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**THE ROLE OF INDUSTRIAL EXTENSION SERVICES
IN THE PROMOTION OF SUBCONTRACTING ^{1/}**

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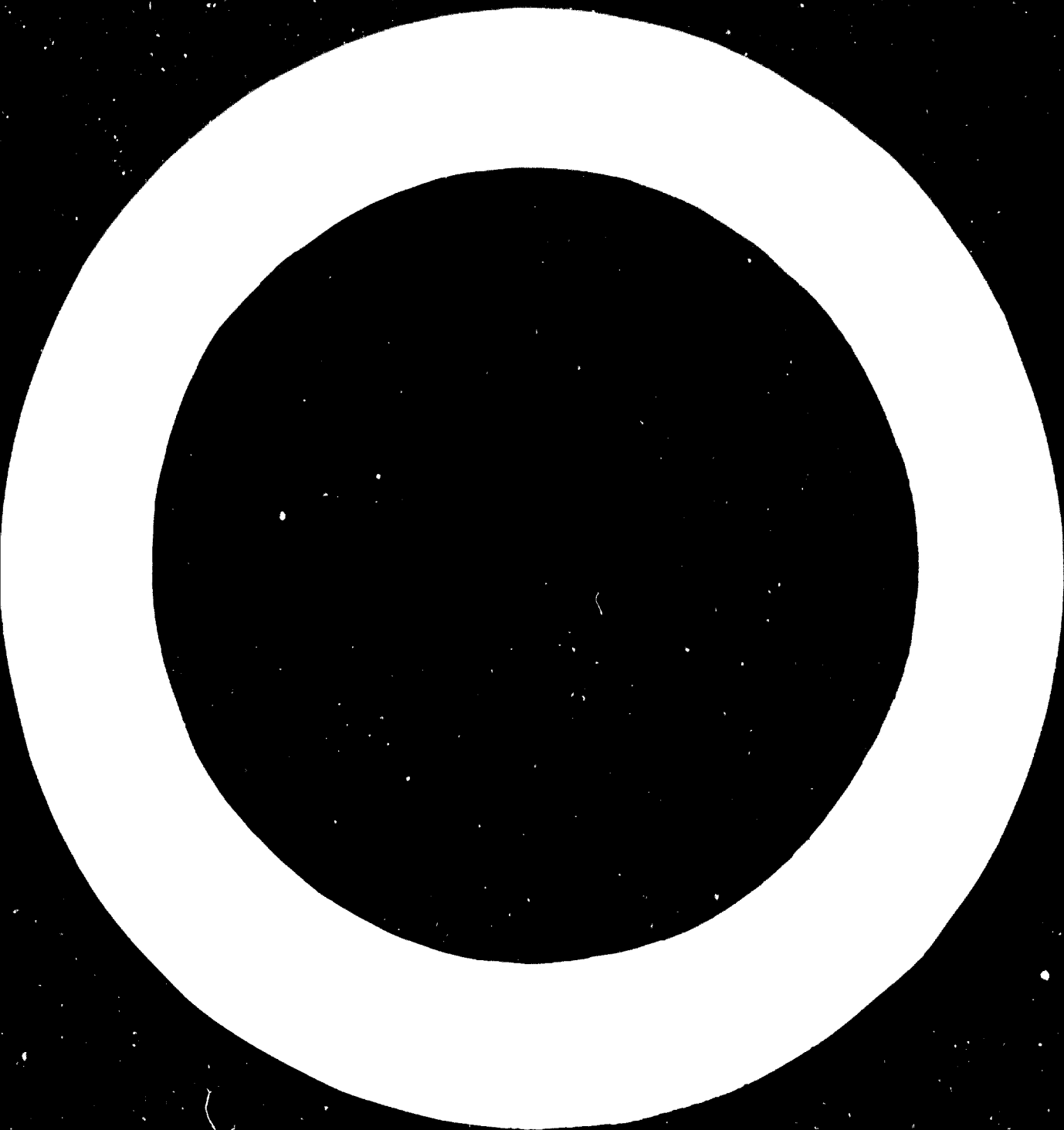


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Introduction

Among the reasons for the inadequate development of subcontracting in developing countries having both large-scale industries in appropriate lines of production and a small industry sector engaged in complementary activities, is the fact that large firms often doubt the ability of small enterprises to meet exacting requirements in respect of quantity, tolerance, time of delivery and pricing, and, as a result, seldom seek out prospective subcontractors. If they do, they are hampered by the inadequacy of information on the available capacity, specialization, skill and reliability of small enterprises - a situation which is also prevalent in the industrial countries.

There is no doubt that many small industrial establishments in the developing countries have neither the equipment, the technical knowledge nor the skill required to enable them to participate to any appreciable extent in the production programmes of the large industries. There are evidently a number of simple parts (e.g. exhaust mufflers and pipes, coil springs, spring brackets, etc. which can be manufactured without problems by many ordinary small-scale enterprises; although the production of such items represents a relatively small amount of subcontracting work, it deserves to be encouraged and expanded. Quality production of more complex parts - which account for a substantial volume of such work - calls for skills and equipment, and sometimes for specializations which are not always present in small firms. However, with proper counselling, training and financial assistance, many of these could reach levels of efficiency enabling them to enter into subcontracting relationships as equal partners - from a technical and managerial viewpoint, though not from an economic one - to the large firms. There are also, in many developing countries, modern and efficient small establishments fully able to serve as subcontractors, if only such opportunities were given them.

In most cases, some technical assistance would be required by small-scale industries to enable them to discharge effectively subcontracting orders. The task of modernizing small-scale industries and of improving their efficiency, not to mention that of creating new enterprises, or orienting existing ones to a specialized field of manufacturing, cannot be the responsibility of large-scale industries. While these have frequently to provide technical assistance to their subcontractors - mostly at the time of giving out the order and checking the orders - they cannot be expected, in view of the cost and trouble involved, to give help in depth and over a long period. It is, therefore, a responsibility of specialized agencies, the responsibility of specialized technical assistance agencies. These are agencies departmental or inter-departmental, of national or international cooperation, or separate institutions, with varying degrees of autonomy, called small industry service institutes, small industry advisory centres, industrial extension centres, and the like. The latter expression - industrial extension centres - is often used as a synonym for all such institutions, and it will be used in that sense in the present paper.

The main tasks of industrial extension centres are to provide technical, economic, managerial and marketing counselling and training, to both prospective and existing entrepreneurs, to carry out feasibility and pre-investment studies, to prepare "model orders" or "industry fact sheets", to facilitate financing, to set up common service facilities (tool rooms, testing laboratories and the like) - industrial, to extend, both on request and on their own initiative, every form of assistance to small establishments at every stage of planning, establishing, operating and managing their enterprises.^{1/} The role of industrial extension centres in promoting subcontracting, with a few exceptions such as in Chile and India, is very limited. It is the purpose of this paper to stress the

^{1/} Detailed studies on industrial extension services will be found in a UNIDO Directive currently under preparation under the title Technical Services for Small-scale Industries.

importance of the role which such centres should play in the field of subcontracting and to outline the main measures which they should take, on the one hand, in bringing together demand and supply for subcontracting work, and on the other hand, in upgrading and modernizing small-scale subcontracting enterprises.

Clearing House Functions

In some developing countries, small entrepreneurs and even officers of extension centres commonly believe that all or most large industries can subcontract and that they can do so with a majority of the country's small-scale enterprises. This, evidently, is not the case. The operations of some large industries do not lend themselves to subcontracting. Many small-scale industries will never be called upon to work as subcontractors, either because they are not engaged in activities complementary to those of the large plants, or because of their lack of specialization, inadequate skill and equipment, remote location and other reasons.

Thus potential subcontractors should be identified and their capabilities made known, when required, to the contractors. The inadequate knowledge of the subcontracting market is, in all countries, industrial and developing, an obstacle to its expansion. It is for that reason that subcontracting exchanges have been set up in some industrial countries and are being planned in some developing ones. While a full-fledged exchange may not be needed in many of the latter countries, some clearing house activities may be required.

The responsibility for setting up an exchange or for undertaking clearing house activities may be assumed either by a private group - an employers' federation, a chamber of commerce and industry - or by an industrial extension centre.

The former would be a very desirable development, since federations or chambers, especially those which include industries of all sizes, are in a particularly good position to assess the resources of their members and to meet their needs; moreover, they enjoy the trust of industrialists, to a greater extent than public institutions. The fact is, however, that in most developing countries, such organizations prefer, for a variety of reasons, to confine their activities to protecting the interests of their members, rather than to promoting their development. Thus, it is unlikely that many such organizations in the developing countries would take upon themselves the establishment and operation of subcontracting exchanges or the provision of clearing house services - though there are exceptions, for instance in the case of Spain and Turkey. In the industrial countries, sponsorship by employers' federations is the rule.

It is therefore probable that, in many if not most developing countries, the promotion of subcontracting will have to be taken up by industrial extension centres. These are equally well placed to undertake this task. They are in daily contact with small establishments, know their capabilities, usually enjoy their trust as well as the respect of the larger enterprises; the fact that their main task is to provide technical assistance is a further reason for their involvement in subcontracting, in view of the intimate relationship between these two activities. - If the scope of subcontracting work in the country does not justify the establishment of an exchange, clearing house functions should definitely be assumed by the centres.

Selection in the utilization of the subcontractor is a characteristic of the system. Even under the stress of peak-load capacity conditions, a large industry will review, as carefully as possible, the technical and

² Employers' federations and chambers of commerce and industry are usually reluctant to provide technical assistance.

other credentials of a would-be subcontractor, and selectivity in terms of price, managerial ability and even credit-worthiness of the small entrepreneur will prevail in most other cases.

Any agency instrumental in bringing together demand from the large firms and supply from the small enterprises will have to proceed **selectively**. The operators of such an agency, the extension officer charged with the promotion of subcontracting will have at least a moral obligation towards the contractor when he submits, for his consideration, lists of small firms able to carry out the order.

For this reason, mere registration of small-scale industries claiming that they are able to serve as subcontractors would not be enough. Sending a questionnaire to small firms to elicit information on their machinery, equipment, specialization, etc. would not be effective unless verifications were made in the plant itself, together with evaluations of the capabilities of the enterprise. Personal knowledge through visits to the small industrialist is essential.

Extension officers should also visit large-scale firms and, with the help of the firms' production and sales engineers and managers, should draw up -- and later keep up to date -- lists of parts, components, sub-assemblies and accessories, as well as of processing and finishing operations which might be subcontracted to small-scale industries. Such lists should be circulated by the extension centre to prospective subcontractors. Specific requests for subcontracting operations should be addressed by the large firms to the extension centre which, after checking the availability of the potential subcontractors, would bring the parties together. Similarly, offers might be made to the extension centre by small-scale industries manufacturing suitable types of products -- e.g. automobile, tractor or bicycle parts for the replacement market -- and the centre might, if satisfied with the abilities of the candidates, advise them on subcontracting opportunities.

All the centre would normally do would be to bring together contractors and subcontractors. The selection of the subcontractor would be done by the large firm. Whether a fee should be charged by the extension centre for its services would vary from country to country. If the volume of such "brokerage" services is great, fees might conceivably be charged to the contractors, and, under certain circumstances, to the subcontractors. Where the subcontracting market is narrow and the volume of work carried out by the extension centre is small, the services might be extended free of charge. In principle, it would seem that remuneration for such services, on a non-profit basis, would be in order.

The co-operation of professional organizations - employers' federations, chambers of commerce and industry etc. - would be of the greater importance to the industrial extension centre in obtaining information on resources and needs in the field of subcontracting.

Extension officers might assist large factories in setting up, for instance within the premises of the centre, permanent exhibitions of parts and components for subcontract. Subcontracting "fairs" with demonstrators and technicians providing technical and economic guidance might be organized in co-operation with the large firms. Exhibits might also be displayed on trucks and "intensive campaigns" for the promotion of subcontracting might be carried out in various districts of a city or in provincial towns - when distance between the contractor and the subcontractors is not a decisive obstacle to the establishment of such relationships.

Assistance to Subcontractors

As already stated, assistance in technique and management will usually be required by many subcontractors if these are to discharge effectively their obligations, especially as regards tolerances and other specifications, quality of product, time of delivery and price. The fact that assistance is provided to the subcontractors by an extension centre may be an inducement to large industries to place orders. In any way, extension services represent a kind of guarantee that the orders will be properly carried out. It is known that one industrial extension centre - the Servicio de Cooperación Técnica of Chile - lays stress on that consideration when assisting in the negotiation of subcontracting orders. The moral obligation of the extension centre - to which reference was made earlier - when submitting candidate industries to the contractor, would rest on solid grounds if the centre did everything possible to help the subcontractor in carrying out his order. Assistance to the small units would be particularly needed in cases of "compulsory" subcontracting whereby the establishment of large industries (or government purchasing from large industries) is subordinated to their furnishing out part of their manufacturing operations to small firms. Such a condition can be imposed by the government on large industries only if, as a counterpart, the government ensures that the subcontractors discharge efficiently their obligations.

Needless to say, an extension centre would not propose for subcontracting a poorly run small enterprise requiring a thorough reorganization or extensive training and modernization. But some assistance in technique and management would be needed even by efficient enterprises. This may include assistance in the design and production of dies, jigs, tools and fixtures; such assistance is frequently provided by tool rooms operated by industrial extension centres as common service facilities for small-scale industries.

Counselling may be needed in planning the production of the subcontracted work. This may sometimes call for the purchase of special machinery, and here again, the advice of the extension centre, and its assistance in facilitating financing, may be useful. Sometimes, counselling may lead to specialization of the enterprise in order to strengthen its position as a subcontractor. Assistance in quality control, cost accounting and inventory control, which is usually required by many small-scale industries in the developing countries, would be of particular importance for subcontractors.

In locations with a concentration of subcontractors in similar lines of business, say, metal-working, the extension centre might provide, as a common service facility, specialized high-cost machinery which no single small unit could operate at full capacity, but which might be used by several enterprises. This might be the case, for example, of gear-cutting and gear-hobbing machinery, of capstan and turret lathes, of internal grinding machines, and so on.

Extension centres might also provide advice on contractual and legal aspects of subcontracting agreements, though the negotiation of contracts would evidently be the responsibility of the parties concerned. Other services might include the organization of special seminars, in which the participation of officials from the large industries would be desirable; special group training programmes, including in-plant training in the large factory, for subcontractors engaged in similar fields of activity; facilitating the establishment of subcontractors' associations, in particular of co-operative associations; facilitating the procurement of scarce raw materials; and so on.

Organizational Aspects

The assistance to be given to subcontractors by industrial extension centres is not substantially different from that provided to other small-scale industries. However, as indicated in the preceding section, it may be more specialized and may need to be extended more intensively and in greater depth. Most of the extension officers on the staff of the centre should normally be able to co-operate in this task. In some cases, recourse to specialized consultants might be necessary and the centre should have the necessary resources - and the operational flexibility - to avail itself of their services.

In India, where the promotion of subcontracting is being given increased attention, all the staff of the Small Industry Service Institutes co-operates in assisting "ancillary" as well as non-ancillary industries, but in each institute ² an "ancillary officer" working full time on subcontracting problems has been appointed. The subcontracting exchanges in India, the establishment of which is being assisted by UNIDO under its technical co-operation programme, would operate under the sponsorship of the Central Small Industries Organization headed by the Development Commissioner for Small-scale Industries. The first two exchanges will be set up in Bombay and Madras and the Small Industry Service Institutes of Maharashtra and Tamil Nadu will probably be in charge of their operation.

This suggests that, if an industrial extension service in a developing country is both to discharge clearing house functions and to provide specialized assistance to subcontractors, a few officers should be assigned full-time to these tasks. Such staff should have particularly high abilities

² There are sixteen institutes (SISI's) in sixteen states of the country.

since the functions require not only advanced technical competence but also sound judgment and some diplomatic talent. The "ancillary" officers should have the knowledge, integrity and devotion which would give them the trust and respect of both the large companies and the small units. Trust between all parties concerned is perhaps more important in subcontracting than in other business relationships.

The adoption of a special definition of "ancillary" (subcontracting) small-scale units entitling them to benefit from the measures of assistance provided by the Government, even though their size may be larger than that of other small-scale industries, would be useful in most developing countries. Such a definition has been adopted in India since it was felt that comparatively larger enterprises were still in need of extension services, of factories on industrial estates, of procurement of machinery under hire-purchase, and of other measures of promotion.

