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**PROMOTING SMALL-SCALE INDUSTRY IN SOUTHEAST ASIA:
SELECTED SUPPORT SCHEMES IN
THE PHILIPPINES, THAILAND AND MALAYSIA***

Prepared by the

Regional and Country Studies Branch

Division for Industrial Studies

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PREFACE

In its study programme, the Regional and Country Studies Branch of UNIDO gives particular attention to the role of small-scale industry in the industrial development process. It has been increasingly recognized that small-scale industries can play a decisive role in expanding and diversifying industrial production and contribute to such basic objectives as employment generation, poverty eradication, improved income distribution and fulfilling basic needs. SSI is, however, hampered from fully playing its role in the development process by a number of factors. Among the most important of these are: lack of finance and lack of technical and managerial know-how.

These are also the issues addressed in this paper, the aim of which is to describe some specific schemes or approaches used in supporting small-scale industries in the Philippines, Thailand and Malaysia, respectively. The design and operative experiences of these schemes - the entrepreneurship/management development programmes of the Philippine Productivity and Development Centre, the financial schemes for small and medium industry used by the Industrial Finance Corporation of Thailand, and the Malaysian Technology Display and Resource Centre for small-scale industries - can be considered to be of direct relevance in particular to policy makers in other developing countries in search of mechanisms for promoting small-scale industries.

This paper is based on three documents presented at the UNIDO/ESCAP Ad Hoc Expert Group Meeting on Policies and Strategies for Small-scale Industry Development in the Asian and Pacific Region, which was held in Seoul, Republic of Korea, 17-20 September 1985.^{1/} The paper has been prepared by staff of the Regional and Country Studies Branch, UNIDO, with Paul Hesp as consultant.

^{1/} See further the study report "Policies and strategies for small-scale industry development in Asia and the Pacific region" (UNIDO/IS.617).

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I. ENTREPRENEURSHIP/MANAGEMENT DEVELOPMENT PROGRAMMES OF THE PHILIPPINE
PRODUCTIVITY AND DEVELOPMENT CENTRE^{1/}

1. Introduction

In the economy of the Philippines, the small and medium enterprise sector plays a major role. Small and medium enterprises (size: 10-99 workers/P 250,000-P 2.5 million in total assets and 100-199 workers/P 2.5 - P 10 million in total assets, respectively) constitute 90 per cent of all manufacturing units and employ 50 per cent of all industrial workers. They contribute some 50 per cent to total MVA. Small- and medium-size industries (SMI) are seen as being (potentially) important contributors to:

- capital formation and employment creation;
- the utilization of hitherto unexploited domestic resources;
- the conservation and generation of foreign exchange;
- the development of entrepreneurs;
- creating a cultural and technical basis for further industrialization.

There are roughly 50 institutions and corresponding programmes providing a wide range of assistance to the sector. In the following pages, attention mainly focuses on support programmes which try to involve small entrepreneurs in activities of a self-help character. First, however, a section describes the characteristics and some past activities of the Productivity and Development Centre (PDC) which initiated these support programmes. These programmes are then described in the subsequent sections: the Local Study Mission Project in Section 3 and the Sectoral Productivity Association Building Project in Section 4. In a concluding Section, 5, a short evaluation of PDC's experience with these projects is given.

2. The Productivity and Development Centre's role in SMI development

The primary task of the Productivity and Development Centre (PDC) of the Development Academy of the Philippines is the promotion of productivity in the

^{1/} Based on the paper "The Local Study Mission and the Association Building Projects: An approach to SMI development" prepared by Arturo L. Tolentino, Managing Director, the Productivity and Development Centre, Manila, as UNIDO consultant, in co-operation with the Regional and Country Studies Branch, UNIDO.

various sectors of the economy. To stimulate small- and medium-size industry (SMI), PDC implemented two Development Academy programmes which in the meantime have been integrated in the activities of the Ministry of Trade and Industry: the Medium and Small Scale Industries Coordinated Assistance Programme (MASICAP) and the Marketing Information and Direct Assistance Project.

MASICAP was designed to actively seek out entrepreneurs requiring support to deal with the complexities of assistance schemes, project organization and loan requirements, thus enhancing the business potential of the SMI sector. The first step was to assess the existing economic activities in a number of towns and provinces and the potential for expanding them, along with the availability of industrial services and support institutions. On the basis of this information, prototype projects were formulated and entrepreneurs were sought out who, with MASICAP assistance, could be expected to carry through these projects. Part of the work was carried out by college and university students who thus acquired first-hand experience with development problems. The experience gained with MASICAP led to the formulation of a scheme to improve SMI marketing. MIDAS supplied information on domestic and export marketing, on buyers and suppliers. Information was supplemented by training courses for entrepreneurs, and six roving marketing assistance teams actually served as buyers and sellers.

3. The Local Study Mission Project

When compared with their colleagues in urban areas, SMI entrepreneurs-managers in the countryside suffer from a special disadvantage. Their experience with and exposure to modern technologies, technological alternatives and modern business management practices tends to be very restricted. The knowledge and information infrastructure is invariably urban-based, and it is therefore much easier for entrepreneurs in urban areas to improve operations and products. A development gap between town and countryside is thus created.

PDC's Local Study Mission (LSM) Project, which ran from 1978 to 1980, started on the assumption that - given the crucial role of the entrepreneur-manager in small and medium-sized firms - a direct information exchange

between entrepreneurs in the countryside and in the capital of Manila, combined with visits to the latter's factories, would help to improve the operation of the former. The plant-oriented approach, combined with lectures and discussions, was expected to be a more effective way of transmitting know-how than training of the classroom type. The sharing of experience was considered to be an instructive exercise by itself.

The project consisted of a series of area and sector-specific sub-projects. Focus was on three industries - the garments, metal-working and furniture industries - which dominate the rural SMI sector. First, a preliminary study was made, whereafter an economic profile of the area was drawn up, and the need for assistance assessed. Then participants were selected from lists provided by the Small Business Assistance Centres of the Ministry of Trade and Industry. Participants had to belong to the small and medium business category, show an aptitude for business (with increased sales as a criterion) and have at least two years of experience in the present business. For know-how transfer, staff members of the Development Academy and persons with experience in the industry branch in question were selected. Whenever possible, visits to three factories were planned, a small, medium-scale and large one. In this way, participants could be familiarized with the different demands at various stages of growth.

Each Local Study Mission involved 3 modules/activities, namely:

(i) Factory visits

The specific aims of these are:

- introducing the participants to overall company operations;
- exposing participants to actual plant operations;
- providing a forum where production-related issues and operational strategies could be discussed between the participants and the receiving companies; and
- providing an opportunity to establish business and technical relationships between participants and the receiving companies.

Out of the total 32 training hours, 15 hours were devoted to the factory visits and discussions with entrepreneur-managers of the companies visited.

(ii) Discussions

This module was aimed at:

- strengthening the managerial capability of participants by introducing them to operational concepts, practices and techniques in the areas of general management, production management, marketing and finance management;
- providing a forum where participants could exchange experiences with representatives from the Development Academy and industry and could evaluate the feasibility of their own projects.

A total of 9 hours out of 32 were devoted to this module. Half of the time was generally devoted to lectures and the other half to discussing specific problems brought forward by participants.

(iii) Workshops

Workshops had three functions:

- providing a forum where participants could share their experience on critical issues pertinent to their respective enterprises;
- providing an opportunity to formulate recovery plans for firms on an individual and group basis; and
- providing a mechanism where operational problems could be identified by PDC staff members for follow-up action or referral to the relevant government resource institutions.

These workshops accounted for the remaining training hours and used the factory visits and discussions as reference points.

Altogether, 320 industrialists (roughly equally divided among the three branches) and 55 staff members of the Small Business Assistance Centres took part in Local Study Missions. An evaluation was conducted in mid-1980 with a sample of LSM participants. The report of the evaluation team indicated that the entrepreneur-managers had improved operations in several ways, and attributed these improvements to their participation in the LSM. They were mainly production technology-related and production management-related. Examples in the furniture branch were the adoption of rattan pole processing equipment such as splitters, sanders and even low-cost steam boilers using discarded steel drums and fired by wood shavings. In the garments industry, improvements were made in the production planning and control system through the introduction of routing slips, inventory and job order information

systems; labour saving resulted from improved plant layouts and work place redesign. In the metal working industry, the improvements observed were mainly in systematic management and safety procedures.

It was observed, however, that the more significant improvements were introduced by those entrepreneurs whose enterprises already possessed relatively well-developed techno-managerial capabilities. These relatively large enterprises disposed of more qualified personnel and more resources in general to implement the ideas and observations which were the result of participation in the LSM. To maximize the benefits from the approach outlined above, the difference in absorptive capability among enterprises should therefore be taken into consideration.

Other results of the LSM were the trade and sub-contracting linkages that were worked out by the entrepreneurs among themselves. These were established in two forms: trading and subcontracting arrangements between Manila-based enterprises and countryside enterprises; and specialized subcontracting among enterprises in a locality. In the furniture branch, e.g., a Manila furniture maker subcontracted a furniture maker in a rural locality to provide him with semi-finished furniture components. In the garments industry a capacity subcontracting arrangement was made. Intra-locality subcontracting focused mainly on subcontracting for specialized processes such as metal finishing and specialized machinery.

The Local Study Mission was also found to be a good experience for the staff of the Small Business Assistance Centres of the Ministry of Trade and Industry. Their participation achieved the two objectives of providing training and exposure to business operations and of establishing a rapport with industrialists in the fields for which they were responsible.

4. The Sectoral Productivity Association Building Project

The Sectoral Productivity Association (SPA) Building Project was a logical off-shoot of the Local Study Mission Project. The LSM participants realized the need for group-based activities to address constraints related to the size of their enterprises in the adoption of improvements, e.g. meeting big market orders, installation of certain production facilities, training,

management development, etc. LSM participants were therefore encouraged to form what were called "core organizing groups" for the formation of Sectoral Productivity Associations. These were area-specific, sector-based associations of small and medium scale entrepreneur-managers (e.g. furniture makers in the same locality). It was assumed that they would have very specific common concerns that would require and encourage a group approach.

By encouraging SPAs, it was also hoped that a network of assistance receiver groups could be created, which would facilitate support to the SMI sector. SPAs would identify common problems and then transmit these to support institutions, enabling the latter to formulate tailor-made assistance programmes, the implementation of which could then be partly left to the associations. It was expected that this would enhance the effectivity of support programmes. SPAs would also be a good mechanism for inter-firm linkages and in the long run might serve as a self-reliant group creating the basis for local industrial development.

As a base for the formation of SPAs, PDC used former participants in the Local Study Missions. They constituted the initial core group and were encouraged to undertake mutual benefit programmes and projects that would eventually attract other entrepreneur-managers to join the association. In areas where industry associations existed already, the PDC assisted in their adoption of the objectives of the SPA.

To help the new SPAs mount substantive activities aimed at upgrading the techno-managerial capabilities of the entrepreneur-managers, PDC undertook seminars and workshops jointly with the SPAs. PDC also assisted SPAs in the formulation of their annual operations plans and helped identify financial and other resources.

PDC generally acted as an intermediary between SPAs and Government agencies. As such it:

- helped to organize needs assessment workshops;
- identified areas for external assistance;
- formulated action plans;
- assessed support activities of relevant Government agencies;

- established contacts between SPAs and these agencies;
- assisted agencies in the development of support packages.

All this was done with a long-term reduction of PDC involvement in mind - SPAs were eventually to be self-reliant.

Available information on the accomplishments of this project covers the years 1979-1981. By late 1981, 25 SPAs had been formed: four in the garment sector with 64 members, eight in the metal working sector with 111 members, and 13 in the furniture sector with 253 members. In 1980, 19 needs assessment workshops were conducted. It was found that most of the individually expressed problems were in fact common problems of entrepreneurs; thus a clear rationale for a common search for solutions was established.

Among the problems identified were inadequate production techniques and procedures, raw material quality assessment, financing, lack of skilled manpower, and heavy competition. PDC helped the SPAs to set production and quality control standards, and improve production and marketing management. SPAs were also helped to organize common purchasing of raw materials and capital goods. A similar approach to problem solving was used in the 24 regional workshops held with SPAs in 1981.

A major problem proved to be the long-term viability of the SPAs. It was established that organizing the SMI entrepreneur-managers was easy when there was a common, pressing problem to be addressed. However, once the problem was solved, the interest of the members in the association waned and it would take an outside organization like PDC to revive that interest. The associations then became active again for the duration of PDC involvement. The objective of a sustained, self-reliant association network could not be attained.

The more lasting associations were those organized for specific purposes e.g. joint purchasing of raw materials or joint ownership of a processing facility. In these cases, the associations have a specific continuing concern and there are direct gains for members while the actual operation of their association demands little time.

A final observation concerns the local environment. It was found that the long-term viability of the associations was positively influenced when a town or village disposed of a well-functioning network of community institutions representing not only the government, but also a broad spectrum of social and economic groupings. Association building, in short, must be based on a holistic view of local society.

5. Evaluation

PDC's experience with the Local Study Mission Project and the Sectoral Productivity Association Building Project has led to the following observations:

- (i) SMI entrepreneur-managers responded favourably to the Local Study Mission format which emphasized techno-managerial capability building. It was also confirmed that observation of actual plant operation and face-to-face interaction with counterparts are an effective way of transferring knowledge. To further enhance the effectiveness of the approach the following would be essential:
 - Homogeneity of participants - group members must not only come from the same industry branch but, if possible, also come from enterprises that are roughly at the same level of development. Absorptive capacity is then more or less equal and interaction among participants more intensive. The requirement that participants should come from the same area or community did not seem to play a very critical role. In fact the differences in area-based experiences could enrich the learning exercise.
 - Proper selection and coaching of the counterpart factories - the exchange of information is very much dependent on the "openness" of the receiving enterprises.
 - Extensive involvement of resource persons in designing the mission programme - these should not just deliver their lecture but also familiarize themselves with the programme design so that they can coach participants in the "processing" of their interactions and observations.
- (ii) Sectoral industry associations can be a very good mechanism for surmounting size-related constraints. The formulation and sustenance of an association of entrepreneurs, however, require a long gestation period and would require support and follow-up.
- (iii) An association should not be a "general purpose" one but should rather be built around a specific purpose and should adopt a mode of operation that does not demand too much time and attention from the members.
- (iv) An association-building programme should adopt a holistic approach - it should contain components that help to create an environment that

supports the association's efforts. On the other hand, individual assistance packages should also be an integrated part of the approach.

- (v) The LSM approach and the SPA approach are compatible with each other. They can be turned into elements of an area-based SMI development strategy. The LSM training format can be used to strengthen the techno-managerial capabilities of the local entrepreneur-managers and the shared experiences during the mission could strengthen business and personal ties essential in sustaining the operations of the associations.

II. FINANCIAL SCHEME FOR SMALL AND MEDIUM INDUSTRY IN THAILAND^{1/}

1. The needs of Thailand's small and medium industry

Some 70-80 per cent of the 80,000 registered industrial enterprises in Thailand are classified as cottage and small-scale enterprises employing less than 50 workers, while medium-sized firms employing less than 200 workers account for about 15 per cent of the total. Approximately, 70 per cent of the enterprises are located in Bangkok and the Central Region.

The economic significance of the small and medium industry (SMI) in Thailand may be gauged from its contribution to the total value of industrial output (52 per cent), employment (80 per cent) and value added (48 per cent). SMI production ranges from consumer goods like processed foods and wearing apparel to furniture, construction materials and tools and equipment. SMIs have contributed strongly to the exports of processed foods, garments, leather goods, metal products, plastic products, wood products and furniture. In most cases, domestic inputs represent a large proportion (up to 80 per cent) of total inputs.

At the same time extensive research on the situation of SMI since 1977 has established a number of weaknesses and disincentives which are the consequence of biased fiscal and industrial promotion policies. To the extent that the latter promote SMI, their resources are moreover inadequate. In broad terms, the problems of Thailand's SMI are similar to those of their counterparts in other developing countries. One of the most important constraints is lack of finance. Debt financing accounts for only 30 per cent of total capital investment, indicating great difficulties for small enterprises in acquiring sufficient credit from institutional sources. From the viewpoint of commercial banks, which are the most important source of institutional SMI credit, inadequate collateral, poor record-keeping and the risk of business failure, particularly among new enterprises, constitute a great lending risk. Compared to large loans, transaction costs for SMI lending are relatively high, reducing bank profits.

^{1/} Based on the paper "Two-step loan - a financial scheme for small and medium industry in Thailand", prepared by Narongchai Akrasanee and Chintala Viseskul, IFCT, Bangkok, as UNIDO consultants, in co-operation with the Regional and Country Studies Branch, Division of Industrial Studies, UNIDO.

The financial problems of SMI are to some extent also symptoms or results of managerial/technical weaknesses. Poor book-keeping, a typical family management style, inadequate production control and inadequate marketing/technical knowledge, are among the deficiencies that result in financial difficulties.

2. The special loan unit of IFCT for small projects

The Industrial Finance Corporation of Thailand (IFCT) is a development finance institution which specializes in medium- and long-term financing for the acquisition of fixed assets. Since its inception in 1959, IFCT has financed 382 small-scale projects (loan size less than US \$132,500) and 272 medium-sized project (loan size between US \$132,500 and US \$755,000). These constitute about 50 and 35 per cent respectively of IFCT's total number of projects. In terms of loan amount, small-scale projects make up 8 per cent and medium-sized projects 25 per cent of the total.

In 1984 a special loan unit for small-scale projects was created to implement IFCT's current strategy to strengthen its promotion of small industry and regional development. Through a branch network, financial services are offered, including long-term funds for fixed-asset acquisition and short-term working capital loans. The target group consists of manufacturing and service units that have net fixed assets below US \$265,000, and a maximum long-term loan requirement of US \$132,500. The interest rate on loans is the same as on IFCT's normal loans, which currently stands at 14.5 per cent per annum.

So far, the loan facility has been extended to 104 clients totalling US \$10.5 million. The average loan per client is about US \$100,000. Clients are mainly engaged in food processing, the production of construction materials, wood products and furniture making, and commercial farming.

Technical assistance is another aspect of the programme. Currently it covers a small number of enterprises which face operational problems but have good prospects if technical and/or management assistance is provided. The services are performed by IFCT's consulting subsidiary, the Industrial Management Co. Ltd.

3. The export modernization programme of IFCT

This new financing programme for small and medium sized enterprises which initially will involve 30-40 firms differs from the small industry lending activity described above in three major respects.

Firstly, the programme has a more specific objective. It is intended to enhance the competitiveness of export-oriented manufacturing through the modernization of production facilities and improvements in product quality, work and management systems.

Secondly, in order to achieve this objective, the programme will link the provision of technical assistance with the provision of financing, not just in the project implementation phase, but throughout the project cycle.

Thirdly, since only some US \$22 million in foreign and local currencies will be available for lending and technical assistance, the programme will concentrate on selected priority export sectors.

The programme has the following main features:

(i) Sources of funds

While the local currency financing requirement will be met by IFCT, a two-step loan of approximately US \$17 million, at concessional terms, will be provided by the OECF (Organisation for Economic Cooperation Fund - the Japanese aid agency), with about US \$1 million earmarked for technical assistance expenses.

(ii) Type of financial assistance

Medium- and long-term financing for the modernization of plant and equipment, which will enable manufacturers to improve production efficiency and product quality, including the development of new product lines, so as to increase the competitiveness of their products in the international markets. IFCT's normal working capital credit facility will also be available to enterprises in the programme.

(iii) Eligibility of borrowers

The target groups are small and medium-sized export manufacturers in priority sectors, to be selected on the basis of the following criteria:

- Firm size: small and medium enterprises are defined as having a maximum of US \$1.85 million in net fixed assets.
- Export sales ratio: an export sales ratio of at least 30 per cent per annum within a 3-year period is required. This is in line with the definition adopted by Thailand's Board of Investment (BOI).^{1/}
- Industrial sectors: the sectors are selected with regards to their export performance potential, modernization needs, predominance of small and medium-sized operations, and priority in the export promotion plan. Altogether, eight sectors are included: processed food, garments, wood products, footwear, metal products, toys, rubber goods, and electronics.

Since the maturity of the OECF fund will be longer than the expected maturity of IFCT's loans to the borrowers, repayments will be placed in a special revolving fund which will be utilized to finance further firms.

(iv) Technical assistance

As modernizing firms competing in the international market will be the target group of the programme, it is expected that they will be from the upper range of the small-scale group, and will have some understanding of management requirements based on relatively extensive managerial experience.

The nature of technical assistance services, geared to the needs of this type of firm, may be categorized as follows:

- Basic market research to identify business/product opportunities;
- The preparation of project studies to comply with the requirements of IFCT, and government agencies if necessary;
- Production management assistance, including product design and quality control;
- Operational management assistance, covering e.g. financial management and marketing.

^{1/} For BOI-promoted projects substantially producing for exports, certain guidelines have been established for approving additional privileges in the form of tax and duty exemption or reduction.

These services will be provided for 2 years from the commencement of the programme.

It has already been mentioned that technical assistance is to be linked to financial assistance. Thus the implementation plan provides for the collaboration between technical service consultants and lending officers from the stage of project identification through to project operation. Lending officers will be informed of the scope of technical assistance services so that they can refer individual cases to the consultants for opinion and advice.

The costs of technical assistance are bound to be high. IFCT's experience indicates that SME entrepreneurs are often reluctant to make use of the services if they have to pay for the full cost of services. But if the services are provided free of charge, the entrepreneurs may not fully recognize their value and they will also quickly become a strain on the agency's budget, which usually is quite limited. In view of these considerations, borrowers in this case do not have to pay a fee for the services relating to operations review, problem identification and analysis, and recommendations for improvements by the consultant. However, if borrowers agree to implement any of the recommendations which may involve the consultant's time and other expenses, they will have to bear this part of technical service costs. The number of firms involved in this programme is of course small. But the aim of the programme is a qualitative improvement in technical and management practices as important factors in the creation of internationally competitive small- and medium-size enterprises.

III. TECHNOLOGY DISPLAY AND RESOURCE CENTRE FOR SMALL-SCALE INDUSTRIES IN MALAYSIA^{1/}

1. Introduction

The implementation of the 1986-1995 Malaysia Industrial Master Plan is expected to enhance the role of small-scale industry (SSI) and improve its linkages with other industries. With institutional support, SSIs could play a much more important role than hitherto as ancillary or supporting industries producing parts and components and providing engineering services for the larger enterprises. These industries include foundries, casting, solid metal forming, metal cutting, surface treatment and joining techniques. Subcontracting to export-oriented resource-processing industries such as tin mining, palm-oil refining, rubber processing and timber processing could include the production of processing machinery, equipment, parts and accessories.

Based on an employment cut-off point of less than 50, about 90 per cent of the over 20,000 manufacturing establishments covered by the 1981 Census of Manufacturing Industries can be considered as small-scale (Table 1).

Table 1. Malaysia - Manufacturing establishments, basic data, 1981

Employment size	No. of establishments (%)	Employment (%)	Fixed assets (%)	Revenue (%)	Fixed assets per establishment (M\$'000)	Fixed assets per employee (M\$'000)
Less than 5	43.2	3.6	1.0	1.0	11.5	4.9
5-49	46.3	24.7	15.4	14.8	169.2	11.2
(Less than 50)	(89.5)	(28.3)	(16.4)	(15.8)	(93.2)	(10.4)
50-199	8.2	27.6	33.3	35.7	2,071.7	21.8
200 and over	2.3	44.1	50.3	48.7	112,991.1	20.6
(50 and more)	(10.5)	(71.7)	(83.6)	(84.4)	(4,072.0)	(21.0)
Total manufacturing	100 (20,429)	100 (578,682)	100 (M\$10,438 million)	100 (M\$38,693 million)	510.9	18.0

Source: Malaysia, Census of Manufacturing Industries, 1981.

^{1/} Based on the paper with the same title prepared by Anwar Ali, Faculty of Economics, National University of Malaysia, as UNIDO consultant in co-operation with the Regional and Country Studies Branch, UNIDO.

Medium-scale industries (employing between 50-199) account for 8.2 per cent and the large-scale industries (employing more than 200) account for only 2.3 per cent.

SSIs account for 28.3 per cent of total manufacturing employment. In terms of fixed assets and revenue generated, SSIs shares are even smaller (16.4 per cent and 15.8 per cent respectively), with the average value of fixed assets employed per SSI being about M\$ 93,200 compared to about M\$ 2 million for medium-scale industries and over M\$ 11 million for the large-scale industries. In terms of fixed assets per employee, the SSIs average only M\$ 10,400 per employee compared to M\$ 21,790 per employee and M\$ 20,570 per employee for the medium-scale and large-scale industries respectively.

In spite of these figures SSI contribution to Malaysia's industrial growth is significant. They predominate in a number of industries, including food manufacturing, fabricated metal products (including tinsmithing and iron foundries), and timber-based products (including wooden furniture) and have a significant share in such relatively labour-intensive industries as the textiles and clothing subsectors (e.g. batik making) and in certain leather products, paper products and rubber-processing industries.

The predominance of the SSIs in the above industries is in general a reflection of a relatively low level of technology. As a consequence, SSI levels of productivity or value-added per employee are relatively low. It is in this context that SSIs need supportive government strategies. With the appropriate incentives, the numerous constraints that SSIs face can be reduced and their contribution towards further manufacturing growth enhanced. The establishment of the Technology Display and Resource Centre in Kuala Lumpur in May 1983, which complements the earlier formation (in May 1981) of the Small Enterprises Division in the Ministry of Trade and Industry, is an important element of these support strategies.

2. The concept of the Technology Display and Resource Centre (TDRC)

Being relatively small and mostly locally-owned and managed, the SSIs generally lack the information network that is essential for decision-making regarding production methods, finance, marketing etc. This also means that

they are disadvantaged as regards the procurement of capital equipment or machinery in the international markets. Such a situation often reduces their competitiveness vis-à-vis their larger counterparts. TDRC was conceived by the Malaysian authorities to serve as:

- (i) a focal point through which SSIs can have access to information (in the form of books, periodicals, etc.) on available suitable technology;
- (ii) a place where various types of modern machinery can be displayed and demonstrated for the benefit of SSI;
- (iii) a provider of consultancy and advisory services to the SSIs.

Specifically, the Centre was given the following objectives:

- (i) upgrading technical knowledge and skills within SSIs;
- (ii) upgrading management skills of SSI entrepreneurs;
- (iii) advising SSIs on matters regarding the suitability, characteristics and supply of equipment and machinery;
- (iv) advising the SSIs on the financing of machinery;
- (v) encouraging the modernization of production techniques so as to increase efficiency and thus profitability;
- (vi) upgrading the quality of finished products; and
- (vii) creating a sense of awareness among the general public on the contribution of SSI to development.

3. Early activities of the TDRC

Although the Centre is supposed to achieve numerous objectives, its activities have been quite limited so far as it is under-staffed. The Centre has, however, been able to assist the SSIs in following areas:

(i) Machinery exhibitions

Machinery and equipment of a specific industry group are put on exhibition at the Centre once every three months. Thus an awareness regarding the availability and costs of machinery and equipment in the market is created among SSI entrepreneurs. Equally important, such exhibitions give SSI entrepreneurs an impression of new technologies which can help them to raise

productivity, upgrade product quality and to keep abreast of consumers' tastes. This is part of the 'learning process' that is so vital to the industrialization process in the country.

By the end of 1984, six exhibitions had been held at the Centre, covering the following areas:

- (a) domestically manufactured machines;
- (b) food processing and packaging machines;
- (c) light engineering and metal-working machines;
- (d) wood-working machinery;
- (e) packaging material and machinery; and
- (f) auto-services.

By and large, these reflect the industry branches where SSI plays an important role.

(ii) Study tours

To enable SSI entrepreneurs from outside the capital city Kuala Lumpur to visit the exhibitions being held at the Centre, study tours are organized. Expenses are paid by the Centre. The tours also enable entrepreneurs to use other facilities provided by the Centre, including demonstrations of production techniques, lectures, discussions, film shows and reading material. By the end of 1984, a total of 16 study tours (or 'guided tours') had been organized for the 6 exhibitions held at the Centre, involving a total of 339 entrepreneurs. To complement these study tours, two mobile exhibitions were also organized in Ipoh and Kuantan.

(iii) Consultancy and advisory services

A wide range of these services is provided by the TDRC for the benefit of the SSIs, including information on/assistance with:

- (a) sources of finance and eligibility;
- (b) choosing the right mix of machinery;
- (c) identification of business opportunities;
- (d) project feasibility studies;

- (e) general management problems;
- (f) marketing strategies; and
- (g) planning and control procedures.

The majority of SSI entrepreneurs tend to seek advice on project financing and the selection of machinery and equipment, indicating the two major constraints that impede the expansion of SSI.

The shortage of financial resources is felt most strongly by SSI entrepreneurs when initiating a manufacturing project and expanding and modernizing their plants. It adversely affects their ability to employ qualified and experienced personnel, to select the appropriate machinery and equipment, to innovate and to upgrade their product designs and quality. Thus, SSIs are prevented from becoming more competitive vis-à-vis the medium- and large-scale industries.

4. Constraints and future plans

Apart from the lack of sufficient technical personnel and experience, the Centre is faced by a number of other problems. In the case of technology displays, the more important are:

- (a) The unwillingness of some machinery suppliers to participate in exhibitions organized by the Centre. They cite inconvenience and the need to safeguard trade secrets as reasons for their inability to participate;
- (b) The inability of the Centre to display the full range of some types of equipment. This is partly the result of space limitations of the centre^{1/}, partly of not being supplied with a full range by firms;
- (c) Inadequate power supply or inavailability of related facilities, preventing the demonstration of certain types of machinery.

In the case of study tours, the main problems are:

- (a) Insufficient participation by entrepreneurs;
- (b) Inavailability of management films in Malay, reducing their effectiveness;

^{1/} The existing Centre is a temporary one, located in rented premises in the Kuala Lumpur city centre with only 3,423 square feet of floor space.

- (c) Information which is unadapted to the educational level of the visitors;
- (d) Lack of support for the aims of the Centre by factory owners. Some consider visits a waste of time and thus discourage them.

Given these limitations and the current narrow range of activities, the TDRC should aim at expanding its activities in co-ordination with existing activities of other Government agencies, particularly those that are involved in the promotion of the SSIs and in upgrading their technological capability. Amongst the more important agencies concerned with industrial development are Bank Pembangunan Malaysia Berhad (BPMB), the Credit Guarantee Corporation (CGC), the Malaysian Industrial Development Authority (MIDA), the National Productivity Centre (NPC), and the various State Economic Development Corporations (SEDCs).

As regards the Centre itself, the authorities are planning to build a new permanent Centre in the outskirts of Kuala Lumpur providing better facilities for its activities. A five acre site has been earmarked for this purpose. The success of the Centre in the future will depend a great deal on the willingness of the private sector to participate more actively by regularly supplying machinery or equipment for display and demonstration purposes. Incentives could be provided for this purpose. To make these displays and demonstrations more meaningful, the Centre plans to produce operation manuals with the co-operation of other Government agencies.

The Standards and Industrial Research Institute of Malaysia (SIRIM) is of particular interest in this context. Since its establishment in 1975, SIRIM has served as a national nucleus for promoting standardization, certificating trade marks, industrial research and other related industrial activities. SIRIM, with its wider experience and access to well-qualified personnel could complement the present activities of the TDRC. A vital link to upgrade the level of the SSIs and increase their contribution towards manufacturing growth could thus be created.

So far, industrial extension services to SSI has not been a prime objective and activity of SIRIM. It is also constrained by the fact that there is no explicit and detailed assignment of objectives and functions with respect to SSI development. The links between TDRC and SIRIM have already

been recognized by the Government: SIRIM is represented in the policy-making body responsible for SSI, the Co-ordinating Council for the Development of Small Enterprises, and in the Management Committee of TDRC.

The recent establishment of the Metal Industry Technology Centre (MITEC) within SIRIM should act as a catalyst to improving the technical capability of the SSIs. MITEC has already contributed towards the improvement of the SSIs in metal and light engineering through practical training courses, in the areas of die-making, presswork, welding and electroplating. To complement this, SIRIM also provides technical advisory services through its Industrial Extension Services Unit, enhancing industry's capacity to produce quality products at minimum cost by using the most appropriate technology. These advisory services cover such areas as production technology, production control, production cost and technical information pertaining to factory location, materials handling, storage and maintenance.

5. Policy suggestions

Considering that the SSIs are expected to play a significant role in increasing the pace of industrialization and that there is a need to upgrade their technological capability, it is vital that the authorities give top priority to the establishment of R and D facilities and the provision of technical and consultancy services to the SSIs. This will enable the SSIs:

- (a) to compete effectively with the large-scale industries in terms of product quality;
- (b) to be competitive in export markets; and
- (c) to play an increased role as dependable suppliers of inputs to the medium- and large-scale industries.

The co-ordinated activities of TDRC and SIRIM could play an important role in the provision of advisory and training services. Their services should include an updating of information systems on technical know-how, engineering products, machinery and services available in the country and ensuring widest dissemination.

For the crucial tasks of upgrading and modernizing the SSIs, the Small Enterprises Division in the Ministry of Trade and Industry should be strengthened so as to co-ordinate and rationalize the functions of both

TDRC and SIRIM as well as other Government agencies that are directly involved in assisting SSI. Such co-ordination and rationalization is vital, given the limited financial and manpower resources at Malaysia's disposal. A strengthened Small Enterprises Division may give emphasis to the tasks of:

- (a) co-ordinating the functions of various government agencies which serve SSI so as to avoid duplication of efforts;
- (b) reviewing the existing policies and strategies of these agencies to maximize their potential contribution for the benefit of the SSIs;
- (c) setting up a data-bank on all SSIs in manufacturing; listing their existing activities, their sources of technical and financial assistance, technology and financial assistance, technology activity, marketing outlets, etc.; and
- (d) co-ordinating training programmes and technical and management courses for the personnel of SSIs.

It is also proposed that a detailed assessment of the performance of the Small Enterprises Division in its redefined role be carried out within a three year period, and that - if necessary - a special authority for SSIs may be established.

IV. CONCLUDING REMARKS

The preceding case studies dealt with three major issues related to small-scale industry development in the Asia and the Pacific region: managerial know-how, finance and technical know-how. It should be stressed that these are selected examples - their purpose is to indicate the forms that SSI support can take, and to stimulate the exchange of ideas on that issue. Concrete policy measures should always be formulated with the particular problems and characteristics of a country's economy and manufacturing sector in mind, and should therefore be part of a coherent overall development policy. The three examples selected here show that the main problem in SSI development is generally not a shortage of entrepreneurial potential. Rather, the lack of knowledge on technical and managerial matters and a shortage of finance at the local level prevent the full realization of the potential which is available.

The realization of this potential should essentially be left to the small entrepreneurs themselves. Experience shows that detailed strict guidelines to SSI development and extensive Government involvement in direct production are often counter-productive. The objective of Government involvement in SSI development should rather be to stimulate the self-confidence of the small entrepreneurs themselves and their abilities as actors in economic life.

One important "self-help" method of strengthening the position of SSI is co-operation among small entrepreneurs. Joining forces, they can often utilize the limited resources available at the SSI level in a more efficient way. Co-operation also increases the power to negotiate with larger enterprises (e.g. in the case of subcontracting arrangements) and to lobby for SSI interest with Government bodies.

The above remarks are of particular importance for SSIs in rural areas. Industrial development problems tend to be most serious outside the urban areas where access to other enterprises, credit, services from Government institutions, transport and training facilities is easy. Yet it is precisely in rural areas that SSIs could play a major role in development, with their ability to process scattered local resources and their relatively modest capital and infrastructural demands.

The three programmes quoted here offer interesting examples of support to rural SSI: the information-exchanges between rural and urban entrepreneurs in the Philippines, the technology dissemination initiative in Malaysia and the special loan unit for small projects and the financing programme for export modernization in Thailand.