

A review of Extension and technical services programmes available in Ghana for the promotion and development of Small-Scale Industries (SSI) and service Enterprises and the mode of disseminating results on research and technical matters to small-scale Industries and Service Enterprises and suggested improvements on programmes of action, as well as development and co-ordination arrangements required for management, educational and advisory services and the publicity required to unearth entrepreneurs and projects to be supported under the SSE Development Programme for Ghana.

by:

B.L. Lartey  
Senior Research Officer  
Food Research Institute  
(C S I R)

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## 1. Introduction

1.1. In Ghana there are two broad groups of small-scale industries. The first is the group of traditional craftsmen and artisans who are in the process of modernizing<sup>3</sup> their skills, tools and techniques of production. The second is the group of modern small-scale industries which produce a variety of consumer goods and simple producer goods as well as components and parts required by large industries.

The first group can be sub-grouped into two: 1. those small-scale industries forming an integral part of the village economy - village industries such as oil processing, gari making, can<sup>2</sup> and bamboo work; 2. those representing traditional skills and crafts - handicraft, hand-loom, fish-smoking and drying.

The second group of small-scale industries use modern tools and techniques of production. Included in this group are food canning and bottling establishments, bread and jam manufacturers, shoe manufacture and repair, wood furniture and wood products manufactures, printing presses and printed materials production, soap manufacture, etc.

1.2. In Ghana, small-scale industries account for an overwhelming proportion of the total number of manufacturing enterprises and for an appreciable proportion of total employment and total value added in industry. Except for very relatively few, these small-scale industries are generally weak, ill-managed and poorly equipped and produce goods of uneven quality. Many of these small entrepreneurs are unaware of their needs or unable to identify them and are reluctant to request or even accept assistance for reasons ranging from ignorance and prejudice to fear that information might be channelled to tax authorities or to competitors.

1.3. Owing to the smallness of their operations these small-scale industries do not attract the interest of foreign entrepreneurs and they are therefore obliged to look for services and facilities from indigenous sources. Unfortunately there is an absence or inadequacy of institutions providing services and facilities required by these industries. This is

true not only of technical services and facilities but also of other facilities such as credit, training, management counselling etc. Where institutions for providing technical services are almost non-existent the problem becomes a little complex. In that the absence of services and facilities tends to prevent the development of those specific small-scale industries, and the non-development of such small industries tends to discourage the establishment of institutional agencies to provide such services and facilities. Thus a vicious circle develops. Such a situation calls for government initiative and intervention. For small-scale industries have a very important role in the national economy as they offer scope for the individual, village or co-operative enterprises and serve as a means for the rehabilitation of displaced persons. In addition, these industries are particularly suited for the better utilization of local resources and for the achievement of local self-sufficiency in respect of certain types of essential consumer goods.

## 2. Agricultural Extension and Technical Services

2.1. Ghana owes about 80 per cent of her agricultural production to the small land holder, who has been a major factor in the country's farming activities for several decades. It is therefore to him that agricultural extension and technical services are directed the most. However, there are certain important factors which retard the progress of the system of extension and services rendered,

Some of these factors are:

1. Poor organization
2. Personnel problems
3. Inadequate training of personnel
4. Poor logistics
5. Inadequate co-ordination and integration with other agencies
6. Inadequate programme planning and implementation.

2.2. The Ministry of Agriculture which has overall responsibility for the organization and direction of extension activities has about ten (10) specialized divisions each of which engages separately in such activities. While successful in many of their activities there is no effective co-ordination of some of the services rendered. Commodity Boards, special production agencies and joint state and private agricultural companies also arrange extension services on their own.

2.3. The present organization of extension lacks strong administrative structure where responsibility is placed and authority delegated to meet the farmers' needs.

2.4. There is also an inadequate integration of supplies and services with extension educational programmes. Close integration is needed to eliminate duplicating and confusing contacts with farmers by representatives of the various divisions of the Ministry of Agriculture.

2.5. There are too few people to plan and carry out effective extension education and service to the rather large number of farmers. On the basis of national average, it is estimated that the ratio of extension worker to farmer is about 1 to 1000.

2.6. There are also interregional and interdivisional transfers of staff which make it difficult to keep people assigned to areas where they are linguistically competent and knowledgeable about local farming. This discourages staff from trying to acquire knowledge of the local language.

2.7. Lack of even the most basic amenities - water, electricity schools, etc.-in rural areas makes it hard to recruit and hold competent personnel.

2.8. Incentives for excellence in the performance of duties are lacking and promotion policies are based on seniority. This discourages the development of specialized competence and experience.

2.9. There is an inadequate training of personnel who are directly, responsible for assisting the farmers' in the solution of his problems. This inadequacy imposes a serious constraint on the effectiveness of extensions programmes. In fact, most personnel in extension and services

have little or no farming background nor do they receive adequate training in basic farm skills. They are therefore reluctant to meet farmers and display their ignorance.

2.10. There appears to be an incomplete and slow communications process between extension and research. This is due to the very little attention which is given to the development of a two way flow of information which allows for transmitting research to extension and researchable problems to research personnel. Provisions for field testing and adapting research findings under various environmental and farming conditions are therefore either inadequate or lacking. Educational and mass communication materials are used by extension personnel for distribution to the farmers but these appear to be inadequate.

2.11. In most cases transport for extension and service personnel is inadequate. This severely limits farm calls, demonstrations and timely delivery of supplies and services. Supply and services are also not located at a centralized location in each district.

2.12. There is also a poor network of rural roads and this is a serious limiting factor in logistic support of extension and services personnel.

2.13. Where information and services are made available to farmers, their opportunities for obtaining credit and marketing their produce is limited.

### 3. Research and Industrial Extensions

3.1. Research institutes were created in the main to undertake, assist and promote scientific and industrial research. Although their terms of reference may include assistance to industries falling within their purview as well as the collection and dissemination of general information on their research activities, the non-inclusion of extensions services clause has made such services to be relegated to the limbo of unimportance and is carried out on ad hoc basis. Such an attitude is not without justification because of the many problems likely to be encountered. Among these problems are:

1. Lack of adequate and trained staff to give such extension

and technical services on a routine or regular basis;

2. Lack of adequate facilities to meet the demands of industries;
3. Inadequate funds to support such services and lack of any adequate assurance from small-scale industrialists that such a service would be paid for when rendered.
4. Lack of adequate transport facilities;

Since extension and technical services are undertaken on ad hoc basis, there is no administrative set-up within Institutes to handle such services.

3.2. Research results are also almost always invariably expressed in technical language which may not be understood by small-scale industrialists. This limits effective communication. In addition research results are published in manuals and journals which are not easily available to the small industrialist.

3.3. At times research workers may not be sure of the feasibility of their research and rather than perhaps exposing their work to public ridicule through failure in application they may choose to shelve it.

3.4. Although research results are at times publicised through the radio and television, the times allotted for such exposition are inadequate. Moreover such programmes tend to be geared towards specific target groups such as students of ordinary level General Science syllabus of the West African Examination Council. In certain instances there may be overlapping in the technical services rendered by research establishments.

3.5. Apart from the above intrinsic factors generated by the primary functions of research institutes, there are extrinsic factors which are within the body-politic of the small-scale industrialists.

In general small-scale industrialists do not avail themselves readily of the services of industrial and technological research institutes. This is due to a variety of causes:

1. Their unawareness of the existence of such institutes and of the potential value of these institutes to small industry;
  2. Their awe of the research worker and a reluctance to trouble him with their affairs;
  3. Their lack of technical capability to determine and describe their problems;
  4. Their difficulty in visiting institutes separated by great distances;
  5. Their lack of time to seek assistance.
- 3.6. This lack of communication could be overcome through positive action by both research institutes and extension agencies which are not parts of the Institute.

Research institutes and extension agencies could co-operate in organizing lectures seminars, and discussion groups either for the exchange of information and experience or for the dissemination of knowledge. In each case it is important that the results of research work be expressed in a technical language intelligible to small industrialists. Such activities would tend to foster a close relationship between industrial research and industrial extension.

For on one hand, much of the research carried out by technological research institutes, though generally undertaken for industry irrespective of its size, is of special interest to small-scale industries, particularly research on local raw materials. It would then be one of the functions of an industrial extension agency to inform itself of achievements in science and technology, to screen out what is particularly relevant to small-scale industries and to apply it as a part of the technical assistance it provides to small enterprises. On the other hand, extension work could

reveal areas in which research should be undertaken and projects could be referred by extension agencies to research institutes. Some of such projects could be of exclusive concern to a particular industrial enterprise, others could be of interest to a whole industrial subsector.

3.7. Needless to say, an advisory field service unit could conceivably be set up as an integral part of a research institute. Qualified personnel from such a unit could visit small enterprises, diagnose their problems and carry out the necessary research. Where practical considerations relating to organization, staff and finances make the setting up of such a unit difficult, the co-operation of an industrial extension service can be enlisted. In such a case, positive, firm and clearly defined measures should be taken to co-ordinate closely the activities of the institute and of the extension service. Such co-ordination should include the careful selection and training of advisory personnel to ensure communication between the institute and small industry.

3.8. Research institutions can also play a useful role in testing industrial products and materials and in making available standards and calibration services to industry, where commercial testing facilities are not available. Where commercial facilities are available the establishment of testing and quality-control laboratory as a common service facility would still be justified, especially in an industrial estate or in an industrial extension centre.

3.9. There is a wide range of technologies from which Ghana can choose from in order to promote small-scale enterprises development. Quite often, however, the most up-to-date technology is not necessarily appropriate to the scale of operations, the factor endowments, and the skills and raw materials available locally. The choice of technology should therefore be based on both economic and technological research, which should include investigations of means of adapting modern technologies to local conditions and the development of new methods and technologies based on analysis of the economic and technological problems of manufacturing. Industrial and technological research institutions have a role to play in the selection



of those technologies that are best suited to the local resources. However the co-operation of an industrial extension agencies may be necessary. In that industrial extension officials would be able to pinpoint problems of technology in small-scale industries which require research by research institutes. More importantly, it would be the task of such officials to disseminate and assist in the application of technological modifications or new processes evolved by research institutes.

3.10. Some research institutes are engaged in prototype development. Such undertaken calls for the co-operation of the institute, the industrial extension agencies and the small-scale entrepreneurs. Such a co-operation could enable the industrial extension agencies to pinpoint unit operations for which **prototypes** may be needed from their contact with the small-scale industrialist. In order to manufacture prototypes from such institutions and to translate industrial use and for overall national development, a Research Development Corporation should be set up. To pave the way for such an establishment a Research Development Committee should initially be established under the Ghanaian Enterprises Development Commission and the Council for Scientific and Industrial Research.

#### 4. Promotion of Entrepreneurship

4.1. In order to motivate entrepreneurship and create the necessary climate to attract people and induce them to assume the risks inherent in the manufacturing industry a number of interconnected measures have to be undertaken. The most important measures should be:

1. the building up of an industrial extension agency to provide economic, technical and management advisory services;
2. the provision of training facilities;
3. the undertaking of **surveys** and studies pinpointing techno-economic possibilities for small-scale industries in specific areas;
4. the provisions of financing.

Once individuals have been stimulated to engage in industrial activities they must be given continuing assistance from the stage of pre-investment to that of operation. This can be achieved by having the promotional agency adopt active rather than a passive attitude.

4.2. In carrying out studies and surveys the promotional agency should take into account the availability of capital, labour, raw materials, domestic and foreign markets, import-substitution and export-promotion possibilities etc. as well as objectives, priorities and requirements of the country's overall industrial development plan. These studies and surveys should be a continuing activity.

4.3. Another pre-requisite for the stimulation of entrepreneurship is the establishment of financing facilities by the government for meeting long-term and short-term capital and credit requirements of small-scale industries. This could be done either through allocation of government funds to existing institutions or through the setting up of new institutions.

4.4. A new technique of industrial extension that can accelerate and expand entrepreneurship under certain circumstances in intensive campaign. In such campaigns, extension, finance and other officials could visit small enterpreneurs in certain industrial fields examine their plant and methods and make recommendations for their modernization. Credit applications for purchase of new machinery could also be submitted on the spot. This type of campaign deserves the attention of the Ghanaian Enterprises Development Commission.

4.5. The emergence of a new class of entrepreneurs, especially from the indigenous sector of the population is a major economic, social and political objective in Ghana. For such group of industrialists, a persistent effort is needed to seek out prospective entrepreneurs among them with a view to steering them towards industrial occupations. The initial creation of oven a relatively small number of indigeneous entrepreneurs through such efforts could set in motion a cumulative development.

5. Conclusions

5.1. Two primary difficulties in promoting extension and technical services and facilities for small-scale industries in Ghana are:

1. the inadequacy of financial resources, both in foreign exchange and local currency, for the establishment of extension service centres, small industry service institutes, industrial research institutions, quality-testing laboratories, marketing organizations, export-promotion centres, management development and productivity centres, and training centres and workshops; and (2) the shortage of qualified, experienced staff to carry out the promotional work in such agencies.

5.2. In view of these difficulties, it is imperative that an effective system of co-ordination and co-operation be established to maximize the combined contribution of such agencies for industrial development.

R E F E R E N C E S

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