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OPERATIONAL PROBLEMS OF SMALL INDUSTRY SERVICE INSTITUTES IN THE LIGHT OF THE INDIAN EXPERIENCE

Presented by Gandharv Sain

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OPERATIONAL PROBLEMS OF SMALL INDUSTRY SERVICE INSTITUTES IN THE LIGHT OF THE INDIAN EXPERIENCE

INTRODUCTION

The United Nations Development Programme, the United Nations Industrial Development Organization, the International Labour Organisation and other international agencies are providing assistance to developing countries in formulating and carrying out programmes for the development of small-scale industries. These programmes include, among other things, projects in the field of industrial estates, promotion of entrepreneurship, extension services in technique and management, provision of common facilities including tool room services, testing and quality marking, development of appropriate equipment, tools, jigs and fixtures, credit facilities, marketing assistance, hire-purchase of machinery, and so on. These programmes are carried out by a variety of agencies and it may be of interest to review the operational problems involved, with a view to providing guidance both to the developing countries where no agencies have yet been set up and to the international organizations providing technical co-operation. Lessons may be derived, in particular, from the operation of the biggest such agency in the world, namely, the Central Small Industries Organization (CSIO) of the Government of India. CSIO has been functioning for about 11 years. It has 16 Small Industries Service Institutes (SISI), one in each state of the country, 4 branch institutes and 57 extension centres. CSIO is attached to the Ministry of Industry.

The problems of the extension service agencies evidently vary from one country to another. As a rule, the experience gained in such agencies in the industrial countries cannot be transposed without considerable adaptations to similar agencies in the

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developing countries. For example, in West Berlin, an Institute to provide extension services to artisan and handicraft undertakings is staffed with a complement of three consultants, two of these belonging to the management cadre and one being an industrial engineer, as against 20 technical advisers exclusive of an industrial economist and of management consultants in a similar centre in India. In the Berlin Institute, engineers in mechanical, electrical, metallurgical, chemical, ceramics, glass, leather, etc. technologies are not provided because, under the law of the land, no one can ordinarily start an artisan workshop or a small industry unless he is a qualified master craftsman and no one can be engaged as a skilled worker unless he has gone through a strenous course of apprenticeship training after his schooling. In these enterprises, day-to-day technological problems can be solved by the entrepreneur, his foremen and workers: recourse to counselling agencies or research institutes is necessary only for the solution of complex problems. The single industrial engineer attached to the Institute is therefore able to handle most of the work on the production side. However, the entrepreneurs are weak in management techniques and the Institute provides considerable assistance in this area. Even bookkeeping for small units for taxation and other purposes is often done by the Institute on payment.

The lessons derived from the experience of extension agencies in the developing countries are therefore more pertinent. This paper considers some of the problems with which the author was confronted in his work for the Central Small Industries Organization and some Small Industries Service Institutes in India. There are, in that country, several agencies besides the SISIs which directly or indirectly extend assistance to small-scale industry: Directorates of Industries in the states, State Finance Corporations, State Small Industries Corporations, National Small Industries Corporation, State Bank of India, National Research Laboratories, National and State Productivity Councils, Small Industries Extension Training Institute, etc., but the paper is mainly confined to the operational problems of the Small Industries Service Institutes. 1/

1/ The organizational and staffing pattern of a Small Industry Service Institute is presented in Appendix I.

The present definition of small industry in India, for administrative purposes and for eligibility for certain incentives and facilities such as factory accommodation in industrial estates, hire-purchase of machinery, free extension services from SISIs, common facility services at concessional rates, preference in purchases by government departments, credit facilities, etc. is:

"Small-scale industries include all industry units with a capital investment of not more than Rs. 750,000 (U.S. $100,000) irrespective of the number of persons employed; capital investment for this purpose means investment in plant and machinery only". In the case of ancillary industrial units in 16 specified industries, the capital ceiling is Rs. 1,000,000 (U.S. $133,333), the value of land and building being excluded.

I. ORGANIZATION OF SMALL INDUSTRY SERVICE INSTITUTES AND INDUSTRIAL EXTENSION CENTRES IN INDIA

In India, the Central Small Industries Organization and the Small Industry Service Institutes are all central government departments.

The National Small Industries Corporation, a Government of India undertaking, is responsible for such programmes as hire-purchase of machinery, government purchase, development of prototypes, training, operation of raw material depots, supply of imported components, etc.

The SISIs as at present constituted mainly play a promotional role in each state, providing economic and technical information and guidance to entrepreneurs and advising the state government and other agencies in the implementation of complementary programmes.

In the beginning, four regional institutes were set up in Delhi, Calcutta, Bombay and Madras for the northern, eastern, western and southern regions respectively. Institutes were also set up in the various states under the supervision and control of the concerned regional institutes. This system worked well. However, since each state government is constitutionally responsible for the development of small industry in the state, pressure from the states led the central government to agree to the present system of state institutes responsible to CSIO, an arrangement which benefitted some of the states, since the institutes could pay better attention to the local problems of small industry development.

A Small Industry Service Institute is a multi-purpose institutions for helping the development of small industries. It has no authority to enforce its proposals or advice. It is by and large and advisory agency rendering services to small-scale industry and to government departments, semi-public institutions and other agencies directly or indirectly responsible for the development of the small-scale sector.

Under the constitution of the country, the state governments are responsible for the development of the small-scale sector under the over-all guidance and assistance of the Government of India. The state governments are responsible for setting up industrial estates, distributing loans under the State Aid to Industries Acts and Rules, setting up State Finance Corporations, providing extension services, distributing scarce raw materials, and other measures of assistance.

The co-operation and co-ordination of SISIs with their state counterparts is not only desirable but essential for their successful operation. The Director of a SISI is normally a member of all advisory committees, councils, set up by the state for the development of small-scale industries. In fact, if the Director of an Institute is influential enough, he is consulted by the state government in all matters concerning the small-scale sector.

It is because of the developmental role of the SISIs that they were set up as government departments. However, there has been some thinking of giving them an autonomous status. For the present, there has been no change except that an Advisory Committee was recently established to advise the Directors of the Institutes in programming and operation. The Advisory Committee consists of the State Director of Industries, as chairman; one representative each of the federation of associations of small industries, the associations of small industries in industrial estates, the Advisory Council of the state government, the National Small Industries Corporation, the Chairman of the Regional Ancillary Committee (wherever constituted), as members. The Director of the Institute is Member Secretary and is helped in this committee by his senior staff. Meetings are held every month and the decisions are acted upon not only by the Director, but also, when necessary, by the CSIO and the Ministry concerned. This step is a compromise between operation as a government and as an autonomous body.

The working of a SISI as a government department has certain drawbacks. Inasmuch as the employees are public servants and are paid on fixed scales, the good workers can hardly be rewarded and the sluggish ones cannot be easily dismissed. Extension

work requires initiative, drive and devotion but cannot be readily measured by any yardstick, and control is difficult, so that some officers may escape without doing much.

The scale of pay being modest, the efficient hands find better opportunities in private industries with which they are constantly in touch, this happens at almost all hierarchical levels. Institutes are thus depleted of experienced personnel. The gain by private industry does not offset the loss by the Institutes, since the work of the latter is expected to have a multiplier effect for the economy of the country as a whole. This is evidently lost when an extension officer joins a private enterprise.

An autonomous body may offer more flexibility in work and better incentives for good workers. This, however, requires very competent and reliable managers and officers and these are scarce in most of the developing countries.

The Indian Industrial Extension Centres are affiliated to the SISIs, and are controlled and guided by the Director of the SISI. The difference between an extension centre and a SISI is one of scope rather than function. While the SISI caters to all types of small industries, the centre serves only one or two industries. The trade specialization of the extension centre is adjudged on the basis of the concentration of existing enterprises or the potential of development of certain industries. The choice of location and of area of the extension centre should be thoughtfully decided since the centre must work within a limited area and with limited means. The staff of the centre should take a good deal of initiative. In the areas covered by extension centres, industries generally require much help, both managerial and technical, and the small staff of the extension centres is expected to deal with all subjects and problems. The experts from the SISI should, therefore, visit the extension centres frequently and provide them with the necessary guidance and follow-up action. The officer-in-charge of the centre, who is normally an Assistant Director, should be capable of identifying the problems and report for guidance to the institute. Besides, he should be acquainted with administrative work. In many cases, technical officers put in charge of extension centres have not been able to work properly as administrators. The Director of the SISI should keep a close watch on the operation of the extension centre. In states where there are a number of centres attached to an institute, a senior SISI officer with expert knowledge of the trade is charged with liaison with the centres.

Each extension centre provides training to workers of small-scale industries in its field of specialisation. It is frequently difficult to get trainees, either because of the limited number of industries, because the entrepreneurs are unable to spare them and to find replacements, or because the industrialists are not sure that the workers would come back to them on the terms they had before training.

SISIs and extension centres conduct demonstrations on improved processes and techniques. It happens that because of the limited number of industries in the area, centres having common facilities for such trades as mechanical carpentry, foundry, sheet-metal, etc., have an inadequate work load, even after a period of 3 to 4 years. In planning the extension centres, very great care should therefore be exercised in the selection of machines and equipment on a long-term basis. Where the equipment is not adequately utilized, it may be necessary, after some period of time, to shift it to some other developing area, and to substitute it with more useful equipment.

Thus, the main problems of the extension centres are to find suitable officers willing to go to small towns in preference to the capitals of the States where most of the SISIs are situated; to utilize adequately the facilities for training, to select equipment for common service facilities, to provide the centres with expert counselling and administrative supervision by the Institutes.

II. RECRUITMENT, TRAINING, DEPLOYMENT AND REQUIREMENTS OF EXTENSION OFFICERS

Qualifications. An extension officer, besides being suitably qualified, should have considerable practical experience in his profession and be competent enough to identify operational problems in an industry, find out their solutions and convincingly demonstrate, at all levels, the need for adopting these. He should have an almost missionary zeal and be keen to serve under unusual situations with humility and diligence.

In the developing countries, it is hard to find technical personnel with experience and it is even harder to find extension officers with the above qualifications. This problem was faced in India in an acute form for a long time and many posts remained vacant for want of suitable hands. In time and with the introduction of various programmes of training of extension officers, the situation improved somewhat,

but is still not absolutely satisfactory. There is still, in particular, a large turn-over of technical personnel. The possible remedies are discussed elsewhere in this paper.

Levels of extension officers. The levels of extension officers in the Small Industry Service Institutes in India are as follows, from the top to the lower level: Director - Grade I, Director - Grade II, Deputy Director, Assistant Director - Grade I, Assistant Director - Grade II, Junior Field Officer, Investigator.

Procedure for recruitment. The initial entry of an investigator is arranged through an interview by a Selection Board set up from time to time in the Office of the Development Commissioner (Small-scale Industries). The Board consists of the Joint Development Commissioner (representing Administration Division) as Chairman, the Director concerned with the trade and the Deputy Director or Assistant Director (Administration) as member Secretary. The investigators for technical posts are expected to be diploma holders in the subject concerned, but in certain cases, however, lower qualifications are accepted provided the candidates have sufficient practical experience. Skilled workers, draftsmen with suitable qualifications from ITIS are also eligible for this post. In the case of Junior Field Officers (JFO's) some posts are filled by promotion (about 50 per cent) on seniority-cum-merit basis from amongst the investigators and others are recruited as in the case of investigators. The basic minimum qualification required is a diploma in the subject concerned, with about 3 years of practical experience. The posts of Assistant Director, Grade II are filled by promotion of JFO's on a seniority-cum-merit basis. The post of Assistant Director Grade I is sometimes filled on a seniority-cum-merit basis from amongst the Assistant Director, Grade II and sometimes through the Union Public Service Commission (UPSC). The qualification expected is a degree in the subject concerned. Promotions are approved by UPSC upon recommendation of the Government. In the case of Deputy Directors, Director Grade II and I, recruitment is done on the same basis as in the case of Assistant Directors, Grade I. the minimum qualification being a degree in the subject. In the case of non-technical jobs such as economic and management expert, the minimum educational qualification is a degree, though post graduates are preferred with a specialisation in the subject concerned.

Training. At present, on initial entry in service there is no on-the-job programme of regular training for extension officers at any level except that the Director of

the Institute may attach junior officers to a senior officer for some time to learn the job. This, however, is not always possible because of shortage of staff, every one having to do his own work. This is a greatly felt lacuna in the system, as new recruits are usually not sufficiently proficient.

Training is provided to all extension officers by deputing them for a period of time to specially selected plants either in the country or abroad, and placing them in the Small Industry Extension Training Institute of Hyderabad, and other national and foreign institutes.

Organisation. A Small Industry Service Institute has currently the following divisions each headed by a Deputy Director or Assistant Director as the case may be:

1. Administration including accounts,
2. Economic Investigation,
3. Industrial Management and Training,
4. Mechanical,
5. Electrical including Electronics,
6. Metallurgy,
7. Chemicals,
8. Leather,
9. Ceramics and Glass,
10. Industrial Design.

The common facility workshops and laboratories are under the charge of the divisional heads of the concerned division. The strength of officers in a division depends upon the concentration of industry in the state, it varies from 10 to 1 as the circumstances may warrant.

An information and documentation centre and a library are placed under the charge of a Deputy Director (Economic Investigation), and a showroom under the charge of the mechanical division.

Staff functions. The main duties of technical officers are:

(i) Advising the small entrepreneurs on the type of equipment, machinery and tools, plant layout, preparation of designs and drawings for dies, jigs, tools and fixtures and certain special equipment required in a factory.

(ii) Preparing "model schemes" or "industry fact sheets" describing requisites for setting up certain industries, such as land, machinery, raw materials, skilled workers, cost of the product and anticipated profits on sales.

(iii) Preparing technical bulletins on processes in which small industrialists are confronted with difficulties in day-to-day operation. For example, if they are getting blow holes in their castings in foundry work, the bulletin will give general information on the reasons for which these blow holes occur and how they can be remedied. Similarly, the bulletin may provide guidelines for avoiding common defects in electroplating. Extension officers should scrutinise and comment upon the schemes and technical bulletins prepared in their agency and in other institutes or departments.

(iv) Operating workshops and carrying out development and testing work in the laboratories.

(v) Meeting visitors and advising them on their technical and other problems, and providing guidance for setting up new industries.

(vi) Helping to improve productivity in the small units.

(vii) Advising on the [illegible] programmes of Government departments, primarily with the view to issuing [illegible] certificates, stating therein and proving [illegible] in the proper execution of orders from Government departments.

(viii) Advising the State Level and other banking institutions and the State Government on programmes of financial assistance to small units.

(ix) Helping units in their export promotion programme especially in connection with the export promotion schemes of the State Trading Corporation.

(x) Extending necessary guidance and assistance to the State Governments in the the development and processing of their various schemes for the growth of small units.

(xi) Serving as members on the board of management of various organisations - Indian Standards Institute, Central Scientific and Industrial Research organisations and various committees of the state and central government.

(xii) Training workers and foremen from the small-scale sector in the use of improved equipment and machinery.

(xiii) Formulating and carrying out special intensive development programmes for the growth of small industries in rural areas.

(xiv) Operating mobile workshops for demonstration and training purposes in rural and other areas.

Extension officers may have to be seconded within and outside the country to receive specialized training.

Staff requirements. It has been estimated that at least 50 per cent of the time of technical officers is spent in work other than direct technical help to small industrial units. Considering the above work load, one technical officer may be able, at the most, to take care of about 50 units on the average, if situated in one locality. That is, servicing 100,000 units will require about 2,000 technical officers. In certain states there may be concentrations of small industrial units but not in other states. Even in the latter case, a certain minimum strength of technical officers should be maintained, otherwise whatever units are located in these under-developed states will not get the necessary assistance, in fact, it is these units which require the maximum support. Thus, considering all these factors, the total requirement of technical officers in CSIO only was assessed as 5,500 for 100,000 units. This is arrived at as follows (i) one technical officer for 50 units and so for 100,000 units the requirement will be 2,000. (ii) Add 30 per cent for additional essential non-technical work as work in office for visitors and others = 600. (iii) Add 25 per cent of 2,000 for additional requirements in less developed areas = 500. (iv) Plus 10 per cent for extension centres and common facility workshops = 200. Total (i) + (ii) + (iii) + (iv) = 5,300. Taking into consideration a 10 per cent increase in the number of small units every year, the requirements in 5 years will be 4,950.

The requirement of officers for economic investigation and industrial management and training purposes has been roughly estimated at 775 for 100,000 units. The total requirement of officers of the CSIO for extension services for servicing 100,000 industries was estimated as 5,775. Even this number is inadequate since officers are specialised and no specialist may have sufficient experience to advise small

industrial units in all processes, say, foundry, machine shop, heat treatment, electroplating, etc. Thus, the magnitude of the problem is immense. The actual strength of the extension officers in the entire small industries organization in 1963 was stated to be about 1,000 that is, only about 1/6 of the real need.

Staff training. As already mentioned, it is not easy to find suitable technical officers for extension services. This deficiency was felt not only in CSIO, but also in other projects. The Government of India stated in Parliament that the shortfalls, as noticed in the mid-term appraisal of the Third Five Year Plan, were to a great extent attributable to the inadequate number of technicians.

In the author's view, the extension service should evolve its own scheme of recruitment of apprentices, to be trained as extension officers, to meet its own requirements as the Indian Railways do for their cadres and technical services. Bright young men within the age of 18 to 22, with minimum educational qualifications equivalent to senior Cambridge, F.Sc., in subjects like mathematics, physics and chemistry as compulsory subjects and drawing as a desirable one, should be recruited through competitive written and oral examinations. They might be called apprentice officers. They might get a reasonable remuneration of say Rs. 250, equivalent to about US $33,33 per month, for the first year, rising by Rs. 30 or $4 per month every year. These officers would be trained for a period of three years in specialized subjects, according to the requirements, initially through Prototype Production and Training Centres (P.T.C.), Small Industry Extension Training Institute, Hyderabad, regional SISIs and attachment with large-scale industries. Necessary examinations and tests would be conducted at intervals of say six months, those unsuitable being removed and those who successfully complete the set course of training being appointed as assistant directors, grade II. There might be two groups in such training course - junior and senior. This type of training course would preferably be arranged at the regional SISI or central SISI.

The training subjects would comprise basic and specialized knowledge, both theoretical and practical in the technical subject concerned, besides training in extension service techniques, administration, account-keeping in a SISI and extension centre, and field work. Training in extension services is needed by almost all categories of officers and the proposed scheme would have the necessary broad coverage. A few specialists for senior posts might be recruited from the open market.

Some special incentive should be given to officers posted in rural and other difficult areas.

Extension officers require training abroad as well as within the country in modern technological and management techniques so as to keep them abreast of modern developments. Otherwise their knowledge would become outdated and less useful to small industrialists, who should be encouraged to adopt modern techniques.

After the Government of India organised the small industry development programme through SISIs and other institutions, the state governments also organised their own programmes, in some cases on lines identical to those of the SISIs. If duplication of extension service by both State and Central governments could be avoided, there would be saving in the requirements of extension officers.

For operating successfully an extension service, the extension officers should know the local language, habits, culture and local conditions. They should remain at their posts for long periods of time. They should be made to feel that they belong to the Institute and that the Institute belongs to them. Frequent transfers from one institute or extension centre to another should be avoided and a sense of stability inculcated in the extension officers. There is much evidence that technical officers and even administrative officers leave the organisation mainly because of better remuneration elsewhere. While this process cannot be fully stopped, it could be significantly slowed down if their salaries and allowances were fixed at levels comparable with those in the private sector.

In India, nearly all services are provided by SISIs free of charge. Some charges are levied for jobs undertaken in the common facility workshops, and for the distribution of aid surveys and printed technical bulletins, these were previously provided free of charge and are now nominally priced to avoid misuse.

The author believes that, in the developing countries, extension services should be provided free of charge in the initial stages, to help small entrepreneurs to set up and begin to operate their enterprises. As the industries develop and start moving forward on their own, some charges might be levied for certain services. However, services which may be assimilated to normal operational costs, such as those given by common service facility workshops, should be provided at cost. Before a decision for levying charges is taken, it should be carefully examined if the extension officers

are competent enough. The charges should not be excessive and discretion should be provided to the executive to vary the charges according to their judgement.

III. [illegible]

The information centre may be considered as the hub of a SISI. To be effective, it should have in ready reference forms all the economic information collected through area, industry and market and distribution surveys, as well as information on the procedures, methodology and operation of various other organizations and departments working directly or indirectly for the development of industry in general and small industry in particular.[1]

At early stages of the operation of SISI in India, the main task of the information centres was to give visitors routine guidance such as arranging appointments with other officers who could be of help, distributing literature, etc. The centres were manned by junior staff members. It was soon experienced that this type of arrangement was not satisfactory. A centre should not be a receptionist's office, but a unit providing substantive service itself. Each centre was then put under a senior experienced economist from the Economic Investigation Division of the Institute, under the direct charge of the head of the Division. Its documentation included all the reports on industry prospects, the feasibility, area and market surveys, model schemes, information sheets, and literature on other concerned organizations. All the information was properly classified and codified. Each centre also had at its disposal information on the industrial units in the region in respect of type of products manufactured, specifications of plant and machinery available with capacity utilized and not utilized, whether the units worked as subcontractors, availed Government contracts and others, etc. A centre was manned by two persons: the senior officer able to hold discussions and answer inquiries from the prospective entrepreneurs and other visitors, and a receptionist attending to visitors requiring routine information. This arrangement proved to be quite effective. In this way about 75 per cent of the visitors were given guidance at the information centre and much time of both of the specialists and the visitor was saved.

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[1] The type of information collected in the New Delhi SISI is presented in Appendix II.

However, a number of problems arose in operating the information centres. There were difficulties in keeping senior economists for a long time, since they felt they had no chance of going to the field and were losing the necessary field experience in investigations and surveys.

Keeping the information up to date and properly coded was a task of great labour and patience. It could be done only if the various divisions, in particular, the Economic Investigation Division continuously provided the necessary feed-in. The Information Officers had to be themselves quite vigilant to get the necessary information from time to time from all concerned. They were expected in time to give the necessary feed-back to the various divisions as to the type of information wanted by the visitors. The Information Officers had to show qualities of tactfulness, resourcefulness and patience with the visitors. Written inquiries were mostly handled in the Economic Investigation Division in the Institute, in collaboration with other Divisions.

The first problem was solved by arranging that no senior economist be kept as Information Officer for more than 6 months at a stretch. This necessitated the training of 2 or 3 officers for this job. Initially, there was, no doubt, some difficulty in switching over from one officer to another, but, once the officers had been trained, the system became very helpful, not only for rotation of duty at the specified interval, but also for relieving duty whenever the regular incumbent was absent because of leave or other reasons. Every institute in India has two or more officers in the Economic Investigation Section and the arrangement presented no difficulty.

Information was kept up to date with the help of some specialised firms, such as Kothagiri Hand of India, which, in order to make sales of their equipment, cards, indexes, etc., provided guidance free of charge. A clerk was trained and put on this job under the guidance of the Information Officer. The technical officers providing extension service to industrial units supplied information to the Economic Investigation Section, for use in the Information Cell. In the beginning, this was somewhat resisted because of the paper work involved but the procedure soon became established.

The choice of a person for the post of Information Officer with the above-mentioned qualities and qualifications is a rather difficult task, since the choice must be made among officers available to an institute. However, with proper guidance and handling, this was not found to be insurmountable.

Economic investigation and feasibility studies

Economic information is collected by a small industry service institute for two main purposes: to guide the planners and administrators of the small industry development programme, and to assist small existing and potential entrepreneurs to choose industry or to make sound economic decisions with or without the help of extension officers.

Initially the work of economic investigation consisted mainly in preparing industry outlook surveys for the government planning agencies and area surveys for the planning programme of the Community Development Ministry. The economic investigation staff in the regional institutes (Delhi, Bombay, Madras and Calcutta) was accordingly divided in two groups in charge of these two types of surveys. The work of these teams in the regional institutes was supplemented by smaller teams in the state institutes.

These programmes were no doubt necessary but were time-consuming and were found to be useful mainly for planning and administration. The entrepreneurs were not benefitted to the extent and with the speed wanted, especially the prospective entrepreneurs who are mainly interested in techno-economic information in simple form and within the shortest time possible. The preparation of industry outlook surveys with comprehensive information was then replaced by that of simple information sheets on prospects and feasibility of industries. Area surveys were carried out only for those areas which were selected for intensive development.

The teams of economic investigators consist of the usual hierarchy from Deputy Director to Investigators.

The main problems encountered by these teams were as follows: There was the general problem of finding personnel with the basic qualifications needed for a new type of work. The job required training in economics and business management - a rather rare combination. Also, selection procedures were cumbersome and time-consuming. Training was provided with the help of international experts.

There was a problem of quality in obtaining accurate and dependable data on which reasonable and practicable conclusions and recommendations could be based. This problem arose both from the lack of experience of the investigators and the difficulty of getting accurate basic data from a large number of agencies. There was, therefore,

a need for careful supervision and scrutiny so that too sweeping and unrealistic conclusions would not be drawn from inadequate supporting data.

There were often pressures from government officials to prepare reports quickly; it was sometimes impossible to withstand these commands and reports were prepared on the basis of inadequate data and were not sufficiently scritinized.

There was the problem of getting correct information from dealers, merchants and manufacturers, because these people were afraid that the information would be used against them by income tax, excise, sales tax and other similar revenue collection departments. It was hard to convince them that the economic investigators from SISI were not the agents of tax collecting departments and that they were there to help them. It took time to build up confidence and to get the desired information. Also, some of these dealers and manufacturers considered it as an encroachment on their business time to attend to economic investigation. Officers had to be patient and tactful to get the information, they often had to pay several visits to suit the convenience of these people.

The investigators were somewhat reluctant to go to certain areas, in particular to rural and semi-urban areas where there are problems and sometimes hazards of transportation and accommodation. The per diem allowances were so meagre that investigators had to pay out of their own pocket; in cases of this type they would try to avoid the visits.

The problems of finding experienced industrial economists and other technical staff arise in all developing countries. International experts (industrial economists) can play a very useful and helpful role in providing necessary guidance and training national counterparts. The experience in India with international experts, in particular, industrial economists, has been by and large very encouraging and pleasant. However, the process is slow and its impact is limited. In order to meet the ever increasing demand of trained industrial economists, a training institute - the Small Industries Extension Training Institute in Hyderabad - has been set up by the Government of India with the assistance of the Ford Foundation. The Institute provides training to Indian extension officers as well as to trainees from other countries.

Reporting is mainly a matter of proper organization and record keeping, and of correct fixation of priorities. It is often experienced that people in the higher

echelons find it easier to ask for information from below, than to look into their own records. Communications are indiscriminately market urgent or immediate, target dates having sometimes expired by the time the memorandum is received. Nothing much can be done except politely pointing out, at befitting occasions, the difficulties encountered to the officials at a higher level.

With the lapse of time and the confidence and experience gained, the problem of obtaining information from manufacturers and dealers was softened considerably. However, it happened that some of these were approached on several occasions to give information on different aspects of the same topic. This was not only expensive to the organization but also a source of irritation to the dealers and manufacturers. With some imagination and proper housekeeping, this difficulty was considerably reduced.

The hardships, monetary and physical, mentioned above were in many cases found to be real. The government rules did not provide for any such situation, and nothing much could be done.

The problem of physical facilities is mainly one of organization and availability of resources. It was largely solved when the offices of the SISI were shifted from rented premises to its own spacious new building.

IV. OPERATION OF COMMON SERVICE FACILITIES

Most of the SISIs in India have attached workshops, laboratories, libraries and show rooms. The workshops may include tool room, heat treatment, forging, electroplating, machine shop, a small chemical laboratory for organic and inorganic chemical industries, development testing and quality marking, metallurgical laboratories for physical and analytical testing, foundry sand testing, and the like. The shops are headed either by a Deputy Director, an Assistant Director, or a J.F.O., depending upon the size, location and importance of the Centre. A J.F.O. or Assistant Director is in charge of the operation of each shop.

The main problems encountered in the shops are as follows

(a) Well trained and experienced skilled workers are not easily found and, when available, intelligent experienced workers have the opportunity to go to the private sector. This is frequently the case for those qua-

lifying for higher posts. A regular programme of training of semi-skilled workers has been carried on to make up for the shortages.

(b) Maintenance of proper accounts: Since shop services are chargeable, a proper system of account-keeping is indispensable. Defaults have occurred when proper scrutiny and a simple system of accounts were not practised.

(c) Basis of charges: These may be based on actual expenses in each operation, that is, direct charges and overheads; or on the number o man-machine hours for all types of machines; or on the number of man-machine hours for each machine according to the cost of the machine; or on the number of man-machine hours, the machines being grouped according to different cost categories.

The main consideration is that the cost should not be higher than the market rate, but that it should not be too low either. The author favours the fixation of rates on the basis of grouping of machines according to their cost, for instance, in costing groups of $250 to $1,000; $1,001 to $5,000; $5,001 to $10,000; $100,001 to $150,000; $150,001 and above. These categories make it possible to take account of depreciation and cost of maintenance, according to the value of the machine, so that operations would cost more on expensive machines than on less expensive ones.

It is essential that, for the same type of job, the cost chargeable to different customers remain at the same level. Some workers may be slower than others, or may otherwise delay the work, and it is up to the foreman and the assistant directors to keep a watch on the working of the machinists.

The common service facility workshops and laboratories are by and large jobbing establishments. Unlike production shops, costing should be adjudged and an estimate provided to the entrepreneurs for each job - a fairly difficult task, especially in a Government-run centre. When a private party runs a jobbing shop, adjustments are made according to market conditions, and the charge varies accordingly. In certain SISIs, charges could be made for certain types of inspection gauges only according to a specified formula, and the charges amounted to about one-quarter of those of

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SERVICES AND FACILITIES FOR
SMALL-SCALE INDUSTRIES

Vedbaek, Denmark
26 June to 8 July

Agenda item 5

OPERATIONAL PROBLEMS OF SMALL INDUSTRY SERVICE INSTITUTES IN THE LIGHT OF THE INDIAN EXPERIENCE

Corrigendum

Page 18, lines 16 and 17: Substitute "$10,001 to $15,000; $15,001 and above" for "$100,001 to $150,000; $150,001 and above".

private shops. In some cases, especially for ordinary types of jobs, the charges of the SSIC were higher than the market rates. This was the case, for instance, of ordinary lathe work or foundry work, because of outside competition. Private parties may even charge below cost for certain competitive operations, but get advantage in other items. The result is that only such jobs that are expensive machine tools in the service centres and only the most expensive and rare machines remain busy.

Sometimes jobs are spoiled, either due to carelessness of the workers or wrong reading of drawings or wrong casting or wrong supply of material by the entrepreneurs. The Director should then take decisions according to the merits of each case.

The choice of machines and equipment of common facility centres is of paramount importance. In many cases, the wrong choice of machines has left the workshops idle blocking huge amounts of capital and manpower, and the objective of service to industry is not achieved.

Normally the small industrial units require assistance from common service facilities for the following purposes:

(i) Tool room service for manufacturing dies for special tools, jigs and fixtures, special measuring and testing gauges, etc.

(ii) Use of some machines for certain processes which industrialists cannot afford on their own, or for which the utility factor is small.

(iii) Training of foremen and skilled workers from small industrial units in the use of various machines.

(iv) Testing and developmental work.

The machines and equipment in various shops and laboratories should therefore be such as to serve these purposes, and not to undertake production work competing with other small and large-scale manufacturers.

It has been experienced that the machines and equipment in mechanical workshops, sheet metal and foundry shops serving as common service facility centres have been used at a small fraction of their capacity.

For the effective operation of tool rooms, machine shops, etc., there should be a design and drawing section. The design section will develop the required designs of tools, dies, jigs and fixtures, and other appropriate equipment and even machines. It is desirable that heat treatment equipment be provided in tool rooms.

Much more is required in selecting personnel. Officers should be imaginative, have initiative, drive and practical experience. In many cases they have to introduce innovations and improve technology in the industry. In many developing countries, such personnel may not be available, and recourse to foreign experts may be needed.

In India, common service facilities are part of the organizational set-up of SSIDO, extension centres and research institutions and are usually located in the same premises as the institute extension centres and research institutes. Sometimes, they are set up in the vicinity of or in industrial estates or other central places where they can serve a large number of industries. The state governments may also provide such services in or outside of industrial estates.

In the case of the New Delhi STSI these services were first located in one of the factories of the Okhla industrial estate. When in 1971 the Institute's own building opposite the industrial estate was constructed, the service workshops were shifted to the new building and the industrialists in the estate continued to take advantage of these facilities. However, in 1981, when an evaluation of the operation of these facilities was made, especially of the tool room, it was found that about 45 per cent of the small-scale industrial customers were other than those from the industrial estate, and most of these about 60 per cent were from places outside Delhi, even as far as 100 to 150 miles away. This was mainly due to the fact that very large numbers of industrial units were located far away from the industrial estate, and had no dependable facilities of this type in their own neighbourhood. The survey revealed that there was, in fact, need for two additional tool room facilities in two different parts of Delhi.

Another study revealed that the average net utilization of machinery in tool rooms had been of about 75 per cent, the balance being accounted for by shut-downs due to failure of electricity or normal maintenance procedures. The average utilisation of workers was about 85 per cent. These were quite high figures by any standard. The tool room and heat treatment shop were most in demand. As regard mechanical testing machines, the hardness tester was most used. The impact testing machine was rarely used, and the universal testing machine was used only once in a while. In the author's opinion, the hardness testing machine is useful but others like the impact-testing and the universal testing machine need not be provided as a common facility if they are available in technical colleges, institutes or any other organisations,

even within a radius of 100 to 150 miles. Sand testing equipment was found to be quite useful in foundries for formulating and controlling the composition of sands for castings of different qualities. It was considered desirable that foundries should keep their own sand-testing equipment to check the composition of sands when diversifying their castings both as regards type and quality. The SISI should provide training to entrepreneurs and supervisors in selecting and using the equipment.

It is essential to be very selective in the choice of locality and equipment for an extension centre. Experience shows that in many cases the equipment in the extension centre could not be put to use for common service to the extent desirable, and in certain cases was not put to any use worth the name.

Common service facilities are as much if not more needed in towns other than capital and metropolitan centres, since industries in the smaller places may not even find facilities for ordinary repair and maintenance of their equipment. The choice of location will depend upon the type and number of existing and prospective industries. Experience shows that the equipment of common facilities in the smaller centres should not be permanent but may need to be mobile and changeable. The reasons for this are as follows:

1. The equipment in the extension centre may have been put up after due consideration, but the type of industry requiring such facilities may still not develop.

2. The few industries that come up in such area, after some lapse of time, find it more convenient to set up in their own factories some equipment which they may have been using from common services centres. The centre having achieved its objective would then move elsewhere the machinery no longer required for common services.

3. In an area there may be just a handful of industrial units making use of these facilities as a regular feature of their production programme. During this time, the units should have acquired their own equipment. The common services are meant for general use as a tool of development, and not for producing regularly something for a few priviledged enterprises.

This suggests that in several cases there would be no need for a permanent building for the extension centre. The workshops should be located in a rented building,

or in a folding portable type of workshop. These might be shifted to other places as may be required, or replaced by more suitable types.

Inadequate use of the equipment in the smaller towns is a most serious problem. The equipment may be installed, the staff in position, the foreign exchange spent, and the utilization factor of the equipment may remain unsatisfactory. For this reason, the importance of the above considerations cannot be over-emphasized.

V. INDUSTRIAL EXTENSION AND OTHER PROMOTION PROGRAMMES

Financing

Ordinarily, small-scale industries have difficulties in obtaining credit since in most cases they do not have regular audited balance sheets and other satisfactory proofs of their credit-worthiness. In India, the SISI works as an advisory and co-ordinating agency with the financing institutions and reports to them, upon request on the marketability and quality of products of the prospective borrower. In India, the Director of a SISI or his Deputies are members of a committee constituted with every brach of the State Bank to consider loan applications for small entrepreneurs. The other members are the Director of Industries of the state government, the local manager of the National Small Industries Corporation, and other officials. The State Finance Corporation also consults the Institutes.

Export promotion

The State Trading Corporation is mainly concerned with the export and import business. It has a separate division for the promotion of export trade from the small-scale sector. The SISIs co-operate with it to find out suitable small units which could manufacture for export, and help them through training, inspection of products, and other means. The training provided by some SISIs is progressing well and is very helpful for export promotion.

Research

There is great need for co-operation between a SISI and a research institute. The technical officers of a SISI come across problems which they may not be able to solve, and should refer them to research institutes. Unfortunately, the co-operation is not extensive enough to be of much mutual advantage. The research scholars are

frequently out of touch with the operational problems, especially those of the small-scale sector, do not easily comprehend them and do not give simple practical solutions; moreover it usually takes a long time to get results. However, in the past few years, co-operation has been put on a much stronger and effective footing and appreciable progress has been made in technological improvements and in the scope of the industrial research field.

Design and development of appropriate technology

The shortage of finance and space and the smallness of orders and turnover usually prevent the small entrepreneur from purchasing expensive special production machines. He may have to switch over from one type of product to another, and should therefore have easily adaptable machinery which could be used for many processes. Considerable ingenuity is required to design and develop for them simple jigs, fixtures and tools to carry out such processes. In making suggestions for the purchase of machinery and equipment an extension service should carefully take into consideration the effects on the cost of production on account of interest on capital invested, depreciation, wages and output. Sometimes a costly sophisticated machine would appear to be useful but, considering the capital cost involved, the maintenance and running charges and the quantum of production, should not be recommended.

In view of the fact that most developing countries have a shortage of capital and foreign exchange and an abundance of labour, the machines to be designed should be simple, cheap, productive and, as far as possible, locally produced. It should be possible to maintain and operate such machinery easily without recourse to imported components and spares.

Sometimes imported machines cannot be used for want of spares and even of skilled operators. This is a very serious problem and a challenge to extension service agencies. It may happen, for instance, that an imported special-purpose machine does not work properly. The manufacturer or his representative may respond only after a long delay to the complaints made to them. They may be reluctant to pay travelling and other expenses for sending one of their engineers. Sometimes the engineer fails to rectify the defects in the machines, either because the original design is wrong or the engineer himself is not up to the task. The situation of the small industrialist

can well be imagined. He has invested a big slice of his capital, most of which may have been borrowed, and his machinery is not working. His capital is blocked, he gets no income, and yet he has to pay interest on the capital, rent for the building and wages to workers, supervisors and office staff. He may have to pay for the expert provided by the supplier, only to find the machine unsuitable or wrongly designed, and remaining out of order. A situation of this type may constitute a serious obstacle to entrepreneurship and further small industry development.

It is essential that the exporting manufacturer should have strict pre-shipment inspection. While it may be difficult to obtain from the manufacturer that he provide training of skilled workers in the operation, maintenance and repair of the machine, importers in the developing countries, especially hire-purchase agencies, should insist on adequate after-sales service and on suitable performance guarantee clauses in the contracts; in the case of expensive special machines, training of workers should be a condition of purchase.

In view of the difficulty of relying on the manufacturer and his representatives, a SISI should be ready to provide help in this field. For the development of designs, there should be, in addition to a tool room, a design and drawing office under the supervision and guidance of an experienced designer, machines should be tested and tried before being passed on to the small industrialists, if possible, prototype machinery should be developed in the country.

Work in this field requires proper studies of the techniques applied in the production of the original equipment as well as the development of simple, productive and relatively inexpensive new equipment which can be both produced and used by small-scale industries.

Ancillary development

The Government of India has recognized that the development of large-scale and small-scale industries should as far as possible be complementary to each other. Small manufacturers should specialize in certain productions which complement rather than compete with those of large manufacturers. After consideration of various techno-economic factors, the Government has reserved the development of certain industries to the small-scale sector.

The work of establishing subcontracting relationships between large and small industries was taken up by the CSIO in an organised way in December 1960 when, on the recommendation of the Small-scale Industry Board, a separate Ancillary Division was set up in the CSIO and regional ancillary committees were created in important institutes.

Sixteen industries were selected in which special efforts would be made for encouraging the development of ancillaries. These industries are:

1. Industrial machinery,
2. Agricultural and earth-moving machinery,
3. Machine tools,
4. Industrial scientific and mathematical instruments (mechanical);
5. Locomotives and rolling stock,
6. Steam engines, turbines and internal combustion engines;
7. Bicycles,
8. Boilers and steam generating plants;
9. Automobiles,
10. Commercial office and household equipment;
11. Electrical machinery, equipment and appliances;
12. Telecommunication equipment,
13. Industrial instruments (electrical);
14. Radio and electronics equipment,
15. Air conditioners and cold storage equipment including refrigerators;
16. Mineral oil and petroleum products.

The definition of a small-scale industry doing subcontracting work is an establishment having a fixed capital investment, excluding cost of land and buildings, up to one million rupees (U.S. $133,333), while the definition of other small-scale industries is: establishments with a fixed capital investment, excluding cost of land and buildings, of up to Rs. 750,000 (U.S. $100,000). Special incentives are provided for the ancillary units to encourage their establishment and modernisation. They may pay lesser amounts as earnest money and enjoy longer terms for paying the instalments for purchase of machinery on hire-purchase than the other small-scale units.

The SISIs, through the regional ancillary committees presided over by a prominent large-scale industrialist selected by the Government, play a prominent role in bringing together the large-scale and small-scale industrialists. In each institute an officer is assigned exclusively to the development of ancillary units.

Show rooms exhibiting the components required by large-scale units are arranged in the SISIs. The Institutes keep records of the various type of manufacturing capacities available with small industries.

The following problems may need to be solved by a SISI in connection with sub-contracting:

(i) Small-scale units complain that the large firms for whom they undertake ancillary work do not place long-term orders. There have been cases when, after a small-scale unit has developed certain tooling at considerable cost for undertaking subcontract work, the large firm ceased to place orders after even getting satisfactory supplies for some time.

(ii) The components and parts from the sub-contractor were rejected though they were of acceptable quality.

(iii) There have been considerable delays in payments of the bills by the large firm to small subcontracting units which can ill-afford to lock up their capital.

(iv) In many cases the prices give hardly any margin of profit to the sub-contractors.

(v) There is a tendency on the part of the management of large firms to favour friends and relatives in awarding subcontracts for parts and components.

On the other hand, the large firms have their own grievances. For instance:

(i) The subcontracting units do not supply components and parts in time, which results in holding up the production and delaying the fulfilment of the commitments of the large firm.

(ii) The ancillary units sometimes supply their production of components and parts to the replacement market, where they may get prices higher than

[illegible], rather than to the large firm, thus severely affecting the goodwill and production schedule of the latter

(iii) The small-scale unit does not obtain the necessary tool, jigs and fixtures issued to them after completion of contract or until the same

(iv) Small units use sub-standard materials in production

The SSIs have to step in and make proper working arrangements through joint meetings and discussions. The problems mentioned above can, to a large extent, be solved by building up mutual confidence between the principals and the contractors.

In India, after initial troubles, the sub-contracting programme is progressing well. Private and public large-scale industries are recognising the usefulness. A number of ancillary industrial estates have been set up to encourage and facilitate the establishment of complementary relationships. Sub-contracting is now developing not only between large and small industries but also between small-scale industries themselves which find it of mutual profitability.

The major contribution of the SSIs for the development of this programme was to provide technical and managerial guidance, in particular to improve existing production layouts, to plan and execute programme planning and financial and inventory control. In respect of technical know-how, much was to be done. For instance, in many cases the blueprint drawings were not properly understood by the sub-contractors and had to be explained to them. Sometimes the drawings were found to be lacking in some respects and after discussions with the engineers of the large firm, the shortcomings were corrected. The necessary tooling jigs and fixtures for production on the machines available to the small units had to be designed and produced. Inspection procedures had to be worked out and working gauges and other instruments supplied. Sample pieces were taken and inspected to see if these complied with the specifications of the components to be supplied. In making these arrangements, it was borne in mind that the costs of production should be such as to give the sub-contractor a reasonable return. It was an uphill task but a rewarding one, not only to the entrepreneur, but also to the extension officers who got satisfaction out of their work and won the respect and gratitude of all concerned. In some cases, the large-scale industrialist was prevailed upon to supply materials of the required specifications, otherwise, the

SSIDC officer would help with the selection of the raw materials, if need be after carrying out the required tests.

The test room, including heat treatment and design office facilities, were found to be extremely helpful in this programme.

As already mentioned, assistance was not confined to production techniques - the managerial and production planning aspects were also considered. This required the combined efforts of management experts, cost accountants and production, industrial engineers, who carried out project assistant studies covering management as well as production and other technical aspects. The preparation of integrated studies of this type was no doubt a time-consuming service, but a very helpful one especially when combined to properly selected units. For instance those undertaking ancillary work of a specialised nature. In some cases, parts and components could be produced at a considerably lower price than that at which the large firm was importing them. It was a challenging task which could be satisfactorily completed only through a complete study of the operations of the small unit and technical and managerial assistance at all stages of production.

Promotions and Federations of small-scale industries

The Government of India and the State Governments encourage the growth of associations of small-scale industries. There may be organised for small industries in general or on a trade basis, for instance, bicycles, sewing machines, foundry, and the like. The latter societies normally approach the government for solving their organisational and financial problems and arrange training and other useful programmes for their members through the SSIDs. The representatives of some of these bodies are members of the Industrial Advisory Councils and Boards of the State and Central Governments. It is hoped that these societies will become increasingly active and will take over some of the extension work of the SSIDs but this object is not yet in sight.

VI. TRAINING OF WORKERS, FOREMEN AND MANAGERS

Training of workers

Besides making arrangements for the training of workers in other organisations, the Small Industry Service Institutes and Extension Centres provide themselves training to workers from small industry in the trades for which skills, equipment and facilities are available in the institutes and centres. The training may be of 3 to 6 months duration, 8 hours a day, 6 days a week. The trainees are paid stipends of Rs. 50 to 60 ($7.00 to $8.00) per month. The training is normally in machine-shop practice, tool and die making, fitter's trade, heat treatment, welding, electro-plating, wood-working, sheet-metal work, forging, leather goods manufacture, sports goods manufacture, lens grinding, etc. Evening courses are also arranged in blue-print reading and other techniques. In big towns like Delhi there is good demand for this type of training which is mostly arranged in the common facility service work-shops within normal working hours.

The workers should be sponsored by the small industrialists. It is, however, found that by and large industrialists release their workers only on the condition that these resign from their jobs, so that the entrepreneurs would not have to pay them anything during the training period. In many cases, industrialists discourage the workers to undergo such training since they cannot find substitutes to work in their places and because they apprehend that, after training, the workers will demand higher wages or will find employment in another enterprise - a not infrequent occurrence. Nevertheless, and in spite of this attitude on the part of some entrepreneurs, a number of candidates come for training, even after resigning their jobs or entering into some understanding with the employers, since the workers find the training to be useful and know that the demand for their services in the market will increase. It is found indeed that after training, their wages increase by about 25 to 50 per cent. Also, trained workers become eligible for higher training in the Prototype Production and Training Centres, which gives them good openings.

The training provided is both theoretical and practical. Simple tests are conducted and certificates are awarded after completion of training, provided the trainee attends 80 per cent of the total number of days of the course. This is to ensure regular attendance.

In smaller towns it is difficult to get trainees from industry, since the number of industrial enterprises and of workers is small.

Training will be particularly effective if it is well organised and is made open to all who possess some minimum standard of education and practical experience. It is a well known fact that trained workers often go to medium-sized and large-scale industries where their pay will be better, and while this is difficult to accept for small entrepreneur, it still benefits the economy as a whole.

Training of foremen

The training of foremen on an organised basis is not undertaken in the Indian SISIs. Ad hoc training is provided to supervisors, mainly for testing purposes, use of lathes and other machine-tools, reading of blue prints, etc. There is no doubt need for training of foremen on a systematic basis, especially in respect of machine drawing and design, metrology, inspection and testing procedure for production of machine-tools, basic knowledge of foundry work and heat treatment, etc. Many supervisors in small industries do not have such knowledge and work by rule of thumb gained through long working experience. This does not help them to make much progress nor advancement.

The training of foremen and supervisors has been attempted through 'open houses' (round-table discussions) where a particular subject is introduced by a technical officer of the SISI and followed by a general discussion, and sometimes by demonstrations. To ensure attendance, these open houses are normally arranged in areas of concentration of industry. The trainees are provided with written notes on the subject. This type of training is normally arranged twice a week for about 2 or 3 hours a day. It is attended mostly by entrepreneurs - managers, and in some cases, it has been quite welcome. No certificates or stipends are awarded for such training.

It is estimated that in India the need for skilled workers for small, medium and large-scale industries, is of about 450,000. The training facilities of the SISIs and extension centres meet a very small part of this requirement, and a number of other training facilities have been introduced, not to mention the training under the Compulsory Apprenticeship Training Act, whereby factories of certain sizes must make arrangements for the training of apprentices, the numbers being dependent upon the size of the factory.

It may not be perhaps out of place to mention here the training of workers and supervisors from small-scale industries provided in the Sub-Centre Prototype Production and Training Centre at [illegible]. Training is provided under a bilateral assistance agreement with the Federal Republic of Germany.

The Centre organises training for the following categories of workers and supervisors:

(i) Skilled workers, who should have a minimum experience of 3 years in small-scale industry, excluding the period of earlier training.

(ii) Foremen, who should be diploma holders with 3 years of practical experience, or skilled workers who, after finishing the courses under (i) above, have a further experience of about ten years, or non-diploma holders with five years of experience, and prescribed qualifications.

(iii) Shop superintendents and shop workers and foremen with a minimum experience of five years.

The skilled workers from small-scale units should be able to read, write and understand English. The preliminary selection of the candidates is made by SSIs.

The training courses cover the following subjects: turning, drilling, gear cutting, planing, grinding, fitting and assembly, heat treatment, electroplating, tool room, foundry, forge and sheet metal work, welding, wood-working, pattern making, material testing, inspection and shop-floor-ship and maintenance.

The emphasis is on practical training. Theoretical subjects are mostly taken care of by audio-visual methods and technical colleges.

At the Centre the teaching is focussed on those aspects which allow the trainees to realise the do-ins and advantages of each task.

Most of the training courses last for six months, and some are for 1 years.

Skilled workers are given theoretical training covering fundamental principles of different operations, types of machines and tools, blue-print reading, knowledge of raw materials used for the trade, etc., and practical training to the skills required in their trade. Foremen are given practical and theoretical training covering the respective trades and processes, the materials used, inspection and testing, blue-print reading, design and manufacturing of simple tools, and various trade manufacture of components of machines and machine-tools.

Shop superintendents are given in addition to the training imparted to foremen courses in time and motion study, cost accounting, design and manufacture of simple machines, jigs and fixtures, and workshop management, including planning and production control.

After the trainees have a few months of initial training, they are attached to permanent staff members on production jobs, so that their practical training oppor- unities closely normal production conditions.

Training of managers and entrepreneurs

This is a subject of vital importance for the healthy and progressive development of industry and small industry service institutes devote considerable time and at- tention to the subject. Considerable interest in this training is also shown by the entrepreneurs and industrialists. In large centres like Delhi the number of appli- cants from small industry was mostly found to be 5 to 6 times the capacity of the train- ing. Those of them and admission was arranged strictly by set standards of selection. A problem was to find suitable trainers, since the institute could not afford to em- ploy specialists in all subjects. In central places like Delhi, Calcutta, Bombay and it is possible to get guest speakers from industry, different departments of the Government and other organisations, but this is not so in district towns, and even in some state capitals. In such cases, the programme had to be restricted in sco- and assistance had to be provided from the specialists available in other institu- in the vicinity.

The various management training courses undertaken are as follows:

1. Management appreciation
2. Production planning and management
3. Marketing including export-marketing
4. Financial management and cost control
5. Supervisory development
6. Work-study

The management appreciation course is the main course which covers the vari- aspects of management including labour laws, factory acts and rules, import and export legislations, financial matters, Problems of various agencies providing assistance to small industry, etc.

The other courses are of a specialised nature and the entrepreneurs may attend all or any of these courses.

The management appreciation course is of about 10 weeks duration and the other courses are of about 4 weeks duration each. These courses are mostly held during evening hours from 6 to 8, four days a week.

Certificates are awarded after completion of each course to such trainees whose attendance is at least 90 per cent of the working days of the course.

Besides the above course a number of ad hoc courses were organised in the following subjects. Export marketing: Some special courses on the subject were held, with the help of international experts.

Marketing intelligence for export trade: A special feature of this course was that the commercial attaches and counsellors from various embassies in Delhi, representatives of Export Promotion Councils, State Trading Corporation (this corporation helps export trade from small industry), State Bank of India, Punjab National Bank, were invited to discuss with the trainees trade procedures and patterns in various countries. This very practical course evoked considerable interest.

A special course for the Community Project Officers, Block Development Officers and others connected with the development of industries in rural areas in the Northern region was conducted at the Delhi Institute, at the request of the Planning Commission. This course was held for a period of 14 days and was meant to provide necessary guidelines and information including prospects of various industries and measures for their development in rural areas.

A special training course was organised for the concerned officers of SISIs and the State Governments for educating them in the appropriate technique of assessing capacities for raw materials required for non-ferrous consuming industries.

Seminars on export promotion of small industry products was also held, which proved to be extremely useful since the participants were exporters and representatives of various government agencies dealing with the operation of export trade, private export houses, Export Promotion Councils, National Productivity Council, etc. who could discuss their problems and difficulties face to face.

Experience shows that an association of the ex-trainees in management courses may be a very useful link between trained managers and SISIs. Such managers are kept informed of the latest developments in management and production techniques through their Association. Meetings of the Association have been often addressed by experts from different SISIs on important topics concerning the development of small industry.

A very important aspect of the management training courses is that the participants are taken to large and small factories, and the actual problems and solutions in the field of management are discussed and explained. Another facility available to some entrepreneurs is the granting of fellowships for study in the country or abroad.

VII. PROMOTION OF ENTREPRENEURSHIP AND DEVELOPMENT OF SMALL INDUSTRIES IN RURAL AND OTHER UNDER-DEVELOPED AREAS

Intensive campaigns

India has about 550,000 villages and about 75 per cent of its population lives in rural and other under-developed areas. In the past 10 or 12 years small-scale industries have appreciably grown in number and size, but growth has mostly taken place in and around large cities like Delhi, Madras, Bombay, Calcutta, Ludhiana, etc. It is estimated that about 70 to 80 per cent of the small industries are concentrated in such towns.

The Industrial Policy Resolution of April 1956 of the Government of India lays down, as one of the major objectives, the achievement of balanced growth of the industrial economy in all parts of the country. The country had therefore to launch a programme of industrialization in rural areas to improve employment and income levels, besides arresting the trend towards migration to big cities and towns, under the heavy pressures of unemployment and economic distress in many of the rural areas. Some employment was provided through the development of cottage and village industries, but this was evidently inadequate and stress was put on the development of modern small-scale industries.

Special efforts are needed to develop small industries on a decentralised pattern. Industrial growth tends to concentrate in areas which have the external economies and other prerequisites for development and where people are in a better position to infor

and avail themselves of the facilities provided by government organizations. This is why the industries located in the metropolitan centres take the maximum advantage of the measures of promotion. It is estimated that ten cities have availed themselves of 60 per cent of the total hire-purchase assistance, out of which 48 per cent has gone to Bombay, Madras, Calcutta and Delhi. The position in regard to purchases by government from small-scale industries under the Government Store Purchases Programme is again particularly favourable to these cities. This trend has resulted in distinctive regional imbalances in industrial development, particularly in the small-scale sector.

Thus, special attention and efforts were needed to carry out a small industry development programme in industrially under-developed areas. Taking industries to the people in under-developed areas, rather than allowing the people to migrate to big cities for employment, with the consequent adverse social and economic repercussions, was a stupendous task. The Small Industry Service Institutes and Industrial Extension Centres played a major role in this programme.

One of the most important projects undertaken by the SISIs in selected under-developed areas of each state was the promotion of entrepreneurship through "intensive campaigns". These deserve to be described briefly, since they may be of interest to other developing countries, not only for the industrialization of rural areas, but also to stimulate entrepreneurship in all parts of a country.

An area for intensive campaign is selected in consultation with the state government, that is, the Director of Industries and the Director of the SISI and his staff. The area should offer the best chances of success so as to have the desired demonstration effect. It should be selected on the basis of strictly economic considerations, political pressures, in particular, should be avoided or resisted.

An economic investigation team consisting of industrial economists is sent by the SISI to the selected area to make a rapid preliminary survey to assess the potentials for industrial development and the possibilities for expanding the existing industries or establishing new industries. This survey should normally be completed within three to four weeks. To make it as comprehensive as possible and to complete it within the prescribed short period, the co-operation and assistance of all concerned is required. Government departments and institutions, eminent public men - Members of Parliament, Members of State Assemblies, Members of District and Municipal Boards, industrialists, etc. These persons should be informed beforehand by the State Government and the

Director of the SISI. The Director should visit the area with the team for a day or so to explain the objectives of the survey and the campaign, and to introduce the team to local government officers and other personalities.

After the completion of the survey, a detailed report is prepared. Salient features, including recommendations which would be of interest to the entrepreneurs, are sorted out in co-operation with the State Director of Industries. The report is printed for circulation in the area, and 'model schemes' about prospective industries and informative literature describing the assistance provided by various agencies are gathered.

A date is fixed for the inauguration of the campaign, in consultation with the state government and local authorities. A team consisting of the extension officers of the SISI, including the Director, State Director of Industries and his officers, the local manager of the National Small Industries Corporation, representatives of the State Bank and Co-operative Bank, moves to the area on that day. It brings detailed information and schemes for prospective industries, area survey reports, informative literature, and application forms of each of the agencies directly and indirectly concerned with the development of small-scale industries. Mobile vans fitted with power-driven machines for machine shop, carpentry, smithy, leather work, fruit and vegetable preservation and canning, electroplating, etc., are also taken to the area for demonstration purposes. Such an inauguration meeting is normally presided over by the State Minister of Industry or an official of similar rank. Among those invited to the meeting are the Revenue Authorities and Development Officers of the area, non-officials connected with different developmental and technical organizations, as well as prospective entrepreneurs. During the meeting, detailed information is given on the various facilities offered through different departments and organizations, with illustrations by case histories. The procedures to be followed are explained by the representatives of the various organizations. Questions and answers are encouraged.

The SISI sets up a temporary office in a central place in the area, where it displays and distributes, free or for sale, as the case may be, technical schemes giving factual data on capital, machines, covered area, workers, raw materials, probable margin of profit and other requirements for setting up and operating different small industries; technical bulletins and information sheets, relating to hire-purchase

of machinery, government purchase programme from small industries through the National Small Industries Corporation, financial assistance from state government, state bank, State Finance Corporation, extension services including common service facilities, training schemes for managers and workers, salient features of area surveys, and so on. Success stories on films are shown. Extension officers of SISI and representatives of other organisations participating in the team, are available for consultation and, whenever feasible, immediate action is taken, for instance for completion of formalities for hire-purchase of machinery. The prospective entrepreneurs are told convincingly of the economic advantages of industrial activity and are informed of the various facilities provided by the Government. In a programme of this type, it is normally arranged that some procedural formalities, for instance in processing of applications for hire-purchase or for small loans from the state government, are cut short, and in many cases decisions are taken on the spot.

This type of campaigning, by lectures, demonstration, visual display and proper presentation of data, creates desire in the local entrepreneurs to invest in small industries. SISI extension officers, together with other agencies, continue to pay special attention to such areas and in course of time succeed in creating entrepreneurship in new undertakings and in modernizing existing ones. Such campaigns will evidently be fruitful for industrial development only in areas where the necessary industrial pre-requisites like transport, electricity and water are available.

A similar programme has also been launched in recent years by the National Small Industries Corporation, in co-operation with SISIs and others, in connexion with its hire-purchase scheme, it has made considerable impact in the areas of such campaigns.

The Planning Commission of India considered the rural development programme as a very significant but complex undertaking and took up the task of co-ordinating and even directing it with the assistance of SISIs and other organisations.

The problems of development of small industry in rural areas such as absence of infra-structure, lack of markets, entrepreneurial skills, financial facilities, repair and maintenance workshops and the like, may sometimes be tackled simultaneously through the establishment of rural industrial estates.

The problems confronting extension officers working in these areas are personal and professional.

The personal problems are raised by difficulties and costs of transport, board and lodging, medical aid, educational facilities for children, recreation and the like, not to mention the lack of urban amenities and entertainments. These problems are quite significant since the extension officers are reluctant to go precisely to those areas which are in need of maximum attention. This situation is not limited to industrial development, in these areas, dispensaries go without doctors, schools without teachers. Not every extension officer may be expected to show missionary zeal and to sacrifice his and his family's personal comforts and needs to work there, especially when he could find equivalent jobs in more comfortable surroundings.

The professional problems include the difficulty of collecting from various sources and compiling the information necessary to the preparation of area surveys covering agricultural, mineral, forestry and other resources and the fact that while there may be many unskilled and unemployed workers available, there is an utter shortage of entrepreneurs. The work of an extension officer is judged by the number of entrepreneurs created.

In view of these difficulties, the Indian programme has been confined to a few viable areas and is spread out steadily as experience is gained. Such a programme requires a cautious approach. Small industry cannot grow where nothing else grows.

[illegible]

Another important tool employed to penetrate the rural and under-developed areas to create interest in modern industries, to create entrepreneurs and to train artisans and others in the use of modern machines, is the mobile workshop.

The various common facility centres in India are located mostly in large towns. These centres cannot possibly cater to every nook and corner of the country. Industries require training and other extension services in a great variety of trades and no centre can possibly be equipped to provide service to all types of industries. An effective solution of these problems is the mobile workshop.

Specially designed trucks are equipped with machinery and tools for the required trade, say, for wood workshop, sheet metal work, electroplating, chain-making, carving, glass blowing, and so on. Equipment is normally of a light demonstration type. There is either a separate oil engine-driven generator or the engine of the vehicle is used as a power source. The vehicle is taken to rural and other areas after prior intimation

to the authorities concerned, eg. the Block Development Officer who makes an announcement to the public. The mobile van is parked in a central place in the locality and demonstrations in the operation of the machines are given. If time permits, some artisans are allowed under supervision to operate the machines. These are also used for demonstration purposes during village fairs and exhibitions in big and small cities. To be effective, the mobile workshops should be in place for a sufficiently long time.

The difficulties experienced in India were that the capital cost of the vehicles to accommodate the machinery was quite heavy and since these were frequently moving on rugged broken roads, the cost of maintenance was also very high. The machines also deteriorated sooner than otherwise since they were handled by untrained persons at large centers. The staff assigned to the vehicles found it hard to travel much with inadequate subsistence allowances. The staff was not always fully utilised and the programme was frequently halted. The accounting of use of raw materials for production and training was not a simple thing. There is no doubt that the mobile workshop is one of the best ways to reach the rural areas, but experience shows that it was very expensive to maintain and operate it.

Another way of achieving the objective of reaching rural areas and small towns was tried by the author at a much lesser cost. The method was mainly concerned with the servicing of agricultural implements given on hire or on outright sale.

The repair and maintenance equipment in this case consisted of lathes, shapers, drilling machines, fitting tools and spare parts for replacement. The machines were adaptable to electric or oil engine drive and ever to manual drive. A foldable workshop was built of galvanised sheet and angle irons bolted together, so that each sheet could be put together or separated out as necessary. The whole equipment could be loaded in a hired truck or even on bullock carts. The workshop was set up in a plot of land in a village.

The arrangement proved to be quite effective and not very expensive. It could perhaps be adopted for training in difficult areas. It is not easy to find a building for a workshop in small towns and the folding type of workshop shade would be a good substitute. It is not always necessary to spend much capital on trucks with special bodies and then to spend heavily to their operation and maintenance. The mobile training-cum-demonstration workshops are useful for extension work but the problem of keeping them usefully utilised requires proper attention and consideration.

VIII. [illegible]

[illegible]

[illegible]

The programme of small-scale industry development in India was devised and guided with the help of Ford Foundation, the United Nations and other organisations. A large number of foreign consultants have participated in this programme since its inception. These consultants have made a significant contribution in formulating, carrying out, expanding and accelerating the programme. They provided the technical skill and experience which were lacking in the newly recruited staff of the SSIO and affiliated agencies.

A number of problems, however, arose in connexion with foreign assistance. In some cases, experts were appointed for a trade for which there was not much need, such expertise being available in the country. Some experts, though good in their trade, were found to be temperamentally unsuited for this type of work at least in the local environment. In a few cases, the foreign consultant did not measure up in terms of skill and experience to the standard expected. This created problems of keeping on such experts for the period of contract.

The experts attached to an Institute as advisers to the Director receive a much higher pay than the Director. A few of them tried to ignore the Director and approached higher-ups directly. This antagonised the Directors, relations became strained, and working problems arose. There were problems of finding suitable counterparts either because of procedural delays in recruitment or of unavoidable shortages of certain categories of staff. The consultants being in most cases from developed countries found it inconvenient and difficult to adjust their advice more appropriately to suit the economic and technological requirements of the country. The consultants were accustomed to certain standards and were not provided with the necessary amenities. They did not always receive proper orientation in respect of the various aspects - social, economic and procedural - of life in the country.

The problems of need for the services of an expert and of his competence are to be solved by the national authorities and by the foreign agency, respectively.

[illegible] job descriptions should be laid out after thorough surveys of the conditions and needs of the institutes and [illegible] to which the expert is to be assigned. Panels of Indian consultants in various fields should be kept up to date and foreign consultants should be hired only when qualified national experts are not available. Proper recruitment procedures should be followed by the foreign technical assistance agencies.

The problem of relationships between the expert and the Director and other staff of the institutes to which the expert is attached need not arise if the departmental system of work is explained to him from the beginning. He should identify himself as a member of the department in which he works as an adviser. On the other hand, he should be given his rightful place as an adviser. Difficulties on this account were rare.

The provision of suitable counterparts was a very serious problem at the outset of the programme. However, with the expansion of technical education facilities in universities, technological institutes, and other national institutions, rectifications in the system of recruitment, increase in the allocation of technical officers to SISIs, this problem was largely overcome. However, some difficulties were experienced when the counterpart was transferred from the Institute after the expert left, and sometimes even when the expert was still in position. This latter is largely one of internal administration, it may often be unavoidable, but sometimes cannot be helped.

It is most important that foreign experts and organisations realize that foreign experts are not substitutes for national experts, but their task is mostly advisory and that their advice will be of lasting effectiveness if it is combined with training of counterparts who will [illegible] after the expert has left.

Private consulting agencies

It may be seen in the preceding chapters that India has developed throughout the country a vast network of extension services in the form of regional, state and branch Small Industry Service Institutes, Extension Centres, and other agencies. There was thus not much scope left for private consulting agencies to provide services to small-scale industries, especially since the services of the Institutes were available free of charge. However, with the rapid and extensive growth of small industries, the Institutes could not extend their helping hand to everyone. This situation encouraged the establishment of private consulting agencies in large cities where there were

large concentrations of industries. Only such people could go to these agencies as could afford to pay their rather heavy charges. These agencies could take advantage of the various publications, library and documentation facilities of the SISIs in extending services to their customers.

Private counselling agencies can be helpful in supplementing the efforts of SISIs. Extension officers of the SISIs, with their heavy load of work, may not find time to go about and approach different agencies of the Government to expedite action on individual cases of small entrepreneurs, which the private counselling agencies might undertake for their clients. The role of such agencies is useful especially in the context of Indian conditions, since the shortage of raw materials, foreign exchange, electric power, factory space, etc. has resulted in a multitude of rules and regulations for compliance.

Many of the counselling agencies are not yet of the stature as may be found in the developed countries. They will, of course, improve as the demand for their services increases, and there is much scope for them to complement increasingly the action of government-sponsored assistance and promotion institutions.

In the early stages developmental programmes in developing countries should be on a governmental level and it is only when development has gained some momentum that private counselling agencies can be encouraged.

The Government of India does not provide any subsidies to private counselling agencies. However, it appears that with the development of small industries in size and numbers, it may be desirable to adopt some measures to encourage private advisory services, especially for making feasibility and techno-economic studies, providing management counselling, and even in some cases solving some intricate technical problems such as plant layout, selection of machinery, negotiations of collaboration agreements and the like.

Feasibility and techno-economic studies and related projects are also carried out by a private organisation named the National Council of Applied Economic Research. Its studies cover a broad range of problems, including small-scale industry. On payment of certain charges, the state and central Governments commission studies for the states or the country. These studies have been quite helpful in the formulation of policies and programmes of industrial development, including small-scale industry development.

management problems may be extended to by Local Productivity Councils on payment of certain minimum charges.

Private consulting agencies operated by either individuals or groups of individuals can work successfully where small industries have achieved a firm footing and are progressive and prosperous enough to pay for services. However, in certain situations it may be worthwhile to subsidise their operations, though it may not be easy to find out a satisfactory formula for such subsidisation. As a rule, small industrial units require free extension service for periods of 1 to 2 years and are required to pay concessional charges only for workshop or laboratory work.

[illegible]

It is quite likely that the problems of extension service are by and large similar in most of the developing countries. The following considerations, derived from the Indian experience, may thus be of general applicability.

In countries where no industrial extension facility as exist it may be advisable to begin with a modest programme very thoughtfully and pragmatically planned, and to set up one or a few centres in locations where the best prospects for small industry development exist. After the programme has taken roots, attempts should be made to expand it steadily, both as regards functional coverage and geographical distribution.

The extension programme should be sponsored by the government, but the agency administering it should enjoy a good measure of autonomy in day-to-day operations. It should be integrated in the over-all programme of development of small-scale industry, which, in turn, should be part and parcel of the country's general plan of industrial and economic development.

The main problem with which industrial extension agencies in the developing countries are likely to be confronted is the lack of experienced extension personnel. Even if foreign experts are made available, there will be difficulties in appointing qualified counterparts. This problem is difficult and of crucial importance and persistent efforts should be made to solve it. As a rule, it will not be necessary to engage large numbers of extension officers - a few competent and willing workers, well paid and rewarded will be sufficient in the early stages.

If experienced economists and technologists are not available, young, bright university graduates should be awarded fellowships under international or bilateral programmes for training in organisations like the STRIs and the Small Industries Extension Training Institute in India, the Research Institute for Management Science in Delft, the Netherlands, and other organisations either in developed or developing countries. The training provided in these institutions is not merely theoretical and includes in-plant training and some practice of extension service. To the extent possible, national institutions for the training of extension workers should be set up. In some cases, such training may be organised as a joint effort of several countries, on a regional or sub-regional basis.

Training will be required not only for the senior officers of the extension service, but also for personnel at lower levels of the hierarchy. In-plant training will be of particular value for the latter.

The training should cover the following main areas: (i) economic survey techniques including area, industry and market surveys, feasibility and pre-investment studies and preparation of project reports; (ii) in-plant studies including plant layout, production planning, production techniques, testing and quality control; (iii) management training, including personnel management, production and inventory control, financial management, cost accounting, etc.

Small neighbouring countries may give consideration to the establishment of regional industrial extension centres. In the larger countries, however, these should be set up on a national or state or provincial basis.

Especially at the early stages, there are advantages in setting up an extension service department within an industrial development bank; the services of the department should not, however, be restricted to the borrowers, but should be available to any small entrepreneur in need of assistance. Whatever the arrangements, close co-operation should be maintained between extension and financial institutions, since financing of small-scale industry is particularly effective when it is closely linked to technical assistance, and vice versa.

An industrial extension agency should have a well organized information centre and library, common facility workshops with well selected equipment - a tool room and a testing and quality control laboratory will be required in most cases - and training facilities. The latter should cater to managers and foremen as well as skilled workers. It should be equipped for providing services in various parts of a country or a region, including rural areas - mobile workshops will be an effective tool for this purpose.

Promotion of new entrepreneurship should be as important a task of an extension agency as assistance to existing enterprises. In countries at the earliest stages of industrialization, it should be the main task. Intensive promotion campaigns are effective both for steering entrepreneurs towards new industrial activities and for modernizing existing small-scale industries. They may be particularly useful when combined with industrial decentralization programmes, especially those for the industrialization of small towns and rural and backward areas.

The industrial extension agencies should encourage the development and adoption of simple, inexpensive and productive technologies and processes of production.

As far as possible, they should facilitate the establishment of complementary relationships between large and small industries. High quality, sound management, reasonable costs are conditions which should be met by small enterprises working as subcontractors to large firms. This can be achieved, as a rule, only if technical and managerial assistance is available.

Industrial extension services will be particularly useful when provided to the occupants of industrial estates. The extension agencies should be closely associated in the planning, establishment and operation of the estates, and should often be in charge of the operation of their common service facilities.

Close co-operation and co-ordination should be maintained between extension agencies and other organisations involved in the promotion of small-scale industry, such as training centres, research and design institutes, export promotion centres, and so on.

Annexure I

ORGANIZATIONAL AND STAFFING PATTERN OF A SMALL INDUSTRY SERVICE INSTITUTE

The Sections and staff of the Small Industry Service Institute of New Delhi are as follows (the staffing pattern changes from time to time):

The Institute is headed by the Director.

A. Ceramics Section (including glass and lenses)

1 Foreign Consultant on lenses
3 Assistant Directors
4 Junior Field Officers (JFO's)
1 Investigator
1 Draftsman

B. Chemical Section

1 Deputy Director
1 Assistant Director
1 J.F.O.
2 Investigators
1 Skilled worker

C. Electrical Section (including electronics)

1 Foreign consultant
1 Deputy Director
1 Assistant Director
1 J.F.O.
1 Investigator

D. Leather Section (including tanning)

1 Assistant Director
1 J.F.O.

E. Mechanical Engineering Section

1 Deputy Director
3 Assistant Directors
3 J.P.O.'s
2 Investigators
4 Draftsmen

(workshop staff not included)

F. Metallurgy Section

1 Deputy Director
1 Assistant Director (heat treatment)
2 J.P.O.'s
1 Draftsman

G. Economic Investigation Section (including information centre)

1 Deputy Director
5 J.P.O.'s
6 Investigators

H. Industrial Management and Training Section

1 Deputy Director
3 Assistant Directors
3 J.P.O.'s

I. Industrial Design Cell

1 Foreign consultant
2 Industrial designers
7 Assistant industrial designers
10 Draftsmen

J. Works Division

1 Deputy Director
3 J.P.O.'s
2 Investigators
2 Draftsmen

(This Division was abolished after the construction of the Institute's buildings).

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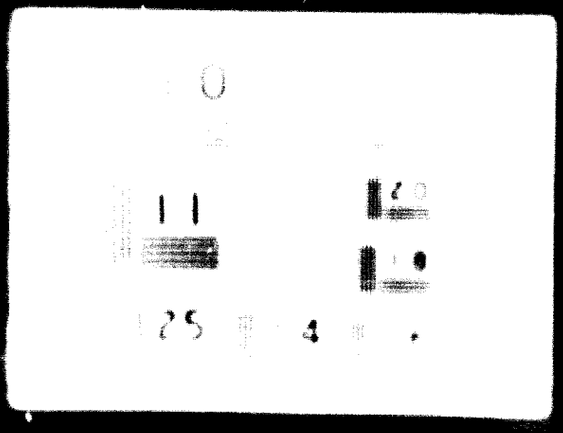

K. Administration Section

1 Assistant Director

1 Superintendent

10 Clerks

L. Accounts Section

1 Assistant Accounts Officer

6 Clerks - both senior and junior

M. Co-ordination

1 Superintendent (now Assistant Director)

In addition, there are 4 workshops for common facility services, e.g. for tool-room, machine shop, heat treatment, forging, ceramics, lense grinding, chemical. Testing facilities are available for foundry sands, metals, sewing machines and cycle parts, etc. There are chemical laboratories for analysis, development and research, for development of small chemical industries, leather, ceramics and electrical industries.

N. Extension Centre, Balsahyog, New Delhi

1 Assistant Director

3 J.T.O.'s

1 Investigator

Besides the above, there are some skilled workers for the training workshop. The Balsahyog Extension Centre, New Delhi is quite different from other extension centres. It operates in close collaboration with a social organization called Balsahyog Mandir for the development of young delinquent boys. The Centre imparts training to young boys in carpentry, tin-sheet work, tailoring, cane work, leather trade(shoes and other leather goods manufacture) general mechanics - as machinists and fitters. It provides extension services for small industries in these trades.

O. Extension Centre - Faridabad

1 Assistant Director

1 Investigator

The Extension Centre at Faridabad, Rewari, Faridabad Centre is for common facility work and training of artisans in carpentry and blacksmithy, and extension servic in and around Faridabad. A Centre at Rewari has similar functions for shoe manufactu electroplating, non-ferrous casting, etc.

Appendix II

INFORMATION ON SMALL-SCALE INDUSTRIES COLLECTED BY A SMALL INDUSTRY SERVICE INSTITUTE

The Small Industry Service Institute of New Delhi collects information on small establishments in the surrounding area. Index cards similar to those used in a library present the information by industry and by location; cards also refer to industry prospect survey reports and area surveys.

The information by industry like electric motors, sewing machines, bicycles, machine tools, etc.

The information by location lists industries by towns and town zones. Because of their small number, industries in small towns are listed together in one group.

The cards contain the following information:

1. Category of industry
2. Name and address of the factory
3. Telephone number and telegraphic address
4. Name and address of the business office (head office) of the factory with telephone number and telegraphic address
5. Is it a family/co-operative/partnership/public or private limited concern? Date of establishment
6. Capital investment for (a) land and buildings
   (b) machinery and equipment
   (c) other capitalized expenses
7. Working capital
8. Source of capital
   (i) Own capital
   (ii) Loan under State Aid to Industries Act
   (iii) State Bank of India under the special financial assistance scheme for small industries
   (iv) Loan from other sources, say other banks, friends, relations, etc.

9. Details including value of machinery and equipment installed, with their capacities as far as could be found. If machinery is acquired on hire-purchase, it is so indicated.
10. Details of items manufactured - giving in each case quantity and value of manufacture.
11. Is the unit registered under the Government Purchase Programme ? If so, has it received any tender, inquiries ? If so, did it tender and get order and complete the same satisfactorily or not ?
12. Is the unit carrying on any sub-contracting work ? If so, information is given in respect of quantity and nature of items supplied and the particulars of the principal firm are provided.
13. Details or raw materials and components used, indicating quantity and nature of each. Imported items are indicated.
14. Number of workers - skilled, semi-skilled and unskilled, office hands and others.
15. Any special remarks regarding quality and marketability of the products; spare capacity available, if any, on machinery for special processes, say for forging, foundry, electroplating, automatic, turret, capstan lathes, etc.
16. Information on some salient features of extension services rendered to the units.

There is a separate card for each unit. To show information at a glance, each card is tagged with signal pieces of different colours; for example, red indicates an ancillary unit, blue a unit carrying on government purchase work, yellow - special extension services provided, and there may be separate signals indicating some special purpose equipment available with some units, such as automatic turret and capstan lathes, die-stamping and forging hammers, heavy duty power processes, electro-plating, enamelling, anodizing equipment, testing equipment, etc. This information is very helpful and handy in locating units for ancillary work and also for undertaking government orders.

Separate cards indicate industries for which "prospect" information sheets have been prepared, industries banned because they have reached their saturation point,

industries reserved for small-scale industries, etc. Information is also collected on the rules and regulations of various other organizations for assistance to small-scale industries, such as financial institutions, National Small Industries Corporation for hire-purchase of machinery, registration under Government Purchase Programme, export promotion through State Trading Corporation; collaboration terms acceptable to the Government, etc.


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