of the workforce is required. Industrial districts thrive in some poor countries, such as Pakistan and Brazil, as described by Schmitz, and they often play an important role in the export sector.

Yet, at the same time, as in the industrially advanced countries, obstacles do abound, many of which do seem to be

Continued on page 2, lower column 1

Industrial organisation in developing countries

In the Advanced Industrial Countries, new patterns of industrial organisation have come to the fore of industry policy agendas. Interest in Japanese production methods and supply chain management has been spurred on by the overwhelming success of Japanese industry in the 1970s and 1980s. Meanwhile, in Europe the apparent vitality of densely-integrated regional economies, such as Emilia-Romagna in Italy and Baden-Württemberg in Germany, suggests that where small firms predominate new types of links between firms can enhance industrial sector performance.

Both experiences are being pursued with vigour in the developing world. Larger firms have come to see Japanese methods such as just-in-time, total quality control and supplier certification as a means of rapidly raising quality and productivity. Increased competition in export markets and the liberalisation of formerly protected domestic markets are forcing companies to re-think their production strategies. An emphasis on networks and linkages is being taken up by agencies devoted to small-firm development in many countries. The unit of development changes from the individual firm to the network of inter-related firms, which can increase specialisation and gain much from mutual learning.

Research into these issues is now bearing fruit. On Japanese production management, we now know that:

- There is widespread use of just-in-time and total quality control in developing countries. This use is not restricted to the more advanced newly industrialising economies, such as Mexico or Korea. Examples from the Dominican Republic, Indonesia and
- Continued on page 4*

IN THIS ISSUE

Flexible specialisation-Bangalore	2
The human factor in change	3
Collective efficiency	3
Benchmarking best practice	4
Supporting small business	4

Flexible specialisation in a labour-surplus economy: Bangalore

The theory of flexible specialisation holds that Fordist mass production is being replaced, in successful industrial economies, by decentralised production and less hierarchical management. Firms innovate constantly, using multi-purpose machinery and workers who are always learning new skills, to supply fragmented and rapidly changing markets. Large firms are broken down into smaller decision making units, while networks of smaller firms achieve collective efficiency by working closely together in industrial districts. Policy makers can help by providing services which small firms cannot provide for themselves.

Is this a useful model for understanding what is happening in developing countries like India, where labour is abundant, and does it offer practical guidance for policy makers seeking to achieve industrial growth and employment? A study of small and medium engineering and electronic firms in Bangalore, South India, is part of a collaborative study with other scholars of the prospects for flexible specialisation in India. If flexible specialisation is to work anywhere in India we should expect it to in Bangalore.

Is Bangalore becoming an industrial district, whereby smaller firms achieve

'collective efficiency' by interdependence and co-operation? Are smaller firms, especially those using electronic technologies like CNC machine tools and CAD, able to innovate successfully on their own initiative in response to market signals? Or do smaller firms exist to take advantage of cheap, disposable labour, so that innovations are made – or not made – only in large firms, which subcontract job work? What are the implications for employment, wages, and careers?

Most smaller firms in Bangalore depend largely, and some entirely, on job work for larger firms; but some also develop their own products and workers' skills. Engineers and workers are ingenious and quality-conscious. The constraints on innovation are access to markets and information, resources, and design facilities, not access to new machinery and equipment, which even small firms seem able to acquire and finance, e.g. by renting out machine services subsequently. Inter-firm co-operation is hindered by lack of trust, though there are productive business friendships and a few consortia. Firms are making good use of such services (testing, design, consultancy, training etc.) as are provided by public bodies.

Bangalore is well placed to take advantage of economic liberalisation, and some

firms are successfully exporting, but employment growth is slow. Wages and career opportunities are polarised between a skilled minority with excellent prospects, and a mass of poorly trained workers. Many employers are still inclined to use smaller firms as a pool of cheap disposable labour, rather than developing workers' skills and careers.

Governments, trade associations and unions could promote industrial districts, in India and elsewhere, by providing better industrial services, such as marketing, product development and training, fostering inter-firm co-operation and consortia, protecting workers' rights, and promoting careers for women. The prize is high, for industrial districts hold out real promise for industrialising countries seeking to achieve economic growth, employment, and satisfying careers for workers of both sexes.

Mark Holmström, School of Development Studies/Overseas Development Group, University of East Anglia, Norwich NR4 7TJ. Tel. (01603) 592333, Fax. (01603) 593382.

Publications: 'Bangalore as an Industrial District: Flexible Specialization in a Labour-Surplus Economy?', Pandy Papers in Social Sciences, No. 14 (French Institute of Pondicherry) and School of Development Studies Discussion Paper, University of East Anglia, Norwich, 1994; 'Flexible Specialization in India', *Economic & Political Weekly*, Bombay, 28 August 1993.

Continued from page 1

developing country specific. It is not so much a matter of whether these new organisational procedures can be utilised in poor countries – for demonstrably they can – but what limits the depth and the breadth of their diffusion. Insofar as there are constraints to their diffusion, the implications that arise for policy support in the context of widespread market failure still need further consideration, although Humphrey sets out many of the ways in which support can usefully be provided by both the public and private sectors. He stresses the need for a continuing support process; initial gains are easy, but the key to sustained enhancement of productivity is for firms to maintain and build on early improvements. The pieces by Rush and Havers and Gibson also discuss the roles that can be played by national research and technology institutes and small business membership organisations and how they may be made more effective in general and in promoting organisational change in particular. But finally, and perhaps most importantly, we do not yet know what patterns of social relations will accompany the diffusion of new organisational methods. Will we see the 'dark side' of intensified control and work, or a 'lighter side' which is closer to wider developmental objectives? And what scope there might be to influence the outcome remains to be seen.

Raphael Kaplinsky, Institute of Development Studies, at the University of Sussex, Brighton.

The human factor in organisational change

It is increasingly widely recognised that it is the quality of 'human resources' which underlies economic growth. Organisational change – both within and between enterprises – is especially reliant on the human factor.

The successful application of Japanese management techniques poses major challenges to traditional structures of work organisation. Instead of the bifurcation between 'skilled' and 'unskilled' workers, the demands for flexible and high quality production require that skills be more widely spread through the workforce, and that the workforce becomes *multiskilled*. In turn this reduces the need for managerial supervision, particularly *undermining the role of middle management*. The demand for more rapid technological progress requires that workers become actively involved in programmes to improve both product and process technology, a process referred to as *continuous improvement*.

It is often suggested that the Japanese have managed these challenges successfully because of their high levels of human resource development and, consequently, that the low levels of human resources in most LDCs make it difficult for these poor countries to utilise these revolutionary managerial techniques. However, the emerging evidence suggests that LDC enterprises can indeed successfully restructure their operations. Comparative evidence from Brazil, the Dominican Republic, India, Mexico and Zimbabwe shows this to be the case. In many of these firms, the transition to flexible production has occurred with a

labour force which includes a high proportion of illiterate or barely literate workers. But in all cases even where workers have high levels of formal education, enterprises are required to invest in training.

Research into the role of human resources in the transition to flexible production is still at an early stage. Some unanswered questions are:

- How much, and what sorts of training do firms need to give to their workforce, and to what extent is this affected by sectoral factors?
- How much education, and what sort of education, is optimal as a 'base' for subsequent training?
- What is the optimal mix between in-firm and extra-firm retraining?
- What impact does the change in work organisation have on the gender division of labour, and how does this vary with the social construction of labour participation in different environments?

- What specific areas of market failure arise in relation to the human resource requirements of flexible production? What implications do these hold for national policy, for regional policy, for industry associations and for state-private sector co-operation?

Raphael Kaplinsky, Fellow at the Institute of Development Studies, at the University of Sussex, Brighton BN1 9RE. Tel. (01273) 678780, Fax. (01273) 621202. *Publication:* *Easternisation: The Spread of Japanese Management Techniques to Developing Countries*, London: Frank Cass, 1994; *Research in progress* (with John Humphrey): *The Diffusion of New Forms of Industrial Organisation in Indian Manufacturing*, funded by ESCOR.

Collective efficiency: growth path for small-scale industry

One particular route to understanding and fostering the growth of small local industry (i.e. the expansion of existing enterprises and the growth of new ones), is to focus on growth processes that arise from sectoral and geographical concentration of small firms.

Such clustering opens up efficiency gains which individual small firms can rarely attain. They can be described as 'collective efficiency' gains, a term which captures the idea that competitive advantages flow from local external economies and joint action.

Clustering is common in a wide range of countries and sectors in many Latin American and Asian countries (e.g. Brazil,

Indonesia, Pakistan) but less so in Africa. The way clusters are organised varies a great deal. Vertical relationships range from orchestration by large firms to arrangements amongst small firms; and from casual exchanges of information and tools to close inter-firm co-operation. Socio-cultural ties seem to heighten economic performance, but there are cases when, for example, caste divisions are in the way of trust and co-operation.

The character of innovation in clusters is also diverse. Some clusters include firms which have embarked on a path of product quality improvement and functional flexibility, and others which rely entirely on using the cheapest labour and materials. Some clusters include firms which display both features

simultaneously.

The relevance of clustering is brought into focus most sharply by case studies which show the success of local producers in breaking into international markets and/or coping with domestic crisis. One such case (research into which was financed by ODA) is shoe manufacturing in the Sinos Valley in the south of Brazil, which has developed over two and a half decades from a cluster of small shoemakers to a major force in the international market.

This cluster now comprises 480 producers employing 70,000 people directly, and twice as many taking into account employment in local suppliers, exporting and forwarding agents and so on. It exports 70 per cent of its output (i.e. almost 100 million pairs of shoes, generating foreign exchange of \$900m each year).

Diffusion of information and ideas in the Valley is rapid and dense, occurring not only in business transactions – notably at the bi-annual trade fair organised by a firm owned by the municipality – but also at social gatherings of friends, family, sports club, neighbourhood or church.

Businesses also draw on the services of the three centres providing specialised training and technical services for the shoe and leather industry, six specialised industrial associations and two professional associations which have all sprung up in the area.

The Sinos Valley cluster has shown an ability to respond to both opportunity and crisis. The strong export performance has meant that it has largely escaped the macroeconomic crisis. Traders and self-help institutions have been very important in enhancing the performance of local industry. While external economies are important to growth, they are not sufficient to ride out major changes in product or factor markets; coping with these requires joint action. One of the main practical lessons from the research is that trade fairs can be an effective means of triggering a process of cumulative growth.

Hubert Schmitz, Institute of Development Studies, at the University of Sussex, Brighton BN1 9RE. Tel. (01273) 678732, Fax. (01273) 621202 or 691647. *Publications*: 'Collective Efficiency: Growth Path for Small-Scale Industry', *Journal of Development Studies*, Vol 31, No. 4, April 1995, forthcoming; 'Small Shoemakers and Fordist Giants: Tale of a Supercluster', *World Development*, (special issue 'Industrial Organization and Manufacturing Competitiveness in Developing Countries', edited by John Humphrey), Vol. 23, No 1, January 1995, forthcoming; 'Industrial Districts in Europe: Policy Lessons for Developing Countries', *World Development*, Vol 22, No 6, June 1994 (co-author with Bernard Musyck); 'Industrial Clusters in Less Developed Countries: Review of Experiences and Research Agenda', *IDS Discussion Paper 339*, University of Sussex, January 1994 (co-author with Khalid Nadvi).

Benchmarking best practice in technology institutes

Most countries have independent, non-corporate, research and technology institutes (RTIs) either funded by government or the private sector, or both. Such institutes have been established under the assumption that they can or should constitute an important part of the science and technology (S&T) infrastructure, or what has become known as the national system of innovation. However, there has been little systematic study of the role played by such institutes, nor what constitutes best-practice strategy for RTIs. Furthermore, studies of RTIs show that many lack industrial relevance and are dislocated from the industries they seek to serve.

A collaborative research project, with case study contributions from the Centre for Research in Innovation Management at the University of Brighton, the IDS, SPRU at Sussex University and Technopolis Ltd, has been focusing on the most successful RTIs from eight nations in order to show what precisely they do, how they do it, how they are funded and how they work with industry. Those countries currently included in the sample are Hong Kong, Korea, Singapore, Taiwan, Italy, Germany, the UK and Sweden.

There is a general consensus of concerns among the institutes about the issues they face. These include the risky nature of innovation and the difficulty of achieving a balance between large and small customers, 'hard' (technical) and 'soft' (business) services, and public and private funding, as well as issues related to leadership and personnel policies. The provision of soft services to local industry includes, increasingly, advice to firms on changes to organisational methods.

In highlighting the main success factors underlying their achievements, the research identifies areas under the strategic control of RTIs, and other areas which are

beyond their control but which can be negotiated to their advantage. *Internal* factors, which are considered to be under the direct control of the organisation, help to define their strategic room for manoeuvre and ability to survive disruptive external events. These factors include, among others, decisive leadership, progressive human resource management and professional project management.

External factors, which are outside the normal control of the organisation, include the economic and industrial environment and continuity in government funding, and the level of demand for services from industrial users. A third category, *negotiated* factors, include areas in which some influence can be exerted by the RTI in the interests of its own survival stability. Links with government and industry, networking with academics, and market responsiveness, while not entirely under the control of the organisation, have been used by successful institutes to reduce uncertainty and to increase their strategic room to manoeuvre.

Leading RTIs have successfully contributed to their national systems of innovation. At a practical level, the case studies provide benchmarks from which long-term business strategies can be interactively designed with individual technology centres. Developing countries seeking to accelerate organisational change in industry should consider boosting local RTIs' capabilities in this connection. They will find here suggestions for ensuring RTI's successful performance.

Howard Rush, CENTRIM, University of Brighton, Falmer, Sussex, BN1 9PH. Tel. (01273) 642184, Fax (01273) 685896. *Publications*: H. Rush, M. Hobday, J. Bessant, and E. Arnold, 'Strategy for Best Practice in Research and Technology Institutes: an overview of a benchmarking exercise', *R and D Management*, January 1995

Supporting small business membership organisations

Small business membership organisations (SBMOs) play an important role in private sector development by performing services which their small business members actually demand. Unfortunately, however, attempts by international donor agencies to support SBMOs have rarely succeeded. A recently completed survey of twenty SBMOs in each of three countries in South Asia (Bangladesh, India and Pakistan), and four countries in Africa (Ghana, Kenya, South Africa and Zimbabwe) has revealed a number of lessons for donors who seek to support such organisations.

SBMOs form a very diverse group, but even so the research indicates two sets of factors as being especially important throughout: first, successful SBMOs share certain characteristics; this suggests, second, general approaches as to how donors might intervene to support SBMOs.

The following were found to be key characteristics of SBMOs successful at serving their members' needs:

- Commonality of member interest. SBMOs are often set up spontaneously on

a geographical basis to press for the interests of a cluster of local firms; then move on to form links with firms elsewhere in the same sector.

- Originated by small businesses themselves, not some outside agency.
- Not too big. Large SBMOs tend to move away from serving the real interests of their members.
- Good quality office-bearers, either drawn from membership, or politically well-connected.
- Avoidance of party politics, especially within the organisation itself.
- 'Sticking to the knitting', i.e. concentrating on what they do best, and not trying to be all things to everybody.
- Reasonable financial transparency and a diversified income base.
- Good knowledge of its members; particularly through having up to date subscription information.

Having identified SBMOs which have these characteristics, interested donors should then consider the following factors in guiding their interventions:

- The amount of support must be appropriate. It is extraordinary how often

donor funds have swamped an SBMO.

- Maintain the SBMO's focus. It must not be lured into providing an ever-expanding array of services.
- Help the SBMO to manage change. It is up to the SBMO, not the supporting agency, to instigate change, and respond to demand.
- Do not view SBMOs in isolation. The donor needs to understand how the SBMO fits into the local business support environment.
- Avoid national-level SBMOs and those already 'spoiled' by donors. These tend to have their own agendas which generally differ from those of their members.
- Support 'soft' inputs such as training, which are less easily diverted than 'hard' inputs such as loan funds.

Mark Havers and Alan Gibson, Overseas Development Group in the Small Business Centre at Durham University Business School, Mill Hill Lane, Durham, DH1 3LB. Tel. (0191) 374 2240, Fax. (0191) 374 4765. *Publications*: 'The Role of Small Business Membership Organisations (SBMOs) in Small Enterprise Development', sponsored by the Small Enterprise Development Fund of the Overseas Development Administration, June 1994.

Continued from page 1, column 3.

Zimbabwe point to the wider relevance of these techniques. Firms making simple products with relatively simple processes can make big improvements in quality and productivity by using the basic principles of Japanese-style production.

- These gains can be energy, raw materials and capital saving, as they reduce waste and scrap, simplify processes, concentrate on making the best use of available equipment and encourage incremental improvements in processes.
- Making initial improvements is easy, but maintaining these improvements and building on them requires sustained effort and commitment by management. Failure to improve can often be attributed to either lack of managerial commitment or a failure to motivate and reward labour's involvement.
- Introducing just-in-time and total quality requires improved training, right across the labour force, but particularly for production workers. In cases such as Brazil, where educational standards are low, firms may need to invest in worker education. Education and training bodies must be ready to meet these new demands.
- Supply chain development is more difficult for firms. It involves building up

long-term relations and mutual trust, and also improving the process capabilities of suppliers. An important role can be played by small firm promotion agencies in matching the needs of suppliers and customers and providing assistance directly to small firms and to larger firms engaging in supplier upgrading.

- The use of just-in-time and total quality involves substantial learning. The efficiency of the learning process is greatly increased by inter-firm contacts. Private sector bodies – professional associations, sectoral associations, employer organisations – can play an important role here, and the State can channel support in ways which encourage such bodies to play these roles.

As regards industrial districts and clustering of firms, research indicates that:

- When firms cluster together they gain from unplanned external economies. More significant gains arise from co-operation, increasing division of labour and collective representation of interests. These gains do not always arise when firms cluster together. They have to be sought consciously.
- Clusters need links to markets if they are to export successfully. Export agents, trade fairs, market intelligence reports etc. can have a big role to play.

• The 'Italian model' is a useful starting point for analysing clusters of firms, but it has limitations. Most developing countries clusters display only some of the characteristics of the ideal-type Italian industrial district. Policy should aim at encouraging clustering advantages – greater linkage between firms, specialised services, attracting buyers etc. – rather than replicating the Italian model.

- Clusters are not composed solely of small firms. Clusters may even be segmented, with firms of different sizes serving different markets. A 'cluster policy' is not the same as a 'small firm' policy.

• Export markets provide a powerful stimulus to cluster development. They can raise standards and offer information on product design, process technology and quality.

John Humphrey, IDS, University of Sussex, Falmer, Brighton BN1 9RE. Tel. (01273) 678671, Fax. (01273) 621202/691647. *Publications*: J. Humphrey, 'Industrial Organisation and Manufacturing Competitiveness in Developing Countries', Special issue, *World Development*, Vol 23, No 1, January 1995; A. Fleury and J. Humphrey, 'Human Resources and the Diffusion and Adaptation of New Quality Methods in Brazilian Manufacturing', *IDS Research Report*, No 24, 1993; J. Humphrey and H. Schmitz, 'Policy Interventions for Clusters and Networks of Small Firms', draft report to UNIDO, IDS, September 1994.

Development Research Insights is published jointly by the Overseas Development Institute and the Institute of Development Studies and financed by the Overseas Development Administration through its Economic and Social Division. The Editor alone is responsible for the contents of each issue, the Directors of ODI and IDS acting as editorial consultants. Neither the ODI, IDS, nor the ODA take responsibility for the views expressed in this publication. *Printed by Russell Press, Nottingham.*