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COMPARATIVE STUDY OF THE PROMOTIONAL FRAMEWORK FOR THE DEVELOPMENT OF INDUSTRIAL SUBCONTRACTING WITH THE SSIs IN INDIA AND SELECTED ASIAN COUNTRIES

NC/IND/94/01D

Report

Prepared for the Government of India under UNDP-financed TSS-1 facility

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The preparation of this report was coordinated jointly by the Small and Medium Industries Branch, Human Resource, Enterprise and Private Sector Development Division, and the Asia and the Pacific Bureau, Country Programmes and Funds Mobilization Division. It is based on the work of André de Crombrugghe and Jürgen Reinhardt, Industrial Development Officers, and Paul Hesp, international consultant. The background studies for this report were prepared by Nicola G. Schicchi, international consultant, and Ravela SSLN Bhaskarudu, T.K. Bhaumik, Chuk Kyo Kim and Hamzah Kassim, national consultants. The background studies are listed in the bibliography and are available, upon request, from UNIDO's Small and Medium Scale Industries Branch (P.O. Box 300, A-1400 Vienna, Austria).

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SUMMARY

The liberalization of the Indian economy has led to rapid growth in a number of industrial subsectors. In the process of expansion, large enterprises rely more and more on external sources of components and sub-assemblies.This allows them to focus on building up their core activities, increasing productivity and competitivity. Traditional subcontracting, in India and elsewhere, is associated with standardized products for which components are simply bought from a large number of suppliers. These are usually smaller firms with a much weaker position. A different approach has emerged in recent decades as a consequence of the global trend towards increased complexity and specialization of industrial production as well as rapid innovation and flexible response to demand in niche markets. In this particular approach, subcontracting becomes an "inter-firm problem-solving mechanism" requiring intensive cooperation between buyers and a limited number of suppliers; this, in turn, assumes a fairly high level of managerial and technological sophistication among the latter.

The present report summarizes a series of background studies on subcontracting, emphasizing the latter type of subcontracting. Both the Indian and international experience are analyzed. The report also contains recommendations and an action programme for improving the policy and institutional environment for subcontracting, for promotional systems and for the development of small and medium-size industries (SMIs), which constitute the main type of subcontractor worldwide. Because of the capabilities required, medium-size firms tend to occupy a key position in subcontracting networks.

Chapter 1 describes the existing policy and institutional framework. The economic reforms initiated in 1991 have done much to dynamize the industrial sector, and are contributing to the development of new forms of partnership between large enterprises and SMIs. However, few efforts have been made by the Government of India to stimulate the new approach to subcontracting. The ancillarization programme for stimulating small-scale industries (SSIs) supplying at least 50 per cent of their output to a large firm is not playing a significant role. SSI support programmes are tied to investment limits which are an obstacle to SSI growth and technological upgrading; they also discriminate against medium-scale firms. Dynamization of the manufacturing sector is also hindered by the product reservation scheme for the small-scale sector. The SSI support framework, moreover, is complex and the resources of institutions are inadequate. Finally, limits to foreign investment discourage the introduction of new technologies and management methods in the sector.

Chapter 2 analyzes subcontracting in Indian business practice, focusing on the metalworking, mechanical/electrical engineering, plastics, automotive and electronics industries, which are setting the pace for the development of the manufacturing sector as a whole. Briefly, subcontracting in these five industries can be characterized as follows:

Metalworking

As standardized products are still quite common, the older type of subcontracting is predominant. The number of intensive longer-term relationships, however, is increasing in spite of obstacles which include an unfavourable business environment and the low development level of most smaller firms in the industry.

Plastics

This industry is characterized by batch production and frequent product modification. However, many components are relatively simple, and large firms can often choose between a large number of suppliers. Long-term subcontracting relationships, although on the increase, are still unusual. Obstacles to their development include the low technology level of suppliers and inadequate infrastructure.

Mechanical and electrical engineering

The branch is characterized by a wide range of fairly standardized products; consequently, subcontracting networks tend to be very large. The presence of large, vertically integrated public-sector firms also limits the potential for intensive long-term subcontracting. There are a number of well-developed medium-size subcontractors capable of producing customized items, but these are often tied to foreign firms.

Electronics

This industry has a strong international orientation and sources many of its more sophisticated components and sub-assemblies overseas. While a number of intensive subcontracting relationships have evolved, rapid technological change in the industry forces main contractors to retain the option of switching to foreign suppliers. This discourages local subcontractors from investing in modern technologies and management.

Automotive industries

As a result of the fairly strong presence of foreign joint ventures, there is a tendency to source complex parts abroad, even if the local content share in output is high. Automobile producers, however, do tend to develop close relationships with local subcontractors. A good example is provided by the Indian/Japanese joint venture Maruti. Relationships of this type, which would help to raise technological and management standards in general, could be more common if a number of obstacles to SMI development in the general business environment were removed.

Chapter 3 provides a brief sketch of subcontracting in two other developing countries in Asia: Malaysia and the Republic of Korea. In Malaysia, subcontracting integrating local SMIs and foreign parent companies has grown rapidly. The government actively promotes SMI and business linkages, but its programmes appear to be insufficiently focused and coordinated with national policies, and the entrepreneurial potential of some population groups has been neglected. The most advanced forms of cooperation with local suppliers are found in the electronics and automotive industries, although both rely quite heavily on foreign suppliers (often based in Malaysia) for the more sophisticated components. In the automotive industry, Proton - a joint venture with a Japanese company - provides the best example of how close, mutually beneficial relationships with subcontractors can be built up.

The Republic of Korea has a strong policy commitment to the development of SMIs and subcontracting as well. Generally speaking, the main rationale for subcontracting is still cost

reduction. Large firms continue to produce sophisticated components themselves, and more complex relationships with suppliers are as yet relatively unusual. On the positive side, the SMI sector is actively involved in the promotion of subcontracting through the Korean Federation of Small Business, and the Samsung Group makes great efforts to develop its subcontractors.

Chapter 4 focuses on subcontracting in Japan, the United States of America and the European Union countries. Japan provides the basic model for subcontracting arrangements now being adopted elsewhere. Multilayered subcontracting is common, simpler operations being delegated to smaller/lower-level suppliers. Know-how transfers have enabled many subcontractors to develop their own products for niche markets. Japanese SMIs often form local production networks. Laws stimulate subcontracting and prevent large enterprises from abusing their position. The National Association for Subcontracting Enterprises Promotion is heavily involved in promotion efforts.

In the United States of America, cooperation with/among SMIs has become common in, e.g., the electronics industries. Flexible production and partnerships with Japanese firms have also encouraged the introduction of new forms of subcontracting. But a management philosophy characterized by short-termism and contracts based on bidding is common, and this is an obstacle to building up long-term relationships with suppliers.

In many European countries, the existence of well-developed SMI networks has encouraged a rapid expansion of subcontracting, but in most cases this has not resulted in "interfirm problem solving mechanisms" yet. Both national governments and the EU pay great attention to SMI support and subcontracting, but the great number of EU programmes may be causing some confusion among potential clients.

Chapter 5 reviews the Indian experience against the background of the experience of the other countries. With regard to policies, the main lesson is that the regulatory boundaries between size or categories of industries should be removed, as far as possible, and that SMIs should be involved more intensively in the policy debate. There is an urgent need to develop the "missing middle": medium-size firms with adequate managerial and technological capacity to play a lead role in subcontracting. At the institutional level, a clear definition of tasks is needed to use limited resources more effectively. To a large extent, the design and provision of services should be transferred to the private sector. Business practice, finally, needs to be improved: the predominant relationship between main contractors and subcontractors is still very much "top down". Although there are examples of best business practice in this field in India, there is little awareness of the mutual benefits of intensive cooperation - and of the benefits for the economy as a whole, in terms of rapid development in the SMI sector.

Chapter 6 contains recommendations for creating a better policy and institutional environment for subcontracting and SMI development in India, and suggestions for improving subcontracting practice. The overall suggestion is that the legal and support framework for the SME sector be reviewed to increase its transparency and to remove the implicit discrimination against medium-scale enterprises: the "compartmentalization" of industry must be ended to dynamize the sector. The private sector should be intensively involved in such a review. Private-sector institutions should be involved in support to increase its effectiveness. The private sector itself should learn from international subcontracting experience. Industry associations should contemplate the introduction of a code of conduct for subcontracting, and of standardized subcontracting

agreements ensuring fair treatment. The chapter concludes with a brief outline of a UNIDO action programme for the development of subcontracting in India, of which more details can be found in Annex 1. This includes a national network of industrial subcontracting and partnership centres and a partnership development programme for subcontractors and suppliers.

INTRODUCTION

The liberalization of the Indian economy has led to rapid growth in a number of industrial subsectors. In the process of expansion, large enterprises rely more and more on external sources of components and sub-assemblies.This allows them to focus on building up their core activities, increasing productivity and competitivity.

To assist the Government of India in reviewing the policy and institutional framework for subcontracting, UNIDO commissioned a series of background studies on this type of industrial partnership. These are summarized here. Purely descriptive text is kept to a minimum: the document concentrates on identifying problems, placing them in an international context, and finding ways forward. The background studies, mentioned in footnotes at the beginning of the relevant chapters and listed in the bibliography, can be consulted for details.

A first draft of this report was presented at a Workshop on Industrial Subcontracting in New Delhi in June 1996. This workshop was attended by some 60 Chief Executive Officers and representatives from Government bodies, public and private sector institutions and large and small industries (see Annex 2 for a list of participants).The present report incorporates the findings of the workshop, which also endorsed its conclusions and recommendations.

Subcontracting, as indicated, allows enterprises to concentrate on their core activities by reducing capital, labour and management costs. In industries based on the assembly of many discrete components, moreover, the demand for such components may not justify in-house production. In these industries, which include metal working, mechanical engineering, transport equipment, electrical machinery and electronics, the use of external suppliers tends to be most highly developed. Industries based on a continuous process, such as the paper or fertilizer industry, have limited scope for outsourcing (except for basic inputs like chemicals). Industries like textile and clothing occupy an intermediate position, characteristically subcontracting labour-intensive work. The present document concentrates on the first category of industries, which are also the leading industries in the technological field, setting the pace for the rest of the manufacturing sector.

The growth of subcontracting in India reflects the global expansion of subcontracting. Traditional outsourcing - still found in many industries - is based on the same principles that characterize operations in the outsourcing firm (also known as the vendee):

- Breakdown of the production cycle into highly fragmented basic tasks that could be entrusted to unskilled operatives;

- Reduction of the role of such operatives to a purely manufacturing function (exclusion from decision-making and innovative processes);

- Separate, specialized control functions[1].

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[1] UNIDO 1993(b), p. 3.

This type of subcontracting is typically associated with standardized products based on mature, generally available technologies where low costs are a more important consideration than high quality, flexibility and innovation. The components or subassemblies are simply bought in, and there is little need for or interest in partnerships which may result in synergies beneficial to both outsourcing firms and subcontractors (also known as vendors). Outsourcing is characterized by a large number of suppliers of individual components. Subcontractors are often much smaller than the buyers, and therefore in a weak bargaining position; to minimize risks, they spread their work among a large number of buyers. India's ancillary industries usually come in this category. The failure of Government programmes to stimulate these industries (see Chapter 1) is partly explained by the fact that it is rarely in the interest of the buyer to implement such programmes.

A different approach to subcontracting has emerged in recent decades. Global manufacturing is becoming more and more characterized by rapid innovation and flexible response to demand in specific market segments. This requires a high level of managerial and technological sophistication as well as decentralized decision-making[2]. The approach was pioneered in Japan, but is now applied in many countries. A good example (discussed in this document) is the Indian automobile manufacturer Maruti. In this approach, subcontracting may be characterized as an "inter-firm problem-solving mechanism"[3], in which buyers (also known as main contractors or parent firms):

- Provide special raw materials and equipment, if necessary;

- Help to upgrade the skill, managerial and technological levels of the vendors, either through direct assistance or even by supporting the vendors financially - this may go as far as providing subcontractors with prototype design capacity;

- Repeat orders often enough (sometimes throughout the product life cycle) and keep purchasing prices stable enough to allow the supplier to plan ahead and adapt operations to the needs of the buyer.

The benefits for the buyer are adherence to standards, higher product quality, timely delivery and overall reliability. Subcontracting becomes a basic element of firm strategy.

Building up such mutually beneficial partnerships is, of course, a long-term project; it will not work if the enterprise philosophy is based on short-term gains. Because of the lower risks and heavier involvement, the number of partners tends to be limited - this may go as far as single sourcing. The problem-solving approach tends to be reflected in intra-firm relations: employees are not just a cost factor, but responsible partners in a team.

"...The literature on flexible specialization and high performance work systems...has extensively documented links between productivity, firm performance and decentralized, more customized organization of work around high quality, rapidly changing products... (Tewari 1994, p. 51).

Nishiguchi 1994, p. 190.

This type of partnership between large and smaller companies is demanding; suppliers face great responsibilities. Its contribution to SMI development may therefore be more of a qualitative than a quantitative kind. A substantial production capacity and a fairly high level of technological and managerial sophistication are required if the main contractor is to consider it worthwhile to build up an intensive partnership with a subcontractor. Audits of potential subcontractors are common in all countries studied - these cover issues like product cost and quality, reliability and delivery terms, managerial know-how and labour force skills. Often, only the more advanced medium-scale enterprises in the SMI sector can meet the criteria for first-level or main subcontractors. This is also the case in India, as the background studies show. Usually, however, the first-level subcontractors will themselves rely on smaller subcontractors for many of their own inputs; these in turn may also rely on outsourcing. A subcontracting network of this type will, in short, take the form of a pyramid with many small enterprises at the lower levels. Frequently, "horizontal" cooperation among SMIs is also found, in enterprise clusters or production associations.

Flexible production systems can be of great benefit to developing countries because of the potential for production on a relatively small scale basis and because the operating environment can accommodate fluctuating macro-economic conditions. Where applied successfully, production costs are reduced, product quality is raised, and the technological and managerial standards in small enterprises are improved. The introduction of such systems therefore helps developing countries to cope with competition and to enter world markets where quality and standards are becoming more and more important[4].

Between the two polar opposites of a purely commercial transaction between a buyer and a supplier and an inter-firm problem-solving relationship there are many different levels and forms of enterprise partnership, as, among others, the Indian case studies in this document show. Formally adopting a partnership philosophy, moreover, does not always mean that a large enterprise wholeheartedly provides the support that would be required. But experience in India and elsewhere shows that, in industries characterized by the use of discrete components or assemblies, a vendee-vendor relationship which strengthens the capacities of the latter increases the flexibility and responsiveness to market changes of the former. Enterprises grow faster. The economy as a whole benefits from the raised skill and technology levels in the SMIs, and from their increased demand for material supplies and services (the latter issue is not discussed here, but should be kept in mind by policy makers).

Whatever the type of subcontracting, it requires a strong industrial base with a large number of medium-scale or small enterprises. Networking among these enterprises helps to raise their overall ability to respond to the demand for subcontracting. The Indian Government has done much to stimulate the growth of the small-scale industry sector, but the sector has not developed the required managerial dynamism, technological sophistication and networks; and the growth of the medium-scale sector has been discouraged. Partly, this is the consequence of misconceived Government policies and of an inadequate public-sector support system. The private sector has only played a marginal role in creating the overall framework for SMI development. Even though parent companies are of crucial importance for the development of vendors, a good business climate is essential for building up a strong SMI sector. This document will show that the private sector can do much to make partnerships more productive; its main

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See e.g. the article by Kaplinski in *World Development* 1995, p. 57-71.

concern, however, is the enabling environment, and the actions required by the Government to improve it.

The text is structured as follows. Chapter 1 describes the policy and instititutional context for small and medium-scale industry development in India and its impact on subcontracting. Chapter 2 then sketches the actual subcontracting practice in India's metal working, plastics, engineering, electronics and automotive industries. Chapter 3 briefly analyzes the policy/institutional environment for and the subcontracting experience of two other Asian countries: Malaysia and the Republic of Korea. Chapter 4 focuses on subcontracting in the developed countries (Japan, the United States of America and the European Union countries). Chapter 5 reviews the Indian experience against the background of the experience of the other countries. Chapter 6, finally, contains recommendations for the creation of a better policy and institutional environment for SMI development/subcontracting as well as suggestions for improving subcontracting practice. In a number of cases, the recommendations for the development of SMI reflect those made in the past by the World Bank and the National Council of Applied Economic Research/Friedrich-Naumann-Stifting (see bibliography).The chapter concludes with a brief outline of a UNIDO action programme for the development of subcontracting in India, of which more details can be found in Annex 1.

Chapter 1 - THE POLICY AND INSTITUTIONAL FRAMEWORK[5]

The economic reform programme in 1991 has affected wide areas of Indian manufacturing. Liberalization is increasingly exposing Indian industries to competitive pressures, deregulation has opened up many areas of economic activity to private enterprise. The increased pressure on large-scale enterprises to specialize and focus on core activities is of great importance for the small and medium-scale industries (SMIs). Under the impact of the recent developments, new forms of cooperation between large industries and SMIs are emerging in the automotive and electrical engineering/electronics industries. The present chapter will discuss the adequacy of the present policy and institutional framework for the development of SMI and, especially, of subcontracting.

1.1 Economic reform and policies for small and medium-scale industry

The 1991 Statement on Industrial Policy reflects the trend to liberalization. Most industries, for example, are now exempt from compulsory licensing. This means that, with certain exceptions, medium and large-scale private enterprises no longer require permission to produce certain items. Compulsory licensing, for example, was abolished in the automotive industry, a key industry for technological progress in India. Registration has been simplified. Full foreign ownership is now possible in export-oriented enterprises, foreign majority ownership is allowed in most industries outside the small-scale industry (SSI) sector. The number of locations for which a special location permit is needed has been reduced.

New policies and measures for the village and small industry sector have been formulated as well. In the present context, the following are of particular interest:

- The investment ceiling was raised to Rs. 6 million (Rs. 7.5 million if the unit concerned undertakes to export 30 per cent of its output or if it is an ancillary unit, i.e. a firm supplying at least 50 per cent of its output to larger-scale industries). The higher ceiling would help some of the more advanced SSIs, which are of particular importance in the context of subcontracting, to benefit from SSI support measures;

- The ancillarization programme, established to encourage large public and private sector enterprises to turn over production of parts, components, sub-assemblies, etc., to small enterprises, is to be guided by "economic considerations" in the future. This presumably means that market forces will decide which products are to be contracted out in the future.

- Units employing less than 50 persons (and using power-driven equipment) or 100 persons (and not using power-driven equipment) no longer face restrictions with regard to the goods they are allowed to produce;

- Other enterprises (including foreign investors) are now allowed 24 per cent equity participation in a small-scale unit;

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[5] The main background document for this chapter is Bhaumik 1996.

- An Act on Delayed Payments to Small and Ancillary Enterprises has been promulgated. Under this act, large-scale units will be required to pay interest on delayed payments for supplies bought from SSIs;

- The Reserve Bank of India has announced a package of measures to ensure a better flow of bank credit to SSIs. This includes a simplification and more rapid processing of loan applications, training of bank staff to raise their awareness of SSI needs and the expansion of "single window" loan schemes. Banks are encouraged to open specialized SSI branches and to give greater priority to these industries in their annual credit budgets.

- Access to inputs has been improved by giving SSIs priority in allocation of iron and steel from public-sector industries and by removing obstacles to imports of a range of raw materials and intermediate products.

Exemptions and simplification of procedures in the fiscal sphere, simplified registration, relaxation of labour and environmental legislation, and decentralized execution of the relevant policies and regulations should also be mentioned.

The present policy provides more leeway for small private enterprise, and as such supports the overall objective of dynamizing Indian manufacturing. But the question is whether the usefulness of some of the old policies which still apply should not be re-examined as well, because in the present situation they have become an obstacle to industrial development:

- The number of products which are reserved for SSIs is still very high, standing at 836 items in 1994, the last year for which information on this issue was available. This represents a decrease of only 7 items since the economic reform process was initiated in 1991. The overall rationale may have been to protect SSI from competition by large industries; but in many cases SSIs have not been able to develop the capacity to turn out goods in the reserved category which would be competitive in foreign markets or against foreign imports. There are even products on the reserved list which India is not producing at all.

- Government policy has led to a "watertight compartmentalization of industrial units"[6] in:
  - The comparatively large licensed industries (LIs - see above);
  - SSIs and ancillary industries (see above);
  - Tiny units (also called micro enterprises), with an investment limit of Rs. 0.5 million;
  - Units registered with the Director General of Technical Development (DGTD) (RIs), with an investment exceeding the limit for SSI but below that of licensed units.

DGTD units are not necessarily medium-scale enterprises, but the dynamic firms which are so characteristic of industry in the 1990s would often come in this size category. This category has however been neglected in government policies.

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[6] Bhaumik 1996, p. 34.

Different regulations and different support policies for different enterprise levels have discouraged development. Industrial development requires innovative behaviour - continuously: exploration of new markets, improvement of products, invention of new products, new production processes and forms of enterprise organization. Fixed investment levels and fixed product categories are not conducive to the dynamism that this requires at the firm level.

Given the wide range of support facilities available to SSI (to be discussed in the next section) and the absence of specific support for the DGTD category, moreover, few SSIs have felt encouraged to "graduate" to technologically more sophisticated medium-scale enterprises. Instead, SSIs reaching the investment limit have often subdivided into smaller units. A growing number of enterprises therefore is not necessarily a sign of healthy industrial development. This is also borne out by the very high number of "sick" units, i.e. firms which are persistently loss-making and unable to service their debts. The proportion of sick units in the sector rose steadily during the 1980s, and the recent policy changes have evidently not been successful in reversing this trend: between March 1992 and May 1993 (later data were not available at the time of drafting) the total outstanding debt of sick SSIs rose from Rs. 310 billion to Rs. 341 billion[7].

Government purchasing is one way of stimulating demand for domestic industrial products, and in India preferential purchasing policies for SSI represent an important source of income for the sector. For firms which have adequate capacities to qualify for Government contracts this is actually a major reason for registering[8]. Unfortunately, government contracts usually go to the producer charging the lowest price, without much regard to the quality of a product. Even low price is not always a consideration: the fact that a product is not reserved for SSI and is produced more cheaply by a large enterprise (benefiting from economies of scale) does not mean that the latter gets the contract. Worldwide, there are many examples of government purchasing acting as a spur to innovation; India's purchasing policies could also play this stimulating role.

1.2 The institutional and financial support framework

The institutional support framework for SSI in India is heavily dominated by public-sector agencies, both at the national and state level. Presenting a concise picture of this support framework is difficult, as the following paragraphs will show, because of the large number of agencies and programmes. While their role in supporting SSI or encouraging subcontracting has been limited so far, there are quite a few private enterprise associations in the sector, such as the Federation of Associations of Small Industries of India, the Indian Council of Small Industries and a number of branch and state-level associations. The electronics industry and the automotive industry have their own components manufacturers associations. Many small enterprises are also members of the Chambers of Commerce.

The All India Small Scale Industries Board is the Government's top advisory forum for the small scale sector. The Small Industries Development Organisation (SIDO) - part of the Ministry of Industry - is the actual policy formulating, coordinating and monitoring agency. It provides a

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Ministry of Industry, Government of India, p. 202.

Tewari 1994, p. 22.

wide range of extension services including training and entrepreneurship development; testing, design and toolroom facilities; and branch-specific support. SIDO's main instrument for implementing these activities are the Small Industries Service Institutes (SISIs). The major SISIs also run a subcontracting exchange. The National Small Industries Corporation (NSIC), another agency of the Ministry of Industry, provides marketing and technological assistance as well as training. NSIC also runs programmes whereby SSIs are supplied with raw materials, spare parts and equipment. The Government has also run a programme for the development of ancillary enterprises over many years.

Within the broad framework set by the central Government, the state Directorates of Industries (DIs) are charged with the execution of SSI policies. SSIs must register with the DIs to get access to fiscal and financial incentives, institutional support and rationed inputs, marketing, and the various fiscal incentives, subsidies and financial support schemes of the central Government or the State Financial Corporations. The DIs are also responsible for establishing and managing district industries centres (DICs), which are the focal point for the promotion of SSI. DICs are expected to provide a single window clearance faculty to simplify the establishment of SSIs. Small Industry Development Corporations (SIDCs) are another major instrument of the DIs. SIDCs, among others, manage estates where SSIs are provided with integrated infrastructural facilities. Municipal governments, finally, also provide a range of services.

Recent studies by UNIDO and other agencies have identified a number of shortcomings of the institutional framework for SSI development:

- There are overlaps between the mandates of the central Government agencies and between the insitutions of the Central Government, the states and the municipalities, resulting in confusion and waste of resources. Staff tends to lack business experience;

- Services only reach a small minority of enterprises, and the services provided are often considered inadequate, according to a 1993 survey[9];

- The DIC's single window clearance system is apparently not working: two years after the announcement of the new policy package for SSI, enterprises still had to obtain "more than 24 clearances and approvals" from various Government agencies[10].

- On the whole, estates have provided inadequate facilities, and in rural areas many have been built without adequate assessment of the local need for such estates. Occupancy rates are low;

- The subcontracting exchanges are not providing an effective service.

These problems limit the positive impact of SSI policies. Even so, many small firms do benefit from Government support, especially in the start-up phase, although financial support is more

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National Council of Applied Economic Research/Friedrich-Naumann-Stiftung (NCAER/FNS) 1993.

NCAER/FNS 1993, p. 8.

in demand than technical or marketing support, for which other private sector firms (colleagues and customers) are usually the source. For small enterprises which cannot afford them on an individual basis, access to toolrooms, design and testing capacity in the form of common facilities can also be useful - assuming that such facilities are managed by people or instititutions who have a thorough understanding of the needs of these enterprises.

Given the size of the sector, full coverage is not possible anyway. Further improvements in infrastructure and the overall business climate would help more enterprises in the sector to find their own way. In the case of physical infrastructure, for example, a reliable nationwide power grid and an efficient national telecommunications network would solve many problems that even the best industrial estate programme can never be solved. The available support resources could be then be focused on industries that stand to gain most from such support.

There is a variety of Government-supported schemes to improve SSI access to finance. Access to working capital via the commercial banks is facilitated by a Government scheme requiring banks to set aside part of their funds for this purpose. The Government provides loan guarantees through a scheme managed by the Reserve Bank of India. Long-term finance is usually provided by State Financial Corporations (SFCs) - for the smaller projects - and State Industrial Development Corporations (SIDCs), backed up by financial institutions at the central Government level. Financial support for innovation is one of the priority areas in which these institutions are active.

The Small Industries Development Bank of India (SIDBI), for example, runs a number of programmes mainly geared to promote small suppliers: under a scheme for direct discounting of bills, SIDBI pays the proceeds directly to the supplier, and is reimbursed by the purchasing firm at a predetermined date. Another scheme for direct assistance to ancillary/subcontracting units aims at their expansion, technology upgrading/modernization and/or diversification of output. Taking the form of a tripartite agreement among SIDBI, the main contractor and the subcontractor, SIDBI make finance available to the subcontractor while the main contractor accepts certain responsibilities, such as minimum purchase and other guarantees, know how/technology transfer, provision of project design, drawings, dies and moulds, and quality assurance. Equity participation is also encouraged. High risk credit is extended under a marketing finance scheme under which clusters of small subcontractors can be serviced. Finally, financial support is available for the introduction of ISO 9000.

In spite of the various support schemes, there is a widespread complaint among SSIs that access to bank credit, especially to working capital, is inadequate. Leaving aside, for the moment, the question of whether the schemes are adequately financed, it should be pointed out that:

- More competition in financial markets would lower the cost of credit. This is a major argument for further liberalization of the financial sector;

- Late payment of SSI bills by large enterprises is a major cause of working capital shortages. The new Act on Delayed Payments (see above) could become a very useful instrument in this respect, but much depends on whether it is enforced adequately. In this connection, the abovementioned scheme for rediscounting of bills and promissory notes now operated by SIDBI may well qualify for an expansion of its scope.

Problems faced by SSIs in getting working capital loans include bureaucratic hurdles, unhelpful attitudes of bank staff, and low credit ceilings. The new measures announced by the Reserve Bank of India (see Section 1.1) should partly help to solve these. But the fact that low interest rates are linked to the smallest working capital loans - which may have originated in a desire to make credit available to the smallest enterprises - is another obstacle to the creation of modern, dynamic enterprises.

Long-term financing possibilities are inadequate as well[11], and small enterprises are often unable to provide collateral for such credit. The priority given to innovation in SSI development policy will therefore be hard to realize. Demand for this type of credit, however, is evidently much lower than for working capital - possibly because SSIs are reluctant to invest, access to various support schemes being linked to investment ceilings. The dynamization of the small and medium scale sector would therefore require that the adequacy of the long-term finance system be studied in the light of present developments - such as the increasing need for SSIs to develop the organizational and technological capacity which will allow them to start a successful subcontracting relationship.

For financial support, the same remark can be made as for institutional support: full coverage of all enterprises is not feasible - therefore it is essential to remove obstacles to enterprise growth, as this will stimulate firms to rely more on themselves. The limited support resources can then be focused on those areas where they are needed most *and* where their impact is greatest. This would require a special study. The suggested study of long-term finance should, among others, address the question of collateral. It would also be worthwhile to evaluate the performance of the Seed Capital Assistance Scheme, which is unusual in that a major rationale appears to be the creation of medium-scale enterprises. It provides equity assistance (Rs. 200,000 - 1.5 million) for the purpose of:

- Diversification/expansion/modernization;
- Units wishing to "graduate" from small to medium size;
- Entrepreneurs setting up a medium or small-scale firm.

1.3 The relevance of existing policies and measures for the development of subcontracting

Apart from the establishment of a number of subcontracting exchanges, there have been no specific policies or measures to stimulate subcontracting of the intensive type described in Chapter 1. The reservation of certain products for SSI of course means that large firms which need such products - as components in their own output, for example - often have to rely on the small-scale sector. SSIs also tend to have low wages and overheads and benefit from various exemptions. This makes them attractive as suppliers of low-cost items.

Ancillarization policy, allowing higher investment limits for SSIs which supply at least 50 per cent of their output to a larger company, would provide the former with some incentive for technological upgrading to meet the challenge of increasingly competitive markets.The ancillary industries promotion scheme may provide an additional impetus to cooperation between small and large industries, but information on its effectiveness was not available. However, the overall

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[11] NCAER/FNS 1993, p. 18.

impression from the field work carried out by UNIDO in India is that the ancillarization programme is not functioning very well. Neither the official definitions nor the support measures seem to contribute effectively to the development of partnerships in industry.

Subcontracting increasingly requires high degrees of technological and organizational sophistication, which again means that future first-level subcontractors will usually be medium-scale industries. Chapter 2 will discuss some examples. Medium-scale firms, however, have so far been neglected in industrial policy. Without a dynamic, sophisticated medium-scale sector, it is not possible to establish subcontracting networks in which SSIs serve as second or third-level suppliers capable of meeting exacting product standards and delivery schedules.

Apart from a "missing middle", there are three other obstacles to the development of modern small-scale subcontractors:

- Intensive involvement of a larger enterprise in an SSI is made very difficult by the present 24 per cent equity limit;

- Reservation policies stand in the way of a continuous adaptation of industrial enterprises to changing technologies, ways of organizing production and markets.

- Training facilities to create a labour force with flexible skills are inadequate; qualified labour is not attracted to smaller enterprises because of low wages and bad working conditions.

The introduction of the Modified Value Added Tax (MODVAT), on the other hand, is a step forward: it supersedes the system of cumulative taxation which was an obstacle to subcontracting, as transactions were taxed for the full amount at each production stage, penalizing subcontracting. The new tax would also require less paperwork by enterprises. Further simplification should, however, be possible. A fully developed VAT scheme, as used in many other countries, could be contemplated.

From the point of view of SSI, legislation does not provide enough incentives to develop to a level where they are ready for intensive partnerships with modern large-scale enterprises. Crossing the investment limits means losing access to various support schemes, and the existing purchasing policies are no incentive to efficient production of high-quality items. Assuming that it can be adequately enforced, the Act on Delayed Payments to Small and Ancillary Industries does put SSIs in a stronger position vis-à-vis large enterprises, and should help solve part of their working capital problems. It should however be seen as a measure of last resort, as recourse to law will spoil the relationship between business partners. Preferably, the business community should rely on "self policing" through preventive measures in the form of, for example, standard contracts, codes of conduct and mediation by Reconciliation and Arbitration Committees.

Intensive cooperation among enterprises requires a good transport and communications infrastructure. Much remains to be done in this respect. Proximity of enterprises (clustering) can also stimulate cooperation, and therefore common facilities for SSIs can be very useful in locations where the characteristics of industry encourage partnerships. A review of the current industrial estate/common facilities programmes should keep this in mind.

Chapter 2 - SUBCONTRACTING IN INDIAN BUSINESS PRACTICE[12]

2.1 General aspects

Under the impact of liberalization, outsourcing is increasing rapidly in a number of branches, and stimulating SSI growth. However, as most large industries are still characterized by mass production technologies, demand is mainly for simple, more or less standardized components which can be provided by factories with limited technological capacity. Buyers are usually in a position to dictate terms, as they can choose among many components producers. For these, location near potential buyers is not only important from the point of view of limiting transport time and costs, but also to maintain relationships with the buyers.

Potential main contractors and suppliers are usually identified through adverts or directories of the relevant professional associations. Few firms are aware of the existence of subcontracting exchanges, which are often inactive. Formalized subcontracting status with a parent company entails a complicated, time-consuming selection/audit procedure by the main contractor which is a serious obstacle for many small enterprises.

With the growth of more sophisticated industries like machine tools, electrical equipment and automobiles, SSI shortcomings (product quality, reliability of deliveries, etc.) have become increasingly problematic. Large firms, however, do not usually transfer technologies or management methods to subcontractors, or provide solutions to production problems. Their departments for ancillary industry development are usually just a minor extension of the purchase/materials department. Little is done to integrate subcontractors into activities such as product development and planning - in a long-term relationship, this would be logical. A subcontractor seldom resorts to legal action if the parent company doesn't pay its bills, because legal proceedings are costly and will jeopardize the future relationship with the parent company, on which it may be heavily dependent.

In most cases, therefore, the term subcontracting refers to a standard business transaction based on bidding, and of limited duration. A supplier who wants to maintain the relationship has no choice but to comply with the demands of the main contractor. Given their insecure position, suppliers will not invest in building up a relationship with a single buyer, but spread risks by accepting orders from many different buyers. This accounts for their great diversity of output (noted by the UNIDO survey on which this chapter is based). They will keep investments low.

There is a trend towards long-term, intensive cooperation between large firms and a small number of SMIs with comparatively high skill and technology levels. But such relationships are still an exception. They are, as will be shown, usually found in the more advanced industries, the automotive industry providing the most interesting examples. The type of industry rather than public or private ownership has been the decisive factor for such relationships[13].

This chapter is largely based on Bhaskarudu 1995 (a)-(d).

This is emphasized in Tewari 1994, which mentions Punjab Tractors Ltd. and Maruti Udyog Ltd. as examples of (former) public enterprises which cooperate intensively with their subcontractors. The Maruti case will be discussed in Section 2.6.

2.2 Metalworking

The rapid development of the Indian metalworking industry (growth rates of 20-25 per cent were recorded during the past five years) is accompanied by increasing outsourcing. This trend is expected to continue. The industry is heavily focused on the domestic market and domestic inputs, with an average localization degree of 90 per cent, and therefore mainly relies on local subcontractors.

The approach to outsourcing is diversified: some firms rely on more than a hundred suppliers, others use no more than thirty. In the former case, the selection of suppliers is usually based on competitive bidding, and a longer-term arrangement is wholly dependent on the supplier's ability to deliver a product with specified characteristics at the lowest possible price.

Where large firms rely on a small number of suppliers, long-term relationships have developed which are based on yearly contracts. Most of these relationships have the following characteristics:

- Quality is a key factor in the selection, qualification, accreditation and negotiation process;
- Regular consultations;
- Annually fixed prices;
- Regular repeat orders (often on a monthly basis, deliveries usually on a weekly basis);
- Payments usually made in four to six weeks;
- Production of sub-assemblies or custom-made products;
- Assistance by the parent companies in the areas of standards and quality improvement;
- Occasional assistance in areas like raw material supply, technology (including equipment), training and finance;
- Subcontractors partly in the medium-scale category.

The various support facilities made available by the Government for purposes such as training and testing are rarely used by the subcontractors, as these are not considered up-to-date. Subcontracting information made available through the exchanges is used, but firms also rely on professional associations for this purpose. Relationships are often very stable, sometimes lasting several decades. Type of ownership has not been found to be a significant factor in determining the quality of the relationship, and "captive" relationships have not prevented the subcontracting firms from growing faster than other firms in the branch.

The problems encountered in the development of subcontracting relationships are partly related to the overall business environment: uncertainty about policies which may influence investment decisions, access to institutional finance at reasonable interest rates, a complex duty structure,

inadequate transport infrastructure and difficulties in raw material supply (inconsistent quality, need to keep large stocks). At the firm and intra-firm level, the problems encountered are inadequate tooling facilities, lack of production capacity for high-quality dies, and a weak contractual position vis-à-vis buyers. Additionally, the smaller firms face cash flow problems caused by slow payments for deliveries, and have inadequate resources to respond to changes in product or process specifications.

2.3 Plastics

Stimulated by liberalization, the plastics industry is growing at 25-30 per cent per year, which has stimulated outsourcing. The branch is dominated by a few large firms. Buyers in the plastics industries have a very wide supplier basis, the average being close to 200. Identification of partners preferably takes place through private sector channels. Like the metals industry, the plastics industry is heavily oriented towards domestic input and end product markets. The average indigenization level is 60-95 per cent. Production is characterized by a wide product range and frequent product modification. This results in batch orders for specific products. Long-term arrangements with suppliers are not so frequent as in metals, but some of the large enterprises are developing these with both small and medium-scale firms. This type of emerging relationship is usually characterized by:

- Monthly order schedules (with deliveries on a daily to monthly basis);
- Prices fixed on an annual basis (price revisions limited to tax and input price changes);
- Payment of purchases in two to eight weeks; a 0.5 per cent discount for payment within 15 days;
- Customized products using designs, moulds and dies provided by the parent company;
- Quality control and management by the parent company;
- Supply of raw materials, technical support (including equipment) and training by the parent company.

On the whole, a close relationship between buyers and sellers has proved beneficial to the smaller industries. Where this type of subcontracting has not been introduced yet, payment to small firms is known to take up to six months, causing serious working capital problems.

A number of obstacles to the development of subcontracting relationships have been identified. The technology level in the supplying firms is often low. The smaller enterprises do not have enough qualified staff or training facilities; high-quality Indian-made equipment is not available, so that technological upgrading is slow. Investment resources are also lacking. Other problems identified by the industry include poor communication networks and erratic power supply, and a tax structure which entrepreneurs consider irrational.

2.4 Mechanical and electrical engineering

This branch is also developing rapidly, some firms expecting growth rates of up to 60 per cent in the near future. The main markets for end products are domestic; certain special inputs (raw materials and components) are imported. The average indigenization rate is 50-90 per cent. Approaches to domestic outsourcing vary, but large enterprises often rely on a very large number of suppliers (up to 2,000 firms may be part of such a network).

While it is difficult to generalize about this highly diversified branch, the existence of large numbers of suppliers is partly explained by the dominant type of end product and market: a wide range of fairly standardized engineering goods, and a demand for engineering goods fluctuating with the yearly investment cycle. Outsourcing is therefore frequently characterized by small batch orders, but the same specifications may be maintained over a long period, until there is a major design change.

Orders tend to be based on competitive bidding, which means that little value is attached to past association of the supplier with the buyer. There are quite a few cases where large enterprises provide technical support, quality control, raw materials, etc. - but evidently these are temporary interventions whose only purpose is to ensure that the requirements of a specific item are met. Small batches of identical products, irregular orders and a "hands off" attitude among buyers mean that suppliers are reluctant to invest in new toolings and facilities.

Among the suppliers, medium-scale enterprises with foreign ties - in the form of equity participation and/or technology agreements - are relatively common. These firms also operate in end product markets for e.g. spare parts, both in India and abroad. Their larger size, foreign backing, in-house design facilities, ability to produce customized products and diversified markets put them in a different category from the other suppliers.

A high degree of vertical integration still characterizes some of the large public-sector engineering firms. The Government's pressure to involve ancillary industries has in such cases led to a situation where components are bought in for which in-house production capacity exists as well. Departments for ancillary industry development are even known to have established duplicate facilities in smaller industries. The inefficiency of this set-up is illustrated by the fact that one integrated public-sector enterprise with a staff of 8,800 has a turnover comparable to that of a joint venture with a Japanese engineering firm which employs less than one-tenth of this number. The latter's high level of productivity is largely explained by its efficient subcontracting network. But such a network requires a long-term association with suppliers which is still quite uncommon.

In the majority of cases, the buyer-supplier relationship in the engineering industries appears to be characterized by:

- Batch orders, often of standard components (standards being set by the buyer). However, there is also a demand for sub-assemblies and specific subcontracted jobs;

- Prices determined by batch. For regularly supplied items, prices may be fixed for a period of one or two years;

- Delivery of goods in one to one-and-a-half months, with similar periods for payments,
- Quality control by the buyer;
- Buyer assistance in various fields, depending on the type of order placed with the supplier.

The industry is handicapped by import duties on raw materials (not available in India) which exceed those on finished components. This is why main contractors often prefer importing components. There is a shortage of skilled labour and a reluctance to invest in training. Suppliers are handicapped by irregular power supply; inadequate infrastructure is generally seen as an obstacle to the development of partnerships. The present tax structure, considered a disincentive to investment, adds to the investment problems of the smaller enterprises whose equipment must be adapted to the requirements (tougher standards, flexible production) of the more intensive buyer-supplier relationships likely to develop in the near future.

2.5 Electronics

The electronics industry is more internationally oriented than the previous branches, with a number of joint ventures which source a significant share of their components and sub-assemblies overseas. Some firms rely on overseas supplies for more than half of their requirements. Technological standards and the rate of technological obsolescence are very high in the electronics industry. This is a major reason for the parent companies to continue sourcing internationally, especially when small batches of special products are needed. The indigenization rate is between 30 and 90 per cent. The electronics industry, while active in export markets, mainly produces for the Indian market. Most of the major companies are privately owned.

Small-scale industries are part of the supplier networks, but owing the high degree of sophistication of the industry (technologies, production management) and the large volumes of standard components which are required, the typical first-level suppliers are medium-scale enterprises and sometimes large-scale enterprises. These tend to be fully Indian-owned and almost totally dependent on the domestic market. The small suppliers usually restrict themselves to very specific, simple subcontracting operations like the production of chassis, plastic moulding, wiring harnesses, etc.

While there is a large demand for standardized components and sub-assemblies, subcontractors must be capable of providing custom-made items. A high degree of reliability is also demanded. It is therefore in the interest of the buyer to have a relatively intensive relationship with a small number of suppliers. (There are companies in the industry which produce less sophisticated products and which rely on a very large number of suppliers). In spite of the support offered by the main contractor, the latter sometimes complain of their limited bargaining power and the insecurity of the arrangements. Although large firms are quick to switch to foreign suppliers if technological or market changes require this, some suppliers have worked with the same main contractor for more than three decades.

Financial support excepted (buying overseas, as indicated, may be preferable to building up subcontracting capacity in India), a wide spectrum of assistance is available to subcontractors. The characteristics of subcontracting relationships in this industry can be summarized as follows:

- Outsourcing of the full range of inputs, from standard components to custom-made products;

- Contract duration varies (one month to two years, to product life);

- Widely varying delivery periods - from "immediate" to six months;

- Prices usually fixed on a case-to-case basis; widely varying payment conditions;

- Support to subcontractors in all areas except finance.

There are several obstacles to the further development of subcontracting. Rapid change and the fact that parent firms may switch to sources for sophisticated supplies elsewhere discourages suppliers from investing in state-of-the-art technologies and management methods. ECIL, a public-sector company, provides no support and floats tenders for part of its requirements, encouraging many suppliers to quote prices which do not cover their costs and delivery conditions which they cannot meet - just to get a foothold in the market. Small firms complain of irregular payment.

A number of problems are related to the overall environment. Power cuts are common. Obstacles to imports force firms to hold large stocks. Indigenization is discouraged by the prevailing system of import duties (see Section 2.4). With a high demand for trained manpower in this industry and limited training facilties, the smaller enterprises find it difficult to retain a skilled labour force.

2.6 The automotive industries

2.6.1 General characteristics of subcontracting

This industry is dominated by some very large, rapidly growing companies. Some of the major international companies are represented through joint ventures. In the coming five years, sales of cars are expected to double. The automotive industry is therefore heavily focused exploiting on opportunities in the Indian market. Road vehicles having a very large number of different components, automobile producers have a wide supplier base, both in India and abroad. Joint ventures in particular tend to rely heavily on foreign sources of components. Outsourcing accounts for 75-80 per cent of the components and subassemblies. Orders are often placed with companies which are large enterprises in their own right, such as engine manufacturers. The indigenization rate is 70-100 per cent, with an average of 90 per cent. Suppliers in the SMI sector primarily provide the more simple components which require relatively low investments.

Automobile companies tend to have stable relations (lasting up to thirty years) with their subcontractors, and in many cases relationships are quite intensive. Subcontractors which are the single source for a specific component are not uncommon, and in such cases just-in-time delivery is used to minimize main contractor inventories. The basic characteristics of subcontracting in the automotive industry are:

- Heavy reliance on subcontractors for components, sub-assemblies as well as specific jobs;

- Duration of supplier contracts ranges from one year to product life; some firms have a monthly schedule for orders;

- Prices which are usually fixed annually;

- Delivery schedules: daily to monthly;

- Payment: usually within one-and-a-half months;

- Assistance provided by parent companies in all areas, from raw material supply to quality control. Training is frequently included as well; some parent companies help their subcontractors to obtain ISO 9000 certification.

Problems encountered in the development of subcontracting are mainly related to the overall environment. The quality and quantity of raw materials is often inadequate, and restrictive import policies exacerbate this problem. Power cuts and inadequate transport infrastructure are a major obstacle to the general introduction of just-in-time delivery. Enterprises also complain of the complex tax system and high capital costs. The training system does not supply a sufficient number of skilled and quality conscious workers. The domestic supply of quality tools and dies and special machinery is limited, necessitating expensive imports (with long delivery times for spares in case of breakdowns).

2.6.2 Subcontractor development as a firm strategy: the example of Maruti

The most advanced case of subcontractor development in the automobile industry is provided by Maruti, a joint venture (50-50) with the Japanese company Suzuki. Its vendors are mostly located in the vicinity of the plant to facilitate just-in-time deliveries. It has initiated joint ventures with seven key suppliers located within a radius of 15 km of the main plant. By the early 1990s, 90 per cent of its parts and components were supplied by Indian firms. The vendor base is relatively small: a maximum of two suppliers is used for any single component. Vendors can therefore achieve economies of scale and are encouraged to invest and modernize. Timely payment of bills reduces the vendors' need for borrowed working capital, which again reduces their production costs and the price charged to Maruti for future deliveries. For payment within 15 days, Maruti is entitled to an 0.5 per cent discount.

Maruti provides assistance in all areas of manufacturing operations. Capital goods provide an interesting example. These can be imported free of import duty if the goods to be produced are exported. Maruti temporarily takes over this legal obligation and thus ensures that vendors get access to reasonably priced modern machinery. The improvement in product quality and productivity thus achieved is to Maruti's own advantage, and allows the vendors to become exporters themselves in the longer run.

Maruti is one of the automobile companies helping vendors to obtain ISO 9000 certification. Many of its suppliers have been enabled to work with Suzuki's subcontractors in Japan, learning from the experience of their more advanced counterparts in Japan. Maruti has also set up e-mail

links with its vendors, and also ensures adequate energy supply (from its own generating plant); both are, of course, in the interest of both parties. This supportive strategy is not only benefiting the enterprises that are involved: by encouraging localization as well as higher technological and management standards, it has an overall positive effect on the Indian economy.

Chapter 3 - SUBCONTRACTING IN OTHER DEVELOPING COUNTRIES: MALAYSIA AND THE REPUBLIC OF KOREA

3.1 The policy and institutional framework in Malaysia[14]

In Malaysia, SMIs are categorized by net assets: for small-scale firms, the limit is MR 500,000, for medium-scale firms MR 2.5 million. Subcontracting networks which integrate local SMIs and (foreign) parent companies have only become important in recent years, but their growth is rapid. The development was triggered by increasing costs in the home countries of the large companies and, in the case of Japanese firms, the appreciation of the yen. Subcontracting is developing most rapidly in the electronics and clothing industries. SSIs generally do not (yet) play an important role in subcontracting, as their technical and managerial resources as well as labour force skills are often inadequate.

The SMI development strategy of the Government of Malaysia is focused on the promotion of interfirm linkages, particularly with large Free Trade Zone companies (mainly transnational corporations), to integrate the latters' activities more closely in the Malaysian economy. Policies and support measures for this purpose include:

- Tax incentives (especially in the EPZ context);
- "Umbrella arrangements" whereby a large company provides training to and coordinates the production and marketing of SMIs;
- Vendor development schemes, which have a similar character (financial incentives to outsourcing from local enterprises, provision of assistance to SMIs by the buyer);
- The establishment of subcontracting exchanges.

In addition, SSIs benefit from a wide range of support measures, including marketing assistance, credit, consultancy, technology development and assistance in upgrading production capacity.

The Small and Medium-Scale Enterprise Division of the Ministry of International Trade and Industry is responsible for coordinating the SSI development programmes. No less than 13 ministries and 30 government agencies offer such programmes. The Division has found it very difficult to cope with the diversity of support programmes, and there are many overlaps and inefficiencies. A new SMI Corporation, scheduled to become operational in 1996, is expected to establish a more effective support structure and improve SMI access to assistance.

Moreover, the strong focus on *bumiputera* (indigenous) entrepreneurs, while politically understandable, has contributed to a situation where the development potential of other entrepeneurs has not been fully tapped. The effectiveness of support programmes is also limited by (i) weak links with the overall policy framework and between the types of support needed at consecutive stages of the project cycle; (ii) an incentive and tax system favouring the large-scale sector (such as a ten-year tax break for firms employing 500 or more workers). The

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Sections 3.1 and 3.2 are based on Kassim 1995.

subcontracting programme has been rather ineffective, as most of the registered SMIs have not provided adequate or accurate information on their operations and as few of them can meet the standards required by large international firms. These continue to rely heavily on imported components or on subcontracting firms owned by entrepreneurs from their own countries, as the next section will show.

3.2 Subcontracting practice in Malaysia

3.2.1 Subcontracting practice in general

In the present context, the most interesting examples of subcontracting in Malaysia are found in the electronics and automotive sectors. In the electronics industry, sales of local firms to international electronics producers (which produce mainly for export markets) appear to have doubled during the past ten years. The substantial increase in consumer and industrial electronics projects in the last few years should stimulate further growth. Some transnational firms in the semiconductor industry have transferred skills and technologies to local SMIs. Local subcontractors in the automation systems industry have also received technological support, and SMIs have been assisted in achieving international standards.

In spite of these positive trends, electronics producers still largely rely on imported components (in the semiconductor industry, domestic sourcing only accounts for 5-20 per cent of all inputs). Many have encouraged subcontractors from their home countries to set up plants in Malaysia where they benefit from lower wages (the country's good transport and telecommunications infrastructure, however, is also a location factor). Technical support includes appointing expatriates as technical managers, and while local firms are encouraged to develop more complex, higher value-added products, some expatriates continue to dominate in senior technical posts.

3.2.2 Proton's vendor development programme

A key enterprise in the automotive industry is Proton, a joint venture between the Malaysian HICOM company and Mitsubishi. This company mainly targets the local market. While the company relies on foreign-owned subcontractors for the more sophisticated parts, component production by local firms has expanded dramatically in recent years. Proton has a single sourcing policy: a specific component is supplied by a specific vendor. Production of high-quality components by more than one firm would not be economical, as Proton's output is not big enough. The potential disadvantage is a very strong hold by Proton on the subcontractor.

Proton runs the first scheme under the vendor development policy (see Section 3.1), concentrating on *bumiputera* entrepreneurs. SMIs which are selected to become Proton vendors receive technical and financial assistance, and are guaranteed purchase orders. Proton engineers conduct yearly QCD (quality, cost, delivery) audits and help vendors to improve equipment, processes, factory layout, staff productivity, etc. All key departments of Proton contribute to the audits. Where Proton (whose involvement in material production is basically limited to assembly operations) does not have the required expertise, a "matchmaking" scheme ensures access of subcontractors to the expertise of Japanese subcontractors making similar products. The audits are part of a series of programmes which allow vendors to keep abreast of technological and managerial developments and teach them to solve production problems themselves.

The comparatively advanced subcontracting system used by Proton has not yet been adopted by other large enterprises. The fact that Proton basically produces for the home market has certainly stimulated it to set up a programme to develop its local suppliers - other firms, working for higher-income export markets, will be less affected by the cost of importing components from other countries. For them, low operating costs and high-quality infrastructure will continue to be the major rationale for working with Malaysian suppliers. This will also affect Government attempts to develop domestic SSIs by stimulating subcontracting.

3.3 The policy and institutional framework in the Republic of Korea[15]

In the Republic of Korea, SMIs are defined by employment size. The size category for SSIs is 5-19, for medium-scale firms 20-199. SMIs can therefore make investments in new technologies without losing rights to exemptions or access to support schemes. The Government began (successfully) encouraging automobile manufacturers and to purchase domestically-produced components as long ago as the 1960s, but until recently, the relationship between large and small firms were of a purely commercial nature. The 1975 Subcontracting Promotion Act, focusing on industries that were or could become internationally competitive, provided another boost to SMIs. Under this law, which still applies, large firms receive tax credits for investing in ancillary firms; ancillary firms are eligible for preferential loans and technical support. This requires a jointly submitted, sound business plan (this condition was recently dropped, and replaced by an obligation to enter a long-term relationship). A Subcontracting Promotion Council, chaired by the president of the Korean Federation of Small Business (KFSB), monitors the implementation of the law.

In spite of these measures, cost reduction has remained the main rationale for subcontracting. Sophisticated parts continue to be imported or produced by the parent company itself, often because it is not confident that a local firm has the skills and equipment to do an adequate job. The comparatively low demand for sophisticated products from subcontractors possibly explains why pyramidal subcontracting structures (which are very common in Japan and - to a lesser extent - in other industrialized countries) are more or less absent: the subcontractors themselves rarely need specialized external suppliers. More complex relationships have only started developing recently, as part of a strong expansion of outsourcing[16]. Contributing factors include:

- Economic liberalization (from the 1980s onwards), encouraging flows of foreign capital and technologies to SMEs;

- An integrated approach to SME development since the 1980s, which boosted technology and skill levels in the sector;

- New laws transferring the production of hundreds of items to SME, including patents, sales rights and facilities; participating firms can apply for loans and tax incentives.

Sections 3.3 and 3.4 are mainly based on Chuk Kyo Kim 1995.

By 1990, 70 per cent of all SMEs in the country received revenue from some form of subcontracting. Subcontracting is almost as widely spread among small enterprises as among medium-sized firms (World Bank 1994, p. 5).

The policies are top-down, but their timing does show a sensitivity to international developments in manufacturing, and this could explain their success in some areas. Reservation policies, dating back to the 1975 subcontracting act, are focused on the more advanced industries - engineering, transport equipment (including shipbuilding) and electronics. To protect subcontractors from abuse by parent companies - such as late payment, interference in management decisions and unjustifiable cancellation of orders - the 1984 Fair Subcontracting Promotion Act has, among others, introduced standardized agreements and ensures their regular monitoring; the KFSB plays a key role in arbitration.

A number of public-sector institutions and public-private non-profit institutes provides support to SMEs. This ranges from training to the introduction of standards, from credit to technological and marketing assistance. The Small and Medium Industry Promotion Corporation provides support to industrial partnerships with foreign firms, along with other forms of assistance. In most cases, SMEs are not represented on the boards of these institutions. Effective assistance by these organizations seems limited to the start-up phase of SMEs and the provision of technology support services to small firms in rapidly developing industries. Otherwise, SMEs tend to turn to their business partners for advice and support, especially in the area of marketing[17].

Several private sector associations are specifically involved in the promotion of subcontracting. The role of the KFSB has already been mentioned; it also appraises product transfer projects. The wide range of products and frequent modifications, however, make this task very difficult. It runs a subcontracting exchange which has not been very active so far. About 20 per cent of the relevant firms are organized in Subcontractors Associations. These are funded by both parent firms and suppliers. Membership facilitates access to the Credit Guarantee Fund and to certain forms of assistance. They disseminate technical and managerial know-how, hold product quality contests and provide product inspection facilities.

3.4 Subcontracting practice in the Republic of Korea

In 1992, the provision of raw materials was the most common type of assistance provided to subcontractors: 20 per cent of the firms in question reported such support. This was followed by technical and managerial and financial assistance. Equipment was rarely provided. In the majority of cases, the relationship between buyers and suppliers amounted to no more than a series of normal business transactions extended over time, no support being given.

By the mid-1990s, the picture had begun to change. A UNIDO survey carried out during the preparation of the present document shows that most buyers of outsourced items provide assistance, if this is needed. Raw material supply is still very important, but quality control/management and assistance in the area of standards are now quite common as well. Parent companies also quite frequently provide special equipment and moulds. Finance and training are still the least frequently mentioned types of assistance, but in comparison with 1992 they have definitely gained in importance. Most of the financial support takes the form of financing raw material procurement. Financial support for investments or R&D is still uncommon, although credit guarantees are provided more and more frequently. From the

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World Bank 1994, p. 12-15, 41-42.

perspective of the suppliers, who usually produce a range of products, the picture looks different: for most products assistance is very limited. Assistance in complying with specifications and standards is uncommon.

An extensive 1994 KFSB survey, focusing on technical and managerial support, shows that over 6,000 subcontractors were provided with technical assistance, and close to 3,000 with managerial assistance. In the latter case, over 70 per cent of the assistance was provided by parent companies. The role of specialized support institutions (sometimes working jointly with the parent companies) was very limited. Where they are used, firms show a preference for those that are run by private-sector associations. Technical support, apart from quality control, mainly concerned production advice and training. While actual technology transfer is still comparatively limited, the large automobile and electronics companies are becoming active promotors of joint product development. Over 1,000 new products and technologies were developed in this way during 1994.

The Samsung Group has possibly gone furthest in developing their subcontractors, using special teams which provide production technology, management and sales assistance. Such teams will work with the key supplier firms for a number of months. The Group has also introduced the so-called Value Added Networking system in these firms to increase the effectiveness of production planning and communication with the parent firm, prepare the way for just-in-time deliveries.

In spite of these efforts, and although fairly long-term relationships between suppliers and buyers (six to eight years) are common, the subcontracting system still needs further improvement. The dominant position of main contractors should increasingly be replaced by cooperative relationships with subcontractors. The small business associations could play a more active role in this respect. The final objective must be to enhance the competitiveness of Korean manufacturing by stimulating joint product development and investment in advanced equipment and human resources.

Chapter 4 - THE EXPERIENCE OF THE DEVELOPED COUNTRIES

4.1 Japan[18]

Over 99 per cent of the Japanese manufacturing enterprises are categorized as SMIs, and more than half of them are subcontractors. Many SMIs were established as spin-offs from large enterprises. Initially, large firms used subcontracting to benefit from the low wages and low degree of unionization in SMEs; the creation of a good power and road infrastructure was a major enabling factor. To halt the often blatant abuse of power by the large firms, the Government intervened, and this was the basis for what was to become a comprehensive support network.

The rapid expansion of the Japanese economy in the 1960s and the relatively small number of large, vertically integrated plants (most of Japan's industrial capacity had been destroyed during World War II) created a great demand for subcontractors. But the increasing differentiation of and rapid change in markets and the introduction of more flexible production methods required a different type of subcontractor, with greater technical and organizational capabilities.

A multilayered subcontracting structure is common, first-level subcontractors providing assemblies and custom-made systems to the parent company, while the simpler operations are delegated to lower-level subcontractors. The share of in-house production in the parent firms is generally low. These firms are not so much manufacturers in the traditional sense of the word as assemblers, organizers, innovators and strategists.

Subcontractors exhibit a high degree of dependence on parent firms, dependence on a single buyer increasing at the lower levels. Assistance provided by the larger firms includes information, training, provision of facilities and support in areas such as production management and technology development. Parent firms participate in the development of subcontractor's products and in-house product design capacities. Subcontracting basically becomes an "inter-firm problem-solving mechanism". Such extensive cooperation is, of course, only possible in the context of a relationship between firms which has a long duration; the fact that short-term profit maximization is not the objective of most Japanese firms is also essential[19]. In the longer term, there are gains for all parties. The parent firms acquire subcontractors on whom they can fully rely for high-quality products, prompt execution of orders and prompt delivery. Time and money lost due to misunderstandings or disagreements is minimized. The know-how and technology levels in the SMI sector are continuously improved; downturns do not necessarily lead to a loss of custom. These are also gains for the Japanese economy as a whole.

This section is mainly based on Nishiguchi 1994 and National Association for Subcontracting Enterprises Promotion, n.d.

A worldwide survey of managers held between 1986 and 1993 showed, among others, that only 8 per cent of Japanese managers see profit making as the only goal of their company, as opposed to 40 per cent of the US managers (Hampden-Turner/Trompenaars 1994, p. 32).

As subcontractors grow and become capable of producing sophisticated goods themselves, they tend to reduce overdependence on a single parent company by developing niche products which can be sold independently or acquiring high-level expertise allowing them to deal on equal terms with the larger company in certain areas. This trend is stimulated by the increasing outsourcing of simpler components in low-wage countries. Many subcontractors also provide services based on high-level skills, such as machine and software design.

SMIs are often organized in hierarchical "clusters", managed by a primary-level subcontractor and characterized by a concentration of orders, intense specialization and high dependence on a small group of customers. The spatial expression of such tight clusters are local production networks, which are sometimes located on specially constructed industrial estates. Proximity facilitates the rapid dissemination of information and technologies which such closely cooperating firms require.

There are laws both to stimulate subcontracting and to prevent large enterprises from abusing their position. The enforcement of the latter is supervised by the Fair Trade Commission and the Small and Medium Scale Enterprise Agency. Conflicts are preferably solved by mediation. Financial and fiscal stimuli are available for firms intending to increase their productivity and modernize their equipment as part of a subcontracting agreement. Such agreements are drawn up on the basis of a model contract. A central agency, subsidized by the Government, has been established to promote subcontracting: the National Association for Subcontracting Enterprises Promotion. It is involved in, on average, 6,000 subcontracting agreements per year. About 27 per cent of the Japanese SMEs are members of one of its branches at prefecture level.

General support for SME covers finance, technologies, marketing, organization and training. While policies are formulated by the government, business associations and chambers of commerce are heavily involved in their execution. Public-sector support institutions, which are literally close to their customers, mainly play a role in the early development stage of an industry or enterprise.

4.2 The United States of America[20]

Until quite recently, the manufacturing sector in the United States of America was heavily characterized by mass production of fairly standardized products. Production was broken down into a very large number of discrete steps. Vertical integration was common. The demand for outsourced products was therefore low, and the fact that most production staff, being employed in simple, repetitive tasks, acquired little know-how, did not encourage spin-offs in the form of independent suppliers either. Business links with suppliers were usually restricted to mere commercial transactions, the decisive factor in awarding a contract being the optimal combination of price, delivery terms and quality. Long-term association was not sought. The main categories of bought-in supplies were raw materials or complete, more or less standardized assemblies (such as engines and transmission sets), provided by other medium or large-scale enterprises.

This section and the next are mainly based on Schicchi 1995.

Different approaches have developed in recent years. In the advanced electronics sector SMEs cooperate successfully, exploiting synergies of know-how, technologies and facilities, as in the Silicon Valley business cluster. A growing number of US firms is adopting flexible production systems which, among others, rely quite heavily on subcontracting. Partnerships with Japanese firms are increasing. The automotive industry relies quite heavily on specialized suppliers, but these tend to be wholly-owned subsidiaries or branch plants. SMEs only play a minor role as suppliers of these components manufacturers because they would receive no investment support, because the industry is more or less a "closed circle", and also because of the large production capacities required in most cases.

But the development of subcontracting is lagging behind that in Japan and many European countries. The ownership philosophy has been singled out as an obstacle. In Japan and Europe, an enterprise is often considered "...a personal asset. Decisions are taken from the perspective of a life-long venture, with unavoidable ups and downs"[21]. Management decisions are therefore not only guided by the profits or losses of the moment. In the USA (as well as in the UK), however, firms tend to be owned by anonymous stockholders whose interest is limited to stock market values and yearly dividends. "Any deviation from the expected financial results can involve irrational reactions from the investors and cause transfers of ownership control, with possible effects on the management structure"[22]. This short-termism is not conducive to the building up of intensive, cooperative relations with suppliers.

With regard to institutional support, the Small Business Administration (SBA) should be mentioned[23]. It carries out policy-oriented research on small business and provides information, consultancy and guaranteed loans. The SBA ensures that a substantial part of government purchases and outcontracted work is set aside for small enterprises. Actual contracts are based on bids, the SBA providing guarantees that small firms will deliver. It also acts as a matchmaker between buyers and suppliers by maintaining close contacts with main contractors and referring small firms to them; this activity is supported by a computerized referral system. A Minority Small Business Development Programme provides similar services with a special focus on disadvantaged groups.

4.3 Europe

Heavy competition from Japan and the newly industrializing countries (NICs) is forcing European manufacturers to become more flexible and to contain costs. This has led to a rapid expansion of subcontracting, which is stimulated by the existence of large networks of SMIs which are often spin-offs of larger enterprises. The SMI sector is well developed in many European countries, among others Italy, Germany, Spain, the smaller West European countries and parts of France. In the metalworking industry (which is characterized by extensive subcontracting all over the world) over 80 per cent of the firms in EU countries employ less than 100 people.

Schicchi 1995, p. 24.

Schicchi 1995, loc. cit.

See Bhaumik 1996, 23-24.

SMIs often form clusters whose origin may go back to a specific natural resource or advantageous location; in all cases however, the clusters are characterized by intensive interaction which has its roots in communal traditions. Even if such traditions are being eroded now, firms still benefit from the synergies created by this "competitive/cooperative" environment. These clusters are found in, for example, Italy's Emilia-Romagna region, the *Land* of Baden-Württemberg in Germany and the area around Barcelona in Spain.

Subcontracting in Europe is following the trend towards the development of "interfirm problem-solving mechanisms", although main contractors still have a tendency to put their own short-term interests first. Just-in-time techniques, for example, are sometimes little more than a way of minimizing stocks and shifting responsibilities to the supplier. Slow payment of suppliers contributes to the undercapitalization of many SMIs, which prevents them from acquiring the know-how and technological capacity which a more developed partnership would require. Most SMIs have also traditionally worked in limited markets and are not in the habit of looking - literally and figuratively - over their borders.

There is, however, a clear trend among large firms towards a dynamic longer-term involvement with a selected group of suppliers. While the number of subcontractors is decreasing, the intensity of the relationships and the complexity of bought-out items is increasing. The development of subcontracting is reflected in, among others:

- Information flows between large firms and their suppliers which are becoming more and more complex and long-lasting;

- The increasing number of quality networks in which buyers and suppliers cooperate, involving a joint approach to technological/organizational improvements and training;

- The increasing number of transnational corporations attracted by "centres of excellence" in several European countries, offering a favourable business climate, a skilled workforce and a dynamic competitive/cooperative environment with clusters of SMEs engaged in similar activities;

- Efficient subcontracting information centres run by private sector associations.

Support institutions for SMI are found in all European countries. Private-sector associations are heavily involved in the provision of support (information, training, finance, etc.), often executing programmes on behalf of the government. They also have an important lobbying function. Thus, they help SMIs to prepare themselves for the demanding technological and organizational environment in which subcontracting takes place, and promote the establishment of fair subcontracting practices. National governments and the EU are taking steps - such as formulating standard contracts and codes of conduct[24] - to eliminate unfair practices in subcontracting and to ensure that the interests of both parties are balanced. Within the EU there is also a progressive harmonization of laws - a transparent legal framework is essential if firms

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A code of conduct for subcontracting arrangements which has the force of law has been submitted to the Italian parliament. A similar (though non-compulsory) code exists in France. Both the EU and UNIDO are working on codes of conduct for subcontracting.

are to develop subcontracting at the European level. Within that framework, however, business practice emphasizes self-regulation by the business community.

Subcontracting is actively stimulated by the EU in several ways. For a start, there are support programmes for SMI covering a wide range of issues, from training and information to quality certification, clean production and R&D. These programmes supplement the national programmes. Specific support to subcontracting is provided through the "Toward Comakership" programme, the "Europartenariat" and INTERPRISE programmes promote partnerships among European firms. Similar programmes have been set up to encourage partnerships with countries in the Mediterranean region and in Latin America; support programmes for Eastern Europe, such as TACIS and PHARE, also have a partnership promotion element. Finally, an EU-wide code system for products has been established to facilitate subcontracting across language borders.

In spite of these efforts, SMIs are not using EU support programmes on a significant scale yet. Many enterprises are confused by the complexity of the support system as a whole and find it difficult to get or find access to the various facilities, the existence of EU information centres notwithstanding. There is evidently a need for a wider network of small, flexible units at the (sub-national) regional level to which businessmen have direct access.

Chapter 5 - CONCLUSIONS: LESSONS LEARNED FOR INDIA

5.1 Policy issues

While the policy environment in India has been liberalized, subcontracting will only become a strong contributor to manufacturing development if further obstacles to SMI development are removed: the "watertight compartmentalization" of industries, the list of reserved products and the obstacles to imports of essential raw materials do not encourage dynamism in the industrial sector. Support to small enterprises should also be better focused.

Governments have established size categories for enterprise support in all countries, but in many cases employment is the criterion; and where investment is the criterion, there are support schemes which also target medium-sized enterprises. The need to develop the "missing middle" is clearly illustrated by the experience elsewhere: first-level subcontractors must be relatively big to have the required levels of expertise and technology - and to allow the building up of a multi-level system of subcontractors. In Malaysia, the liberal foreign investment law is attracting medium-scale subcontractors from abroad, helping to fill a gap partly caused by the overemphasis in support policies on small domestic enterprises. This is another area where India could make further progress.

Using employment as a criterion allows small firms to modernize without losing access to support programmes. Those programmes need to be targeted better. Japan probably provides the best example of well-targeted support.The lesson from most countries is that the starting point must be the establishment of a framework which encourages small firms to stand on their own feet. The economic liberalization in the industrialized countries has boosted small enterprise. Much of the complex (and ineffective) SMI support structure found in India could probably be abolished if the Government would step up its efforts to create a business climate which stimulates private enterprise irrespective of size. The limited resources for SMI support can then be used where their impact is greatest (namely, for promising growth industries in the right locations).

Support may include the provision of special infrastructure (estates) in areas where the synergetic effects of clustering are evident. However, the success of Malaysia in attracting SMI investment underlines that overall improvements in physical infrastructure (transport, energy, telecommunications) are more important; in the transport sector, legislation and regulations should be simplified.

The present licensing system is still too complicated for small firms. Registration of firms is considered essential by governments everywhere, providing them with basic data for policies and fiscal planning. Experience elsewhere shows that resistance to registration can be overcome by simple, low-cost registration procedures plus policies and government funding for the creation of an effective support environment.

In the more advanced economies, subcontracting of services is increasing rapidly. While the Indian economy will be heavily oriented towards material goods production for the domestic market in the foreseeable future, policy makers should be aware of this trend and its potential benefits for the Indian economy. India already has many software houses which work for export markets.

The example of other countries shows that it is essential to formulate policies in a dialogue with associations representing the SMI sector. These can also be charged with a large part of the execution of support programmes, being much closer to the enterprises than a government agency can ever be. In the Republic of Korea, which has a rather interventionist government for a market economy, the involvement of the business community has helped to ensure that policies usually provide an adequate response to economic trends. In the Republic of Korea and Japan, the private sector also plays a key role in monitoring the development of subcontracting and in arbitration. If India's Act on Delayed Payments is to be an effective instrument, it will need a similar involvement of the business community.

5.2 Support institutions

A great number of institutions and associations is involved in one way or another in the Indian manufacturing sector. They are found in the public and private sector, at the state and national level as well as in individual branches. The institutional framework has some major shortcomings: functions overlap, resulting in wasted resources and confusion among clients, services offered to manufacturing are inadequate, and the private sector plays only a marginal role in the design and provision of support services.

In a sense, the situation resembles that in Malaysia, with its numerous support agencies and programmes. The establishment of the SMI Corporation in that country seems a step forward, as it should simplify access to and improve the coordination of support. It is, however, not clear that the private sector itself has much of an impact on the formulation and execution of support programmes.

In the Republic of Korea, the business community is more heavily involved, particularly through the KFSB and the Subcontractors Organizations. Holding the chair of the Subcontracting Promotion Council and acting as the official mediator in conflicts between partners, the KFSB actually plays a vital part in the development of subcontracting. But in spite of the involvement of the KFSB the *dirigiste* product transfer laws, which are rather similar to India's reservation policies, do not seem to work too well. The provision of product inspection facilities by the Subcontractors Organizations ensures that private-sector expertise (which most small enterprises could not afford on an individual basis) is available in an area of crucial importance in modern manufacturing. The Korean experience indicates that public sector or non-profit institutions - working closely with the business community - are at their best in a catalytic role: during the start-up phase of a firm or in the early years of a business cycle. Otherwise, SSIs tend to prefer private-sector sources of advice and other forms of support.

In most developed countries, the private sector is heavily involved in providing services to SMI, and in many of these countries there is a continuous dialogue between the government and the association(s) representing the sector. In Europe, however, the support structures at the national and EU levels lack transparency, and access to the EU programmes is considered too complicated. The same type of complaint is often heard in India. It underlines the need, independent of development levels, for (i) a clear division of labour between support; (ii) a "front-line orientation": support agencies must be close to their clients, geographically and in the sense that thresholds to their use should be as low as possible. With regard to support which specifically targets subcontracting, Japan seems to provide the best model, with one central agency and branch offices at the prefecture level.

Government-run subcontracting exchanges have not been very significant in stimulating partnerships. The great majority of firms in Malaysia and the Republic of Korea relies on trade journals. The Indian and Malaysian experience indicates that - in different ways - the exchanges are not client-oriented enough, just as the SMI support agencies. In the Indian case, it appears that the staff of exchanges often lacks awareness of the needs of enterprises. This may also be why, in Malaysia, the information on potential subcontractors is inadequate, making it unlikely that main contractors will be put in touch with the right partners through the exchanges. The exchanges must understand the intricacies of the subcontracting process in different branches. This means that they should employ staff with extensive business experience. It is recommended that subcontracting exchanges be operated as part of and by private sector associations (see Section 6.2.2).

5.3 Business practice

The predominant relationship between large industrial firms and small suppliers in India is still very much "top-down": the large company dictates the terms, the latter is responsible for living up to them. In some of the more advanced industries, subcontracting relationships based on an awareness of mutual benefits are developing, the parent firm helping to build up the subcontractor. In such cases, subcontractors tend to exhibit faster growth rates than other firms in the same branch. Regular payments for deliveries help the smaller firms to build up their own capacity, and are therefore in the parent firm's own long-term interest. Often, this is not understood, and a similar short-sighted attitude prevails in many countries.

An important problem in India is the weakness of the medium-sized sector, as the more sophisticated types of subcontracting require main subcontractors with considerable technological and managerial capacities. International experience shows that a certain level of technological capacity and managerial know-how is a precondition for advanced types of subcontracting. In Malaysia, where industries are often foreign-owned and heavily oriented towards international markets, there is a rather strong reliance on foreign-owned suppliers. When these receive foreign expertise, it is rarely done with the aim of developing indigenous middle or high-level technological capacities. The Malaysian Government's insistence on promoting small indigenous entrepreneurs, which has resulted in a comparative neglect of other entrepreneurs, would partly account comparative weakness of first-level locally-owned subcontractors. This underlines the need for adequate policies for medium-scale enterprises.

Subcontracting which takes the form of inter-firm partnerships with problem solving mechanisms is as yet mainly found in Japan and Japanese-owned firms or Japanese joint ventures abroad. Maruti is probably the best example in India. Subcontracting has various elements which can be applied individually, but the impact is greater when they are applied as a system, because of the synergies involved[25]. Providing a subcontractor with specialized equipment can be very useful, but transferring design capacity has greater long-term advantages. It can lead to an overall reduction in product development time; and as technical staff in both firms will have cooperated over a long period of time, communication problems between the firms will be reduced as well.

See the article by Kaplinksi, in *World Development* 1995, p. 57-71.

Maximizing the synergies of the approach requires that it is also used as an *intra*-firm problem-solving mechanism. This requires a high level of management skills, skilled labour, commitment (of management *and* labour) and good internal communication (flatter hierarchies). In-house training for flexible technical skills and organizational skills - much neglected in Indian industry - becomes of essential importance, for labour is a resource in this system, not just a cost factor. The overall result of using the approach at two levels is higher labour productivity - which means that firms can afford to pay better for better labour skills and higher product quality - which means that the firm becomes more competitive[26]. But a full application of the approach is difficult where enterprises are not committed to long-term strategies, as the US example has shown. It would therefore be worthwhile to study enterprise strategies in the relevant branches of the Indian manufacturing industry in the present context.

In Europe and Japan, spatial clustering has been an important factor in reducing communication and transport costs, as well as in achieving inter-firm synergies. In India, spatial clustering of small enterprises which provide services to large industries is found as well. But the level of development of the firms is generally too low to result in strong synergies, which is why facilities to promote them, even assuming they are well-run, do not have a pronounced impact. If clusters are to be promoted, the efforts should be focused on areas and industries where that impact is ensured, as Section 5.1 pointed out. The emergence of dynamic clusters of small industries would, however, mainly depend on overall improvements in infrastructure and the business climate.

Subcontracting partners should be free to negotiate terms, but in practice the buyer, being a large company, is in a position to impose terms. This is the experience of many countries. Hence the need for codes of conduct and model contracts. These are an integral part of the Japanese subcontracting system. In Europe, there is an increasing awareness of the value of codes of conduct and standard contracts for the elimination of unfair practices and to ensure that the interests of both parties are balanced.

Ibid., and UNIDO 1993(a).

Chapter 6 - RECOMMENDATIONS

6.1 The policy framework

6.1.1 Reviewing the SMI support framework - general issues

- While the GOI should maintain a policy and legal framework for the development of the SSI sector and while the merits and the impact that the policy has had since its inception should be recognized, the present legal and support framework for the SMI sector should be reviewed in order to increase its transparency and to remove the implicit discrimination against medium-scale enterprises. Long-term stability of laws and measures which have a bearing on buyer-supplier relations will help to encourage long-term involvement. Policies and support measures at the national and state level should be better coordinated (with more delegation of powers to the lower administrative levels), and better focused on industries with a high development potential. The overall aim should be to encourage SSI to develop, not to protect it.

- It is felt that the present definition of enterprise categories is an obstacle to growth in the SMI sector. It would be worthwhile to investigate the rationale for selecting the investment ceilings criteria as well as the effects of a categorization of enterprises on the basis of a combination of the following criteria: employment, financial results (turnover) and independence (max. 25 per cent of equity held by another shareholder).

- If size categories based on investment are retained, the ceilings should be redefined. As a rough estimate, the limits could have to be raised:

  - for tiny (or micro) industries: up to Rp. 1 million. This category, representing 95 per cent of the present SSI sector, largely in the informal sector, deserves a separate policy framework[27];
  - for small-scale industries: up to Rp. 10 millions;
  - for medium-scale industries: up to Rp. 30 millions. This category is critical for the development of a modern pyramidal subcontracting system.

- In addition, the ancillarization policy should be reconsidered. The recommendations made in this chapter should help to create an environment for forms of industrial partnership which will dynamize the SMI sector.

  On the one hand, if the ceilings are raised, a separate category for ancillary industries under the present limit becomes irrelevant. On the other hand, the concept of ancillarization (at least 50 per cent of the production for one single client enterprise) leads to pre-dominance of a single client or main contractor, on the subcontractor and the risk of dependence of the SMI ancillary unit. Therefore, it is proposed to replace it by the concept of subcontracting (for one or several clients) which is a better guarantee of client diversification and independence of the SSI units.

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[27] Such a policy framework is actually being formulated.

If it is felt that the existing ancillarization or subcontracting policy should be continued, then at least its incentives should be made available on a *pro rata* basis (i.e. taking account of the proportion of a subcontractor's output supplied to a parent company).

- Registration should be simplified and registration fees should preferably be dropped. This is a particular obstacle for micro-scale (or tiny) enterprises. A more efficient "single window" clearance system is needed than the one now provided by the DICs.

- Product reservation should be reviewed with a view to decreasing it and possibly even abolishing it gradually over the next few years, starting with items not now produced in India by SMI. With 90 per cent of the products made by SSI not strictly reserved for that sector, does SSI need a policy of reservation at all? The share of these products will increase even further as a consequence of the higher investment ceilings. To the extent that product reservation is still considered necessary, the selection of areas which large industries would leave to smaller and medium enterprises should involve the relevant industrial associations. The reservation could also be industry specific and be maintained for some time at least for the textile industry, for which it was principally designed.

- Government purchasing programmes should put a premium on product quality and innovation;

- While SMI will mainly focus on the domestic consumer/industrial buyer market in the foreseeable future, the potential for overseas links should not be ignored. The Government of India should encourage SMI support organizations and industrial associations jointly to investigate ways of gaining footholds in international subcontracting markets.

6.1.2 Financial and fiscal issues

- Financial markets should be further liberalized to increase competition, bringing down the cost of credit. The Government-sponsored financial institutions for SMI (SIDBI and NSIC) should apply preferential rates (1 or 2 per cent below commercial bank rates).

- The tax system should be simplified further and local, state and government taxes should be better harmonized. Small enterprises, which often lacks the capacity for dealing with the complex tax system, would benefit particularly. The general introduction of VAT would end the problem of cumulative taxes at every step of the manufacturing process which involves a commercial transaction. This would benefit all levels of subcontracting and encourage large firms to increase their levels of outsourcing.

- It is felt that tariffs on imports of essential manufacturing inputs which are not available domestically in sufficient quality and/or quantity should be lowered and differentiated: as a rough guide for a debate on this issue, the levels could be set at 5-10 per cent for raw materials, 15 per cent for components and 25 per cent for finished products.

- It is felt also that the system of financial and fiscal incentives should be reviewed. Basically, such incentives should mainly help a new business in its start-up phase or to initiate a restructuring/ technology upgrading programme which will make it more

competitive. Areas where incentives could serve as catalysts to the development of a modern subcontracting base would include:

- Local subcontracting (indigenization) by foreign companies;

- Reinvestment of profits (fiscal exemption);

- Introduction of lean production methods, total quality management and ISO 9000 certification (the SIDBI support programme for the latter could be expanded);

- Programmes to enhance staff skills, and to prepare/motivate them for the more intensive interaction and greater responsibilities which are needed in a modern subcontracting firm;

- Purchases of modern technology, equipment and processes (fiscal exemption);

- Vendor (or supplier or subcontractor) upgrading programmes of parent firms which incorporate the latter three (*see 6.4 - Outline of a UNIDO Action Programme, no. iii*).

6.1.3 The role of foreign investment and expertise

- Limits on expatriate employment should be removed where these are an obstacle to technology transfer.

- Limits to foreign investment in SSIs not in the reserve list are an obstacle to enterprise growth, technology transfer and the development of subcontracting. The underlying reasons for the present 24 per cent limit should be investigated; if a limit is still desired, then a 49 per cent foreign ownership share should be allowed to attract investors.

6.1.4 Physical infrastructure

- Efforts to create an adequate nationwide energy, transport and telecommunications network should be stepped up (where necessary, relying on private initiative); transport regulations should be simplified. This is essential for effective enterprise networking.

6.1.5 Involving the private sector

- In future, industrial associations should be involved more intensively in the formulation and execution of policies and laws related to SMI development; such an involvment implies, of course, that the private sector must accept greater (financial) responsibilities in these areas.

  A more intensive dialogue with the private sector is of crucial importance in the case of, for example:

  - The determination of the objectives and implementation modalities of future development strategies;

- Laws and regulations affecting the definition of enterprise categories and the provision of support to these;

- The review and selection of items to be removed from the reservation list;

- Various forms of industrial partnership;

- The formulation of codes of conduct and the establishment of arbitration systems;

- The upgrading of technical and managerial skills in the SMI sector (in this case, the trade unions also have an important role to play).

Special efforts must be made to ensure that the interests of the medium-scale enterprises are fully represented.

6.2 Support institutions

6.2.1 A balanced system of public and private-sector institutions

- The whole system of public support institutions for SSI should soon be the subject of a comprehensive study. This study should encompass all administrative levels and should look both at the activities of the institutions and at their structure/functioning. The study would form the basis for a comprehensive set of measures creating a more effective support network for SSI. Effective service means sharpening the focus of future assistance - which is necessary anyway, in view of the limited resources. The emphasis should be on providing start-up assistance to dynamic industries (*see 6.4 - Outline of a UNIDO Action Programme, no.i*).

  The study should be carried out jointly with key private sector associations. Issues to be studied would include:

  - Simplification of the support structure. Removing overlaps and termination of ineffective types of assistance may lead to the conclusion that the number of public sector support institutions should be reduced;

  - Greater delegation of responsibilities to institutions at the state and lower administrative levels in the context of a transparent, coherent overall support structure;

  - The funding of support institutions. The aim should be to make the institutions less dependent on Government or state budgets by charging fees for services. Examples of self-supporting institutions which provide services to small enterprises are found in other countries;

  - The functioning of the DICs and SIISs: in principle a central focal point for SSI development is very useful - can their performance be improved?;

- The future role of financial support and effective methods of disbursement (this would include restructuring proposals for the financial support agencies);

- The possible expansion of the SIDBI rediscounting scheme for bills/promissory notes, to strengthen the financial position of SSIs and reduce their need for financial support;

- The activities of training institutes and ways of making them more responsive to SSI needs;

- Private sector institutions should increasingly be made responsible for the design and execution of support programmes;

- Public-sector support institutions should aim at employing a greater number of people with business experience, to improve the understanding of small-business problems and needs.

6.2.2 Subcontracting promotion centres

- The system for promoting industrial partnerships between enterprises needs to be reviewed, with the main objective of building up an effective network of subcontracting promotion centres for key industries and in the key industrial regions. Their main tasks would be the provision of technical and investment information, matchmaking and promotion of subcontracting (also internationally) and monitoring of subcontracts, on the basis of a code of conduct which will be discussed in Section 6.3. They could also be a central information/coordination point for the relevant industrial training.

  These centres, which must be operationally autonomous, should be run by the private sector (manufacturers' assocations) and managed by experienced senior private sector staff, but they may need start-up assistance from the Government and/or donors. Initially, services should concentrate on (a) manufacturing branch(es) with obvious subcontracting potential; if successful, the services can be expanded to other industries or types of partnership. By developing fund-generating activities, the centres should eventually become financially independent.

  UNIDO has established more than 45 Subcontracting and Partnership Exchanges (SPXs) in some 25 countries, most of which are successfully operating in private sector institutions. As an example, the successful subcontracting promotion centre in Lima, Peru (set up with UNIDO assistance) which also provides an international match-making service, could be studied. The centres should be computer-linked. UNIDO's UNIDOSS (UNIDO Subcontracting System) software could be used for database management[28] (*see 6.4 - Outline of a UNIDO Action Programme, no. ii*).

See, e.g., UNIDO 1994 for background information.

6.2.3 Other special facilities

- Access to other types of information should be improved by creating an information and documentation network for SMI, linked to other relevant domestic and international information networks, and with an adequate local presence (e.g. through the information points in the DICs);

- SSIs will continue to need common facilities (tool rooms, design, certification and testing facilities). While one general finding of this report is that technical/technological support to subcontractors/suppliers is best left to the parent company, the smallest enterprises are the least likely to find business partners capable or willing to provide such assistance (*see 6.4 - Outline of a UNIDO Action Programme, no. v*).

  Building up the technological capacity of the SSI sector therefore requires that this type of support be continued. Again, the establishment or expansion of such facilities should be targeted (at clusters of dynamic SSIs in specific industries), and management should be entrusted to the manufacturers' associations. Linking them organizationally to the subcontracting promotion centres can help small units to exploit second or third-level subcontracting opportunities;

- In the case of special infrastructural facilities, a selective approach is needed: support should focus on areas where a basic "critical mass" of small-scale industrial activity already exists near large industries, and where such facilities would trigger a process of interlinked industrial development. Local business associations should be encouraged to become involved in the establishment of such facilities (the successful cooperative and private estates in e.g. the state of Maharastra provide examples which should be studied). The DICs might also play a role in promoting industrial clusters, cooperating with district authorities in creating the infrastructure.

6.3 Business practice

6.3.1 Building up partnerships

- Large-scale enterprises should increase their awareness of the mutual benefits which can be derived from intensive partnerships between buyers and suppliers in the more advanced manufacturing branches. A study of the vendor development programmes in Japan, but also of the Japanese joint-ventures run by Maruti in India and Proton in Malaysia, would show how such partnerships can be built up.

- International experience shows that parent companies play a key role in providing effective technical support to their subcontractors. This includes quality development and product certification, which are essential for competitive products. The methods used by vendor/ subcontractor development programmes referred to above deserve close study.

- Intensive partnerships make great demands on the management and staff capabilities of SMIs. A human resources development programme should therefore be a major item in vendor upgrading programmes. Such a programme should not only transfer skills, but also address issues like staff motivation and sharing of responsibility.

- Parent companies should be encouraged to expand technical support to include clean production techniques, which can lead to large cost savings at the enterprise level, with corresponding effects on the price of components and assemblies.

- In a number of cases, spatial clustering of subcontractors has proved very productive. Again, a study of vendor development programmes would show how this issue can be tackled within the framework of a partnership (*see 6.4. - Outline of a UNIDO Action Programme, no. iii*).

6.3.2 Strengthening the financial position of subcontractors

- To facilitate the access of subcontractors to bank credit, a system could be introduced whereby banks accept a subcontract (or letter of intent) as collateral, the parent company acting as a "quasi-guarantor"[29] . The system used in Korea, where large buyers provide credit guarantee certificates, would be worth studying.

- Wider use of factoring services (such as the SIDBI scheme for subcontractors/suppliers) would induce buyers to make timely payments to avoid an adverse image, and would help to solve the working capital problems of many SSIs (*see 6.4 - Outline of a UNIDO Action Programme, no. iv*).

6.3.3 Codes of conduct and standardized subcontracting agreements

- Following the example of other countries, manufacturers associations should contemplate the introduction of a code of conduct for subcontracting and of standardized subcontracting agreements. These should be endorsed, and possibly enforced, by the Government. A code of conduct should cover the following issues:

    - Elements of a purchase order: technical specifications, delivery schedules, quantitities, quality, standards, testing and quality inspection methods, responsibilities and penalties for rejections, payment conditions (time periods, discounts for early payment, penalties for late payment);

    - Pricing of goods (overheads, inputs, labour) and price revisions;

    - Consequences of changes in specifications;

    - Supplies of inputs and tooling (usually, the buyer owns the tooling);

    - Financial support (including the use of purchase contracts or letters of intent as collateral for loans);

    - Technical support and facilities available to both parties, and conditions for the use of the latter.

For a discussion of this concept, see Tewari 1994, p. 30-31, and Schicchi 1995.

Model contracts may be found in UNIDO 1993 (c). The actual texts of the code of conduct and of subcontracting agreements should reflect Indian business practice and - in the case of agreements - the specific situation in the different industrial subsectors.

- Disputes over subcontracting arrangements should be solved by arbitration and reconcilliation of disputes whenever possible; an arbitration council should be set up by the private sector associations which represents the interests of both parties. The experience of Japan and the Republic of Korea should be studied in this context (*see 6.4 - Outline of a UNIDO Action Programme, no. iv*).

6.4 Outline of a UNIDO Action Programme

It is suggested that UNIDO, in consultation with the Indian Government and industrial associations, formulate an Action Programme for the development of subcontracting which would take up some of the recommendations above, assisting the Government and the associations to implement these. Such an Action Programme would have the following elements (numbers refer to the relevant groups of recommendations, or a part of these):

(i) A study and assessment of public support institutions for SSI (6.2.1);

(ii) The establishment of a network of subcontracting and partnership promotion centres (6.2.2).

(iii) Designing a partnership development programme for suppliers/subcontractors, by cluster. This programme can be executed as a pilot project first, using the Maruti experience as a basic example, and - if successful - be applied elsewhere, after incorporation of the lessons learned (6.3.1).

(iv) Establishment of a national code of conduct and of arbitration councils (6.3.3).

(v) Improving/expanding the system of common technical and training facilities for SSI (mixed public-private sector programme which should be linked to programme iii) (6.2.3).

Components ii-iv have been incorporated in the proposed UNIDO programme for the development of industrial subcontracting and partnerships for SMIs which is described in Annex 1. Separate UNIDO proposals for components i and v could be considered.

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Annex 1

UNIDO PROGRAMME FOR THE DEVELOPMENT OF INDUSTRIAL SUBCONTRACTING AND PARTNERSHIPS FOR SMIs IN INDIA

Brief desciption

Following the conclusions of TSS-1 "Comparative Study of the Promotional Framework for the Development of Industrial Subcontracting with the SSIs in India and selected Asian countries" (NC/IND/94/01D), commissioned by the Government of India to UNDP/UNIDO, the following programme concept has been developed, encompassing 3 main components:

Part I - Establishment of a National Network of Industrial Subcontracting and Partnership Centres

Part II - Partnership Development Programme for Industrial Subcontractors and Suppliers

Part III - Code of Conduct and Arbitration Councils for Industrial Subcontracting and Supply

This programme is fully in line with UNIDO's medium-term plan (1996-2001), which states that the networking of small and medium enterprises among themselves and with large manufacturing firms, through production linkages, is considered an indispensible dimension of industrial resilience and competitiviness. With this Programme, UNIDO aims to further strengthen and integrate its related services (in India) by:

(a) providing support in building up technical information systems on networking potentials, such as subcontracting and partnership exchanges (Part I);

(b) assisting small-scale suppliers in upgrading their capability to meet quality requirements (Part II);

(c) offering policy analysis and advisory services concerning approaches to bring about and promote local sourcing by large industries (Parts I, II and III).

Duration: 3 years (1997-99)

Starting date: February 1997

Part I ESTABLISHMENT OF A NATIONAL NETWORK OF INDUSTRIAL SUBCONTRACTING AND PARTNERSHIP CENTERS

1. Background

Industrial subcontracting is recognized as an efficient tool to increase the rate of utilization of installed industrial capacities, and to increase the industrial production and employment in the Small and Medium Industries (SMIs) sector, to produce better quality products at a reduced cost and to contribute to an optimum allocation of industrial resources and thus to the national industrial growth and integration. In view of the importance and complexity of industrial subcontracting, UNIDO has devoted special attention to this particular type of partnership agreement between small and large industries, by launching special programmes for the promotion of industrial subcontracting through specific mechanisms such as Subcontracting and Partnership Exchanges or Centres.

A Subcontracting and Partnership Centre (SPX) is an information and promotion centre for industrial subcontracting and partnership between main-contractors and sub-contractors aiming at the optimal utilization of the manufacturing capacities of the member industries. Thus, the Centre appears not only as the meeting point and the instrument of regulation between the supply and the demand of industrial subcontracting orders, but also as an instrument of assistance to both partners (and particularly the SMEs), as well as an instrument of selection and of optimal utilization of the machinery within the enterprises.

UNIDO has already provided assistance in establishing more than 40 Subcontracting and Partnership Centres in some 25 countries; as well as Regional Networks within given regions. In this respect a regional network has been established between 5 Arab countries, namely Algeria, Egypt, Jordan, Morocco and Tunisia. Similarly, another network has been established between 14 Latin American countries (comprising more than 30 SPXs), namely Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Mexico, Paraguay, Peru, Uruguay and Venezuela. This Network is now called ALABSUB (The Latin American Association of Subcontracting Centres).

India has taken several measures to promote subcontracting (ancillarization as it is called in India) as an instrument for modernization and development of the Small Scale Industries (SSI). It has put in place a policy framework that encourages subcontracting. The incentives and policy supports that are normally available for small scale industries are extended to subcontractors up to a higher investment ceiling in plant and machinery than the ceiling for SSI (7.5 million Rps. as against 6.0 million Rps. for SSI). The Public Sector which follows a comprehensive set of guidelines framed by the Government has played a key role in promoting subcontracting. The policy of licensing for setting up large industries also provides for compulsory subcontracting of specified components. At the operational level also, the GOI had set-up in the early 1970s some 16 Subcontracting Exchanges within the Small Industries Services Institutions (SISI) at the State level.

Today, these Subcontracting Exchanges are dormant and it was generally agreed that the proposed functions of these Exchanges should be transferred to the private sector and be completely re-vitalized. These Centres should be run by the private sector, within an association of industrialists (CII) and to be equipped with modern technical means (data base management

software, standard nomenclatures and terminologies, operating manuals, international industrial fairs, etc.) and with the UNIDO Subcontracting System (UNIDOSS).

The Ministry of Industry of the GOI has commissioned UNDP and UNIDO to undertake a "Comparative Study on the Promotional Framework for Industrial Subcontracting with SSI in India and other Asian countries" (NC/IND/94/01D) under Technical Support Services (TSS). The study which included Malaysia and the Republic of Korea, was extended to Japan, Europe and USA. In its final stage a national workshop was jointly organized by UNIDO and the Confederation of Indian Industry (CII) on 12 June 1996 in New Delhi. The conclusions and recommendations, including a 5 points Action Programme, were endorsed by the GOI, the UNDP, the CII and other key institutions like the Small Industries Development Bank of India (SIDBI). Among the 5 points, one of the most important is this one: the establishment of a National Network of Industrial Partnership and Subcontracting Centres.

2. Objective

A mechanism will be put in place through the development of a common industrial subcontracting system in India and the establishment of a network of 5 Subcontracting and Partnership Centres (SPXs).

To develop a common industrial Subcontracting and Partnership Network in the country, it is necessary to:

(a) establish similar institutional, namely Subcontracting and Partnership Centres (SPXs) in each of the 5 selected Regions or States;

(b) apply to each of the 5 SPXs a common operating methodology and standard instruments (nomenclatures, terminologies, questionnaires, data-bank management software - UNIDOSS, model contracts, etc.)

(c) promote national and international partnership and subcontracting relations and establish a national communication and coordination system (network, regional subcontracting fairs, National Advisory Committee, etc.) to enable the participating SPXs to exchange technical and economic information on industrial partnership and subcontracting capabilities and opportunities.

3. Outputs

1. A mechanism to monitor the National Partnership and Subcontracting System and Network consisting of a "National Advisory Committee for Industrial Partnership and Subcontracting" established and operational.

2. Application of (and training in) UNIDO Subcontracting System (UNIDOSS) and standard methodology for the rational organization of subcontracting and partnership (including a manual on how to operate a SPX).

3. Establishment of a pilot Subcontracting and Partnership Centre (SPX) in New Delhi (within CII Headquarters).

4. Establishment of four Subcontracting and Partnership Centres (SPXs) in Calcutta (Eastern CII office), in Chandigartah (Northern CII office), in Madras (Southern CII office) and in Bombay (Western CII office).

5. A standard computer software (UNIDOSS-V.2), adapted if necessary and applied in order to manage the computerized data base of the various SPXs and a communication system between the various SPX (using compatible equipment).

6. An investigation into the legal, fiscal and customs problems posed in India by the development of subcontracting operations, and proposals for appropriate solutions; as well as guidelines on the establishment of subcontracting agreements. (See Part III.)

7. Comparative survey and assessment, on national industrial policy measures necessary for the promotion of national and international subcontracting, including a survey on national policies on industrial integration (local content) and a survey on the promotion of foreign investments through international subcontracting

8. Trained SPX technicians (at least 1 per SPX), on topics related to the organization, operation and management of SPXs and on international promotion of subcontracting and partnership (exhibitions/fairs).

Part II PARTNERSHIP DEVELOPMENT PROGRAMME FOR INDUSTRIAL SUBCONTRACTORS AND SUPPLIERS

1. Background

The main reasons for the establishment of a Programme for the development of subcontracting/supplier firms are, among others, the need for survival and success in a globalized and highly competitive market, the need to increase the involvement and reliability of suppliers which are directly concerned by the ultimate success of the final product, and the need to incorporate new products or product lines in the production process.

Building up partnerships

Large-scale enterprises should increase their awareness of the mutual benefits which can be derived from intensive partnerships between buyers and suppliers in the more advanced manufacturing branches. A study of the vendor development programmes in Japan, but also of those Japanese joint-ventures in India (such as the Maruti Udyog Co.) would show how such partnerships can be built up. International experience shows that parent companies play a key role in the provision of effective technical support to their subcontractors.

Strengthening the financial position of subcontractors

To facilitate the access of subcontractors to bank credit, a system could be introduced whereby banks accept a subcontract (or letter of intent) as collateral, the parent company acting as a "quasi-guarantor". Wider use of factoring services (such as the SIDBI scheme for direct assistance to ancillary/subcontractors units) would induce buyers to make timely payments to avoid an adverse image, and would help to solve the working capital problems of many SSIs.

2. Objective

The Programme aims to upgrade the skills and capabilities of suppliers and subcontractors (local SMIs) to enable them to meet the technical specifications, the quality requirements, the cost effectiveness, and the terms of delivery of the client or main-contractor (local or foreign firms). The main motivation for improvement and upgrading of the subcontractors and suppliers, and thus the key to success of the programme, is the fact that the main contractor or client enterprise will eventually subcontract the SMI units and actually place orders with them.

3. Contents

The Programme involves the participation of four main types of actors with their respective functions:

- Main contractors or clients (1 to 3)
- Subcontractors or suppliers (10 to 25)
- Facilitators or supporting institutions (2 to 3)
- Short-term technical consultants (5 to 6)

The main contractors

In accordance to a series of criteria, a selection of main contracting firms will be undertaken. This could also include foreign firms considering investing in India or which have problems with the quality standards of their local suppliers. Some of the criteria to be considered are as follows: the existance of a plan within the main contractor firm to develop the capacity of its suppliers and of organizational support for such a plan; decisions based on market conditions; the existance of an asigned coordinator, etc. The initial task to carry out with the main contractor would be to identify those problem areas to be solved in relation to the firm's suppliers.

The subcontractors and suppliers

The same process will be followed for a selection of subcontracting firms. Some of the criteria to consider are: an evaluation of the critical areas of supply, of the costs and advantages; opportunities for co-financing new investments for expanding capacity, training, etc. The problems to overcome should also be considered. Special attention will be given to gender considerations: 20% of the SMI selected should be headed women entrepreneurs.

The facilitators and supporting institutions

With regards to facilitators or supporting institutions, they will identify the complementarity of the results expected by the main contractors and the subcontractors, it will propose a methodology, and will determine if there are resources available for co-financing investments. It will also identify clusters of suppliers/subcontractors on a sub-sectoral level, including a few excelling in their performance and other less qualified ones in order to benefit from the Programme. Besides the Confederation of Indian Industry (CII) and the Small Industries Development Bank of India (SIDBI), the Subcontracting and Partnership Promotion Centres (SPCs), to be established by Part I of the Programme, can serve as facilitators, and as the operational basis for the Programme, and can carry out the selection of supplier and subcontracting firms, as well as the follow-up of subcontracting operations.

The short-term technical consultants

Their role will be to carry out the general objective of the Programme, as well as the specific objectives of each inter-firm relation (main contractor-subcontractor) in which they participate, assisting in identifying the needs of the main contractor and in adapting to the capabilities of the subcontractor.

Five types of consultants will be required:

(1) A consultant on Total Quality Management.This includes quality development and product certification, which are essential for competitive products.

(2) A consultant on Lean Production Management.Intensive partnerships make great demands on the management and staff capabilities of SMIs. Such a programme should not only transfer skills, but also address issues like staff motivation and sharing of responsibility.

(3) A consultant on Marketing or Commercialization of industrial products/services (including product industrial design).

(4) A consultant on Clean Production Techniques. Parent companies should be encouraged to expand technical support to include clean production techniques, which can lead to large cost savings at the enterprise level, with corresponding effects on the price of components and assemblies.

(5) A consultant on Industrial Technology (according to the sector of activity concerned).

4. Outputs

The better preparation of suppliers in the light of fluctuations in production, as they follow closely the needs of their clients; the reduction of buffer stocks; the realization of the need to abide by the clients' explicit conditions and satisfaction requirements; the avoidance of the subcontractor rejecting orders due to excessive requirements on the part of the main contractor; the promotion of an element of trust and confidence within the subcontracting firms and with the client.

In fact, upon completition of the programme, it is expected that the main-contractors (and clients) acting as the team leaders, if they are satisfied by the group of SMI subcontractors and suppliers they are leading, will actually place orders with them, and conclude contracts. This will lead to job creation and increased production output, and to overall productivity, improved quality and competitiveness.

5. Inputs and implementation

It is essential to identify strategic priority areas to initiate the Programme. One approach could focus on the analysis of items with high risk of failure (rejection, late or non-delivery, etc), or other critical impact which the piece/component/product subcontracted has upon the final user (whether it is based on realibility, esthetics, or any other variable defined by the main contractor).

The Programme requires:

- an analysis of the subcontracting requirements (production or cooperation) of the main contractors selected;
- the selection of subcontractors and supplier firms;
- an analysis of the conditions for clients' satisfaction;
- the completion of a diagnosis regarding the quality of the product/process and the productivity of the subcontracting/supplying firms;
- an analysis of the ability of the suppliers to fulfill the clients' requirements;
- an analysis of the possibility to promote joint activities;
- the execution of technical advisory recommendations in order to achieve the necessary adjustments; and
- a joint (workshops, seminars) or individual training scheme (continuous) of the subcontractors/suppliers.

The Programme will be implemented in the 5 subsectors covered by the TSS-I project which is the subject of the present report. In the automotive sector, the focus will be on Maruti, Telco and a foreign enterprise. In the other subsectors (mechanical and electrical engineering, plastics, metalworking and electronics), the focus will be on best practices among public and private sector firms and foreign contractors. In each of these subsectors, 30 SMIs will be covered.

Part III CODE OF CONDUCT AND ARBITRATION COUNCILS FOR INDUSTRIAL SUBCONTRACTING AND SUPPLY

1. Background

Following the example of other countries, manufacturers associations should contemplate the introduction of a code of conduct for subcontracting and of standardized subcontracting agreements. These should be endorsed, and possibly enforced, by the Government.

An Act on Delayed Payments to Small and Ancillary Enterprises has been recently promulgated. Under this act, large-scale units will be required to pay interest on delayed payments for supplies bought from SSIs. Assuming that it can be adequately enforced, the Act does put SSIs in a stronger position vis-à-vis large enterprises and should help solve part of their working capital problems. It should however be seen as a measure of last resort, as recourse to law will spoil the relationship between business partners. Preferably, the business community should rely on "self-policing" through preventive measures in the form of, for example, standard contracts, codes of conduct and mediation by Reconciliation and Arbitration Committees.

2. Objective

The dissemination of good business practices, reinforced by a national Code of Conduct for industrial relations by standard or model contracts for subcontracting and supply agreements and by the establishment of recognized Arbitration Councils and procedures. This will contribute to improve harmonious industrial relations, prevent large enterprises from abusing their dominant position, avoid lengthy and costly legal procedures, interruption of contracts, rejection or cancellation of orders, as well as misunderstandings and disagreements, which are all recognized as critical factors affecting the overall productivity and competitiveness of industry, particularly the SMIs. Thus the purpose is to establish an "inter-firm problem-solving mechanism".

3. Outputs

1. Model contracts

UNIDO has prepared a "Practical Guide for Subcontracting Agreements" with 2 standard contracts (IO.66 of 6 December 1993). The actual texts of the subcontracting agreements should, of course, reflect Indian business practice and the specific situation in the different industrial sub-sectors. The key elements to be included in such contracts, especially with international partners, should be: technical specifications, delivery schedules, quantities, quality, standards, testing and quality inspection methods, responsibilities and penalties for rejections, payment conditions (time periods, discounts for early payment, penalties for late payment).

2. A Code of Conduct

This should cover the following issues:

- Elements of a purchase order, or model contract, as described above
- Pricing of goods (overheads, inputs, labour) and price revisions;
- Consequences of changes in specifications;
- Supplies of inputs and tooling (usually, the buyer owns the tooling and the moulds/dies);
- Financial support (including the use of purchase contracts or letters of intent as collateral for loans);
- Technical support and facilities available to both parties, and conditions for the use by the latter.

3. An Arbitration Council

Disputes over subcontracting and supply arrangements should be solved by arbitration and reconciliation of disputes whenever possible. An arbitration council should be set up by the private sector associations (The Confederation of Indian Industry) which represents the interests of both parties,and with representatives from the Government, from public and private institutions and from enterprises known for either good business practices. The experience of Japan (the Fair Trade Commission), the Republic of Korea (the Fair Subcontracting Promotion Act) and France (National Council on Subcontracting-CENAST) should be studied in this context. In addition, a roster of qualified and certified experts should be set-up in order to conduct technical audits or assessments in case of disputes between 2 or several industrial partners.

Annex 2

PROGRAMME AND PARTICIPANTS OF THE CII/UNIDO WORKSHOP ON INDUSTRIAL SUBCONTRACTING, NEW DELHI, INDIA, 12 JUNE 1996

Programme

0900 hrs	Registration	
0930 hrs	Inaugural Session	
	Welcome address	Mr. RSSLN Bhaskarudu Chairman, Technology Subcommittee CII (Northern Region)
	Address	Mr. B.S. Aguirre Senior Deputy Resident Representative, UNDP
	Address	Mr. Dhruv M. Sawhney Past President, CII
	Address	Dr. Sailendra Nairan Managing Director, SIDBI
	Inaugural Address	Mr. N. Mohanty Secretary, Small Industries, Government of India
	Concluding Remarks	Mr. A. de Crombrugghe Coordinator, Subcontracting and Partnership Programme, UNIDO
1015 hrs	Coffee	
1030 hrs	Session I	Industrial subcontracting
	Policy and institutional framework in India	Mr. T.K. Bhaumik Senior Adviser, CII
	Subcontracting in Indian business practice	Mr. RSSLN Bhaskarudu Joint Managing Director, Maruti Udyog Ltd.
	Subcontracting in Malaysia and the Republic of Korea	Mr. J. Reinhardt UNIDO, Vienna
	Experiences in the industrialized countries	Mr. N. Schicchi International consultant, UNIDO
	Conclusions and recommendations for India	Mr. A. de Crombrugghe Coordinator, Subcontracting and Partnership Programme, UNIDO
1120 hrs	Session II	Discussions
1215 hrs	Session III	Proposal for a UNIDO Action Programme
1300 hrs	Lunch	Host: Maruti Udyog Ltd.

List of participants

1. Mr. Madan Agarwal, Managing Director, Mandap International, Gurgaon
2. Mr. Bayani S. Aguirre, Sr. Dep. Resident Representative, UNDP, New Delhi
3. Mr. M. Ahmad, Chairman & Managing Director, NSIC, New Delhi
4. Mr. Parvez Ahmed, Project Engineer, Al-Falah Consultancy Services (P) Ltd., New Delhi
5. Mr. A. L. Anand, Director, DC (SSI), retired
6. Mr. R. K. Asthana, Executive Director, NIESBUD, New Delhi
7. Mr. Utpal Bajpai, Chief, Technology Bureau of Small Enterprises, New Delhi
8. Mr. F. Balasubramaniam, Dept. Manager (Imports), Maruti Udyog Ltd., Gurgaon
9. Mr. M. Bhat, Federation of Indian Chambers of Commerce and Industry (FICCI), New Delhi
10. Mr. G. S. Bhatia, Dep. Director, DC (SSI), Ministry of Industry, New Delhi
11. Mr. Rajive Bhatmagar, Executive Director, NSIC, New Delhi
12. Mr. Bharat Bhushan, Marketing Executive, Prakash Plastico (P) Ltd., New Delhi
13. Mr. H. L. Chanda, Chandan Enterprise
14. Mr. S. Das, IMTMA, New Delhi
15. Mr. A. K. Dasgupta, Dep. General Manager, Sona Steering Systems, Gurgaon
16. Mr. J. P. Dhoot, Partner, Panchsheel Fasteners, Delhi
17. Mr. Mukesh Gulati, Executive Programmes, Friedrich-Naumann-Stiftung, New Delhi
18. Lt. Col Hansraj, Manager (QA), Golden Peakock Overseas (P) Ltd., New Delhi
19. Mr. D. K. Jain, President, Automotive Components Manufacturers Association (ACMA) & Managing Director, Lumax, New Delhi
20. Mr. M. K. Jain, Truman Enterprises, New Delhi
21. Mr. A. K. Kaul, Managing Director, Horizon Industries
22. Mr. J. C. Khanna, General Manager, Sheefa Engineering (P) Ltd., New Delhi
23. Mr. Surendra Kumar, Chief Executive, Precision International, New Delhi
24. Mr. E. N. Murthy, Ashok Leyland Ltd.
25. Mr. N. K. Nair, Director (Research), National Productivity Council, New Delhi
26. Mr. Venu Nair, Chairman & Managing Director, Simplicity Projects, New Delhi
27. Mr. Nanjundan, UNIDO Consultant, New Delhi
28. Dr. Sailendra Naraian, Managing Director, Small Industries Development Bank of India (SIDBI), New Delhi
29. Mr. Gian C. Narang, Managing Director, Progressive Thermal Controls (P) Ltd.
30. Mr. T. K. Pal, Executive Director, Sona Steering Systems Ltd. Gurgaon
31. Mr. S. Ramamurthy, Programme Officer, UNDP, New Delhi
32. Mr. B. J. Rao, Resident Manager (NR), Esquire Engineers & Consultants, New Delhi
33. Mr. P. S. Rao, Chief General Manager, SIDBI, New Delhi
34. Mr. M. G. Sachdeva, Dept. Manager, Maruti Udyog Ltd., New Delhi
35. Mr. Subhash Sathe, Managing Director, Sun Vacuum Formers
36. Mr. V.C. Sehgal, Managing Director, Motherson Sumi Systems Ltd.
37. Mr. Satish Sekhri, Managing Director, Kalyani Brakes
38. Ms. Mona Sharma, Director, DC (SSI), New Delhi
39. Mr. S.N. Sharma, Director (Ancillary), DC (SSI), Ministry of Industry, New Delhi
40. Mr. G. P. Singh, Flak (P) Ltd., New Delhi
41. Mr. Shambu Singh, Joint Development Commissioner (SSI), Ministry of Industry, New Delhi
42. Mr. Rakesh Sood, Director, India Forge & Drop Stampings Ltd.
43. Mr. K. B. S. Srinivas, Project Manager, Cimmco International, New Delhi
44. Mr. S. Srinivasa Rao, Managing Director, Andhra Pradesh Industrial & Technical Consultants, Hyderabad
45. Mr. G. N. Srivastave, General Manager, ICL Engineering, New Delhi
46. Mr. J. P. Tripathi, Chief Executive, Shivani Locks (P) Ltd., Faridabad
47. Ms. Uma Tripathi, Assistant Secretary, FICCI, New Delhi
48. Mr. Manoj Vij, Dynateel Controls, New Delhi
49. Mr. A. K. Vohra, Director (IS & SSI), National Productivity Council, New Delhi
50. Mr. John Zacharia, Assistant Manager, TMT (India) Ltd., Hyderabad