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POLICIES AND STRATEGIES FOR SMALL SCALE INDUSTRY DEVELOPMENT
IN THE ASIAN AND THE PACIFIC REGION

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Report on study programme and expert group meeting
held in Seoul, Republic of Korea, 17-20 September 1985

Prepared by the
Regional and Country Studies Branch
Division for Industrial Studies

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EXECUTIVE SUMMARY

The study programme of the Regional and Country Studies Branch of the Division of Industrial Studies, UNIDO, gives special attention to the role of small-scale industry in the development of the industrial sector in developing countries. The present report is an outcome of that programme. It is based on discussions and documents presented at the Ad Hoc Expert Group Meeting on Policies and Strategies for Small-scale Industry Development in Asia and the Pacific Region, which was held in Seoul, Republic of Korea, on 17-20 September 1985, organized jointly by the Regional and Country Studies Branch, Division for Industrial Studies, UNIDO, and the ESCAP/UNIDO Division of Industry, Human Settlements and Technology.

The report first focuses on the role of small-scale industries (SSIs) in industrialization. Small-scale enterprises dominate industrial activity in many developing countries, both in terms of the number of establishments and of employment. Planners and policy-makers are giving increasing attention to the decisive role SSIs can play in expanding and diversifying industrial production as well as attaining the basic general objectives of development. The contribution of SSIs to development and industrialization is particularly strong in:

- value-added generation;
- employment generation (although SSIs do not necessarily have to be of labour-intensive character);
- accelerating rural development and contributing to stemming urban immigration and problems of congestion in the large cities;
- establishing links between agriculture and industry and utilizing local raw materials and waste products available in relatively small quantities;
- stimulating entrepreneurship, especially in the countryside;
- mobilizing private savings and harnessing them for productive purposes;
- flexibility of production and rapid market response;
- manufacturing parts and components for large-scale industries.

The emerging new technologies - in particular the application of micro-electronics - pose heavy challenges to SSIs in developing countries. However, there is a potential for the adoption of micro-electronics technologies even for small enterprises if the concomitant social and economic problems can be solved.

In the next chapter, policies, strategies and programmes for SSI development were identified and reviewed. Some general principles of support to SSIs were found to be:

- a macro economic policy package which creates a favourable environment;
- clear and stable government policies and priorities to create an atmosphere of confidence and continuity;
- public support programmes which are an integrated whole and are readily accessible for the SSIs entrepreneur (non-bureaucratic approach).

The experts were of the view that both labour- (i.e. traditional) and technology-intensive (i.e. modern) SSIs should be promoted, as both types can make a contribution to development, depending on the environment in which they operate. For traditional industries, raising the general technological level may be the most urgent problem, for modern industries it is the lack of highly qualified labour and capital. For both, assistance in the identification of new markets is needed. It was generally felt that in order to formulate appropriate policies, proper definitions of such notions as village, small and medium industries have to be formulated and continuously updated.

More specifically, the following areas of assistance to SSIs deserve special attention:

- entrepreneur and general manpower training;
- information on markets, technologies, etc.;
- financial support, which may take the form of tax reductions and/or credit;
- improving productivity and product quality and adaptation to modern production processes;
- basic infrastructure outside major urban areas;

- dispersal of SSIs to the countryside, or rather the mobilization of rural SSI potential;
- training of support staff for these schemes; and
- co-operation, locally, nationally and in the ESCAP region (of the latter, the activities of Asian Productivity Organization and Technonet Asia are two examples).

In implementing support programmes, Governments should avoid taking a strongly regulatory stance, as this has proved to be detrimental to entrepreneurs' initiative, and thus defeats the purpose of development programmes in the long run. A method of support to SSI which deserves to be explored to a greater extent is the international co-operation between SSIs in developed and developing countries, which could especially improve the transfer of modern technologies to developing countries.

Chapter IV is devoted to in-depth discussions on some of the key areas for SSI support. A matter which is central to the development of SSI is the development of entrepreneurship. The (combination of the) various components of the production and marketing process need and may receive outside support, but the actual economic gains have to be realized by a well-run enterprise. In developing countries, which find themselves confronted with the urgent need of catching up in a rapidly changing international economic and technological environment, and where general education and industrial experience are far from ubiquitous, special measures are needed to stimulate (potential) entrepreneurs and increase their know-how. This is not just a technical question: many socio-cultural and political elements play a role in the making of successful entrepreneurs. The diversity of factors makes it very difficult to formulate effective entrepreneurship development programmes. To an extent, it is a matter of improving general education and vocational training and of providing an environment, in politics, the administrative services and society, which is sympathetic to the role and needs of the small industrialist; this may not always be easy, especially in rural areas.

Important specific points of attention for those formulating entrepreneurship development programmes are:

- quality should be stressed, not quantity - a few enterprises which are successful in the long run are more important to the economy than just the setting-up of a large number of firms;
- procedures and techniques should be adapted to the limited availability of (potential) entrepreneurs (they will generally be engaged full-time in an occupation or an enterprise already);
- programmes should take both local circumstances and general development goals into account;
- courses should be given by trainers who are familiar with the business environment and stress applicable instead of theoretical knowledge.

It is subsequently observed that new forms of small-scale industry co-operation are being developed. This is best done with a specific goal in mind - experience shows that general purpose co-operatives are hardly viable. Co-operation may cover contacts with large industries (e.g. subcontracting exchanges); joint marketing; joint R and D; joint administrative services; co-operation with financial institutes; setting up and operation of own technical service institutes and/or co-operation with public and semi-public institutes, management and skills training; etc.

It is suggested that at the national level particular attention should be paid to the following:

- promoting the forming of groups of companies, associations and/or co-operatives among private sector entities. Special attention to be paid to the training of co-operatives' executive officers, who should have a thorough knowledge of the industry, good contact with local government and a broad knowledge of supplier services;
- Introducing government agencies responsible for SSI to new forms of association, and creating joint government-business supervisory boards in such agencies;
- Establishing government procedures enabling groups of SSIs to participate in public tenders.

At the supra-national level co-operation could be improved by encouraging developed countries to invite members of SSI associations from developing countries to inform them on the organization and functioning of associations in their countries.

Subsequently, linkages between small and large scale industries are analyzed. The main forms of linkages currently practiced are subcontracting, complementation and (still rather uncommon in the region) services provided by SSIs to other industries in the areas of maintenance, repair etc. (technology services, computer software services and alike). Scope and intensity of linkage activities differ considerably in the various countries of the region. Apart a general expansion and improvement of linkages, they should be made to contribute to the technological innovation process of SSIs, enhancing the growth and competitiveness of these industries. Inter-industry linkages in industrial countries are mainly market-induced but in developing economies co-operation between small and large industries should be co-ordinated in the context of overall economic and industrial development goals. The need for outside support for this process partly results from shortcomings which cannot be eradicated by market forces alone (such as non-compliance of SSI with product specifications and delivery schedules and the domination of the business relationship by the larger partner).

Small/large industry linkages can be strengthened through:

- Promotional measures to foster the establishment of subcontracting and complementation linkages between SSIs and large-scale industries;
- Technical and quality control support measures for SSIs to meet quality standards of the contracting company;
- Creation of schemes for participation of SSIs in public tenders and activating SSI associations to identify tender potentials for its member;
- Elimination of double taxation for products manufactured under linkage agreements;
- Creation of national and regional subcontracting exchange schemes.

The next topic discussed is the promotion of export-oriented small-scale industries. SSIs with their limited resources are often incapable of fully exploiting their export growth potential. The promotion of export-oriented SSIs can lead to considerable foreign exchange earnings and as they often make use of local raw materials they also save foreign exchange. It was observed that exporting required certain characteristics and that such criteria were

generally met by medium than rather by small-scale enterprises. Export-orientation is an attempt to link two completely different economic and social environments. This requires adjustment to change, meeting minimum economies of scale, product adaptation, maintaining required quality and delivery times, flexibility and market information to respond to the international trends and sufficient working capital reserves to absorb the consequences of delays in international payments. SSI will often have to concentrate on the domestic market first, gaining expertise and growing to acquire the resources needed. SSIs with highly specialized products, however, do have potential to participate in export markets in spite of their small size. Given the weak international bargaining position of SSI, the efforts of both governments and international organizations to promote supranational economic co-operation favouring "bottom up" enterprise acquires special significance. The following measures may be considered to promote export-oriented SSI:

- tariff/tax reductions, including rebates on customs duties and tariffs on imported inputs;
- export credit guarantees;
- improving linkages between SSI and enterprises in Export Processing Zones;
- assistance in product development and packaging design to enhance the competitiveness of SSI products in the international market;
- marketing (e.g. through international trade fairs), export facilities (e.g. through export houses) and improved market information flows.

The latter type of promotion provides an area where co-operation between small enterprises can be successful.

Financing small-scale industries. Access to institutional finance by SSIs is constrained both by the attitude of lending institutions in developing countries and by the lack of knowledge and management capabilities of the SSI entrepreneur. Financial institutions have concentrated on lending to low-risk large-scale industries and have in many cases not acquired the experience, the attitude for the information base to deal with small borrowers. Adapting institutions to the needs of SSIs must be thought of as a long-term process.

Examples of special lending schemes of several Asian countries which were discussed showed that whenever special financial measures for SSI were introduced by governments, provision of advice, business counselling, training and extension service had to accompany the loans to achieve the desired impact. Most financial aid schemes have made cheap credit available to SSIs. Empirical studies indicate that such a strategy may be detrimental to SSI development in the long run because commercial banks which participate in financial assistance schemes are reluctant to continue participating if the schemes are perceived to be commercially unattractive. Moreover, it was argued that cheap credit may reduce the economic efficiency of enterprises and would benefit those who have better access to institutional finance rather than the less-established enterprises to whom such schemes are directed.

It is concluded that, in the long run, the development of SSIs is better served by easy access to credit at normal bank lending rates rather than by the availability of a limited amount of cheap credit. A reasonable rate of interest would cover the higher risks and administrative costs of banks serving a large number of small enterprise loans. The system could be backed up by credit guarantee schemes. It is recommended, however, that a reorientation of assessment criteria for SSI loans should be effected. Emphasis should be less on strict collateral requirements than on the viability of the project. Particular attention should be given to the training of loan officers so as to create a new generation of development conscious loan officers with required skills to assist viable small industries. The institutional setting for the co-ordination of financial services for SSIs could then be reduced to perhaps not more than one or two specialized institutions (preferably those already experienced in the field) per country. These financial schemes should be a part of an integrated package of assistance to SSIs.

The upgrading of technology in small-scale industries is crucial for the survival and growth of the sector in a rapidly changing economic environment. In the discussion on this subject the experts observed that technological innovations may have to be adapted to suit national or local environments - "relevant technology" is the keyword rather than high technology. In upgrading technology levels, other factors will have to be considered as well,

such as socio-cultural patterns, labour-related aspects and the general industrial environment. In several cases rudimentary improvements in technologies and production processes have proved to be sufficient to make SSIs, especially in rural areas, competitive. However, concern was expressed over the fact that credit schemes by official financing institutions are hardly available to finance basic technology improvements.

Technological innovation may reduce employment in certain areas, but there may be gains in others. Highly qualified labour, e.g. will be in greater demand, and increased productivity can lead to overall growth (increased demand for inputs will e.g. be likely) with positive employment effects. All in all, the quality of employment can be raised because more qualified labour is needed and drudgery can be reduced.

The example of the Republic of Korea where research commercialization and financial participation in new ventures based on locally developed or adapted "relevant technologies" (in technologically advanced areas) are actively stimulated, raises the question how this scheme can be adopted by other countries of the region, and whether such relatively sophisticated technologies can be applied in other countries. Examples of R and D co-operation in the region were presented and an increase of such co-operation should be welcomed.

It is suggested that in the field of technology support particular attention be given to:

- continuous improvement of technologies in traditional SSIs to guarantee their insertion into the mainstream of development;
- the increase and improved accessibility of R and D in new technologies applicable at the SSI level (e.g. computer-aided machinery);
- improved products standardization and quality control;
- human resource development through special training schemes, better on-the-job training and improved professional and general education.

A final issue addressed in this report is the development and strengthening of small-scale industries in non-metropolitan areas. In many

developing countries, industrial capacity tends to be highly concentrated in and around major urban centres. This has led to congestion and pollution; socially disruptive consequences include mass migration to the cities offering industrial employment and a highly uneven distribution of incomes through the national territory. A spatially more balanced pattern of industrial development would reduce the social costs of economic growth and promote the more intensive utilization of natural resources and human potential in the countryside, thus contributing to balanced overall development.

Strengthening SSI in non-metropolitan or rural areas should be part of an integrated area development plan, involving infrastructural and educational improvements, etc. Industry in rural areas should be the outcome of local entrepreneurship development rather than of costly dispersal policies moving existing industries away from urban centres. In rural areas especially, SSI with their relatively modest demands on sophisticated infrastructure and highly qualified labour are often better placed to initiate the transformation to a modern, industrialized society than larger industrial enterprises which are often not viable in such an environment.

Policy measures stimulating SSI in rural areas are being implemented in a number of countries in the region. Experience has taught that total dispersal may lead to the loss of scale economies, of agglomeration advantages, etc., and makes high demands on rural infrastructure. Grouping SSI around rural population centres seems to be a sounder policy.

I. INTRODUCTION

In recent years there has been growing disappointment in many developing countries with the results of past industrial development strategies focusing on large-scale, capital-intensive and highly import-dependent industrial projects which often failed to increase the rate of labour absorption in the industrial sector and to generate self-sustaining growth. It has increasingly been recognized in many developing countries and by many experts that small-scale industries could play a decisive role in expanding and diversifying industrial production as well as in attaining the basic objectives of development, which should not only include accelerated growth of GNP but also employment generation, poverty eradication, improving the distribution of income, fulfilling basic needs etc. The development potential of SSI can be tapped at relatively little cost; investment costs per employee are generally lower than in larger industries. Moreover, they help to save foreign exchange by their ability to use local raw materials and to provide inputs for larger industries. As enterprises in the SSI category (which would also include industries sometimes referred to as medium-scale) dominate the industrial sector in most countries both in terms of the number of establishments and of employment, economists and policy-makers are giving them increasing attention. There is thus a basic consensus among policy-makers regarding the overriding importance of SSI for the industrialization process.

The Regional and Country Studies Branch of the Division for Industrial Studies, UNIDO, within its studies and research programme, has been giving particular attention to the role of small-scale industry. In this connexion some major characteristics and problems of SSI in developing countries were singled out:

- Firstly, existing small-scale enterprises have typically a low level of technology, unstandardized products and scant links with the existing large-scale enterprises. In most cases their activities are restricted to a distinct area of the economy, which has little relation with modern industry and little autonomous prospects of growth and modernization;
- Secondly, the small-scale industry sector is increasingly confronted with emerging new technologies. Recent innovations, such as numerically controlled machines, computer-aided design or microprocessor-based information and control devices are potentially

applicable in small-scale industry, but entrepreneurial know-how, general education levels and infrastructure will often have to be drastically improved at the same time;

- Thirdly, small-scale industries like other industrial plants are often located in or around major urban centres, especially those of a technologically sophisticated kind. Dispersal of industrial activities in many countries will to a large extent depend on serious efforts to mobilize SSI potential in rural areas.

These issues call for systematic analysis to ensure the development of small industries in the future.

A special series of issue-oriented studies and analyses were carried out as preparation for an Ad Hoc Expert Group Meeting on Policies and Strategies for Small-scale Industry Development in Asia and the Pacific Region. The meeting, organized jointly with the ESCAP/UNIDO Division of Industry, Human Settlements and Technology, was held in Seoul, Republic of Korea on 17-20 September 1985. A group of officials from various countries, representatives of development agencies and international experts met to identify key issues and to formulate recommendations with respect to small-scale industry and its process of development. The present report reflects in a comprehensive way the findings and results of these studies and analyses, as well as the discussions at the meeting and in particular the summary and conclusions drafted at the end of the meeting.

The main body of the text in the following chapters is based on documents presented at the meeting, as indicated in footnotes. Where the discussions at the meeting provided new insights, these were woven into the text.

In the second chapter, the development potential of small-scale industry and the framework for support to SSI are outlined. Chapter III gives an overview of policies, strategies and programmes for SSI development. In Chapter IV, some of the key issues with regard to SSI support are treated in greater detail. Chapter V, finally, contains proposals and recommendations for further action.

II. THE CONTRIBUTION OF SMALL-SCALE INDUSTRIES TO INDUSTRIALIZATION^{1/}

Small-scale industrial enterprises comprise diversely organized activities: household production, handicraft, small maintenance and repair, etc. Major differences exist between traditional, handicraft-oriented SSI and SSI using modern technologies; the latter are often capital- rather than labour-intensive. Traditional SSI will more likely be located in the countryside, modern SSI tends to concentrate in or near major conurbations where subcontracting arrangements with large industries are more easily made, know-how is more easily available and a good physical and service infrastructure exist. One of the major challenges to development policy is the upgrading of traditional SSI (while retaining its positive qualities) and the diffusion of modern SSI outside urban centres.

An essential, common characteristic of small (and many medium-scale) enterprises is the way they are managed and operated: usually, the owner/manager assumes the full responsibility for all long-term (strategic) and short-term (tactical) decisions. Otherwise, SSI is a relative concept, being dependent above all on a country's industrialization level so that criteria will lead to different threshold values in different countries.^{2/} This is certainly true for the developing countries in Asia and the Pacific region which find themselves at various levels of the industrialization process.

The sectoral distribution of SSI seems to follow a fairly stable pattern across various countries. In the case of ASEAN countries, empirical evidence

^{1/} Based on discussion notes and on a note with the same title prepared by the Regional and Country Studies Branch.

^{2/} Where the number of employees is a criterion, the upper limit in most developing countries is between 10 - 50 for small-scale and between 50 - 100 for medium-scale industries (Cf. Kuivalainen, A., "Possibilities of promoting the industrialization of developing countries by means of resource transfers from small and medium sized industries", Helsinki 1982). In some countries small industry is defined by a maximum of fixed capital rather than by a certain number of workers. It is recommended for policy purposes that a constantly reviewed combination of both be used, keeping in mind the circumstances and stages of development in the particular country.

has shown that "irrespective of the relative size of the small and medium industry sector, the small and medium industries tend to be concentrated in the same industries."^{1/} These include above all: leather, footwear, furniture, metal products (industries using relatively simple, labour-intensive production techniques); food processing and wood processing (industries processing spatially dispersed raw materials); printing and publishing (industries particularly dependent on proximity to the market). Where sub-contracting plays a role, there is a wider branch range: Small-scale suppliers of components e.g. are particularly found in the engineering (transportation and communication, metal products, machinery) industries.

1. Some key features of small-scale industrial enterprises

SSI (including what in some countries are called "medium-scale industries") collectively often constitute the majority of installed manufacturing capacity and employ the majority of the industrial work force. SSI share some key feature which to a large extent determine their role in the economic process:

(i) The management process

In smaller manufacturing establishments, the manager is frequently the sole owner of the enterprise and the major source of production 'know-how'. His responsibilities often cover the organization of production, book-keeping, supervision of labour, sales, servicing of equipment, and dealings with suppliers, buyers and authorities. The chief distinguishing characteristic of a 'small' enterprise is thus that all important entrepreneurial and operational decisions are taken by one person.

^{1/} Hiemenz U., "Growth and efficiency of small and medium industries in ASEAN countries", in Asian Development Review, Vol. 1 (1983), no.1, p.107.

(ii) Operational constraints

For small enterprises the mobilization of financial resources, the access to secure market outlets and the acquisition and upgrading of know-how generally constitute a particular problem.

Most small enterprises have a chronic shortage of capital. This may be due to the entrepreneur's inability to attract sufficient capital and/or credit for his company and to a frequent imbalance between fixed and working capital, or partly result from e.g. poor inventory control, high wastage, low levels of efficiency in production, incorrect pricing methods, etc. Shortage of finance may prevent an enterprise from operating efficiently and imposes additional costs when short-term credit has to be raised. The lower business credibility, limited security and high risk of failure of SSI makes it difficult to raise capital from the usual sources and often forces them to secure loans at higher interest rates from other lenders.

Marketing constitutes a difficult task for many small enterprises given their limited management resources and skills. Most small-scale industries in developing countries therefore are confined to their local markets. The question arises how SSI could be assisted to increase the markets. This would involve creating a greater awareness of market opportunities among SSI entrepreneurs and of SSI products among wider groups of potential clients.

The entrepreneurs who establish, own or manage small enterprises display the ability to mobilize resources, and to take risks. By and large, however, they lack formal training in management and tend to have a narrow range of technical or production skills. Long-term survival or growth of the enterprise, however, depends on the entrepreneur's ability to adapt its production to changing market conditions. Most small enterprises tend to be imitators rather than innovators in terms of technology and tend to produce simpler products and to utilize less complex or 'packaged' production processes.

If an SSI is successful, it is likely to grow into a larger, more sophisticated industrial company, helping to further dynamize the industrial

development process. Programmes of assistance should support this process and take into account the required changes in the SSI. The more complex the production process, the greater the need for better trained and adaptable employers and supervisors, for supporting services and maintenance skills within the enterprise. To develop small enterprises into larger more organized and more efficient production units, with consequent qualitative and quantitative increases in output, however, also involves changing attitudes of key decision makers.

2. Impact of SSI on development and industrialization

SSI make a relatively strong contribution to employment generation in developing countries with their rapidly growing labour supply. Not only is the vast majority of the industrial labour force to be found in small and medium-scale enterprises, but empirical evidence also shows that they tend to use particularly labour-intensive technologies. Although the provision of employment sometimes receives more attention than efficiency in production, there is no evidence of any general inferiority of SSI as compared to the large-scale enterprises in terms of efficiency: in many countries SSI have proved to be highly efficient and competitive both on the local market and on export markets. Indeed, a recent study on SSI in ASEAN countries showed that in many industrial sectors (above all in wood processing and metal products) SSI reach a higher capital productivity than large-scale enterprises^{1/}.

A second key advantage of SSI is its positive influence on the distribution of income both in functional terms (wages/profits) and in regional terms. The pursued growth path of many developing countries in the past implied that policy-makers tended to favour urban centres at the expense of rural areas, resulting in glaring regional income disparities. Since a

^{1/} Cf. Hiemenz, op.cit., p.111. The same study also concludes that in about half the industry subsectors, small and/or medium scale firms were more efficient than large-scale ones, even if capital and labour input coefficients are taken into consideration.

large share of SSI potential is located in rural areas,^{1/} an active promotion of rural SSI would serve "as a means of decentralizing industry thereby not only accelerating rural development but especially stemming urban immigration and the consequent problems of congestion in the cities."^{2/}

A third advantage of SSI is their potential to establish links between agricultural and industrial production. SSI figure prominently both in the processing of agricultural goods and in the production of machines and equipment for use in agriculture. It has also been shown that the demand elasticity for goods produced by SSI^{3/} is high in rural areas and among workers employed in SSI.

SSI also contribute to domestic capital formation. This is of particular significance in the face of debt crises in many countries. Small-scale entrepreneurs are a major source of private savings^{4/} for productive purposes. In addition, SSI are known to require relatively little infrastructural investment (partly because of their proximity to consumers) and to utilize locally available raw materials instead of relying on expensive imports.

In addition SSIs have further advantages for the long-term industrialization process:

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- 1/ The share of traditional rural industries in total manufacturing employment is, for instance, 70 per cent in Bangladesh and 63 per cent in Malaysia. Cf. ILO, "Rural small-scale industries and employment in Africa and Asia", Geneva 1984, p.3.
 - 2/ UNIDO, "Small industries development programme" (UNIDO/IO.545), 14 June 1983, p.5.
 - 3/ In the case of Sierra Leone it was estimated that a 10 per cent increase in agricultural production leads to a 16 per cent increase in demand for the products of small-scale firms. Cf. Bottomley, A., "Government actions for promoting small-scale industries with respect to final outputs, intermediate activities and primary inputs", in ESCAP, Small Industry Bulletin for Asia and the Pacific, No.18, 1982, p.17.
 - 4/ "Data on the sources of funds for initial capital investments in very small firms in Africa consistently show that eighty percent or more comes from personal savings supplemented by loans or gifts from relatives." (Page, J.M.Jr./Steel, W.F., "Economic issues of small enterprise development in Africa", World Bank, Industry Department, March 1984, p.7).

- SSIs provide a training ground for the creation of indigenous entrepreneurs in such important areas as the generation of technical, managerial and marketing know-how. Hence they are an essential element in the cultivation of an overall business environment conducive to innovative and competitive behaviour.^{1/} Even in many centrally planned economies SSI are operated by private entrepreneurs;
- SSIs enhance the flexibility and diversification of industrial production because their output may be more easily adapted to changing market conditions (e.g. consumer preferences) and because they are often able to operate profitably even in very narrow markets with low purchasing power. The production flexibility of SSIs makes them highly competitive in domestic as well as in export markets;
- SSIs can play an important role as manufacturers of parts and components for large-scale enterprises because of their specialized skills and cost advantages if technological levels and innovativeness in SSI are improved.

3. The application of new technologies

The early 1980s have witnessed drastic technological innovations in industry. The precise consequences, such as the impact on the international trends in global restructuring of production and trade, are still largely unknown. The introduction of cost-saving microelectronic devices and data processing systems in manufacturing, be it directly in production or for management purposes, is in any case expected to exercise substantial influence on the size distribution of manufacturing enterprises.^{2/}

Recent innovations such as numerically controlled machines, computer-aided design or microprocessor-based information and control devices are said to "have made modern technology more potentially applicable to traditional

^{1/} Cf. Sit, V.F.S., "Strategies for the promotion of small-scale enterprises in the developing ESCAP region", in Economic Bulletin for Asia and the Pacific, Vol. 33, no.1, June 1982, p.73f.

^{2/} The question of the relationship between technological development and size distribution is dealt with at some depth in the study by the Sectoral Studies Branch, Division of Industrial Studies, entitled "Optimum scale production in developing countries: A preliminary review of prospects and potentialities in industrial sectors", (UNIDO/IS.471), 12 June 1984.

producers"^{1/} and to "facilitate small-scale decentralized operations".^{2/} Jumping from traditional to the most modern and sophisticated technologies is thus no longer impossible. Indeed, microelectronic technologies can be put together from standard, off-the-shelf components and can thus be adapted to the needs of individual producers.

Potential for the adoption of microelectronic technologies exists even in very small enterprises. The realization of this potential depends, however, on economic and socio-cultural factors. The scattered empirical evidence available points to a positive correlation between growing firm size and the readiness to introduce these new technologies.^{3/} One reason is that in many cases the application of the new technologies requires extremely high amounts of investment capital. Firm-economies of scale therefore tend to become a decisive factor for reducing unit costs of production. It should also be noted that by and large wages are lower in small firms than in large ones, which reduces the economic incentive to adopt labour cost-saving microelectronic technologies.

The impact of microelectronics on SSI as subcontractors is fairly ambiguous. Microelectronic production techniques create the need for absolute reliability of inputs and components both in terms of delivery schedules and of quality standards. Sub-contractors in developing countries may fail to meet these requirements, stimulating further backward vertical integration of large firms, be they indigenous or multinational enterprises. In computer

1/ Report of the Panel, in: von Weizsaecker, E.U. et al. (eds.), "New frontiers in technology application. Integration of emerging and traditional technologies", Dublin 1983, p.7.

2/ UNIDO, "Prospects of microelectronics application in process and product development in Africa" (UNIDO/IS. 331), (prepared by M. Radnor), 22 July 1982, p.1

3/ Cf. e.g. "Microelectronics in small/medium enterprises in the United Kingdom", in ILO: Blending of New and Traditional Technologies, op.cit., p.99 ff.

manufacturing e.g., there is apparently already a tendency to increase captive semiconductor production capacities with the purpose of improving components reliability.^{1/}

The overall impression may be that, apart from those areas where highly skilled, specialized and innovative SSI are involved, the emergence of new microelectronic technologies will on the whole strengthen the role of large-scale, heavily capitalized enterprises in the developing countries. Where this is either due to the information advantage of larger enterprises or to skill constraints of managers/workers in SSI, there is a convincing case to be made for policy support measures aimed at eliminating these bottlenecks in the adoption of new technologies within SSI.

^{1/} Cf. UNIDO, "Restructuring world industry in a period of crisis - the role of innovation" (UNIDO/IS.285), (prepared by D.Ernst), 17 December 1981, p.198.

III. POLICIES, STRATEGIES AND PROGRAMMES FOR SMALL-SCALE INDUSTRIAL DEVELOPMENT

1. Some general principles for support of the small-scale industry sector^{1/}

Whereas the sectoral distribution of SSI is heavily influenced by technological aspects of the production process, their overall importance and role in a country's economy is largely dependent on the overall industrial development strategy and specific Government policy measures. Industrial policy is often primarily directed towards large-scale, capital-intensive enterprises in urban areas. The rationing of import licenses or of bank loans normally has the same effect: larger enterprises have both the knowledge and the resources to cope with the administrative procedures connected with such schemes. In this way many policy measures - although not directly aimed at favouring larger scale industrial activity - have actually worked to the disadvantage of SSI. There would thus be a strong argument for neutral general policies and specific policy support measures promoting SSI.

Before a more detailed examination of assistance to SSI is taken up in the next chapter, it may be useful to present a general overview of the assistance framework for small enterprise. Apart from a generally favourable business climate, public policies are often essential to realize the development potential of SSI. Some general principles of support to the SSI sector are:

- a macro-economic policy package (development of primary resources, education and training, savings, investment, foreign trade and public/private sector policies) which also creates a favourable environment for small private industrial enterprises;
- clear Government priorities creating an atmosphere of continuity and certainty;
- public industrial development programmes aimed at the SSI sector disposing of a well-functioning branch network interconnected with a number of specialized functional, resource or service centres. The public programmes should be staffed with personnel which does not only dispose of the expertise needed to assist small industrialists but is also sympathetic to the business environment;
- promotion of co-operatives and other self-help organizations.

^{1/} The following sections are based on "Policy recommendations for the strengthening and promotion of small-scale industries", prepared by the Regional and Country Studies Branch, UNIDO.

Evidence on industrial promotion schemes in many developing countries suggests that most measures focus on selective assistance to enterprises, often in the form of attempts to rescue enterprises experiencing difficulties. General improvement of the economic and business environment would encourage enterprises to help themselves. This is especially important for the development of the SSI sector: it cannot be fostered by ponderous bureaucratic procedures, the more so because SSI are less effective than large scale enterprises at protecting or furthering their interests within bureaucratic, institutionalized systems.

2. Areas for special support schemes

Development programmes for the SSI sector have to be of an integrated type, but would need to focus on the following areas that are of crucial importance:

- Credit; often the greatest single impediment to the growth and diversification of the SSI sector. Long and short term credits to small scale enterprises should, where necessary, involve managerial assistance so as to enable enterprises to upgrade their financial planning and control procedures as well as to introduce systematic accounting techniques.
- The enlargement of markets. Governments can play an important role in the development of international as well as local sub-contracting information services, and in opening up new markets; public sector procurement is one example of the latter (see also Annex I on the ancillarization approach in India).
- The development of production know-how. Whereas general education and training systems can generate basic skills and the accumulation of practical experience in the application of production technologies can broaden these skills, technical consultancy services (i.e. specialist technical skills) may be needed to help SSI service and exploit their installed capacity and to enhance their production technologies, upgrading SSI competitiveness. Public sector organizations and research establishments can help accelerate the diffusion of new concepts and techniques and should reinforce domestic technological capabilities, focusing on nationally available human and natural resources (see Annex I on the Technology Services Delivery System in the Philippines).
- Legislation to strengthen the position of SSI in deals with financially stronger business partners.

UNIDO has been involved in co-operation programmes covering the various aspects of assistance to SSI. The UNIDO Programme for Small- and Medium-Scale Industries Development is described in detail in Annex II; elements of UNIDO activities in the field are also reviewed in Chapter IV.

3. The identification and development of industrial projects

The increasing involvement of industrial development agencies in project identification and project planning potentially should facilitate the emergence of 'bankable' projects, but often results only in paper projects. There seem to be two main reasons for this: (a) project proposals are generally prepared in a 'vacuum', remote from (potential) owners or managers and from the harsh realities of commerce or industry; (b) proposals tend to concentrate on production - market potential is not often examined.

Funding agencies and development institutions also have a responsibility to advise and preferably train prospective clients in project preparation and presentation. Experience of industrial promotion programmes in developing countries suggests that even in countries at an initial stage of development significant numbers of people at the local level are willing and can be encouraged to assume the risk-taking role of an entrepreneur, but few are aware of the steps involved in developing an investment project proposal and can cope unaided with the procedural formalities.

Special institutional arrangements are needed to ensure efficient delivery of assistance to small enterprises. Wherever possible governments and development agencies should avoid creating new institutions. Institution building is costly and time-consuming and skills combined with commercial experience are scarce in new institutions. But as in key areas of assistance to small enterprises (such as management advisory services and financial assistance) close working relationships between development officials and entrepreneurs are necessary, special institutional provisions may be needed. Experience has shown that active participation of industrialists in such institutions is essential. It may also be necessary - in spite of higher costs - to decentralize decision-making processes within development agencies to match the operational time scales and needs of small enterprises.

4. Infrastructure services and industrial estates programmes

If SSI are to expand beyond the local level, road and telecommunication networks and suitable industrial sites must be provided. Location of a number of SSI in close proximity facilitates commercial, repair and maintenance services and inter-industry linkages and subcontracting. Industrial development agencies have sought to provide such services and buildings within

industrial estates or parks. An important aspect of such development initiatives is that such concentrations of industry demonstrate progress and may thus encourage similar activities. Industrial premises and estates, however, are expensive capital investments requiring exhaustive feasibility studies and preparations. They are perhaps best regarded as reinforcements for the expansion of an established industrial base rather than as initiators or catalysts of industrial development, and seem more suited to meeting the more specialized and exacting needs of medium scale enterprises than those of very small enterprises. Some experiments in providing accommodation for 'fledging enterprises' in mini-estates have been successful, but for the majority of small enterprises, it is perhaps better to rely on their adaptability and flexibility in the use of converted or existing accommodation in the early stages. Governments can stimulate local SSI by extending contracts for infrastructural improvements which are technically and organizationally within SSI-scope (construction, building of feeder roads, etc.).

5. Support for the development of established SSI

While there is an understandable emphasis on special measures of assistance for the promotion of new enterprises in developing countries, equal priority should be given to strengthening and upgrading the activities of established small enterprises. Given the shortage of capital and entrepreneurial/managerial skills within many economies, great attention should be paid to ensuring that those already in existence maximize their contribution to economic development. Three major difficulties inhibit progress in this area: first, there may be a conflict of objectives between Governments and established industrial enterprises; second, established enterprises tend to be more demanding in the quality and range of assistance required; third, if the supporting agency is a public institution, there may be lack of understanding between civil servants and entrepreneurs.

While Governments and development agencies tend to orient their programmes and activities towards medium or longer term objectives, which normally include considerations of employment or equity within the proposed overall pattern of development, individual industrial enterprises tend to have shorter term objectives and in particular tend to be highly profit oriented. The legal, administrative and fiscal arrangements established by Governments

for broader policy objectives may conflict with the immediate priorities of small enterprises which anyway are less well equipped to cope with the demands of bureaucracy.

Once small industrial enterprises have been in existence for a length of time, they tend to become surprisingly adept at dealing with routine organizational and production problems. Further development of their industrial activities therefore requires more specialized skills. These will also have to include specialized technical information and advice, managerial expertise to assist with organizational difficulties in periods of transition, growth or diversification, and broadening the range of market opportunities to which the enterprise has access including export markets.

If an enterprise is to grow, increased output quality and efficient technology application are essential. New technologies are not often adopted by SSI in developing countries; improved existing technologies will on the whole be more suitable for them. Development agencies can play a role by providing technological expertise, but it is not an easy task for them to provide assistance in this field. Not only does it demand much technical and commercial experience, but competition between small enterprises and external influences such as competing imports or advances in technology complicate the situation. Organizing "self-help" networks among entrepreneurs for the exchange of new ideas could be a relatively simple and more efficient way of stimulating technological expertise and creativity.

6. Support staff training

The range of skills required for SSI development institutions covers administrative, organizational and managerial tasks as well as various technical production skills. Given the large population of small-scale industrial enterprises, the variety of output and the scattered distribution of producing units, industrial development agencies are faced with severe difficulties in creating the skilled manpower necessary to both support existing activities and to promote the creation of new industrial capacity.

Four main fields of training and retraining programmes can be singled out as particularly important: financial control and accounting, management and 'shop floor' supervisory tasks, marketing (including sales and tendering), and

technological aspects of production. Short formal training courses reinforced by practical experience would be required to create the skill base for the organizational and management tasks. The technical aspects of production including production control, product development and quality control require more basic technical training, which is both highly specialized and requires a longer period. It is in this area that specialized technical support from institutions of higher education, technical research and development, test laboratories or even from large-scale industry are most needed. In addition development agencies need to ensure that their personnel has the necessary skills in industrial promotion, project identification and development, project presentation, and in consulting services.

7. The regulation and monitoring of SSI

Given the importance of the SSI sector, Governments have been concerned to bring the activities of this subsector within the purview of official regulatory organizations. To some extent this aspect of regulating and monitoring of industrial activity may conflict with the task of expanding and creating new industrial capacity, particularly with the task of investment promotion. Hence development agencies should simplify and facilitate an enterprise's relationship with the various departments and agencies of Government rather than enforce the application of bureaucratic controls. Registering or licensing, e.g., which is generally a prerequisite for assistance, should be simplified as much as possible. Government legislation should altogether have a promotional rather than a regulatory character; it should provide a favourable environment rather than a detailed development model. This view is also shared by present-day donor agencies. Balanced development, however, is unlikely to occur without policies and co-ordinating measures formulated by Governments - even the most highly developed countries cannot do without them.

Almost all Governments have attempted to bring small industrial enterprises within their regular surveys of industrial output; an improved database is essential for the formulation of development policies. However, comprehensive coverage of small enterprises is often not feasible. One

solution would be to monitor key parameters of performance in small enterprises on an annual basis and carry out more comprehensive surveys at three year intervals; another is to rely on the boards of SSI associations to gather data at the individual plant level.

8. SSI development policies in ESCAP member countries - an overview

In the above, brief reference has at various points been made to the fact that individual Governments of countries in the ESCAP region have formulated and implemented special policies to stimulate the development of SSI. An overview of policies and measures by country deemed to be of particular interest in the context of this review is given below.^{1/}

Bangladesh

The industrial sector being heavily dominated by traditional SSI, the Second Five-Year Plan (1980-1985) emphasized rural industries mainly catering for the local market for simple producer and consumer goods. To support local industry, basic infrastructure was improved and the linkages between public and private enterprise were strengthened. The 1982 New Industrial Policy protects local industries by special tariff measures and pays special attention to geographical dispersal and the exploitation of local resources. Linkages with larger industries, quality improvement and technological upgrading receive special attention. A special Small Scale Industries Development Commission has been established within the Ministry of Industry.

Burma

Policies for the development of SSI are part of Long-term and Short-term Development Policy plans formulated for a 20-years period in 1972. Technical

1/ More details will be found in the summaries of the country studies presented at the UNIDO/ESCAP Ad Hoc Expert Group Meeting which have been summarized in Annex VII The note on the South Pacific Island countries is a summary of part of a "Report on the development of small- and medium-scale industries in the ESCAP region", prepared by ESCAP; the note on the Republic of Korea was summarized from "Korean small business - Current issues, policies, and promotional activities" by Yun-Sang Choi, (Korean contributions mentioned in footnotes have been published in)

training, assistance and research and quality control are provided by government institutions. A large part of SSI is organized in co-operatives (which to an extent dispose of their own training facilities). Assistance to co-operation takes the form of loans, inputs and machinery. In co-operation with UNDP/ILO, SSI plant and technology are upgraded under the "Small Scale Industry Development in the Co-operative Sector" programme. The Federal Republic of Germany assists in improving the performance of industrial cooperatives and in the establishment of a technical consultancy unit within the cooperatives.

China

In an effort to distribute economic growth more evenly, industry in rural areas has received much support. So far, policies have concentrated on labour-intensive SSI with low capital requirements having linkages with agriculture and also encouraging the rural population to use local non-agricultural resources. Support takes the form of low-interest loans and tax incentives; otherwise, funds are largely provided by the local collectives themselves. Policies have now begun to stress environmental and technological improvements, with part of the funds provided by central and local authorities. Planning will pay more attention to the integration of SSI in the overall economy. Recently, subcontracting to large industries in urban areas has begun to receive attention.

India

Overall development strategy pays special attention to SSI through the "Village and Small Industries programme" while pursuing integration with other sectors of the economy and the correction of regional imbalance. SSI production is protected by special measures (e.g. product reservation), and co-operation within the sector is strongly encouraged. All-round support, from infrastructural and credit facilities to feasibility studies, is available. In recent times, technological modernization has received special attention. There is a continuous interest in stimulating the handicraft sector through the introduction of simple technical improvements. Another recent policy measure is the stimulation of ancillarization, an intensive form of co operation between large (government owned) and small industries.

Indonesia

SSI programmes are an integral part of overall economic and industrial policy. Besides assistance to traditional, mainly rural SSI, much attention is given to promoting modern SSI which has close relations with the machinery and electronics industry. Certain productive activities come under reservation schemes for SSI. For the diffusion of SSI throughout the national economy, infrastructural support is made available under the Small Industry Estate, Small Industry Village and Common Service Facilities programmes. Small rural industries are clustered for greater efficiency. Support measures include training and information services, feasibility studies, credit, provision of capital goods and inputs and export promotion.

Malaysia

The Fourth (1981-1985) Malaysian Plan seeks to integrate small-scale enterprise in the overall national development strategy. Support programmes range from feasibility studies to export incentives. As in Indonesia, product reservation schemes exist. Banks have to set aside part of their loanable funds for small enterprise, some of it to be made available on special, favourable conditions under the Special Loan Scheme. Inter-firm information exchange is encouraged and a subcontracting exchange will be set up to improve links with big industry. A special package programme for bumiputra (native) entrepreneurs has been made available with World Bank assistance.

Nepal

An Industrial Service Centre provides a package of non-banking services (information on investment opportunities, procedures, policies etc.) and carries out feasibility studies. Banks have recently been obliged to invest in small enterprise. Tax incentives favour SSI above large industry. Training, promotional services and raw material supplies are provided by the Cottage and Village Industries Board, which also manages some SSI projects. The Cottage Industries and Handicrafts Emporium was specially set up to facilitate the supply of inputs and to market finished products. With IDA assistance, special support has been made available for (largely

export-oriented) handicraft industries. This scheme will be extended during the next economic planning period. As an experiment, collateral requirements have been waived in districts where a special financial assistance programme is carried out with World Bank assistance.

Pakistan

Under the present Five-Year Plan, SSI has been designated as one of the leaders of the export industry. Support consists of improved designs credit, marketing and export facilities. The activities of the Small Business Finance Corporation will be expanded in the near future. Special attention to SSI is given in the provision of physical infrastructure e.g. in the form of SSI estates. Training, information and technical services are also provided. Subcontracting is stimulated. The institutional infrastructure includes special Provincial Small Industries Corporations, set up by the Government to provide a wide range of services.

Philippines

Under the Philippine Development Plans, a variety of special agencies deal with SSI. Activities are co-ordinated by the Commission on Small and Medium Industries (SMI). Financial assistance emphasizes fixed assets rather than working capital. In co-operation with educational establishments a special programme has been designed to upgrade business training and to stimulate entrepreneurship, both among students and in the towns and villages where the schools/universities are located through the Institutes for Small Business (ISBs). Channels for various types of extension service and methods of identifying small and medium enterprise potential are being improved with USAID support.

Republic of Korea

The 10-year Long-term Promotion Plan for Small and Medium Industry was adopted in 1982 to raise the value added, employment and investment shares of small and medium industry to some 50 per cent of national totals. A central role in formulating, initiating and co-ordinating support plans is played by the Small and Medium Industry Promotion Corporation (SMIPC).

Promotion policies for small business include financial, technological and marketing assistance encouraging (by financial support, government contracts, etc.) the formation of co-operatives and stimulating technological and managerial modernization through extension and information services and training programmes. Certain areas of production are reserved for SSI on the basis of efficiency and comparative advantage criteria. Special assistance is given to SSI which locate in rural areas and for new ventures employing advanced technologies. Government has established a Small and Medium Industries Promotion Fund providing long-term low-interest loans. Commercial banks must reserve part of their loanable funds for small business and are also encouraged to invest in small enterprises.

Singapore

Assistance is mainly given to SSIs which have linkages with large modern industries, the role of traditional SSI in Singapore being a very subordinate one. Grants and tax incentives are available on R and D incentives, and a science park is under construction. The focus of the assistance schemes, a large part of which is provided through the Economic Development Board's Skill Development Fund, is on sophisticated technologies and factory automation and includes low-interest long-term loans, consultancy, a state-supported robot leasing/robot consultancy company and manpower training. Manpower development is also the object of a number of training units which have been set up in cooperation with aid donors and overseas investors.

South Pacific Island countries

The South Pacific Island countries are predominantly agricultural economies largely relying on export crops and importing most of their manufactured goods. Their remote location makes trade links costly; on the other hand, it provides a certain "natural" protection for SSI serving the domestic market. Schemes reserving resources for domestic entrepreneurs already exist, but to develop these economies and to provide more employment, industrial development plans should be formulated. In spite of the small scale of the projects, a comprehensive approach would be needed to guarantee long-term gains. These development plans would be an important step forward in the development of the economies of the South Pacific Island countries, most of which have not formulated definite industrial policies so far.

Sri Lanka

Economic policy stresses the diffusion of development both spatially and among population groups, for which SSI is a major instrument. SSI production is protected by import tariffs, and stimulated through tax and investment incentives, training and management services, design and craft centres, marketing assistance. Many of the services are provided through the Rural Industries Development Corporation, which also participates in SSI by buying equity shares. A Subcontracting Exchange (SCX) was established in 1981 to improve contacts between SSI and large industry. Rural Development Banks have been set up by the Government to help meet credit requirements of small entrepreneurs.

Thailand

Current and coming development plans recognize the essential role of SSI in developing the country's industrial base and promote the diffusion of industrial development throughout the country, away from the Bangkok area. Attempts are made to harmonize industrial dispersal with regional urban development plans. Policy is implemented and co-ordinated through the Department of Industrial Promotion (DIP) and support to SSI includes feasibility studies, low-interest loans, vocational, entrepreneurial, management and technical training, product upgrading and information services. To assist the dispersal programme, regional industrial service offices have been established.

9. Towards a regional programme for SSI development in Asia and the Pacific region

Due to its very nature, SSI to a large extent operates on its own within the limited framework of local markets. However, it has been shown above that there is a strong need to enhance the role and to utilize the large development potential of the SSI through measures at wider levels. In many countries in Asia and the Pacific an extensive institutional framework and significant experience with industrial development in the small-scale sector already exist. Examples of two regional institutions, the Asian Productivity Organization (APO) and Technonet Asia, are given in Annex VI. The priority

for the immediate future is to upgrade the capabilities of existing agencies both at the national and regional levels, so as to improve their effectiveness. Weakness in technical or commercial support services may be dealt with by appropriate assistance from the international agencies, but most of the countries could now benefit from their own experience and from that of other developing countries. Both the successes and failures of other countries can help policy-makers to formulate proper strategies - the experience of other countries should, however, serve as an instructive example rather than a blueprint: specific situations call for specific policies. This should also be borne in mind by international organizations involved in SSI assistance. When intra-regional experience and resources are utilized for a supporting programme among the countries in the region, priority areas should be singled out to make the most of the available resources.

There seem to be four major areas for regional consultations. First, the improvement of information flows on technologies, markets and other key economic factors to national and regional bodies. Second, the recording and disseminating of progress in development techniques and methodologies. Third, joint elaboration of innovative approaches to encourage the growth and efficiency of SSI. This may include the utilization of new information technologies to increase the presence of SSI in the market. Fourth, the training aspect whereby skilled and experienced 'practitioners of development' learn from each other and are being exposed to new concepts from external sources.

IV. SSI SUPPORT - SOME KEY AREAS FOR ATTENTION

1. Entrepreneurship development^{1/}

A key element in the present-day discussion about development is the renewed awareness of the central role of entrepreneurs, "individuals who are risk-takers, daring, innovative, assertive, and motivated enough to strike out in industrial ventures...." Governments and other bodies may provide support of the various kinds outlined below, but the actual economic gains have to be realized by well-run enterprises. Strong entrepreneurship is therefore of prime importance for the process of economic growth. In developing countries, which find themselves confronted with the urgent need of catching up in a rapidly changing international economic and technological environment, and where general education and industrial experience are far from ubiquitous, special measures are needed to stimulate (potential) entrepreneurs and increase their know-how.

Many factors play a role in the development of entrepreneurship. Basic entrepreneurial characteristics like risk-taking, achievement orientation, etc., are a result of family, peer group, educational and general social/cultural influences. The overall economic situation, market conditions and economic policies represent the environment in which these qualities must be translated in economic activities. Stimuli do not only come from a favourable economic environment; social appreciation of the role and problems of the small industrial entrepreneur is essential for success as well.

Entrepreneurs may undertake some form of business activity only after previous, related experience, but nevertheless often require a wide range of new skills and knowledge. Because of the operational characteristics of small enterprises, owner/managers are not readily available for training etc. once an enterprise is in production. There is therefore a need for short-term training in management skills before an entrepreneur establishes his

1/ Mainly based on "Entrepreneurship development: basic issues and industrial support mechanisms", prepared by the Institutional Infrastructure Branch, Division of Industrial Operations, UNIDO.

enterprise. The quality and availability of training materials and manuals through which entrepreneurs might inform and train themselves, supported by distance learning methods, will often need to be improved. Problems of language, dialect, technical terminology, literacy and numeracy need particular attention when assistance is provided to small enterprises in remote and relatively undeveloped areas.

Several countries in the ESCAP region have initiated entrepreneurship development programmes. They are part of the Indian Village and Small Industry and the Malaysian Majlis Amanah (MARA) programmes and occupy a central place in the Local Study Mission and Sectoral Productivity Association projects in the Philippines (see p...). Business associations, Chambers of Commerce, and other NGO's in various countries are also involved in entrepreneurship development; these schemes, being organized by people who are familiar with the business environment, could serve as examples for further initiatives.

UNIDO's Small Enterprises and Entrepreneurship Development (SEED) programme

UNIDO's Industrial SEED programme is directed towards mobilizing indigenous entrepreneurial capacities and identifying persons with the right attitudes and ideas. The programme covers the period from the selection of the entrepreneur through the planning and setting-up of an industrial operation to the break-even point of the enterprise in question. The goal is quality rather than quantity: the emergence of a few sound enterprises with long-term viability is considered to be a more important achievement than the setting up of the largest possible number of firms. Procedures and techniques are chosen to suit both local circumstances and more general development objectives. A small central executive agency co-ordinates the elements of the support programme which covers all aspects related to the setting-up of an enterprise. Care is taken not just to transfer technical skills, but also to foster the values and attitudes which made an entrepreneur. Experience with the programme has shown that a business-related background is not essential for the emergence of entrepreneurial talent - candidates for the programme come from a wide variety of backgrounds.

2. New forms of small industry co-operation

(i) Overview^{1/}

In the present unfavourable business climate, immediate, individual gain may seem more important to the small entrepreneur concerned with survival than the long term benefits of co-operation. Yet, a well-established co-operative organization provides the more effective defence in critical situations. Creating sufficient awareness of long-term collective gains among members of a co-operative is a difficult, time consuming process. Experience in various developed and developing countries shows that industrial associations set up with very specific objectives in mind have the best chances of succeeding and have a long life. Co-operation, in other words, should not be a vaguely defined principle but have a clear-cut goal.

The problem of individual versus general benefits also crops up when co-operatives cater for the same markets. In several cases, competitive struggles for market shares have taken on proportions which prevented further growth of the SSI involved. Associations which are set up with the objective of sharing services are less likely to become rivals of a counter productive kind.

Many developing countries' small-scale industries have formed associations, partly with Government support. Such associations may be organized to cover small industries in general or those of a particular region or branch. Government support tends to focus on these specialized associations. Representatives of SSI associations are often called to be members of advisory councils and boards of the relevant Government institutions. A particularly active organization in this respect is the Korean Federation of Small Business (KPSB), with well over 16,000 members. Its activities involve the co-ordination of subcontracting, collective purchasing and selling, establishing contact with overseas buyers and investors, information services, technology transfer and policy recommendations to the Government of the Republic of Korea.

1/ Based on "New forms of small industries' co-operation", prepared by the Regional and Country Studies Branch, UNIDO.

SSI in most countries are confronted with the same set of problems, i.e. acquiring access to growing and changing markets, keeping pace with technology development and handling increasingly complex accounting and financing systems and managerial tasks. The key issues for SSI co-operation, therefore, can be listed as follows:

- promotion of contacts with large industries (subcontracting exchanges; SSIs with supplementary production entering in joint contracts with large industry, etc.);
- marketing activities (including the collection and dissemination of marketing information, participation in trade fairs, export marketing, etc.);
- R and D;
- administrative services (accounting, tax administration, auditing, etc.);
- co-operation with financial institutes in the context of special SSI credit schemes;
- operation of SSI technical service institutes (testing, quality control certification) or guidance to and co-operation with public or semi-public technical service institutes;
- up-grading management and technical skills.

The rapid technological developments resulting from the "Third Industrial Revolution" present a special challenge to SSI. In the textile sector, e.g., where a very large number of small enterprises is found, computerized production and control are making rapid advances, both increasing production flexibility and the demands made on financial and specialized skill resources and on management. Although the trend towards smaller and cheaper electronics reduce the importance of economies of scale in some respects (and also increase the potential for SSI dispersal), joint action of SSI could be useful in several fields, such as the development of software. Spreading the overhead costs of modern technological (e.g. microelectronic) production capacity over a wide range of products facilitates their recovery. This is more likely to be economically feasible when small entrepreneurs co-operate to co-ordinate their range of output. Special skills required to handle new technologies can be acquired at a lower cost per enterprise when SSI join forces.

The present era of rapid technological change is also a period of recession and stagnation in many national economies. Business failure is common and obtaining credit and a proper understanding of the problems and possibilities of the present situation is especially difficult for the small entrepreneur. Joining forces, SSI could both acquire the expertise and the clout needed to deal with an unstable business environment.

International co-operation between SSI associations is still uncommon. The Republic of Korea has a co-operation agreement with the Malaysian Government under which SSI entrepreneurs from Malaysia are being trained in Korea. Korean small entrepreneurs have been invited by the Malaysian Government to work with their counterparts in Malaysia to raise the production standard of car components, a building block for the development of a national car industry.

There would be scope for more extensive co-operation between SSI in developed and developing countries; Sweden has played a pioneering role with its "sister industry co-operation" project with Tanzania and UNIDO has helped to negotiate several similar plant-level co-operation agreements (see also Annex V). Small firms in Japan have entered into joint ventures with developing country SSIs. Thus, an international network could be created which to an extent counterbalance TNC influence. The fact that small enterprises in developed countries are becoming more service-oriented as a consequence of overall changes in the economic structure does not have to be a drawback. Associations of such enterprises could e.g. provide much-needed management and marketing expertise.

The experience of the Fosieby Group of Entrepreneurs in Malmö, Sweden as a "self-help" organization may prove useful for those involved in SSI in developing countries - even if the Group operates in a developed and highly industrialized country^{1/}. The Fosieby Group does not rely on Government funds, (members pay a modest subscription fee) and its activities require only a minimum of staff and overhead costs; this by itself is an interesting point for entrepreneurs in developing countries where finance and skilled staff are generally in short supply.

1/ A summary of this document may be found in Annex VIII.

The Fosieby Group has served as an example for other entrepreneurs in Sweden. SSI co-operation has become common, and is stimulated by a national federation which also co-ordinates information exchange between members.

The experience of SSI co-operatives in Sweden shows that:

- close physical proximity is essential if entrepreneurs are to co-operate intensively. Even in a country like Sweden, with its extensive (tele) communication systems, over 90 per cent of industries belonging to a co-operative association are located in the same town;
- there is an upper limit to the number of companies in an association (in Sweden, the great majority of associations have less than 100 members). In large associations, intensive contacts between entrepreneurs are less likely;
- co-operatives should be formed with specific purposes in mind. Successful activities of the Fosieby Group include services sharing (and providing services to local residents, many of whom work for member companies), bulk buying of supplies, training and information, marketing and lobbying for government support and subcontracting arrangements with large enterprises.

3. Linkages between small and large industries

(i) Overview^{1/}

The nature of the relationship between small and large industries should always be seen against the background of national development goals. The industrial structure will always include large industries exploiting economies of scale and major natural resources. Using the services of smaller units, however, enables large industries to concentrate resources on essential elements of the production process and to increase production flexibility. Special products or small production batches and special services can be handled by small outside units. SSI are also able to mobilize resources which a larger unit could not mobilize in an economically justified way.

Linkages with larger industrial establishments are thus a major factor in SSI development. For the small industrialist, the larger unit has the advantage of being a single customer placing orders of considerable size;

1/ Based mainly on "Linkages between small- and large-scale industry", prepared by the Institutional Infrastructure Branch, Division for Industrial Operations, UNIDO.

generally it is located nearby as well. Marketing costs for the small entrepreneur are thus at a minimum (provided that the physical infrastructure is good). Larger units often use more sophisticated technologies, which implies potential learning effects for small industry. In fact, many SSI have been set up by entrepreneurs who acquired their know-how while working in larger enterprises.

The division of labour between large and small units is thus in principle mutually advantageous. The question remains whether, given this division of labour, assistance to SSI should be based on the needs of large industries or should focus first and foremost on the needs and abilities of SSI. There are also practical obstacles to be surmounted. SSI are not always able to meet delivery schedules and product specifications. On the other hand, the larger size of its partner also implies greater bargaining power, so that large industries can often virtually dictate conditions to SSI. The vulnerability of SSI in this respect may become especially clear during recessions, which usually present fewer problems to larger units with greater resources.

In developing countries SSI's serving as suppliers to large industries will have to be located close to the latter. Infrastructural costs are often too high to permit wide dispersal. For the same reason, such SSI's may often have to be located close to the larger conurbations.

Linkages in industry can take a various forms. The main ones are:

- subcontracting which may either involve processing materials for the purchasing company, or the provision of parts or assemblies. At a certain stage of development, R and D and design may also be the subject of subcontracting arrangements;
- ancillarization, a particularly intensive form of co-operation between a large and a small company which includes training, know-how transfer etc. by the larger company;
- complementation, involving products which can also be marketed by themselves (e.g. electronics components, bolts, computer peripheral equipment);
- maintenance and repair services.

In the following two sections, special attention will be given to subcontracting in the small scale electronics industry and to ancillarization, two highly topical issues in the Asian and Pacific context.

(ii) Ancillarization^{1/}

Ancillarization is a close, long-term relationship between a small and a large industrial company in which the small enterprise supplies the major part of its production and inputs to the larger parent company and the parent company provides software, training, etc., to the small company. Thus it is basically a subcontracting arrangement with the concomitant advantages, but mainly involving one buyer who also transfers (technological) expertise to the smaller enterprise.

Ancillarization is widespread in Japan and India, and the Indonesian "bapak angkat" subcontracting scheme is very similar to ancillarization. Of total sales by small- and medium-scale industries in Japan, over 80 per cent is done as part of such subcontracting arrangements. Ancillarization is strongest on the textile, metal and especially various sectors of the machinery industry (transport, electric and other machinery). In India, Government-owned industries have been among the main vehicles for the expansion of ancillarization: in the years around 1980 the number of ancillary units serving public sector firms doubled. In the private sector, ancillarization is a slower process. Most ancillary units are found in the automobile, engineering and bicycle industries. A study on ancillarization in India has identified a potential of 60-90 per cent in the transportation industry. The service industries also offer good scope, as opposed to basic industries and industries processing such materials as paper, glass and rubber.

Many of the problems of ancillarization are identical to those found in subcontracting in general. Ancillaries do not always comply with specifications and delivery schedules and their cost management would often need to be improved. There also tends to be a rapid turnover of management, with serious loss of experience as a consequence. The parent companies, on the other hand, often order and pay irregularly and use their stronger position to enforce unfair conditions. Nor is there always sufficient commitment to providing organization support. The intensive relationship may

1/ Mainly based on "Mechanisms for small-scale industry development: Ancillarization - development of feeder industries" (UNIDO/IS.551), prepared by V.K. Dhall, UNIDO consultant in co-operation with the Regional and Country Studies Branch, UNIDO.

turn into a dependency relationship. With a guaranteed market for the larger part of its output, the ancillary is not forced to be continuously up-to-date in its technology and marketing strategies. Technological change in the parent company (a change from electro-mechanical to digital switching equipment production) has led to insurmountable problems for ancillaries in India. Ancillarization may work better in relatively unsophisticated industries, as experience with the Indonesian scheme indicates.

A more general constraint on the proper functioning of an ancillarization agreement are the infrastructural inadequacies of developing countries which cause interruptions of the production process and may obstruct communication between partners. Identifying ancillarization opportunities is another problem. The problems and constraints are however outweighed by the advantages of close co-operation in the more traditional technology fields, and many governments have initiated promotional policies and measures. From their experience a number of suggestions can be derived. Apart from a generally favourable economic climate, ancillarization can benefit from such measures as:

- expanding the scope of SSI support measures and facilities to include ancillaries (e.g. entrepreneurship development, product reservation, subcontracting exchanges, technology transfer, pre-feasibility studies), thus strengthening the smaller partner;
- tax adjustments taking account of the special nature of ancillarization;
- special legislation enforcing timely payment of supplies by parent companies;
- identifying ancillarization potential through a.o. improved statistical reporting methods.

(iii) Subcontracting in the electronics SSI in Asia and the Pacific region^{1/}

Inter-industrial linkages between small-scale electronics manufacturers and large industries play an important role in a growing number of countries in Asia and the Pacific region. Inter-country co-operation has been limited till now; this is largely a consequence of the fact that the small-scale

1/ Based on "Small-scale electronics industry as subcontractor in Asia and the Pacific region" (UNIDO/IS.559), prepared by K.H. Plaetzer, UNIDO consultant in co-operation with the Regional and Country Studies Branch, UNIDO.

electronics industry is a recent development in most of the countries, and that it is partly integrated in the production networks of TNCs.

The leading producers in the region are Singapore, the Republic of Korea and India. In all three countries governments have stimulated the electronics industry very actively. SSI accounts for approximately 1/3 of total production in the branch (and for some 2/3 of consumer electronics) in India, where subcontracting receives much support. In the Republic of Korea small- and medium-scale manufacturers each represent some 40 per cent of the total number of electronics firms. In Singapore, the share of SSI is rather modest, but subcontracting has been on the rise during recent years, and subcontractors receive technical assistance from the larger partners. Technologically, SSI in Singapore and the Republic of Korea seem to be the most advanced.

Although Indonesia and Malaysia are important producers, technology levels among small producers are appreciably lower. In Indonesia, some 5,000 SSI, most of them virtual extensions of larger overseas companies, are involved in the manufacturing or assembly of electronics and related employment. In Malaysia, a major exporter of electronic components, small producers are rather uncommon; subcontracting is now receiving Government attention. Thailand has a fairly well-developed industry catering for the national market, but subcontracting is rather uncommon, partly as a consequence of a rather unfavourable tax structure; yet, some 30 per cent of the radio and cassette units marketed in the country are produced by small local assemblers.

The experience of industrializing countries has shown that the role of small-scale industry in the electronics branch primarily lies in the production of components, in complementation and in the provision of industrial services. The scope for subcontracting is unfortunately reduced by the growing integration of production processes. Nor is innovation, with its high manpower and capital requirements, usually within the range of SSI in developing countries. If SSI in these countries is to retain or expand its share in the production of electronics, a high production standard and adaptability to product and process change will be required. Pre-investment guidance, SSI-oriented R and D and training (and retaining) highly qualified

manpower are areas where Governments can assist modernizing SSI. Otherwise, various measures outlined above (Government purchasing, fostering co-operation, etc.) may also be applied here. In section 5 of this chapter, more attention will be given to technological upgrading.

4. Promotion of export-oriented SSI^{1/}

(i) SSI: Export potential and export constraints

Exports by developing country SSI may consist of inputs for overseas enterprises or exports of finished goods which can either have been made on the basis of inputs provided by an overseas industry (e.g. assembly operations) or of locally available raw materials. Apart from the general advantages of low costs and flexibility under changing market conditions (production of small batches), the presence of specific local resources is also important for a number of industries. Both these factors have made certain SSIs internationally competitive. Once again, there is a difference between traditional and modern SSI: the latter may have to rely mainly on the low cost advantage, whereas for the former unique local qualities (e.g. traditional handicraft) also play an important role. SSI export potential seems to be largest in the textiles, wood, leather, processed food, light engineering and metal products industries, and also in certain parts of the electronics and chemicals branches.

There are several constraints on the expansion of SSI exports, which entail a link with a completely different economic environment. High, constant product quality and reliable delivery schedules - weak points of SSI, as noted above - are crucial for success in the international market. Identifying export opportunities is often a problem for the small entrepreneur, as he is unlikely to understand a major international language or the workings of the international market. Operating in this highly unstable environment demands great flexibility on the part of the small

1/ Based on "Promotion of export-oriented small scale industry", issue paper prepared by the Regional and Country Studies Branch, UNIDO, "Promotion of export oriented small-scale industries" by Yeo Gyeong Yun and "Promotion of export oriented small scale industries" prepared by K.S. Stephens, UNIDO/SIDPA.

enterprise; completely relying on the international market alone may be a great risk. Delays in international payments may threaten the financial stability of a small exporter.

(ii) Promotion measures

The business environment in which an exporting SSI operates transcends national borders. Given its weak bargaining position, the efforts of both governments and international organizations to promote inter-country economic co-operation favouring "bottom up" enterprise acquires special significance. The activities of APO and Technonet Asia, outlined in Chapter III, are useful examples of inter-country technical co-operation. More specifically, the following measures may be considered to promote export-oriented SSI:

- tariff/tax reductions, including rebates on customs duties and tariffs on imported inputs;
- export credit guarantees - these have been established in a number of countries in the region, but there is scope for special conditions for SSI, whose financial resources are put under severe strain in the case of delayed or non-payment;
- improving linkages between SSI and enterprises in Export Processing Zones. Spin-offs from these zones to the national economies have remained limited so far, and could be improved by SSI serving as suppliers to EPZ firms;
- priority to the support of SSI with proven comparative advantages (e.g. high-quality handicraft). It should, however, be kept in mind that comparative advantage is a relative, dynamic concept, and that entrepreneurs must therefore learn to adapt their production to retain that advantage in a highly competitive international environment.
- assistance in product development and packaging design to enhance the competitiveness of SSI products in the international market;
- marketing (e.g. through international trade fairs), export facilities (e.g. through export houses) and improved market information flows.

The latter type of promotion provides one area where co-operation between small enterprises can be successful. The Korean Federation of Small Business e.g. sends trade missions to other countries and provides market information to its members.

5. Financing SSI^{1/}

(i) Impediments

For small-scale business, access to credit is often difficult. Commercial lenders in developing countries and even institutions specifically set up to provide credit to the small entrepreneur often consider SSI as a financial risk. Small enterprises do have certain drawbacks in this respect. Loan repayments tend to be highly sensitive to economic downswings, and defaulting is common even in periods when business is good. Small entrepreneurs do not always keep proper account of their business; written records may not even exist. It is thus hard for a lender to acquire an insight in the nature and viability of the prospective client's enterprise. Nor may the latter be able to provide security. The paperwork involved in getting a loan and a full evaluation of the (financial) consequences of the project he is embarking on may prove to be beyond the abilities of the small businessman.

There is on the other hand, a certain conservatism on the side of the credit suppliers. In their opinion, "bigger" all too often means "better". Credit officers tend to have a limited understanding and sympathy for the small entrepreneur. Lack of understanding for the development potential of SSI thus causes part of it to remain untapped through limits on financial resources. Small entrepreneurs, however, also display conservatism: they are often so wary of endebting themselves as to forego good business opportunities and may rely on expensive credit from traditional sources (such as money-lenders) even when cheaper credit is in principle available from modern financial institutions. Credit is quite common in SSI in the form of trade

1/ Based on "Financing of small-scale industries", issue paper prepared by the Institutional Infrastructure Branch, Division of Industrial Operations, UNIDO, "Two-step loan - a financial scheme for small and medium industry in Thailand," prepared by Narondrai Akrasanee and Chintala Visukul, UNIDO consultants, in co-operation with the Regional and Country Studies Branch, Division for Industrial Studies, UNIDO; K. James - "Financial and marketing aspects of small and medium businesses improvement in ASEAN".

credit for inputs, but this type of credit of course covers "running expenses" rather than the cost of improvements or expansion; interest rates moreover tend to be high.

(ii) Some examples of financial schemes for small and medium industry

Although tax reductions, infrastructural facilities etc. may be said to represent an indirect type of financial assistance to SSI, and although one could argue that financial assistance should be scale neutral because a project's substance should prevail over its size, special measures are needed in developing countries to improve SSI access to credit. Arrangements and conditions vary greatly but amongst the simplest and most effective have been the introduction of hire-purchase schemes to facilitate the purchase of tools and equipment, where the asset itself secures the loan. Some promotion schemes provide seed capital to first-time investors, either in grant form or as long term, low cost loans. Other schemes supply working capital to small enterprises. This is the area where shortages of capital are normally most serious, and as working capital requirements are in many ways derived from the sum total of management decisions within an enterprise, they are an indicator of viability and efficiency. Whatever its form, financial assistance should be part of a package which includes business counselling, etc. to be fully effective. The following is a selection of schemes which have been implemented in Asia and the Pacific.

Indonesia

As part of the Integrated Project for the Guidance and Development of Small Industry (BIPIK) of the Department of Industry, extensive facilities have been made available under the KIK (Small Investment Credit) and KMKP (Working Capital Credit) schemes. With World Bank support, a network of some 1,000 branch offices of private, parastatal and state banks has been established to provide assistance. The overall programme is formulated and monitored by the national Bank of Indonesia. To be eligible, the net worth of an enterprise should not exceed Rp. 100 million. Maximum individual loan amounts are Rp. 10 million; depending on the payback record, further loans may be extended. The

value of the collateral has to fully cover the loan. Applications, credit appraisal and approval are decentralized to the local bank branch level. The scheme is backed up by credit insurance agreement. Applications yearly run into hundreds of thousands, indicating the need for SSI credit; unfortunately, no figures on approved applications are available.

Malaysia

The hub of the Malaysian support programmes is the Credit Guarantee Company (CGC). It guarantees banks up to 60 per cent of the amount of loans in default; banks also enjoy tax rebates. Every commercial bank is required to allocate 12 per cent of total loans to small enterprise, part of it through CGC. To potential borrowers, the absence of a collateral for the smaller loans and the low interest rates imposed by CGC (as low as 7.5 per cent for some loans) represent great attractions. Banks, however, have become reluctant to co-operate because of widespread defaulting for which CGC could only provide minimal compensation. Special loan schemes, part of a broad entrepreneurial development package, exist for small indigenous (bumiputra) entrepreneurs.

Philippines

Most aid to small entrepreneurs is directed through the Cottage Industries Guarantee and Loan Fund (CIGLF). It is a joint programme of public and private financial institutions, the Ministry of Trade and Industry and the National Cottage Industries Development Authority (NACIDA). Credit maximum is P 100,000. Collateral is required for 50 per cent of a loan, the other half being covered by a CILFG guarantee. Equity requirement is 20 per cent of project cost. NACIDA helps borrowers to prepare loan requests, and is also involved in the supervision of financed projects, assisted by the local Small Business Advisory Centres. Other financing schemes involve a.o. the Venture Capital Corporation, a business partner rather than a lender. The country's increased economic difficulties have led to increase defaults on backpayments in recent years, and the number of assisted project has been reduced as well.

Republic of Korea^{1/}

In Korea, a variety of institutions and policies exist to financially assist SSI. Government finances the Small and Medium Industries Promotion Fund (SMIPF). Two banks catering specially for small and medium enterprise are the Small and Medium Industry Bank and the Citizens National Bank. Banks operating on a nationwide scale must reserve 35 per cent of their loanable funds for small business, local banks 55 per cent. Private banks extending credit to small enterprises are supported by the central bank and a credit guarantee fund. A special institution, the Korean Technology Development Corporation (KTDC) was set up in 1981 to finance software development, enhancing the international competitiveness of the Korean electronics industry. It is a private company which is supported by the Government and the World Bank. The larger part of the funds goes to small and medium industry. Assistance varies from loans to equity participation.

Singapore

The most significant support programmes are the (Extended) Small Industry Financing Schemes (SIFS and ESIFS) which provide assistance to firms whose fixed assets do not exceed S\$ 3 million. The funds, in which commercial banks, development banks and non-bank financial institutions co-operate, provides both cheap working capital and loans for capital equipment, with the latter now predominating. Collateral requirements are assessed on a case-by-case basis. In recent years, technological upgrading and corresponding skill improvements have received special support. The present economic downturn has led to the introduction of the "one stop" (financial) emergency assistance programme. Of all developing countries in the region, modern credit probably accounts for the highest percentage of loans in Singapore.

1/ Based on "Financing of small-scale industries" by Hang-Seup Shim, Korea Technology Development Corporation, and on "Korean small business - current issues, policies and promotional activities" by Yun-Sang Choi, Small and Medium Industries Corporation.

Sri Lanka

The Credit Guarantee Scheme in Sri Lanka came into operation in 1979. Guarantees are issued by the Central Bank on behalf of the Government. Participation in this scheme is mandatory for all participating banks. The scheme guarantees payment to the participating bank of 60 per cent of the advance granted by it, subject to a maximum cover of Rs. 400,000. The lending institution should pass on to the Central Bank the same share of the net amount recovered after the payment of a claim under the guarantee.

Thailand

In Thailand, financial support policies to SSI are a relatively recent phenomenon. Most of the assistance to small and medium enterprises is given by the Industrial Finance Corporation of Thailand (IFTC). Small-scale projects are defined as needing a maximum loan of US \$132,500. In 1984, a special loan unit for SSI was created. It offers both working capital and credit for fixed capital to enterprises with fixed assets below US \$265,000. A new credit programme was to be started in 1985 with the specific objective of enhancing the competitiveness of export-oriented small and medium industries in selected sectors with a high export potential. It is combined with a technical modernization programme and will initially be limited to 30-40 enterprises. Funds are partly provided through international aid channels.

(iii) Policy suggestions

Although a variety of measures has been taken to counterbalance the orientation of financial support policies towards large enterprise, a coherent policy of assistance to SSI, embedded in an overall development plan, has yet to emerge in most cases.

The experience with subsidized loans of various kinds leads to the conclusion that these are not an unqualified success. First and foremost, such funds have in most cases proved to be insufficient to cover the needs. They have also often been used to finance established firms with good securities instead of the struggling entrepreneurs for which they were meant.

Lack of experience etc. may cause latter to use the funds for non-viable projects or, tempted by low interest rates, they may use them in an uneconomic way. And many small enterprises have persisted in borrowing from traditional sources, in spite of higher costs. From the point of view of the banks involved, lending to SSI is often unprofitable in spite of Government compensation.

SSI may therefore possibly be better served by improving their access to loans through the modern commercial channels. This would, however, involve an essential change in the service orientation of commercial lenders. Collateral requirements for SSI should be eased, and partly be replaced by an assessment of the viability of an enterprise or project. The shortage of qualified and motivated staff of which many financial assistance programmes suffer (and which again and again leads to understaffing of branch offices in those rural areas where they are needed most) will have to be overcome, partly through the consolidation of existing institutions; in private banks, a change in attitude of the officers dealing with small entrepreneurs would be the most essential. The core of experienced loan officers could provide on-the-job training. Backing for credit programmes which rely more on private banks could be provided by improved credit guarantee schemes, and by a specialized, experienced institution in the field (such as IFCT in Thailand or CGC in Malaysia) which could e.g. co-ordinate the training of loan officers, improve the empirical basis for loan appraisal through market research and assist small entrepreneurs in improving their financial management.

6. Technology and SSI

(i) Introduction^{1/}

Small-scale industries generally rely on the special technical skills of the entrepreneurs themselves. In some cases these skills lie in advanced and

^{1/} Based on "Technical support services for small-scale industries in specific sectors, in particular engineering industries", prepared by the Regional and Country Studies Branch, UNIDO; "Small scale industries and technology", prepared by the Technology Programme, UNIDO; and "Technology Display and Resource Centre for Small-scale industries in Malaysia prepared by Anuwar Ali, UNIDO consultant, in co-operation with Regional and Country Studies Branch, UNIDO.

specialized areas of industrial activities (e.g. components for the electronic or optical industry), yet in most cases the basis for small-scale engineering enterprises in a developing country, be they formal or informal sector units, is traditional craftsmanship.

Small-scale industries have developed a marked ability in the efficient and flexible use of general purpose or second hand machinery. In most cases, unfortunately, products are not up to international quality standards, which is partly a reflection of the lack of specialization; and although the small-scale entrepreneur may be innovative enough in the use of limited resources, basic innovation will not be within his reach.

The positive social effects of SSI (income and employment generation in disadvantaged regions or among disadvantaged groups) may be strongest in the more traditional type. Traditional technology, however, is not appropriate in every context, and protecting it may result in economic and technical backwardness, as e.g. the closed-economy period in Sri Lanka has shown. In many rural areas the absence of a developed infrastructure, difficult access to certain supplies and low educational levels may favour traditional ways of producing for direct local needs (simple tools and consumer goods). But overall policy should stimulate the insertion of SSI in the mainstream of development. The positive employment and income distribution effects can be retained if the most labour-intensive of efficient technologies are used. As e.g. has been shown in India and Sri Lanka, even simple technical improvements which can be inserted into existing production processes can lead to dramatic improvements in production without loss of employment, and with substantial income gains. Upgrading technology, and especially the introduction of sophisticated technologies means a greater need/potential for higher quality employment. On the one hand, more expertise is needed, on the other technical improvements can reduce drudgery.

The most advanced technologies in the field of microelectronics or bioengineering can often not be adopted by developing country SSIs. Yet it is important that developing countries do not remain passive followers of technological trends: relying on cheap labour is no longer sufficient for a competitive edge in the modern sector. "Unpackaging" modern technologies does

offer opportunities, and the decentralizing potential of modern electronics could also be tapped. Microcomputers can vastly improve the efficiency of accounting, inventory control, production and delivery planning at a low cost if such capability is shared among a number of firms. Product quality control can be improved through electronics. Agro-industries could benefit from new fermentation techniques. Software could be specially developed to serve the needs of SSI in developing countries.^{1/} Modern capital equipment will reduce the labour intensity of an number of industrial operations, but the employment loss may be more than compensated when the increased productivity of new technologies is translated in increased demand for supplies from other enterprises; a growth of industrial services is also likely. Finally, demand for a number of modern products (such as portable radios) is growing even among low-income groups.

For the introduction of new technologies in a developing country, special measures protecting markets and stimulating linkages may be needed in an initial stage. Technical support will have to be given to SSI; again, it should be part of an overall programme. The small entrepreneur's access to national research institutes should be improved. Moreover, general and technical education levels must be improved to create both a favourable environment and high-quality manpower. For the majority of small enterprises assistance in the area of technology may be divided into three groups: first, improved know-how and access to well-established, 'off the shelf' systems and techniques; second, technical guidance and advice with particular production problems and third, technical support for product adaptation. Assistance should focus on:

- training, technology transfer, information (most SSI entrepreneurs do not realize that technology is a buyers' market);
- the selection of appropriate technologies and machinery - they should be relevant for the environment in which they have to operate;
- improving plant layout and production processes;
- greater precision and specialization.

1/ India made a good start in software design. The initial advantage was, however, lost due to the absence of a supporting technical infrastructure.

For the more traditional SSI, improving overall technical performance should receive special attention; the success of e.g. the Swedish glass artisanat shows that co-operation can lead to significant gains here. Modern SSI would benefit most from pre-investment guidance and the training of high-quality specialists. Co-operation among developing countries (such as provided by Technonet Asia, APO and the programme established between the Republic of Korea and Malaysia) could greatly improve the efficiency of such schemes. Although some of the developing countries in the ESCAP region (India, Republic of Korea) now have their own extensive technology research programmes, for most other countries in the region this may only be feasible through co-operation.

Institutions for technical research often have very limited contacts with SSI, especially in rural areas. To improve such contacts, UNIDO has helped to set up Technology Service Delivery Systems (TSDS) in the Philippines and in the Carribean. Apart from advising on the choice of techniques these systems encompass training and information services and assistance for the improved operation of existing facilities; they also provide solutions for technical and related problems. Programmes are implemented by regional advisory centres distributed throughout the country; co-ordination takes places through a central commission. Where necessary, the centres refer problems to the appropriate research institutes. UNIDO has also assisted in the diffusion of modern engineering technology through a project with the Pakistan Automotive Corporation (PACO). PACO vendors are trained to design and tool car components, enhancing their technical know-how and reducing the country's reliance on imports.

One example of comprehensive technology support to SSI by a Government agency is the Malaysian Technology Display and Resource Centre in Kuala Lumpur, established in 1983. Its functions are:

- upgrading technical and managerial know-how and skills;
- advising on (the financing of) machinery and equipment;
- assisting the improvement of production techniques and products;
- improving the awareness of the general public of the role of SSI.

Staff shortages (especially of technical staff) have so far prevented TDRC from providing all these services, although consultancy and advisory services are being offered. SSI support has also taken the form of a Machinery

Exhibition Centre which introduces equipment for various industry groups (including domestically manufactured machinery) to entrepreneurs. To better diffuse the information available at the Centre, two mobile exhibitions and study tours for entrepreneurs outside the capital have been organized. Facilities, however, are inadequate, and it has proved difficult to adapt information transfer to the needs of small entrepreneurs. This has reduced business response to the activities of the Centre. Co-operation with other Government agencies (especially with the Standards and Industrial Research Institute which a.o. has some experience with technical assistance to SSI) should improve the effectiveness of TDRC's activities.

(ii) Research commercialization in the Republic of Korea^{1/}

The Republic of Korea is one of the new industrializing countries in the ESCAP region which pursue a very active technology modernization policy. Government funded applied technical research for industrial purposes initially concentrated on the heavy industry. From the late 1970's onwards, small and medium-sized industries have been assisted in improving their technology levels through the intermediary of the Korean Technology Advancement Corporation (K-TAC). Although K-TAC is owned by several research institutes closely tied to the Ministry of Science and Technology, it mainly operates on a commercial basis. It markets and sells research results, production licenses and prototype equipment, sponsors R and D and provides management counselling and market research. The transfer of technology takes place through outright sale or through a joint venture with the company in question, after a thorough feasibility study. After an average of five years, K-TAC steps out. Experience so far has shown that K-TAC's capital gains over that period will roughly equal the original investment. K-TAC co-operates with various technology finance companies. These are either of the more traditional kind providing loans or resemble a venture capital company investing in R and D. The Republic of Korea Government also provides loans

1/ Based on "Commercialization of R and D results - the role of a research commercialization company" by Young-Ok Ahn, K-TAC, and on "The success and failure of venture business with special reference to the commercialization of indigenous R and D results from public R and D institute" by Jinjoo Lee, Department of Management Science, Korea Advanced Institute of Science and Technology (KAIST). These documents have been issued).

for technology development which are generally awarded to firms co-operating with research institutes, thus strengthening these ties. K-TAC experience shows that:

- the domestic market (which initially may have to be protected) is an essential factor for the success of a new product; evaluating demand, the competitive environment and price movements at an early stage thus acquires great importance;
- sharing technical and sales facilities with other companies significantly enhances the chances of success for an SME coming out with a new product;
- continuous growth requires continuous innovation.

For the continued viability of organizations like K-TAC, the following is essential:

- competent staff which knows both industry and the scientific community;
- proper selection of entrepreneurs in a joint venture, and the choice of a technology with good commercial prospects;
- sufficient capital reserves - it may take several years before a project becomes commercially viable.

7. SSI in non-metropolitan areas

(i) Problems and policies - an outline^{1/}

Small scale industries in developing countries, especially the more modern type, have often followed the locational patterns of larger industries in and around major urban areas. Good infrastructure, the proximity of other industries (which may serve as suppliers, buyers or sources of information), qualified labour and a large, concentrated consumer market attract firms. Such services as are available to (small) industries will generally be located in the larger population centres, and the same goes for government institutions. Policies have in most cases strengthened the tendency for economic activities outside the primary sector to concentrate in urban agglomerations.

^{1/} Based on "Creation of a conducive environment for small-scale industries in non-metropolitan areas", prepared by the ESCAP Secretariat.

The process of cumulative development in and around urban centres, as noted in Chapter II, has its costs: congestion and pollution, underutilization of rural resources and rural manpower, and the disruptive effects of growing spatial disparities in income levels and mass migration from the countryside to the towns. What represents a gain for individual entrepreneurs may thus have significant social costs.

To redress the spatial development balance, governments have formulated and implemented various policies. Small-scale industry can play a major role here, as large industrial complexes with their great demands on infrastructure, services and qualified manpower are viable outside established urban environments only if a major natural resource can be exploited. Small-scale industries would also be better suited to acquaint rural populations with industrial activities (laying the cultural basis for further industrialization) and to use scattered agricultural resources. Where a sufficiently developed and diversified industrial core is supplemented by essential private and government services, the "service centres" thus created can play a major role in the development of rural areas. Although much can be done to support local initiatives to establish small industrial enterprises in such service-centres, SSI development will normally tend to follow and reinforce development initiatives in other sectors of the local economy rather than initiate or precipitate such developments. Appropriate training and financial assistance to small enterprises in such locations, taking account of their viability in this environment, then becomes very important. Examples of SSI development schemes in rural areas are UNIDO's SEED programme outlined above (cf. p...), China's rural and township industries integrated in the agricultural collectives, India's policies to promote village and small industries, the Indonesian "clustering" system of SSI in rural areas, and the various programmes formulated by the Philippine Productivity and Development Centre which are described in section (ii) below.

Experience has shown that policies to disperse industrial growth can only be successful if they are implemented as an integrated package (improving rural infrastructure and education, extension services, capital subsidies). Total dispersal may lead to the loss of positive agglomeration effects, economies of scale, etc., and heightens the cost of infrastructural works. Locating SSI in or around population centres in the countryside is usually a

better option. Re-settling existing industries has generally proved to be very costly and difficult; policy measures should therefore concentrate on dispersal incentives for new enterprises (which do not depend on actual location in urban environments for inputs, labour and sales) and - primarily - on activating and strengthening existing rural entrepreneurial potential. As unemployment and underemployment are particularly serious problems in rural areas, labour-intensive industries deserve special attention. These, anyway, often fit well in the rural environment, and a basis for industrial development may already exist in the form of traditional handicraft firms.

(ii) Support programmes for rural industries in the Philippines^{1/}

A main source of assistance to SSI in the Philippines is the Productivity and Development Centre (PDC) of the Development Academy. One of its early initiatives was the Medium- and Small-scale Industries Co-ordinated Assistance Programme (MASICAP). It identified industrial development potential at the local level, and this information was used to design project prototypes. MASICAP then sought entrepreneurs and helped them to carry through the project. College and university students assisted in the programme, thus acquiring first-hand experience with development problems. The Market Information and Direct Assistance (MIDAS) project, partly based on the experience gained with MASICAP, provided information to SSI on prices, raw materials, national and international markets. Activities included, where necessary, actual sales and purchases by a series of roving market assistance teams, and marketing training and consultancy were also provided. Special attention was given to exploiting inter-regional trade opportunities within the country. MASICAP and MIDAS was eventually absorbed in the activities the Ministry of Trade and Industry.

The Local Study Mission (LSM) project concentrated on the transfer of technology from the towns to the countryside. On the basis of area- and sector-specific analyses, training and information programmes were set up. These included factory visits and discussions and workshops involving rural

^{1/} Based on "The Local Study Mission and the Association Building projects: approaches to SME development" by A.L. Tolentino, UNIDO consultant in co-operation with the Regional and Country Studies Branch, UNIDO. This document has quoted more extensively in Annex VII.

and urban entrepreneurs. These opportunities were also used to establish business contacts. Results were mainly registered in the larger SSI, where entrepreneurs both have the experience and the means to realize the plans inspired by the exchanges. For very small industries (found especially in the rural food sector) a special programme was formulated.

Sectoral Productivity Associations were an offshoot of LSM. It was felt that co-operation among entrepreneurs who participated in workshops and discussions and working in the same area and sector could bring substantial benefits in the solution of various specific problems. For development authorities such associations would also provide a channel for aid distribution and a feedback mechanism. SPA's have successfully tackled productivity, marketing technical problems, but as soon as a specific problem was tackled, interest in the SPA tended to wane. Associations involved in e.g. joint ownership of processing facilities tend to have a more stable life. Finally, the immediate environment in which such associations operate (local government, financial institutions, other "bottom up" forms of co-operation) has proved to be of great influence on the viability of SPA's.

V. OVERALL CONCLUSIONS AND PROPOSALS FOR FURTHER ACTION^{1/}

In developing countries, especially in rural areas where the majority of the population lives, SSI can make an important contribution to development. SSI generate a substantial part of developing country employment and are a breeding ground for entrepreneurs. They have proved to be efficient users of simple and intermediate technologies and flexible producers of small batches of products using scattered resources which would otherwise not be exploited by industry.

In its further development, SSI is confronted with several major problems:

- Serious shortcomings of several preconditions for industrial development, especially in rural areas (notably in cultural, institutional and physical infrastructure);
- Linkages with larger industries, a major road towards SSI development, suffer from unequal bargaining power between partners. On the SSI side, awareness of linkage potential is often limited, and both low product quality and irregular delivery seriously inhibit stronger linkages;
- Small entrepreneurs are often prevented from tapping markets beyond the local level through lack of knowledge and resources;
- Access to credit, in the form of working capital or finance for capital equipment, is impeded by commercial lenders' policies favouring larger enterprises and the inability of many small entrepreneurs to provide documentation and security;
- Small entrepreneurs in developing countries generally lack the know-how and the resources to introduce new technologies or to make major innovations - yet technological and product renewal are necessary for success under continuously changing market conditions;
- Government policies have focused more on large industry than on SSI; policies for SSI often leave too little leeway for the exercise of entrepreneurship and often are also implemented by bureaucracies with which small entrepreneurs cannot cope;
- There is a lack of co-ordination among agencies assisting SSI and the advantages of an approach which integrates the various aspects of SSI support are not always perceived.

1/ Based on the draft "Summary of conclusions and recommendations" which was considered and agreed to at the concluding session of the Seoul Meeting.

Government agencies involved in SSI development should facilitate, stimulate and co-ordinate the growth of enterprise rather than attempt to impose rigid schemes. Co-operation between agencies and the integration of their programmes could be improved; this overall streamlining could also reduce shortages of qualified manpower. Assistance to SSI should be embedded in an overall policy to stimulate economic development; this macro-approach should also include such measures as raising the general educational level and improving the overall physical infrastructure. To support both overall and SSI development, international organizations like UNIDO could contribute by formulating or expanding programmes of country-level assessments of structural changes resulting from technological development; trends in selected industrial subsectors of special relevance to SSI and other factors in the national environment influencing the emergence of small enterprise. More particularly, such a programme could be formulated for the developing countries in Asia and the Pacific region. Such a programme would involve regular consultations between policy-makers, experts and others involved in promoting SSI.

This macro-approach should be complemented by an approach which pays attention to specific experiences (in the form of in-depth country studies) and specific measures enhancing SSI development. These could include:

Studies on

- the relationship between foreign investment and SSI;
- the experiences of industrial associations working at the sub-national regional level;
- attempts made to integrate SSI and agriculture at the local level;
- the organization, dissemination and application of R and D for SSI;
- methods of providing facilities (e.g. mini-estates) for SSI in rural areas;
- marketing organizations for small enterprises;
- subcontracting potential for highly specialized small industries and industrial services firms;
- alternatives to the present schemes of providing credit to SSI.

Specific measures

- identify unique features of traditional and modern SSI which may be exploited either at the national or the international level;
- identify and stimulate entrepreneurial talent at the local level;
- improved access of SSI to commercial credit;
- improving quality control and overall product quality (including design and presentation);
- creating better facilities for SSI at the local level;
- support to co-operation among SSI both nationally and internationally, the latter specifically to exchange experience and to transfer modern technology and management techniques;
- involvement of SSI associations in the formulation and implementation of support programmes.
- inducements for (groups of) SSI to participate in public tenders;
- providing better links between large and small industries (e.g. through subcontracting exchanges, subcontracting to firms in EPZ's);
- improving quality control and overall product quality (including design and presentation);
- encouraging SSI related R and D and improved access of SSI to research institutes;
- creating information exchange networks;
- human resource development (improved on-the-job, vocational and high-level technical training), involving organizations which are familiar with the business environment.

ANNEX I

UNIDO/ESCAP Ad Hoc Expert Group Meeting on
Policies and Strategies for Small-scale Industrial
Development in the Asian and Pacific Region
17-20 September 1985, Seoul, Republic of Korea
Korea Advanced Institute of Science and Technology

PROGRAMME

17 September 1985

- Opening ceremony - (Presided by Dr. T.W. Kwon, KAIST)
- Opening statements by Mr. N. Ramm-Ericson of UNIDO and Dr. H.G.R. Reddy of ESCAP
- Statement by Mr. Vunibobo, Resident Representative, UNDP, Seoul
- Welcoming address by Dr. Hakze Chon, President of KAIST

Session I

(The role of small-scale industrial development)

- Introductions by Mr. N. Ramm-Ericson of UNIDO and Mr. Yun-Sang Choi of SMIP

Session II

(Programmes, policies and strategies for small-scale industrial development)

- Introductions by Mr. N. Ramm-Ericson of UNIDO and Dr. H.G.R. Reddy of ESCAP
- Country paper presentations including papers by APO and Technonet Asia

18 September 1985

Session III

(SSI-support - some key areas for attention)

- New forms of small-scale industry co-operation;
Introduction by Mr. N. Ramm-Ericson of UNIDO and Mr. R. Aronsson, UNIDO consultant
- Linkages between small- and large-scale industries;
Introductions by Dr. Z. Taluy of UNIDO, Mr. A.S.H.K. Sadique of ESCAP and Mr. K.H. Plaetzer, UNIDO consultant

- Promotion of export-oriented small-scale industries;
Introductions by Mr. K. Stephens of UNIDO and Mr. Yeogyong Yun of KDIC
- Financing of small-scale industries;
Introductions by Dr. Z. Taluy of UNIDO, Ms. Chintala Visetkul, UNIDO consultant, Mr. Kenneth James, ISEAS and Mr. Hang-Seup Shim of KTDC

19 September 1985

Session III (continuation)

- Technology in small-scale industries - current trends and future prospects;
Introductions by Dr. K.H. Plaetzer, UNIDO consultant, Mr. Ali Anuwar, UNIDO consultant, Dr. Young-Ok Ahn of K-TAC and Prf. Jin Joo Lee of KAIST

Session IV

(Development and strengthening of small-scale industries in rural as well as urban areas)

- Introductions by Dr. H.G.R. Reddy of ESCAP and Dr. Z. Taluy of UNIDO

20 September 1985

- Visit to the Banweol Industrial Estate Corporation (small-scale companies)
- Visit to Small Business Training Institutes
- Concluding Session.

ANNEX II

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ANNEX III

LIST OF DOCUMENTS

<u>Document No.</u>	<u>Title</u>	<u>Referred to in Chapter</u>
IHT/APSID/L.1	Provisional Agenda, ESCAP	
IHT/APSID/L.2	Annotated Provisional Agenda, ESCAP	
IHT/APSID/1	The contribution of small-scale industries to industrialization, UNIDO	II
IHT/APSID/2	Policy recommendations for the strengthening and promotion of small-scale industries, UNIDO	III
IHT/APSID/3	Small-scale electronics industry as subcontractor in Asia and the Pacific region, K.H. Plaetzer, UNIDO consultant	IV
IHT/APSID/4	Linkages between small- and large-scale industries, UNIDO	IV
IHT/APSID/5	Financing of small-scale industries, UNIDO	IV
IHT/APSID/6	Technical support services for small-scale industries in specific sectors, in particular engineering industries, UNIDO	IV
IHT/APSID/7	The Technology Display and Resource Centre for small-scale industries in Malaysia, Ali Anuwar, UNIDO consultant	IV
IHT/APSID/8	Entrepreneurship development: basic issues and institutional support mechanisms, UNIDO	IV
IHT/APSID/9	Mechanisms for small-scale industry development: ancillarization - development of feeder industries, V.K. Dhall, UNIDO consultant	IV
IHT/APSID/10	Report on the development of small and medium scale industries in the ESCAP region, ESCAP	III
IHT/APSID/11	Regional co-operation for small-scale industries development and technology sharing: the Technonet Asia experience, Leon V. Chico, Technonet Asia	Annex
IHT/APSID/12	Entrepreneurship development for small- and medium scale industries in selected countries in the region, ESCAP	
IHT/APSID/13	Creation of a conducive environment for small-scale industries in non-metropolitan areas, ESCAP	IV

IHT/APSID/14	Small-scale industries development: a second look, ESCAP	
IHT/APSID/15	New forms of small-scale industries' co-operation, UNIDO	IV
IHT/APSID/16	Promotion of export-oriented small-scale industry, UNIDO	IV
IHT/APSID/17	Small-scale industries and technology, UNIDO	IV
IHT/APSID/18	Two-step loan - a financial scheme for small and medium industry in Thailand, Narongcha Akrasanee and Chintala Viseskul, UNIDO consultants	IV
IHT/APSID/19	Financial and marketing aspects of small and medium business improvement in ASEAN, Kenneth James, ISEAS	IV
IHT/APSID/20	Development of small industries in India - policies, programmes and perspectives, G. Venkataraman, Ministry of Industry and Company Affairs	Annex
IHT/APSID/21	Small-scale industry development in the Philippines, M.S. Salazar, Jr., UPISSI	Annex
IHT/APSID/22	Small-scale industries interface with UNIDO's programme in Pakistan, K.S. Stephens, UNIDO/SIDFA	
IHT/APSID/23	Promotion of export-oriented small-scale industries, K.S. Stephens, UNIDO/SIDFA	
IHT/APSID/24	The Local Study Mission and the Association Building Projects: an approach to SMI development, A. Tolentino, UNIDO consultant	IV
	The role of APO in the development of small industries in Asia, APO	
	Some aspects for the development of small-scale industries in Burma, U Khin Tun, Ministry of Co-operatives	Annex
	Rural and township industry - key to China's development, Lin Zixin, China Research Centre for Economic, Technological and Social Development	Annex
	The development of small scale industry in Indonesia with emphasis to the Fourth Five Year Development Plan, Bintaldjemur Danuhadiningrat	Annex
	Korean Small Business - current issues, policies and promotional activities, Yun-Sang Choi, SMIPC	III, IV
	Country report of Malaysia's small-scale enterprises development, Small-scale Enterprise Division, Ministry of Trade and Industry	Annex

Nepal, country paper, K.C. Ambika, Department of Cottage and Village Industries	Annex
Country paper Pakistan, Sheik Anwar-Ul-Haque, Government of Baluchistan	Annex
Country paper Sri Lanka, Bandula S. De Silva, Small Industries Department	Annex
Study of a small-scale industry (SSI) co-operation Scheme in a developed economy, R.B. Aronsson, UNIDO Consultant	IV
Country paper small industry development in Thailand, Padetpai Meekhun-iam, Ministry of Industry	Annex
Commercialization of R and D results, the role of a research commercialization company, Young-Ok Ahn, K-TAC	IV
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ANNEX IV

UNIDO PROGRAMME FOR SMALL- AND MEDIUM-SCALE INDUSTRIES DEVELOPMENT^{1/}

UNIDO's technical co-operation programme for promotion and development of small- and medium-scale industries (SMI) covers a wide range of activities which, - apart from direct assistance - involve one or a combination of the following:

- (a) general consultancy and promotional assistance;
- (b) establishing and strengthening institutions and servicing facilities for SSI;
- (c) specialized institutional support mechanisms and decentralization programmes;
- (a) General consultancy and promotional assistance involve, inter alia,
 - direct advisory services to Governments in establishing policies, programmes and support measures for SSI development;
 - identification of industrial requirements and resources available to the SSI; preparation of viable SSI projects; surveys and techno-economic studies;
 - technical counselling and industrial extension services;
 - promotional measures and inducements supported by legislation; developing networks of advisory services; facilitating access to financial sources; seminars, workshops to raise awareness and enhance the technical assistance flow to the SSI sector;
 - fostering intra-SSI co-operation; assisting in organizing collaborative efforts through associations and co-operatives; promoting linkages with other economic sectors.
- (b) institution-building projects deal with the transfer of expertise to and the improvement of the capacities of indigenous bodies, such as:
 - Small Industry Departments of Ministries or of Financing Institutions (e.g. Industrial Development Agencies, Development Banks);
 - Institutions for promoting small-scale industry;
 - Industrial Extension Service Systems;

^{1/} Prepared by the Institutional Infrastructure Branch, Division of Industrial Operations, UNIDO.

- Common Service Facilities^{1/};
- Industrial Estates and Industrial Free Zones.

Industrial extension services, transferring essential knowledge and skills in economic, technical and management fields, are usually provided by government-assisted agencies or special institutions which may combine the functions of an extension service with SSI promotion and industrial research and training. UNIDO technical co-operation in this field aims at establishing and/or developing the capacity of such indigenous institutions to provide the required technical services through well-trained industrial extension officers. Assistance to enhance indigenous capacities often includes establishing regional offices to initiate and/or improve technical, economic and management counselling to existing and new industrial units at dispersed locations.

(c) Specialized institutional support includes programmes such as entrepreneurship development, rural industrialization, industrial co-operatives, and industrial decentralization programmes.

Often special measures are needed to develop small industries on a decentralized pattern against the strong and self-perpetuating tendency for industrial growth in urban centres where prerequisites for development are concentrated. It is of particular importance to integrate such efforts with industrialization programmes in rural areas to reduce rural unemployment and economic distress and thus arrest urban migration. UNIDO assistance in this respect involves both the modernization of the small industries sector as well as the development of traditional and village industries. Emphasis is given to special facilities like training-cum-production centres for managerial and technical personnel; pilot and demonstration plants where experience can be gained in the latest appropriate technologies and various industrial operations; extension centres for rural industries; and mobile facilities for on-the-spot technical assistance.

The role of indigenously established and locally based groups like co-operatives cannot be stressed strongly enough. In this field UNIDO assistance, involving a combination of institution-building and training, aims at developing the capacity of an indigenous agency/institution to foster the development of industrial co-operatives on a continuous and systematic basis. UNIDO also provides direct support (in form of industrial extension service) to industrial co-operatives.

Increased attention is also focused on human resource development. Entrepreneurship development for industry programmes assisting identified potential entrepreneurs with a package of incentives and institutional support systems receives special attention.

Within the limited scope of this document it is not possible to make a comprehensive presentation of all types of support to small- and medium-scale industries. The two examples below give some information on project objectives, approach and output:

^{1/} These include testing and quality control laboratories, toolrooms for manufacture of tools and equipment, workshops where complicated operations using specialized machinery are performed and services for the maintenance of equipment.

(i) Integrated programme for the development of small- and medium-scale industries

Comprehensive programmes of support to small- and medium-scale industries are expected to result in the following project outputs:

- a survey report of SSI areas of activities including an assessment of the performance of on-going programmes and of key agencies involved;
- identification of resource requirements for support components (field extension services, infrastructural support, market access and marketing services, subcontracting);
- analysis of economically viable projects covering opportunity studies, market surveys, pre-investment studies and identification of financial needs and of sources of financing;
- identification of target groups and compilation of potential entrepreneurs;
- a plan of action to implement an integrated programme for the development and operation of small and medium enterprises;
- organized and systematic assistance on the operational level in the form of extension services to serve small- and medium-scale industries, including consultancy services to potential enterprises.

(ii) Industrial estates

The setting up of industrial estates is usually combined with special incentives and supportive measures (e.g. provision of industrial premises, common production facilities, guaranteed supply of raw materials and services, sub-contracting arrangements, etc.) to develop and relocate industries of various sizes. UNIDO support is often requested to assist governments to achieve one or more of the following objectives:

- formulation of an integrated industrial estate development programme (planning, financing and construction) in accordance with the objectives of the National Development Plan;
- strengthening and development of the managerial and operational capabilities of the industrial estate agencies;
- strengthening the capacity of the institutions providing specialized services to establish new industries and develop existing ones, e.g. through growth-centres, workshop clusters and export processing zones in development areas.

The nature of assistance provided covers a wide range of activities required to complement and supplement the central activity of the programme, i.e. advice and assistance in establishment, effective management and operation of existing and future industrial estates:

- advice on key elements of the programme: strategy and policy guidelines, physical planning and layout, feasibility and promotional

activities (marketing estate land and buildings and attracting local and foreign investors), admission policies, rental or sale policies, and the disposal of industrial effluents;

- advice on financial management to improve systems relative to lending activities and loan portfolios;
- providing industrial extension service on a regular basis to entrepreneurs and assisting potential entrepreneurs in implementing their projects;
- providing direct support services to needy enterprises in the estates.

ANNEX V

SOME RECENT INSTITUTIONAL APPROACHES TO THE PROMOTION OF SSI^{1/}

A. At the national level

1. Ancillarization (India)^{2/}

The concept of ancillary development or ancillarization of SSI received priority status in India in 1971 when the Bureau of Public Enterprises for the first time issued guidelines to all public enterprises in order to enhance the number and growth of ancillary units.^{3/} In order to qualify as ancillary unit, an enterprise has to meet a number of specific requirements:

- investment in plant and machinery must not exceed Rs. 2.5 million;
- it has to be engaged in the manufacture of parts, components, sub-assemblies, tooling or intermediaries, or the rendering of services;
- it has to supply or render 50 per cent of its production or of total services to other units for production of other articles;
- it must not be a subsidiary of or be owned or controlled, by another enterprise.

From this definition of ancillary units it emerges that in functional terms ancillarization follows the same lines as the promotion of subcontracting in general does. A distinction is made, however, between 'simple' subcontracting units and ancillaries insofar as the latter are committed to sell at least 50 per cent of their production to parent companies. The conceptual basis of ancillarization is to be seen primarily in the attempt not to establish purely commercial buyer-seller-relationships but, what is often called 'relationships of a higher order' in which the large nucleus firms are expected to accept longer-term responsibilities for a healthy and efficient development of their ancillaries (e.g. by means of technical, managerial or financial assistance).

As regards the orders of magnitude involved in ancillarization the following tentative figures may be given: ancillaries in 1981/82 accounted for around 20 per cent of total purchases made by public sector enterprises from

^{1/} The approaches selected here are not to be interpreted as alternatives to existing policies or agencies nor are they intended to offer complete overview.

^{2/} The following thoughts on ancillarization draw on the paper on "Mechanisms for small-scale industry development: Ancillarization - Development of feeder industries" (UNIDO/IS.551) prepared by V. Dhall for the Expert Group Meeting and on some of the papers that were presented at the International Seminar on Ancillary Development, New Delhi, March 26-27, 1984, organized by the Industrial Development Bank of India.

^{3/} Ancillarization is however not restricted to public sector enterprises but applies also to the private sector.

the small-scale sector. If, however, total purchases of both public and private sector enterprises from ancillaries are held against total production of the small-scale sector, the resulting share turns out to be as low as 2 per cent.

Not surprisingly, the scope for ancillary production varies from sector to sector of manufacturing activity with the following rank order and rough figures in the Indian case:

Manufacturing sector	Scope for ancillaries
1. Transportation industry	60 - 70%
2. Communication industry	50 - 75%
3. Prime movers and power-based industry	30 - 50%
4. Industrial machinery and machine tools	20 - 40%
5. Chemicals and pharmaceuticals	15 - 30%
6. Consumption and consumer durables	10 - 30%
7. Basic industry (metals and minerals)	5 - 10%
8. Wood, paper, fibres, glass and ceramics	2 - 10%

Experiences with the 'ancillary approach' to SSI promotion have been gained now for more than a decade in India and, notwithstanding the mushrooming growth of ancillary units and their production, a number of critical constraints have also come to light. Among these are to be mentioned:

- The present taxation policy is a detrimental factor to further growth and specialisation of ancillary production. Indirect taxes like sales tax and excise duty are based on turnover (instead of on value-added) with the result that it is cost-saving for large enterprises to grow vertically in order to avoid the cascading effects of taxes to be paid at each stage of production. This is only another example for the important role of the overall policy environment as determinant of SSI potential.
- Another problem area is to be seen in the clashing of social objectives and private profit-seeking interests. The large private nucleus firms are expected to take part in e.g. the development of infrastructural facilities for ancillary units which they in turn regard as a genuine part of government responsibilities.
- The most important single retarding factor has apparently been the lack of financial support for ancillaries. Firstly, the large parent companies are on the whole unwilling to have financial stakes in their ancillaries and secondly, the ancillaries are facing difficulties to get bank credits because of their low standing in most financial institutions. Moreover, as has often been reported, they suffer from delayed payments by parent companies which among others may indicate the cut-throat competition in getting orders at all.
- Many parent enterprises, including in particular a public sector enterprise engaged in telephone industry, have complained about the alleged inability of ancillaries to introduce and to operate sophisticated technology.

All in all, ancillaries are no exception to the rule that SSI face a difficult business environment and are in need of supporting policy measures. This is not to say that the approach as such has been wrong but that it needs further improvements, in order not to be just another label for what is already well-known as subcontracting. Above all, it should be kept in mind that ancillarization will always play only a supplementary role in overall SSI promotion (in India about 6 per cent of small-scale units may be classified as being ancillaries). It ties the growth of SSI to the prospects of large industrial enterprises thus offering to the former additional opportunities as well as additional risks.

2. Technology Services Delivery System (Philippines)^{1/}

In March 1978, the Philippine Government through the Commission on Small and Medium Industries (CSMI) of the Ministry of Industry started the implementation of the Technology Services Delivery System (TSDS). This project was implemented with the assistance of UNIDO,^{2/} the Japanese Government, ESCAP and UNDP.

The main objective of the TSDS project has been to establish the institutional framework for an efficient mechanism delivering technological information and services to SSI, particularly those located in rural areas. The project rightly started from the assumption that valuable technological knowledge is in principle available in every country but is either not geared to the specific needs of small-scale producers or is not being disseminated to them. In the first case the problem lies with the orientation of technological research, in the second case with the diffusion of its results.

This represents a crucial problem area which even in many industrialized countries has only recently been identified and subsequently addressed. In the Federal Republic of Germany e.g. so-called transfer institutions try to build a bridge between large universities' research capacities and the needs of industrial enterprises, particularly small and medium ones. Preferably this attempt should, however, be made in the earlier stages of industrialization in order to avoid from the beginning the emergence of too large a discrepancy between the work orientation of technological research institutions and the various industrial sectors' requirements.

Whereas most large industries have already the capital and managerial resources to secure continuous development, acquisition and application of new technologies, most SSI lack the resources required for this purpose. More often than not there is even a lack of information about the range of

^{1/} For detailed descriptions and analyses cf. UNIDO-documents ID/WG.350/1 and ID/WG.350/2, both of 23 September 1981, and ID/WG.350/24 of 26 March 1983. They present preparatory work and the results of the Expert Group Meeting for Exchange of Experiences on Technology Services Delivery System (TSDS), Manila, Philippines, 2-6 November 1981. See also document UNIDO/IS.424, Technological services delivery system (TSDS), prepared by the Development and Transfer of Technology Branch, Division of Industrial Studies, UNIDO.

^{2/} Under the project "Strengthening and Modernization of the Technological Performance of Medium and Small-Scale Industries in Selected Countries of the ESCAP Region" (TF/RAS/77/004).

technological options that have already been developed. One of the central tasks of the TSDS thus should be very basically the provision of required information. TSDS consists of three different sub-systems:

- the information sub-system: dissemination of existing written material available in research institutions on technological alternatives (incl. skill requirements, costs etc.) in various industrial sectors;
- the training sub-system: planning and preparation of lectures, seminars, practical demonstrations etc. in research and training institutions as well as in the countryside;
- the in-plant consultancy sub-system; this will be the crucial and most expensive link element between technological research institutions and SSI requiring at least short-term absence of research staff and thus the interruption of on-going research and development work.

It is important to note that the TSDS as envisaged by UNIDO does not necessarily require the creation of additional institutions but will focus on systematically establishing linkages and feedbacks between institutions already in existence. The TSDS in the Philippines is a case in point: It has been using the Bureau for Small and Medium Industries as a TSDS coordinating unit and the Small Business Advice Centres as an instrument for the establishment of regional linkages with SSI.

It may be advisable to concentrate the TSDS in its initial stages on some core industries (target sectors) with high shares of small-scale enterprises. In the Philippine case food processing, wood processing and metalworking industries have accordingly been selected and TSDS-related efforts have already had a significant impact on the SSI target enterprises, e.g. in terms of their organization into working industry associations.

There is no doubt that the TSDS approach which has been applied in the Philippines could also work effectively in other countries, if suitably adapted to their individual institutional environment. It may also be possible that TSDS lends itself to attempts at regional application. This may be theoretically appropriate in cases where countries with only limited technological research capabilities and capacities and appropriate institutional facilities can pool their resources in a closer regional co-operation. The services would be furnished by requests from the enterprises submitted to the network co-ordinating agency through the respective local focal point organizations. These focal points in each of the participating countries would function similarly to the local advisory services in the national context. In order to ascertain the viability of the concept, a project was initiated as the pilot operation in the Caribbean region. The Caribbean Technology Consultancy Service Network (CTCS) was created with the Caribbean Development Bank serving as the regional co-ordinator and with the participation of 11 technological research institutions. During the first 9 months of operation the CDB was able to handle some 40 technical assistance requests to industries.

B. At the international level

Although national efforts to expand and diversify the production of SSI should always be at the center of policy attention, there are also substantial

benefits to be reaped in terms of the transfer of technology from small and medium-sized enterprises in developed countries to respective counterparts in developing countries.^{1/} Small and medium-sized enterprises as agents of technology transfer have some distinct advantages to offer. They tend to be engaged in highly specialized, small-batch production processes, and may furthermore be preferable as a co-operation partner to large multinational companies, because in general they can be expected to make more use of intermediate technologies, to adapt more flexibly to local conditions and to be less demanding in terms of control or ownership of joint ventures.

1. Sister Industry Co-operation (Sweden/developing country)^{2/}

In 1976 the Swedish International Development Authority (SIDA) started a new approach to support and enhance the transfer of technology of Swedish small- and medium-scale enterprises to developing countries within the framework of the so-called sister industry programme. This programme is aimed at broadening the range of technological options available for small and medium-scale enterprises in developing countries. Thus the emphasis is not exclusively on the foundation of new enterprises or the engagement in equity joint ventures but on the transfer of production know-how on a contractual basis: A Swedish enterprise ("senior sister") makes a long-term contract with an enterprise in a developing country ("junior sister") comprising the transfer of hardware (machinery, tools, sometimes semi-products) as well as software, the latter being typically defined as including: "all the know-how and technical knowledge that is in the possession of the senior sister that is needed or is useful in the planning, manufacture or use of the products agreed upon. It has to include at least the layout of the production establishment, detailed description of production machinery, precise definitions of raw materials, parts and components and testing methods, planning of products, knowledge related to manufacture, testing methods for finished products and packing methods."

The main sister industry co-operation agreements have been concluded between Sweden and Tanzania. The institutional framework is very simple in nature and consists of SIDA plus an industrial consultant agency on the Swedish side and the Small Industries Development Organization (SIDO) on the Tanzanian side. The basic procedural mechanism may be described as follows:

- SIDO prepares a list of suitable products for manufacture in the Tanzanian industrial estate^{3/} and sends the list to the Swedish consultant firm. At the same time, SIDO looks for suitable Tanzanian entrepreneurs for the industrial enterprises to be established.

^{1/} Cf. UNCTAD, Organizational Forms of Transfer of Technology to Developing Countries by Small and Medium-Sized Enterprises: A Base Study of Equity Joint Ventures and Technology Agreements in Latin America (prepared by E. White), Doc. TD/B/C.6/77, Geneva 1982.

^{2/} Cf. the detailed analysis presented by Kuivalainen, op.cit., p.101 ff. a summary of which is given here.

^{3/} In the Tanzanian case all enterprises were to be located in the Arusha Industrial Estate, but in general the approach of sister industry co-operation is not restricted to production in industrial estates.

- The Swedish consultant firm calls upon Swedish entrepreneurs who would be interested to transfer their technology or to participate in the establishment of an enterprise in their own branch in Tanzania. A list of suitable candidates will then be sent to SIDO.
- In the next stage, the Swedish consultant firm arranges a trip for SIDO's visitors to the Swedish enterprises proposed in order to assess the suitability of their production to the conditions in Tanzania. In turn, an opportunity is arranged for the Swedish enterprises to visit Tanzania so as to become acquainted with local conditions and co-operation partners.
- The Swedish manufacturer will then make detailed offers on the basis of which SIDO carries out the necessary feasibility studies. If they come to positive conclusions, concrete business negotiations will be held between SIDO and each Swedish enterprise and the co-operation contract will eventually be signed.
- The Tanzanian enterprises, after having signed their own contracts with SIDO, send some of their workers to Sweden for on-the-job training.
- Eventually the required hardware will be sent to Tanzania and technical staff of the Swedish enterprise will provide assistance in starting up production.

The sister industry programme has primarily been financed through Swedish development co-operation funds, provided on grant terms in the case of Tanzania. The Tanzanian firms, on the other hand, have had to pay for all hardware components of the technology transferred (10 per cent in cash, 90 per cent during the first five years) whereas they have received the software (training etc.) from the Swedish enterprise free of charge during an agreed initial period of production.

Notwithstanding the fact that most participants in sister industry co-operation have up to now been basically satisfied with the results obtained, a couple of problem areas have also emerged. Among these are to be mentioned:

- difficulties in connection with the transport of machinery to Tanzania, e.g. due to insufficient port facilities like a lack of large cranes;
- delays at the site during the stages of setting up machinery and starting production;
- administrative and managerial problems during the initial production stages.

The concentration of the sister industry programme on one specific industrial estate has proved to facilitate co-operation substantially (e.g. through exchange of experiences; common facility workshop etc.). Above all it must be emphasized that the existence of an efficient organization for promoting small-scale industry would be the basic precondition for any country's attempt to engage in this kind of approach for technology transfer.

2. Programme on Plant Level Cooperation (UNIDO)^{1/}

UNIDO recently set up a special support programme for small- and medium-scale enterprises developing countries with the purpose of upgrading their technological capabilities by means of a plant level co-operation with enterprises in industrialized countries. The mechanism employed in this effort is that of promoting co-operation partnerships between complimentary enterprises. As the focus is on the creation of longer-term industrial co-operation for mutual benefit, proposals which are purely for sale of equipment or other forms of embodied technology are not promoted within the project framework. Cooperation approaches that would, however, fit well into the framework are e.g.: joint ventures, sub-contracting, licensing with marketing or buy-back arrangements etc.

Once the technological requirements of each potential recipient enterprise have been articulated, the search begins for a partner (for each) which has the expertise in the particular field for supplying the required technological know-how. However, only those requirements which can not be met by national resources are considered. After the technology supplying partner has presented his specific proposal, a co-operation agreement can subsequently be negotiated with the assistance of UNIDO.

This approach obviously has much in common with the Swedish sister-industry approach described above. On the other hand, there is a stronger emphasis on strengthening the negotiating capacity of developing country enterprises as well as on the adaptation of the technologies transferred. A considerable part of the project budget has actually been spent on technology adaptation, be it for the purpose of scaling down certain production processes or of adapting them to the use of specific local raw materials. As this often requires highly cost-intensive modifications, they would in many cases not be undertaken on a purely commercial basis.

Plant level co-operation agreements have up to now been negotiated between enterprises in the Netherlands and in China, Mexico, Sudan and Thailand as well as between enterprises in Sweden and in Egypt, India, Kenya and Sri Lanka. A third round of projects is envisaged between Italian enterprises and counterparts in Cameroon, Columbia, Peru and Tunisia, concentrating on engineering industries.

^{1/} Cf. Programme on Plant Level Cooperation for the Transfer of Technology to Small and Medium-Scale Enterprises, UNIDO Internal Working Paper, Vienna, 24 February 1984.

ANNEX VI

REGIONAL CO-OPERATION WITH REGARD TO SSI DEVELOPMENT - TWO EXAMPLES

(a) The Asian productivity organization (APO)^{1/}

The Asian Productivity Organization (APO) is an inter-governmental regional organization with headquarters in Tokyo and a present membership of 17 countries in the Asian and Pacific region. APO emphasizes small industry development, which more and more includes labour-intensive rural industries.

APO devotes the major part of its efforts to multi-country training projects in the industry, agriculture and service sectors with emphasis on management and technology. Most training projects have trainers and consultants as a target group with a view to strengthening the National Productivity Organizations (NPOs) and similar institutions of the member countries. While training projects form the mainstay of APO programmes, APO supports the NPOs in their role as advisers to individual governments. APO also serves to help member countries to delineate a productivity strategy in response to, and in anticipation of, changes that occur in the international economy. Programmes take account of the varying needs of member countries, with their different country characteristics and levels of development.

APO activities related to small industries development include:

(i) Training of consultants, trainers and administrators

Since its inception in 1961, APO has organized a variety of courses in the field of small industry development, especially on management. These courses were regularly re-patterned to meet the changing needs of SSI. Together with these training courses, refresher courses of shorter duration have also been mounted at the Research Institute for Management Science, Delft, the Netherlands, with the assistance of the Netherlands Government.

Besides these training programmes, books and pamphlets on SSI promotion have been published. These publications are the results of surveys, symposia, research activities, and actual development experience in Asia.

(ii) Development of specific techniques

In response to the trend away from manufacturing small batches of diverse products to mass production of a limited range of items and to subcontracting, APO organized the following projects to improve production techniques and product quality and reduce the waste of human resources and materials:

- Low Cost Automation (LCA)

This project was initiated in 1969. Briefly, low cost automation is a type of step-by-step automation whereby existing manual manufacturing processes are automate^d in stages by the addition of simple devices.

^{1/} Based on "The role of APO in the development of small industries in Asia", presented at the Seoul meeting by the Asian Productivity Organization.

In order to train engineers and consultants in this field, low cost automation laboratories were established by member countries. On a regional scale, APO conducted the first low-cost automation training course in 1971. Courses introduced trainees both to the concepts and principles of low-cost automation and to technical matters.

- Group technology (GT)

For small-scale industries it is difficult to realize economies of scale. They tend to produce small quantities of a large variety of items; efficiency therefore tends to suffer. Experiences in machine-shop operations in Europe and USA have led to the introduction of group technology. This method of organizing production is based on the fact that similar operations occur in dissimilar production processes. By processing all jobs requiring similar machines and tooling in a sequence, the number of components produced per set-up is increased and total processing time is considerably reduced. The machines required are placed near to each other, thus reducing production scheduling and control problems as well.

(iii) Other activities

Seminars on small industry development have been conducted every year since 1983 and mostly involve personnel of development agencies and other institutions assisting small industries. In close collaboration with national and local governments, an integrated and comprehensive approach to SSI development in Korea and Japan has been evolved. Special emphasis is placed on the implementation of assistance schemes which are in accordance with the diversified socio-economic environment at the local level. Finally, the following services are provided by APO through the NPO's to supplement training courses and services:

- organization of visits to small industry development projects in various countries;
- project appraisal and industrial estate development courses;
- missions of technical experts to member countries;
- fellowships for study and research of selected SSI fields (e.g. export promotion, credit facilities, international subcontracting, management).

APO activities rely on mutual support of member countries rather than on a strong central organization; in that sense, there is much similarity with ESCAP's Technical Co-operation among Developing Countries (TCDC) project (see Annex).

(b) Technonet Asia: An experiment in regional co-operation^{1/}

Technonet Asia is a co-operative grouping of fourteen organizations in eleven Asian and Pacific countries, which aims at improving the quality and

^{1/} Abstracted from "Regional co-operation for small-scale industries development and technology sharing: The Technonet Asia experience", and "Small-scale industries, a second look", both by Technonet Asia.

efficiency of production in those countries' small and medium sized enterprises through the transfer of technological information, the provision of industrial extension services, technology and sharing. It was set up in 1973 as a project supported by the Canadian International Development Research Centre (IDRC). Organizations participating are:

- Bangladesh: Bangladesh Small and Cottage Industries Corporation (BSCICO).
- Fiji: Fiji National Training Council (FNTC)
- Hong Kong: The Hong Kong Productivity Centre (HKPC)
- Indonesia: Direktorat Jenderal Industri Kecil/Departmen Perindustrian (DJIK/DP) (Directorate-General for Small Industries/Ministry of Industry)
- Korea: Korea Institute for Economics and Technology (KIET)
Small and Medium Industry Promotion Corporation (SMC)
- Malaysia: Standards and Industrial Research Institute of Malaysia (SIRIM)
Majlis Amanah Ra'ayat (MARA)
(Council of Trust for Indigenous People)
- Nepal: Industrial Services Centre (ISC)
- Philippines: Institute for Small-scale Industries, University of the Philippines (UP-ISSI)
- Singapore: Singapore Institute of Standards and Industrial Research (SISIR)
- Sri Lanka: Industrial Development Board (IDB)
- Thailand: Department of Industrial Promotion, Ministry of Industry (DIP)

Technonet Centre, located in Singapore, acts as the focal point of the network. The heads of the participating organizations, together with the Executive Director, evaluate and formulate policies at least once a year. In addition to IDRC, which continues to provide partial support, Technonet's programme and core budget is now also supported by the Canadian International Development Agency (CIDA), its participating organizations, and other donor agencies.

The organizations participating in the Technonet Asia network have two common aspects:

- they are all involved in rendering assistance to small and medium sized enterprises in their respective countries; and
- they are all involved in technical aspects of industrialization.

On a mutual basis, the participating organizations arranged to:

- make available to one another industrial technical information on products and processes in their country;
- receive personnel from other participating organizations for observation, training and discussion;
- make available its technical personnel for short-term assignments to the participating organizations;
- arrange visits of industrialists from Technonet Asia countries to local industries, organizations and institutions;

and individually to:

- develop effective co-ordination and liaison with local institutions for the development of small (and medium) scale business as well as with local sources of technical information and expertise.

In its technology transfer programme, Technonet Asia relies heavily on the "human element". Technology transfer is very labour-intensive. It can only be successfully implemented by a cadre of well-trained and creative technical information and industrial extension specialists who are the vital links between sources of technology and the entrepreneurs in the countryside. They "process" the technological needs or problems of small-scale industries, find solutions and adapt and clarify technologies for the entrepreneur. Such a programme requires an enormous investment in manpower and other resources. This perhaps partly explains why technology transfer programmes for small-scale industries are not given high priority in development schemes.

The Technonet concept is nothing new itself. Proposals have often been made to establish technology data banks, reforms of the international patent system, etc. Yet, the diffusion of technology through the industrialized countries and the international agencies is still far from fully effective. At the same time there is a growing realization that the greater part of man's technological know-how is already freely available - the main problem is that developing countries are ill-equipped to find, evaluate and apply it. Agencies like Technonet represent an attempt at technological "self help" by these countries.

The Technonet network of information exchange has proved workable and can be of benefit to other developing regions. Developing countries have much to share with each other; and the developed countries, through their technical assistance programmes, can strengthen this capability. In fact, Technonet draws upon the technological resources of some sixty co-operating organizations in developed countries for some of its activities. But much more has to be done in making technology accessible to small enterprises. The technological problems of small business in the developing countries are vast and varied. In countries represented in Technonet Asia alone, an estimated 500,000 small enterprises exist, and only a small portion of these establishments is reached. It is clear that everyone has a role to perform if the objectives are to be achieved: industry and professional associations, R and D institutes, the educational system, and other public and private institutions devoted to technology. Moreover, the co-operation and active involvement of government policy-makers and legislators is essential to make technology transfer a success.

ANNEX VII

CO-OPERATION AMONG SMALL ENTERPRISES AN EXAMPLE FROM SWEDEN^{1/}

(a) Introduction

The present-day business environment in industrialized countries is very demanding in various ways. Technological change is rapid, production processes are computerized and are more and more internalized within companies, government rules and regulations remain complex in spite of "deregulation" tendencies, etc. Handling these problems is especially difficult for small enterprises. However, many of the small enterprises face essentially the same problems, and where individual entrepreneurs may not be able to cope with these external challenges on top of the burden of everyday management, they may be able to do so through co-operation. Below, the experience of an industrial association in southern Sweden, the Fosieby Group of Entrepreneurs (Fosieby Företagsgrupp) is presented. First, the environment in which Swedish industry operates is described, and an overview of Swedish industry is given. Section (c) gives some general information on industrial co-operation in Sweden, and section (d) analyzes the Fosieby Group: its origins, organization, co-operation areas, projects and linkages with other industries. In a concluding section, some essentials for successful co-operation are reviewed.

(b) Industry in Sweden

Sweden has been among the countries with the highest per capita gross national product for a considerable time now. The same holds true for tax levels, but one positive effect of these is that the Government has been able to finance a very well-developed social and physical infrastructure (including industrial estates) - costly investments, given the low population densities in most areas. The present taxation and government spending levels, on the other hand, are considered detrimental to private enterprise, and are therefore, an important issue for business associations.

Sweden has a long tradition of government ownership in business. An indication of the importance of the various types of ownership is given in the Table 1.

Another force to be reckoned with in the economy are the trade unions. With more than 90 per cent of the employees belonging to a trade union, and a Government which has usually been dominated by social democrats during the past 50 years, the unions are in a strong position indeed (wage levels, e.g. are among the highest in the world; in the early 1980's they were higher than in the USA and the Federal Republic of Germany.) In response, business organizations have also grown strongly. The various associations of employers altogether have well over one hundred thousand members.

Swedish industry is to a great extent dominated by transnational companies. An impression of the importance of these companies can be gained from the fact that in 1982 only eight of these firms in the engineering sector

^{1/} Based on "Study of a small-scale industry (SSI) co-operation scheme in a developed country" by R.B. Aronsson.

Table 1. Types of company ownership in Sweden

	Sales (million SEK) (Swedish crowns)	Earnings (million SEK)	Employees	Investments (million SEK)
Companies with shares listed on Stockholm stock exchange	367,626	14,266	877,055	34,056
Government-owned companies	119,696	4,695	308,924	15,362
Consumer co-operatives ^{a/}	43,198	821	80,184	910
Agricultural co-operatives ^{a/}	43,002	278	63,881	1,408

^{a/} Excluding banks, other credit institutions and insurance companies.

are responsible for almost 50 per cent of engineering exports and almost 30 per cent of total exports. Given the small population, export is in most cases essential for success in business.

Over the past 20 years, the relative importance of industry for the Swedish economy has decreased. The industrial share of GDP was at 28 per cent in 1980, down from one third of GDP in the late 1950's. Some 35 per cent of the population are employed in industry nowadays, and it is expected that this figure will decrease substantially in the coming years. Structural change has strongly affected individual companies, industry branches and regions. The late 1970's and early 1980's have been characterized by low gross margins and investment. Bankruptcies rose from some 300 in 1974 to well over 800 in 1981.

Both the dominance of large firms and the decline of industry have spurred the Swedish Government to initiate support campaigns for small enterprise (defined as having less than 200 employees; the manufacturing sector comprises some 40,000 of these companies), using slogans like "Big business is done by smaller companies". The results of this programme are still very much debated, but it is clear that they vary strongly between the local offices involved in the programme, and that small entrepreneurs hardly rely on advice provided by officials; local offices are mainly contacted to get grants and loans approved.

(c) Industrial co-operation in Sweden

The present environment in which small business in Sweden operates is thus characterized by:

- a high rate of change;
- low profitability and frequent bankruptcies;
- large company dominance;
- strong Government influence;

- a not too successful official assistance programme;
- a well-developed infrastructure, including industrial estates;
- a traditionally high degree of organization among the parties involved in the the economy.

In this environment, co-operation between small companies has grown. Already several decades ago firms located in the same geographical area began to co-operate. Today, a great number of such groups exist, most of them organized since the late 1970's. Almost all of them have their members within the same urban area; 27 per cent of them even draw all their members from the same industrial estate. The distribution pattern over the country roughly coincides with the distribution of the population and of major manufacturing areas.

Normally, a company association has between 11 and 50 members; groups with more than 100 members are rare. Personal contacts, which are essential to the success of these groups, become less frequent as group size grows; on the other hand, very small associations have insufficient bargaining power. Co-operation between enterprises is usually limited to one or a few areas. Typical areas of co-operation are information exchange, export marketing, negotiations with Government agencies, advertising, and joint purchase of hardware and software.

(d) The Fosiemy Group of Entrepreneurs (Fosiemy Företagsgrupp)

The Fosiemy Group of Entrepreneurs (FGE) was established in 1972. It was the first such group established on a modern industrial estate, and it has served as an example for many other groups which were established in Sweden in later years. The estate in question is located on the outskirts of Malmö, one of the largest towns in Sweden, with a population of about 250,000. In the Malmö area alone, the example set by FGE has been followed by five other groups.

On the Fosiemy industrial estate, 190 enterprises are located. 180 of these, employing some 6,000 workers, have joined FGE; the size of the companies ranges from 2 to 1,200 persons. Membership fee is US \$100 per annum. Half of the funds thus acquired are used to hire a part-time consultant manning the "executive office" (see below), the remainder is used on co-operative projects, mailing, etc. Members of the FGE board do not receive a fee and most of the secretarial work for the Group is carried out within the companies themselves. FGE is not supported by Government funds. Members meet annually to elect new members for the 8-man board. Every year, half of the board members are replaced. All board members are key figures within their companies. The board meets approximately 10 times a year for decision-making and in-depth discussions on activities of the Group. For each projected activity a working group of two to three persons is established, always including one board member. Institutionalization of the board is kept to a minimum: all secretarial work is done by the incumbent president's secretary or by outside service companies.

The "executive office" is only staffed for a short period daily, but the person hired for the purpose always has very good contacts within the member companies and with officials and other enterprises in the area. He gives

advice on available premises, Government regulations, suppliers, financing of new projects, etc. When unable to supply information, he will refer to one of the other company presidents - among the 180 there are many with specialized knowledge. The office executive also intervenes with local authorities to help solve problems of member firms. The fact that the Group represents a large and growing number of people adds considerably to its influence.

The FGE co-operates in the following areas:

Purchasing

Contracts settled between the association and a supplier are "frame contracts", which means that the contracts set conditions and prices, but do not oblige any one company to buy. Members can use the contracts when it suits them. Through these contracts, even the smallest firms benefit from prices and conditions normally available for large companies only. When necessary, settling claims against a supplier is much easier as well, as the claimant will be the whole group. Examples of advantageous contracts concluded in this way are the leasing of 1,500 cars and the centralized supply of heating oil to the companies in the area. For the supplying companies, advantages are to be found in the reduction of delivery costs, etc.

Training

Training employees and improving and expanding their skills are also undertaken by the group. Courses last from 1500 to 1800 hours, which means that the time cost is shared equally by the firm and by the employees. The interest in these courses has decreased as a consequence of a general tendency to provide free education during work hours; also, governmental and private organizations now offer a very wide range of courses, seminars, etc.

Computerization

The introduction of computers poses many problems to small entrepreneurs. There is a great and rapidly changing range of hardware and software, the qualities of which are hard to judge for outsiders, and the same holds true for the information provided by suppliers and consultancy firms. To solve this problem, FGE has hired a computer specialist. The Group itself contributes one third of the cost, the remainder being shared by the local Government and university. Those companies that wish to employ the expert's services pay a fee of US \$10 per hour. The consultant's experience is wide enough to cover all steps and aspects of the computerization of a company. As a first step, 10 companies are in the process of being computerized. At a later stage in the project, which will last two years, another 10 will follow. Results so far have been encouraging.

Local services

FGE has been very active in attracting new services to the area, especially shops. On the one hand, the people working at the estate constitute a sizeable market, on the other it is felt that the area benefits from being more than just a place to work. The expansion and variety of activities in turn induces the local government to raise the standard of its services in the area, and these factors combined make it easier to attract (highly qualified) employees.

A special feature is the health care centre. Swedish firms are required by law to have a preventive health care programme. By joining forces, the Group has been able to establish a health centre employing medical doctors, nurses and an industrial safety engineer at a cost of some US \$50 per year per worker, far below the cost of similar centres in the country.

Linkages

An FGE working group is regularly in touch with a large local shipyard. Its demand for products which can be supplied by members is assessed and then single firms, or co-operating groups of firms within FGE, offer their services, referring to the contacts made by the Group. Contracts are concluded directly with the shipyard, not through the intermediary of FGE.

V. Concluding remarks

An evaluation of the activities of the Group based on an extensive enquiry among approximately one half of the membership showed that the most successful areas of co-operation were considered to be the collective hardware purchasing agreements and the health care project. Depending on the size of the companies, there is a different appreciation of activities - collective purchasing, e.g., proved especially valuable for the smaller companies. No negative results of co-operation were found, but members felt that contacts within FGE could be improved.

Although circumstances differ strongly from region to region in Sweden, the FGE model has been successfully adopted elsewhere. For those involved in industrial co-operation it may be useful to summarize the major factors which contributed to the success of FGE:

- Proximity of firms and regular contacts among members;
- Associative activities tailored to the actual environment and needs of the firms involved;
- Association activities guided by the most knowledgeable entrepreneurs, having good contacts with other enterprises and Government officials;
- An executive office located in the area;
- A regular flow of information from the association to its members, and an exchange of information and experience between business associations;
- Emphasis on the quality of contracts with outside firms, not on the number of such contracts;
- Minimal Government involvement in business co-operatives.

ANNEX VIII

COUNTRY SUMMARIES OF SSI DEVELOPMENT PROGRAMMES^{1/}

Burma^{2/}

As part of a twenty-year development perspective plan, agro-industries are to be set up in the countryside to help transform the economic basis of the country, which is largely agricultural. Co-operative handicraft also receives special attention. More than 90 per cent of industrial employment in Burma is found in establishments with less than 10 workers, and the role of SSI in both these elements of the plan will obviously be a central one. The small industry sector is to a large extent organized in co-operatives now, over 600 of these having been established so far. Most co-operatives produce basic consumer goods like clothing and food.

SSI support is largely the domain of the Ministry of Industries and the Ministry of Co-operatives. The main objectives of SSI development plans are to establish new industries giving priority to export-oriented industries, industries realizing a high rate of returns within short gestation period and industries based on domestic raw materials, in line with regional development plans.

Although training programmes are provided by several ministries, and also by co-operative training schools, most assistance is channelled through the Ministry of Co-operatives. Where needed, the ministry provides raw material, machinery and spare parts. Loans are provided through the Myanmar Economic Bank on the basis of recommendations from the Ministry. The Cottage Industries Department (CID) of the ministry is responsible for technical assistance and project preparation. With UNDP/ILO assistance, the "Small-Scale Industry Development in the Co-operative Sector" project has resulted in the creation of several small firms processing wood and agricultural products. The "Promotion of Small-scale Industry in the Co-operative Sector" project, supported by the Federal Republic of Germany, aims at upgrading technical services and technology and has a.o. resulted in the establishment of a co-operative technical consultancy and training unit.

China^{3/}

Underemployment in the countryside and the drift of the rural population towards the cities have been major reasons for the emphasis on industrial development at the local level in rural areas. "Rural and township" industries include both co-operative establishments run by rural collectives and family-owned cottage industries. Most enterprises rely on local markets

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- 1/ Compiled on the basis of country papers presented at the Secu meeting.
- 2/ Based on "Some aspects for the development of small-scale industries in Burma" by U Khin Tun, Cottage Industries Department, Ministry of Co-operatives, Socialist Republic of Burma.
- 3/ Based on "Rural and Township industry - Key to China's development" by Lin Zixin, consultant of China's Research Centre for Economic, Technological and Social Development.

and use simple technologies, but the range of products is very wide. Funds are usually provided by the families or the collectives themselves, but the Government now also provides tax reductions and low-interest loans. In recent years, the traditional strong role of central planning has made way for a greater attention to entrepreneurship. Linkages between large and small industries are now being strengthened, with state industries taking the lead in subcontracting arrangements with rural and township industries. Major challenges facing policy-makers now are:

- outdated technology and equipment, leading to low product quality and high energy and raw material requirements;
- lack of overall co-ordination in the SSI sector which has led to overproduction of a number of items;
- Damage to the ecosystem caused by former decentralization policies which moved polluting industries to the countryside.

A central role in improving the performance of rural and township industries is played by the State Science and Technology Commission. It emphasizes the introduction of appropriate technologies which have a potential for quick returns. Sharing the experience gained in successful projects with other enterprises is encouraged. UNIDO is involved in a large number of technology improvement projects. China itself has become a major source of technical assistance to other developing countries.

India^{1/}

The small industries sector in India includes those manufacturing and servicing units whose investment in plant and machinery is below US \$0.3 million (US \$0.37 million if they are ancillary units) The Village and Small Industries (VSI) sector (as it is called in the national development plans) comprises traditional khadi (handmade textile) and village industries and handicrafts and modern small-scale industries. The traditional subsector is distinguished by highly decentralized rural and semi-urban location, a household-based production system, and unstandardized, even unique products. These industries use simple tools and mostly manually operated equipment and produce mass consumption and artistic handicraft articles both for home and foreign markets. The small-scale industries subsector which came into being after independence is characterized by technological and organizational superiority, greater product sophistication and an urban orientation.

The village and small industries constitute an important segment of the economy. Their contribution to employment is next only to the agricultural sector. The sector is characterized by self-employment; employment in the VSI sector amounts to 80 per cent of total industrial employment. VSI accounts for approximately one-third of total exports. In value added terms it generates 51 per cent of the total for the industrial sector.

The development strategy for village and small industries focuses on:

^{1/} Based on "Development of small industries in India - Policies, programmes and perspectives" by G. Venkataramanan, Joint Secretary, Department of Industrial Development, Ministry of Industry and Company Affairs, Government of India.

- (i) Integration of promotion programmes for the sector with other area development programmes which would also correct the regional imbalance;
- (ii) Organization of production and distribution functions with a deliberate bias towards the VSI sector in such a way as to create opportunities for fuller and additional employment on a dispersed and decentralized basis; and
- (iii) Creation of a suitable organizational base at various levels to implement the development of programmes for the sector.

It is emphasised that Government policy should ensure that the sector acquire sufficient vitality to be self-supportive and that its development is integrated with that of large scale industries. Co-operatives have been given special encouragement. Infrastructural facilities (e.g. industrial estates) were also made available. Special attention has been paid to the export promotion of small-scale industries products under special reservation schemes.

Policy support measures can be broadly divided into:

- (i) Measures for rapid growth of these industries within the broad policy frame; and
- (ii) Protective measures to prevent unfair competition from medium and large industries and from imported goods and services.

Measures designed especially for VSI include consultancy services to advise potential investors on industrial trends, support measures, credit, etc., and also the preparation of feasibility studies, special arrangements including the creation of buffer stocks of scarce imported raw materials, the provision of credit at reasonable rate of interest, fiscal and financial incentives/concessions, export incentives, infrastructural facilities, marketing and export assistance, establishment of an early warning and remedial measures system to assist enterprises in difficulties etc. Specialized institutions at the all-India and regional level have been established for the purpose of encouraging mergers of such firms with healthy firms.

Protective measures include the reservation of certain production lines, the freezing of production capacity in certain large industries, import restrictions on selected manufactured goods; some SSI products also receive preferential treatment when government supplies are purchased. Preferential treatment has improved the production, employment and export shares of the cotton, leather, cottage matches and soap industries.

With the rapid increase in production and the diversification of the industrial structure, the need for modernization and up-dating technology to face growing competition from the "organized" industries and to raise the productivity and earnings of the SSI sector has begun to receive attention. Special credit facilities now provide equity, venture and working capital on a priority basis for modernizing SSI. Since nationalization in 1969, the banking sector has been obliged to give priority to VSI. Credit to the sector has e.g. gone up from US \$2,194 million in 1979 to US \$3,720 million in 1982. Entrepreneurship development has received considerable emphasis from seventies onwards, beginning with the Fourth Plan, and seeks to motivate and stimulate

the educated unemployed potential investors among the rural rich, non-resident Indians, scientists, technologists, engineers, etc.

As part of the strategy for the development of ancillaries, the concept of nucleus plants has been evolved in 1980 in order to generate integrated industrial development in backward areas with backward and forward linkages in the shape of ancillaries and small-scale industries. The realization of this concept should lead to spatial dispersal of economic activities and thus to higher employment and higher per capita income of people in the identified potential locations. As part of the overall strategy for correcting regional imbalance, a deliberate attempt is being made to attract industrial investment in specially identified backward areas and 'Zero Industry Districts' through a system of fiscal and financial incentives, and facilities such as term lending at a reasonable rate of interest, long maturity periods, tax holidays, investment and transport subsidies, consultancy services, subsidized infrastructural facilities etc. These schemes are expected to attract medium- and large-scale industries which in turn would stimulate the growth of small industries and other business in the areas through linkages.

Paucity of reliable and up-to-date data make it difficult to attempt temporal and spatial comparisons of progress achieved by the sector. During the first two Five-Year Plans the main emphasis was laid on agricultural improvement and hence no specific information is available about the targets and achievements of the VSI sector. Data is available from the Fourth Plan onwards. Progress can be summarized as follows:

Years	Employment (Million persons)	Production (US \$ million)	Exports (US \$ million)
1973-74	17.64	11,333	700
1979-80	23.38	27,948	1,860
1984-85	28.62	49,307	3,829

Most employment growth was recorded in the modern SSI and khadi/village industries subsectors. Judging from production trends, while all the subsectors have registered a substantial increase in the output, the performance of khadi and village industries stands out. The export performance of the handloom, silk, handicrafts and coir (coconut fibre) industries has been quite impressive, although their products are generally intended for the indigenous market. The modern SSI, although suffering from a high rate of closures, has also grown considerably. The share of SSI in the total production of cotton textiles, e.g., has gone up to 35 per cent. Although unintended (policies protect the handloom sector), the establishments using powerlooms have grown phenomenally.

In the early stages of development, import substitution was stressed and the VSI sector has played a crucial role in achieving this objective. The sector now manufactures consumer and capital goods like textile, leather goods, washing soap, safety razors and blades, stationery, consumer electronic and electrical goods, farm tools, bicycles, sewing machines, electric fans, water pumps, cameras, etc. As a result of government policy and support

measures, import of most of these goods has been stopped and industry now serves both domestic and export markets.

In India, responsibility for the development of village and small industries is shared by the regional/local promotional agencies set up by the provincial Governments and all-India bodies established by the central Government. Among the national level institutions, the Small Industries Development Organization (SIDO) deserves special mention. SIDO has been conceived and set up as a multi-purpose development agency. The most important organizational structures for the development of small-scale industries under SIDO are the network of Small Industries Service Institutes (SISIs) and extension centres and the National Small Industries Corporation.

Generally, regional-level promotional institutions confine their activities to their own area, meeting specific area needs. While some of these bodies have clearly demarcated and specialized functions, others are designed to perform multi-purpose functions.

There has been a gap between the promise held by these programmes and organizations and their performance. Some factors negatively influencing performance have been large-scale natural disasters, lack of resources and managerial capabilities and the very fast population growth. The exodus to the cities has not been stopped and the absence of a well-developed infrastructure in the countryside has caused modern VSI to concentrate in the large towns. Although credit for SSI amounts to 30 per cent of all finance provided by banks, the larger, more modern SSIs have benefitted disproportionately. The smallest, traditional firms suffer from inadequate finance and have to borrow from private lenders charging exorbitant interest rates. Technological obsolescence, low productivity, irregular supply of raw materials, lack of organized marketing channels, unorganized production operations and a low level of human skills are still major problems.

There is, however, a growing body of experience with SSI development and decentralized all-round planning taking into account the demands of social justice. The growing body of well-educated young entrepreneurs can benefit from this experience; and especially in rural areas there seems to be wide scope for new small industries processing farm and forest products.

Indonesia^{1/}

In Indonesia, SSI comes under the jurisdiction of the Directorate General for Small Scale Industries, Ministry of Industry. For policy purposes, a distinction is made between the following main SSI groups:

- food
- textile and leather
- chemicals and construction materials
- general handicraft (including sports goods and musical instruments)
- metalworking (including automotive components and electronics).

^{1/} Based on "The development of small-scale industry in Indonesia" with emphasis to the Fourth Five-year Development Plan" by Binaldjemur Danuhadiningrat.

In 1984 the SSI sector comprised over 1.5 million enterprises employing 4.6 million workers; production was valued at more than Rp. 6.5 billion. The main problems SSI faces are lack of technical and managerial know-how, lack of entrepreneurs, insufficient information for small businessmen on all major aspects related to the operation of an enterprise and unco-ordinated assistance to SSI. Small industry development programmes attempt to remedy these shortcomings. At the same time, these programmes should create additional employment (186,000 jobs per year during the present planning period), substantially raise SSI value added and lead to the progressive clustering of SSI (6,000 SSI clusters are expected to function by the late 1980's). SSI is also expected to play a role in achieving a more equitable distribution of development and incomes throughout the country.

The formulation of policies for SSI development is subject to some general principles:

- policies should be integrated in a general development policy and linkages with other industries and economic sectors must be strengthened;
- the various types of SSI - traditional handicraft and modern - each have a role to play;
- both export markets and basic domestic needs should be served;
- special attention must be paid to R and D;
- modern SSI should support the development of the machinery and electronics industry.

For the development of certain small industries, reservation schemes have been devised. Generally speaking, industries coming under these schemes must be labour intensive, meet mass consumption needs, have (a strong potential for) linkages with other industries or economic sectors; some industries with export potential also come under these schemes.

The long-term goal of assistance programmes is to enable SSI to stand on its own feet - Government, in other words, intends to reduce its involvement in the industry as soon as this is feasible. To strengthen SSI, the following programmes are available:

- entrepreneurship development;
- feasibility studies;
- training and seminars covering all aspects of industry and business operations;
- technical services, including improvements in products and in production methods;
- financial support;
- provision of particular inputs and machines;

- assistance in establishing sub-contracting relationships such as "foster-father" agreements;
- examination of linkage potentials;
- provision of infrastructure (a.o. service facilities, mini-estates);
- export promotion.

The actual content of these programmes is adapted to the specific characteristics of an industry (traditional/modern).

Malaysia^{1/}

Small-scale enterprises dominate the industrial sector in Malaysia in terms of establishment numbers and employment. In 1981 there were 15,883 manufacturing SSI's employing 228,124 workers. These enterprises represented 36 per cent of fixed assets and 30 per cent of value added in the non-agricultural sector. Malaysian SSIs are typically very small in size and utilize traditional technologies to produce a very limited output for a small market. Their access to institutional credit and more up-to-date technologies is limited, skilled labour is scarce in the sector, management methods, market knowledge, premises and other infrastructure are inadequate. Linkages with larger industries are scarce.

In an effort to improve the performance of the SSI sector, the Malaysian Government has provided a variety of incentives. Like the larger enterprises, SSI's enjoy reduced location tax, pioneer states etc. Moreover, SSI's are exempted from paying sales tax on goods sold if the value is less than M\$ 100,000 per annum, and from paying import duties on machinery and raw materials not available locally. Various tax deductions on borrowed capital are available.

The existing provisions have, however, not provided a neutral regime with respect to small and large scale enterprises. The larger, more capital-intensive enterprises have received substantially stronger incentives. Moreover, the various support programmes for SSI were not co-ordinated and hence not very effective. Following a 1982 World Bank report, assistance to SSI has been grouped in four integrated programmes:

- Financial assistance
Under this programme, commercial banks must make at least 12 per cent of their loans available to small-scale enterprises; 50 per cent of the total must be used for small, unsecured loans under the Special Loan Scheme. Under this loan scheme, backed up by credit guarantees, loans up to a maximum of M\$ 50,000 are made available at a subsidized interest rate of 7.5 per cent per annum.
- Project development
Assistance takes the form of feasibility studies, entrepreneurial development, market promotion and the provision of industrial sites.

^{1/} Based on "Country report of Malaysia's small-scale enterprises development" by the Small-scale Enterprise Division, Ministry of Trade and Industry.

- **Training**
Areas covered include courses in management, accounting, salesmanship, marketing, and also advisory services on business practice and the dissemination of business management information.
- **Technical assistance**
To overcome technical problems and to upgrade existing technology, SSI's receive advice on the choice of proper technologies and equipment and on quality control.

The main institutions involved in small-scale enterprise development are:

- **Small-Scale Enterprise Division (SED), Ministry of Trade and Industry**
Set up in 1981, it is responsible for the promotion of small enterprise in line with national economic policy. SED identifies investment opportunities, provides incentives, advice and information to small entrepreneurs and fosters interest in small enterprise. SED is also responsible for the co-ordination of the activities of the various other agencies.
- **Malaysian Development Bank (BPMB)**
The Bank, which is supported by the Government, provides credit and other assistance to small bumiputra (domestic) entrepreneurs.g. buying stock.
- **Credit Guarantee Corporation (CGC)**
CGC provides backing to commercial banks which supply credit to small firms. This makes it possible to finance viable projects for which no collateral is available.

Other agencies which also provide support to SSI include the Malaysian Entrepreneurship Development Centre, the Malaysian Industrial Development Authority, The Malaysian Industrial Development Finance Company, the National Productivity Centre and the Standard and Industrial Research Institute of Malaysia.

Special programmes for small-scale enterprise development include:

- **Bumiputra Small Enterprise Development Project.**
To strengthen the position of the bumiputra (domestic) entrepreneur, the main Malaysian agencies involved in SSI support have started this programme with World Bank assistance in late 1984. To date, some 100 projects, involving loans to an amount of over US \$10 million have been approved. Assistance also takes the form of technical advice, management training, marketing, etc.
- **Interfirm Comparison Programme**
The purpose of this project is to determine the strong and weak points of particular firms by comparing business data. Sessions are held with small entrepreneurs to disseminate and exchange findings. Data are processed with the assistance of the University Pertanian Malaysia. The NPC is also involved in implementation; co-ordination is in the hands of SED.

- **Integrated Marketing Programme**
Co-ordinated by SED, this programme was initiated in late 1984 and involved most of the major support agencies. Marketing assistance is at present being given to some 75 small firms, and also includes quality control, and management, financial and technical services.
- **Nursery Schemes**
Under these schemes, fully equipped factory units have been provided at several places by SED and BPMB. Units are made available for a period of five years. By late 1985, 27 enterprises were thus started. It is planned to extend these schemes to other areas.
- **Subcontracting Exchange**
Still in its planning stage, the objective of this scheme is to assist small enterprise in establishing linkages with larger industries.
- **Reservation Schemes**
Under these schemes, which so far cover 46 items, production of certain commodities is reserved exclusively for SSI. No expansion of larger industry production of these commodities is allowed.
- **Government Procurement**
SED, co-operating with other Government bodies, co-ordinates Government tenders to SSI. To date, 8 items have been identified which will be supplied by small firms through 4 "umbrella" companies managing subcontracts with some 100 SSIs.
- **Technology and Resource Display Centre (see also p.44/45)**
- **Industrial Estates**
In several areas throughout the country, sites have been made available where special facilities will be available to small enterprise. This programme is still in the planning stage.
- **Kedah Regional Development Authority Function Centre**
This centre, in which SED is also involved, provides common facilities to small local producers. The Centre also provides marketing and other assistance.

Nepal^{1/}

In Nepal, the industrial sector accounts for only 5 per cent of GDP, the country being mainly agricultural. Of the 5,000 registered manufacturing units in the country (almost all of them cottage and small-scale industries with less than NRs. 2 million in fixed assets) the majority processes agricultural products (grain mills, oil mills). If the estimated 400,000 rural cottage industries are included, over one million Nepalese work full-time or part-time in an industrial occupation. Industrial development in Nepal has been constrained by limited physical, financial and human resources, a small domestic market with low purchasing power, high costs of essential imported inputs and exports due to a land-locked position and competition from India. Shortage of spare parts and raw materials, power cuts etc. have led to temporary closure of almost half of all establishments.

^{1/} Based on a paper by Mrs. Ambika K.C., Deputy Director, Department of Cottage and Village Industries, Kathmandu.

Support to small-scale industry partly takes the form of tax exemption. Some examples: Tax holidays ranging from two years (for essential consumer goods producers) to six years (for manufacturing enterprises) are given; these can be extended if sufficient value added is generated by the enterprise in question. Import duties are at only 1 per cent for equipment, spare parts and raw materials which are not available in sufficient quantities within the country. Industrial enterprises are exempted from excise duty for periods ranging from three to five years. Foreign exchange facilities are available for imports of essential equipment, services and inputs.

Various support institutions have been established. The most important are:

- The Department of Industry
The Department collects information on industries, registers and licenses industries and gives out recommendations for the provision of facilities. It also acts as the secretariat of the Industrial Promotion Board.
- The Industrial Services Centre
The Centre disseminates information on investment potential, industrial policies and incentives, conducts feasibility studies, advises on modernization, expansion and production improvement projects, conducts management training programmes, etc. The Centre also manages a number of industrial estates which have mainly been established to accommodate small industries.
- The Nepal Industrial Development Organization
This organization provides financial assistance and also participates financially in new industries. Loans up to 65 per cent of fixed assets are available with the assets serving as collateral. Payback periods are a maximum of 15 years, interest ranges from 12-17 per cent.
- The Agricultural Development Bank
Primarily meant to serve agriculture, the Bank also extends credit to small-scale rural industries. Commercial banks are now obliged to invest in cottage and small-scale industries as well.
- The Security Marketing Centre
Encourages investment in industry and systematizes the marketing of shares etc.
- The Trade Promotion Centre
Promotes Nepalese exports. It offers information on customs and transit and assists exporters to find international market outlets.
- The Department of Cottage and Village Industries
Apart from registering and recommending cottage industries for assistance, the Department provides technical training, provides promotional services and manages some textile and furniture production units. Regional and branch offices have been established in various parts of the country.

With IDA assistance, a major SSI support project was started in 1982. The Cottage and Small Industries (CSI) project focuses on textiles, metal working, forest products and agricultural processing, but other industries are

not excluded from assistance. The target is to assist 2,520 industrial ventures and 53 commercial enterprises over a period of three years, stressing export-oriented activities. Special support is given to commercial banks supplying credit to SSI, yet only 22 per cent of the credit made available has gone to rural areas. Training programmes were set up, and the Cottage Industries Development Board was activated to provide extension services and various other forms of assistance in rural areas. The Handicraft Sales Emporium both procures and distributes inputs and organizes marketing. Monitoring and evaluation are in the hands of the Industrial Services Centre; overall co-ordination is provided by the Ministry of Industry.

Pakistan^{1/}

In Pakistan, SSI (defined as consisting of units with less than Rs. 10 million in fixed assets) accounts for 85 per cent of employment in the industrial sector (3.95 million workers); its share of value added, however, is only 30 per cent. To strengthen the position of SSI, Provincial Small Industries Corporations (SIC's) were established in various regions of the country some 10 years ago. These SIC's provide services, financial and training assistance to SSI, partly in co-operation with aid donors. They also manage a number of estates for small industries. In 1980, an estimated 81,000 SSIs had been served in one way or another by SICs.

Under the Sixth Five-Year Plan (1983-1988), small-scale industry has received special attention. The aim is to make SSI, together with agro-industries, the leader of export growth. A series of policy measures has been formulated to improve the position of SSI. These include:

- provision of credit at concessional rates and expansion of the role of the Small Business Finance Corporation;
- expansion and improvement of existing training/service centres;
- special attention to SSI in the design of industrial estates;
- stimulation of subcontracting;
- the development of special programmes to improve know-how and upgrade technologies, information dissemination, quality control and marketing through Small Industries Corporations and Boards;
- abolishment of licenses for most types of small enterprises.

One example of support to SSI at the provincial level is the Small Scale Industries Wing of the Government of Baluchistan, which has been very active in the development of industries based on local resources. The Wing has established new small-scale industrial estates with necessary infrastructure facilities and promotes local crafts. It helps the small-scale and cottage units by supplying trained manpower through its own institutes. Marketing facilities are also provided: various sales outlets have been established in larger cities. The Wing advises on management and helps the industries to

^{1/} Based on "Country paper Pakistan" by Anwar-Ul-Haque, Director of Small Industries, Government of Baluchistan, Quetta.

obtain credit facilities from the relevant agencies. New investors receive advice, are helped to identify industrial projects and are assisted in the acquisition of facilities, licences and credit.

Philippines^{1/}

In the Philippine Development Plans of the past decade, SSI support has ranged from the financing and marketing aspects of small industry operations to the development of entrepreneurial skills and managerial knowledge in the SSI sector. The Government infrastructure for the development of SSI includes the National Economic and Development Authority, the Central Bank, the National Science and Technology Authority, the Ministries of Agriculture and Natural Resources, the Ministry of Finance, the Institute for Small-Scale Industry, University of the Philippines - with the Ministry of Trade and Industry and its agencies (Bureau of Small Scale Industries, National Cottage Industries Development Authority) taking the lead. Support sometimes involves an umbrella organization like the Commission of Small and Medium Industries (CSMI). Some 40 organizations in the private sector participate in financing schemes like the Industrial Guarantee Loan Fund.

Surveys indicate that the number of cottage industries (defined as having less than 5 employees and less than P 250,000 in assets) was around 82,000 in 1985, and the number of small and medium industries around 28,000 - small industries having 5-99 employees and up to P 2.5 million in assets. Small- and medium-scale industries were estimated to employ 1,251,700 workers in 1983 or 61.2 per cent of the total employment of the manufacturing sector in the Philippines. In the 1983-1985 period, it was observed that the SMI sector was not as strongly affected as the large-scale industries by the economic crisis: employment losses were much smaller. With an average annual growth rate of 21.0 per cent over the period 1967-1978, SSIs registered the fastest growth among the four sectors. 1983 value added estimates are placed at P 34,840.1 million. On the average, net production contribution of SSIs was estimated at P 1.3 million per firm in 1983, as compared to an average contribution of P 179.0 thousand in 1967.

Further developing the SSI sector entails special attention to the following:

- A shift in emphasis from financing fixed assets to financing working capital, which would reduce risks and be more attractive to commercial banks;
- improving access to funds for small and medium enterprise. This includes simplifying collateral requirements and borrowing procedures;
- the establishment of a forum for co-ordination and the exchange of information and experiences between institutions, e.g. a common data bank for all SMI-oriented activities;

^{1/} Based on "Small-scale industry development in the Philippines" by Melito S. Salazar, Jr., Director, University of the Philippines Institute for Small-Scale Industries (UPISSI) and Associate Professor, U.P. College of Business Administration.

- improved data collection to better interpret the situation of and trends in the SMI sector;
- research on legal protection offered to the SMI or the lack of it;
- impact studies on the extent of the assistance delivery system, its quality, its successes and failures;
- identifying unrecognized needs of and incentives and opportunities for the sector.

The Philippines Development Plan 1984-1987 points to the need for long-term solutions to the problem of development. Entrepreneurship development will have to be a basic element in formulating these solutions.

The educational system should supply part of the answer to entrepreneurship development. The system should be reoriented to motivate graduates to venture into business. The Ministry of Education, Culture and Sports (MECS) has incorporated entrepreneurship courses in the high school curriculum and the Philippine Association of Colleges and Schools of Business (PACSB), the Small Enterprises Research and Development Foundation (SERDEF) and the UPISSI have initiated the EDCEL Project with this purpose. It will centre on three major activities: curriculum development, instructional materials development, and training of faculty members who will handle the entrepreneurship courses.

Project spin-offs are the setting up of Institutes of Small Business (ISBs) in the regions, the setting up of business ventures by the students and the teachers, and the start of consultancy work by the teachers for students and other entrepreneurs. Schools that wish to stimulate local entrepreneurship and small industry development may set up ISBs. Thus the local community is mobilized "from within" without the need of huge capital outlays and large overhead costs. As ISBs are an outgrowth of the school curriculum, their lifespan will tend to be longer than that of most private associations set up for the purpose. These special ventures give the students more business experience than an ordinary practicum can offer. Teachers can start their own ventures or go into consultancy.

The main objective of the Small Enterprise Development (SMED) Project of the MTI, supported by the US Agency for Industrial Development, is to identify private groups and associations which can serve as effective delivery channels of extension service to their own members. The Philippine Chamber of Commerce and Industry (PCCI) as the biggest grouping of entrepreneurs in the country is the main counterpart of SMED in the private sector. Activities include the development of various types of industry associations and a national federation of such private organizations, marketing assistance and the establishment of small business institutes in various provincial centres which may be strengthened and developed into centres of management and entrepreneurship. It is hoped that after a five-year period the private sector will be able to continue these services without outside support.

To determine the usefulness and extent of the assistance programmes for the entrepreneurs, the Philippine Institute for Development Studies, the Industry and Utilities Staff of the National Economic and Development Authority and the University of the Philippines have started a series of impact studies. Such studies should be formulated with the needs of the

entrepreneurs in mind. Research fellowships for entrepreneurship and small industry development will be made available and will be complemented by research involving national and international agencies. In general, more attention will be paid to appropriate information for entrepreneurs. The mass media will be stimulated to give better information on small enterprise to the public, thus creating a more favourable social environment.

Sri Lanka^{1/}

The main problems which confront the small and medium industries sector in Sri Lanka are:

- Inability to find markets for products;
- Lack of quality consciousness;
- Absence of research on production processes and the use of improved technology;
- Inadequate financial resources;
- Paucity of trained managerial and supervisory staff;
- Lack of facilities and or funds to train the lower categories of staff;
- Absence of a framework to achieve co-ordination between supplier companies in the small and medium industries sector and large buyers.

Present industrial policies stress location of industries in the countryside, mass participation in the process of industrialization and the avoidance of monopolistic concentrations in industry. These general principles favour the development of SSI. More specifically, SSI is stimulated through:

- abolishing cumbersome administrative procedures associated with licensing and foreign exchange allocation;
- preferential tax rates and other fiscal incentives;
- expansion of credit facilities and encouragement of investment in small and medium industries;
- promoting the export-orientation of small industries;
- establishing and improving training facilities for entrepreneurs, managers and craftsmen, design and craft centres;
- improving linkages with large industries;
- technical support;
- marketing assistance.

^{1/} Based on "Country paper Sri Lanka" by Bandula S. de Silva, Director of Small Industries, Colombo, Sri Lanka.

The main institutions involved in SSI development are the Sub-Contracting Exchange and the Rural Industries Approval Committee.

The Sub-Contracting Exchange (SCX) was established as a section of the Marketing Division of the Industrial Development Board in 1981 with the objectives of:

- (a) Assisting small and medium scale industries in obtaining knowledge of potential public procurement or private orders;
- (b) Communicating to large enterprises the production capabilities of potential small and medium scale industry sub-contractors;
- (c) Assisting small and medium industries in meeting required quality standards and delivery schedules.

To achieve these objectives a nucleus of an organization has been formed, consisting of an engineer-in-charge, a technical assistant and a number of development officers. The activities conducted by the SCX to date consist of an analysis of product requirements of large institutions and identifying potential products for manufacture by SMI. In expending SCX activities some serious problems must be overcome:

- The SCX has no authority to canvass industrialists/corporations and Government departments to buy from small industrialists through SCX;
- The SCX has no authority to request firms to supply information to establish large industry demand for SSI products;
- Lack of market information therefore prevents SCX from satisfactorily briefing small suppliers;
- Product information is not supplied in time by small enterprises;
- Many small enterprises are unable to deliver products of a satisfactory quality or to keep delivery schedules; suppliers are often even unable to negotiate contracts without SCX guidance.

A better identification of current and potential markets (and marketing procedures etc.) would be needed, and such information would have to be passed on to the producers. State enterprises and departments could furnish SCX with lists of items which they normally import but which could be supplied by small or medium size firms or by establishing such firms. SCX could also negotiate on behalf of small enterprise. Finally, small and medium scale firms could also be assisted in raw materials and components purchases through the State Trading Company.

Commercial banks in Sri Lanka, although expected to play a role in development banking, have kept their traditional banking orientation. Even the Peoples Bank, founded to cover rural banking needs, shifted to the traditional commercial banking attitude, and the available industrial credit does not flow to the smaller enterprises. The Government has now set up Rural Development Banks and has introduced development banking concepts in order to help the development-oriented small enterprise.

The Rural Industries Approval Committee is an interinstitutional committee which examines applications for rural industrial ventures, and recommends them for approval by the Ministry of Rural Industrial development. Approval entitles enterprises to all incentives offered by developing schemes. The Committee also screens small-scale projects involving foreign investment. For the future development of SSI, the Ministry of Rural Industrial Development proposes to establish a "Rural Industries Development Corporation" in order to provide an integrated approach for the development and promotion of rural industries. Its functions include advisory services, financial assistance, guidance, standardization, quality control, marketing services, etc. It will also mobilize resources both from public and private sectors and participate in industrial ventures by buying equity shares.

The Ministry also plans to establish a "Small Industries Engineering and Allied Services Board". This organization will be responsible for:

- (the advancement of) testing, investigation and research;
- technical advice;
- technical training;
- preparing and disseminating technical information;
- establishing engineering workshops, testing facilities, etc. in outlying areas;
- fostering the establishment of other organizations involved in industrial research and industrial activity;
- establishing contacts with manufacturers and suppliers of industrial goods.

Finally, the system of export incentives and tariff protection should be reviewed. Improved measures are needed to structure incentives and tariffs on the basis of comparative advantage and local value added. The recent recommendations made by the Presidential Tariff Commission and implemented through the budget for the year 1985 have provided some relief by way of increased effective protection to a considerable number of small industries which were underprotected so far. Levels of effective protection, however, change over time with changes in other policy instruments. Therefore, the Government is now considering to review the tariff levels periodically in order that protection will continue to be based on dynamic comparative advantages and domestic value added.

Thailand^{1/}

In Thailand, SSI establishments are generally defined as having fewer than 50 employees and less than 5 million baht registered capital. The vast majority of industries in Thailand belongs to this category. Small industries, like other industries, are heavily concentrated in and around

^{1/} Based on "Country paper, small industry development in Thailand" by Padetpai Meekhun-iam, Director of Planning Division, Department of Industrial Promotion, Ministry of Industry, Bangkok.

Bangkok, where local and export markets can be tapped, imports and raw materials are readily available and services and infrastructural facilities are of good quality. The great majority of SSIs process natural resources; among these, rice mills are the most common type of enterprise.

SSI in Thailand suffers from a shortage of good managers and skilled manpower, shortage of capital and insufficient access to financial institutions, lack of technical and marketing skills, insufficient supply of inputs of a reasonable quality at prices which the small entrepreneur can afford.

The current Fifth Industrial Development Plan focuses on small industry as the foundation for industrial development. While developing SSI, the decentralization of industry will also be stimulated. Dispersion to provincial areas will be harmonized with the regional urban development plans. The following specific measures have been initiated:

- Development of a credit extension system and institutions for small-scale industry and industries in outlying regions;
- Improved research and development of production technology and management techniques. In addition, the Ministry of Commerce, Ministry of Industry, and Ministry of Science and Technology are to co-operate in the expansion of markets for small-scale industry;
- Promotion of subcontracting between small-scale industry and large-scale industry;
- Accelerated establishment of industrial zones in various provinces;
- Accelerated development of industrial zones along the Eastern Seaboard and industrial estates in regional areas. The suitability of other coastal areas for the establishment of industrial zones is being explored.

In addition to these measures, supplementary measures include revised tax structures etc. The Sixth National Plan (1987-1991) will continue to focus on small, rural industries.

Much of the Government's small-scale industry development policy is implemented and co-ordinated through the Department of Industrial Promotion (DIP) under the Ministry of Industry. The activities of the department are organized as follows:

- The Planning Division co-ordinates programmes and activities of all the divisions, undertakes techno-economic surveys and prepares feasibility studies for industrial projects, especially those that are viable in rural areas.
- The Handicraft Promotion Division offers training courses in handicrafts production and assists producers to improve design and quality and helps them to market their products.
- The Industrial Productivity Division or Thailand Management Development and Productivity Centre (TMDPC) conducts seminars and training courses

in modern business and management practices. Consultancy services are offered in marketing, management, production and quality control.

- The Cottage Industries Division provides training and extension services in cottage-type activities to interested parties throughout the country. R and D activities are undertaken to develop labour-saving tools or processing methods, to improve quality, and to better utilize domestic raw materials.
- The Textile Industry Division organizes training courses and renders consultancy services. It also conducts R and D activities and has a testing laboratory.
- The Small Industries Finance Office offers low-cost, long-term loans to small-scale industrialists at the interest rate of 14.5 per cent; the present maximum for individual loans is 1 million baht. Government is considering the Department's proposal to increase this ceiling to five million.
- The Industrial Service Division provides technical training, extension and advisory services in the light engineering fields.

These services are made available in provincial areas through three regional offices.

There are several shortcomings to this wide range of support activities. Priorities for implementation have not been set to correspond with resources of the government and private sector in respect of finance, personnel and production factors. Lack of co-ordination between the government planning offices has resulted in the absence of a systematic overall views; lack of co-ordination between planning and operating offices has led to disagreements on the implementation of policies. Planning officers, on the other hand, are not always aware of the obstacles inherent in the actual practice of development.