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SIET Promotes Small Industry in India

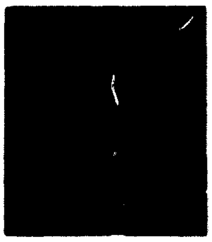
By P. D. Malgavkar

THE RAPID DEVELOPMENT of small industries is of vital importance to the social and economic growth of developing countries, the economies of which are mainly based on agriculture. This is specially true of India. Small industries are important because they:

- Use human and physical resources that might otherwise remain idle;
- Serve as nurseries for the growth of medium enterprises;
- Provide full-time employment at low capital cost and meet a substantial part of the increased demand for consumer and simple capital goods;
- Bridge the wide gap between crafts and highly mechanized production, between the economy of rural and of urban areas;
- Provide managers and technicians with day-to-day training in responsible decision making.

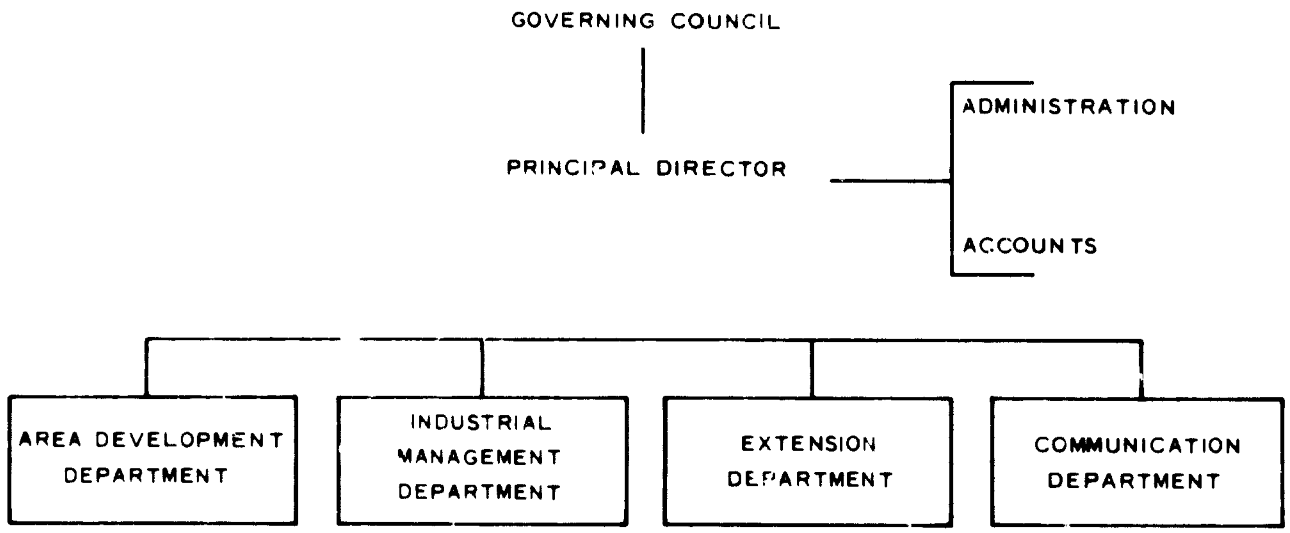
The Government of India, through its five-year plans, has stimulated the growth of entrepreneurship and provided small industry with a share of the limited physical resources of capital equipment, raw materials and electric power. Through the Central Small Industries Organization of the Government of India and the Directorates of Industries of the States, a network of Small Industries Service Institutes and Extension Centres provides the technological and managerial extension services in each state.

The benefits that accrue from the development of small industry emphasized the need for widespread and improved extension services which made necessary the establishment, in 1962, of the Small Industry Extension Training Institute (SIET) at Hyderabad.



The Author: *P. D. Malgavkar graduated with honours in economics and has a diploma from the British Institute of Management and the Purchasing Officers' Association. After running his own business, he worked as a consultant and taught Management Practice at Bombay University. In 1959 he entered the Government of India Service and became Director of Projects in the National Small Industries Corporation. Mr. Malgavkar joined the SIET Institute as Principal Director in 1965. He serves on a number of industrial committees, among them the Small-Scale Industries Board and the Planning Commission.*

Structure of SIET



The aims of SIET are to accelerate the development, extension and management of small industry through training, research and services in the field. SIET includes in its programme the use of industrial managers, private consultants and technicians from other developing countries in order to broaden the application of the three functions of training, research and services.

Methods of conducting surveys of industrial potential, of improving industrial management and of giving advice, are some of the techniques that lend themselves to a common approach and are, therefore, the core of the work of SIET.

The three spheres of interest which all small industry extension officials have in common are:

- Development, including motivation and planning; government policies and programmes; the role of small industry; investigation into the industrial potential of an area; feasibility studies; industrial dispersal; policy and economics;
- Management, including production planning and control, organization, financial planning, marketing, personnel management; controls for costs, materials, machinery and labour;
- Extension, including responding to personal and group contacts; communication within an organization; locating, stimulating and assisting latent entrepreneurial talent; testing, preparation and use of communication materials.

Nagarjunasagar Dam

The principal functions SIET performs in each of these areas are to provide:

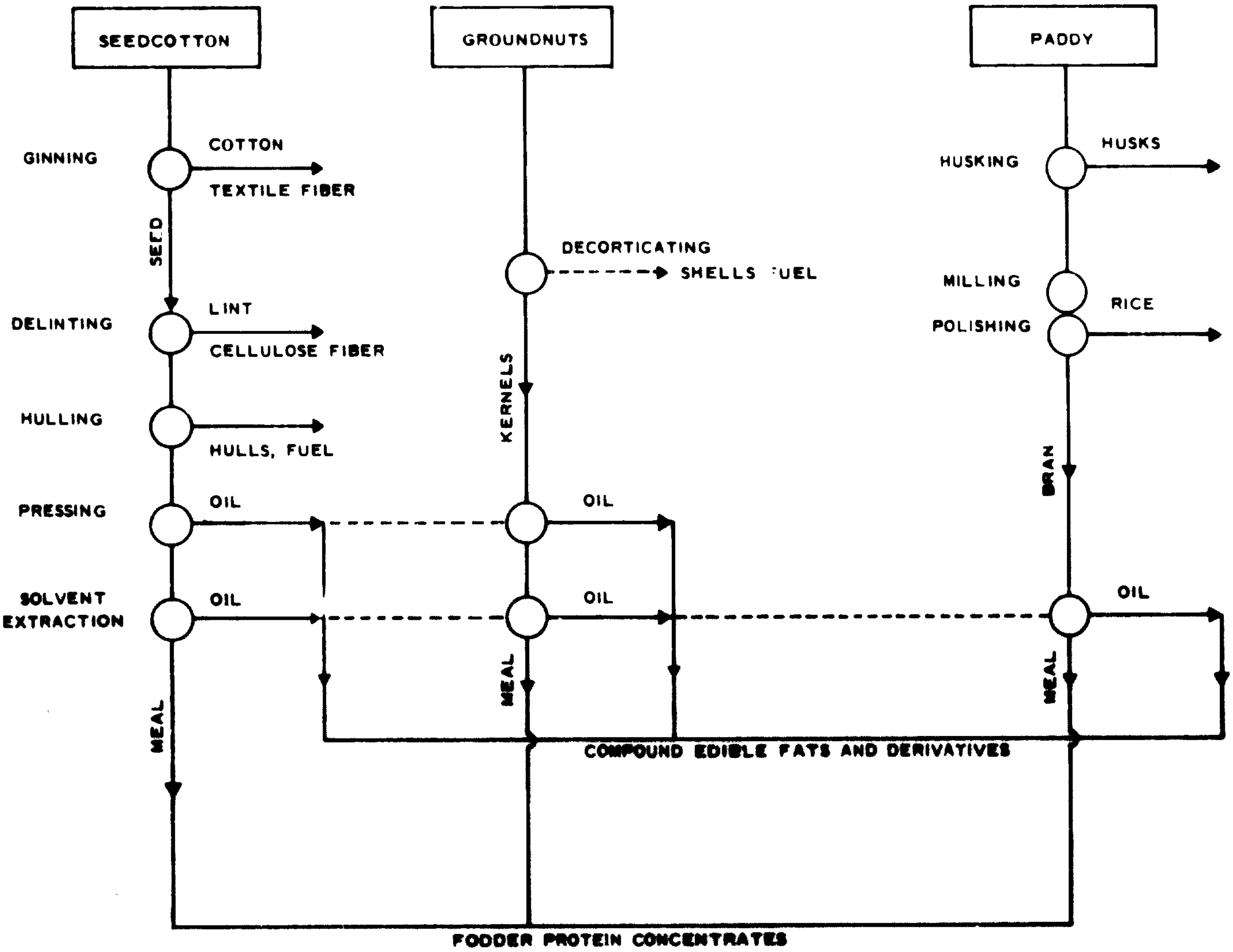
- Training for government extension officials, managers and private consultants by organizing general and specialized courses, in addition to seminars and conferences;
- Research measures for application to small industry; adaptation of modern management techniques; improvement of training methods and information materials;
- Services, including a systematic publishing programme; a supply of training and information materials, and consultancy services for extension programmes.

The organization of SIET is shown in the chart on preceding page.

Each Department is engaged in training, research and extension in its specialized field.

The Institute has a number of training programmes such as those on area development, training methods and skills and operational effectiveness. Its specialized course on small-industry promotion in developing economies is attended by participants from Afro-Asian countries. Early in 1969 the Institute organized a group training programme under the sponsorship of UNIDO. It has developed a course on financing for small industries which is repeated frequently in different parts of India to meet the growing demand of the banks.

Opportunities for agro-processing industries



A series of pioneering studies undertaken by the Institute has been increasingly useful in other developing countries. The first in the series was an applied research study on industrial technologies. The Institute also assisted in a Harvard University study on the motivation of businessmen, the results of which have recently been published (McClelland and Winter, *Motivating Economic Achievement*, The Free Press, New York, 1969).

The Institute has undertaken a number of studies on the industrial potentials and the supporting infrastructural requirements of selected regions. A study on the "Costs of Urban Infrastructure for Promoting Industries", which covered the states of Andhra, the Punjab and Uttar Pradesh, was undertaken in collaboration with the Stanford Research Institute, United States, and the School of Planning and Architecture, New Delhi. The Institute has also undertaken studies in the management field, such as socio-psychological factors influencing the starting up of an industry; organizational and psychological factors associated with productivity in small industries, and industrial co-operatives.

Nagarjunasagar irrigation project

One of the most far-reaching studies undertaken by SIET was the Nagarjunasagar irrigation scheme.

The object of this project was to dam the river Krishna and create an artificial reservoir with a gross storage capacity of over nine million acre-feet of water.

The source of the Krishna lies in the rugged mountain range hugging the west coast of the Indian Peninsula and its mouth is in the Bay of Bengal. The river descends more than 1,700 metres, traverses some 1,250 kilometres and drains a catchment area of nearly 260,000 square kilometres. Temples, centres of learning, forts and cities have been built on its banks.

Midway in its course at Nagarjuna Konda, the great Buddhist scholar Nagarjunacharya is said to have built a university in the second century A.D. Here also, a century later, the Ikshvaka dynasty scattered over the river valley a number of sculptures and inscriptions which would have been submerged had they not been removed and re-erected on the top of a hill in the centre of the artificial lake created by the dam. It is at this historic place that the 123-metre-high stone masonry dam, flanked by earth dams, is being built at a cost of US $200 million. The water from the storage dam will be carried to the fields through two main canals: one is 200 kilometres long with a discharge of 21,000 cusecs and the other 178 kilometres long with a discharge of 15,000 cusecs. Ultimately the two canals will have a total length of 790 kilometres and will irrigate 3.5 million acres of land. At the end of the first phase (that is by 1975/1976), however, the canals will irrigate about 1.46 million acres of land. It is estimated that this irrigation scheme will produce, by 1976/1977, an additional yield as follows: paddy, 1,821 million tons; groundnuts, 0.353 million tons; cotton, 0.164 million tons, and chillies, 0.143 million tons.

With a view to studying the industrial possibilities, the Andhra Pradesh State Government asked SIET to prepare a report on the industrial potential of the region.

This study posed some special features. The experience gained from the building of other irrigation dams, together with a study of the reaction of the local population to the use of irrigation facilities and the technological developments taking place in agriculture, helped SIET in preparing a forecast of the extra yield that would be generated. The irrigation scheme, however, was spread over parts of five districts and cut across administrative boundaries. This made the collection of relevant data about the infrastructure and other resources a formidable task, because the data available usually related only to districts as a whole.

The study (*Nagarjunasagar Industrial Potential*, SIET Institute Publication, June 1968) indicated that the area covered by the irrigation scheme (23,718 square kilometres) would, with suitable strengthening of infrastructure facilities, the agricultural yields already referred to, and other resources, coupled with the existing and future demand for different goods, have potential for the following industries:

- Agro-processing industries such as rice, cotton-seed and groundnut oil milling, solvent extraction plants, production of multipurpose food, cotton spinning, textile manufacture, and the production of cotton-seed meal, vegetable ghee, soap, starch, animal feed and particle board.

- Agro-supporting industries such as those for the manufacture of sprayers and dusters, pesticides formulations, fertilizers, oil engines, pumps and agricultural implements;

- Industries based on demand, such as those for construction material, repair and service stations, consumer products, restaurants, laundries, cinemas and hotels.

This region can thus easily support a host of industries with an over-all investment of $115 million, out of which the agro-processing industries alone would need about $25 million.

Encouraged by the findings of the study on the industrial potential of the Nagarjunasagar Irrigation Region, the Institute has been commissioned to study the growth potential, urbanization and optimization of industrial location in the region. The aim is to evolve a pattern for the location of industries that will permit industrial development to be effected in selected places that offer the best opportunities for industrial growth based upon the social, agricultural, economic and administrative conditions in the region.

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