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**TENTATIVE ECA PROPOSALS FOR DEVELOPMENT
OF INDUSTRIAL INFORMATION MACHINERY**

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TENTATIVE ECA PROPOSALS FOR DEVELOPMENT
BY INDUSTRIAL INFORMATION MACHINERY

I. Introduction

1. The increasing importance of the role of the information service in promoting accelerating African industrialization and the nature of the limitations at present encountered in this respect have been referred to in the ECA paper¹ presented at this Seminar. The status of the existing information facilities in some of the African countries has also been reviewed in another ECA paper². The present paper deals with the related question of developing an adequate industrial information machinery for meeting the needs of African industrialization programmes.

2. Having regard to the diversity of the developmental conditions in African countries, the components of the industrial information machinery vary from country to country and the national information machinery would need to be so designed as to suit the characteristics and the requirements of the country. Nevertheless, it is possible to visualize certain aspects of the machinery which would be common. The object of this paper is to outline this basic framework of common validity to help determine the type of industrial information service which would be most suitable for the country concerned.

II. The Service

3. Industrial information may be classified into two broad categories - Specialised and General. Under these two classifications, the information machinery would need to deal with matters pertaining to statistical, commercial, economic, industrial and technological and also such scientific aspects as have a direct bearing on industrial application. Its service must be characterised by continuity as well as reliability for accuracy, relevance and timeliness. The machinery must be adequately equipped with expertise as well as the requisites for effective collection, processing and dissemination of the information multi-directionally. It has to maintain close liaison with a number of link-agencies within and outside the country and has to evolve and systematise its techniques and operations for providing speedy and efficient service. Without question, the service has to be organised and maintained on a permanent footing.

4. A brief description of the agencies which stand to benefit from the information service and of the broad nature of the functions which the machinery is required to perform might be useful for determining the general structure of the machinery which is to be set up.

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5. The agencies which would need to be serviced by the proposed information machinery would include:

- Ministries and Government departments engaged in the task of formulation of economic and industrial plans and of fiscal, tariff and industrial policies and procedures
- Parastatal institutions like Industrial Development Corporations, Financial Institutions, Investment Promotion Agencies, with implementational responsibilities
- Business, Trade and Industry bodies
- Technological and Scientific Institutions
- Techno-economic and consultancy service organizations
- General Public Investors

6. Since international cooperation can be an effective aid in accelerating industrialization and the development of technology and skills, it would be necessary for the information machinery to forge and maintain contacts with institutions abroad engaged in similar activities.

7. The objectives of African industrialization require also the intensification of intra-African cooperation and consequently, the national information machinery in the African countries must work in close cooperation and coordination with each other and purposefully share the knowledge.

8. Briefly stated, the following would characterise the basic functions of the industrial information machinery:

- Identification of the information needs and availability
- Location of the sources of its use and of the provider
- Collection of the information
- Processing of the information
- Dispensing the information

III. Organisation

9. For planning the organization of the information service, it would be helpful to take into account the possible alternatives and to appraise their relative advantages from the point of view of the country situation and information requirements.

10. The options may be summarized as follows:

- (i) To set up the service as part of the governmental activity or as a purely private institutional activity if it is to be established as a governmental responsibility, there is a further choice of having it set up as an integral part of government's industrial policy formulating and planning mechanism or of government's executive and operating mechanism
- (ii) To set it up as a single, central agency at the national level or as decentralised units entrusted with responsibility for specific aspects of information
- (iii) To operate the information service on commercial lines or on a free-service basis as one of the public utility programmes
- (iv) To introduce sophistication in the machinery and its service from inception or in gradual stages

11. These options may now be examined in some detail for their implications.

12. It may be argued that in industrially advanced countries, most of the large and well-established industrial concerns have usually their own in-built industrial information device as part of their development planning and the information remains restricted for their internal reference. Because of this nature of the end-use of the information, the knowledge gained from the information may have only a limited relevance to others even if they can have access to it. Consequently, there are also other organizations in these countries for rendering information services and the concerns or individuals who are unable to mobilise their own information systems can avail of this facility.

13. Considering the present conditions in African industrialization, it seems unlikely that there would be any advantage gained in organising the industrial information service on private initiative and operate it as a private institutional activity.

14. The position in developed countries being what has been explained earlier, there seems to be even greater need in Africa for state initiative and involvement in the information service. Firstly, in most African countries as in all developing countries, the agencies primarily concerned with the tasks of organising the basic studies on industrial development and preparing industrial plans and action-programmes are themselves ministries or government departments or they function within the overall governmental framework even if they are autonomous bodies. The efficacy of their work depends to a very great extent upon the kind of information which the proposed industrial information service is expected to provide. Secondly, it would be conducive to the efficient indenting of information and its utilisation if there is complete rapport and coordination between the agency which needs the information and the agency which is equipped to procure and process the information. The speed of action

implicit in this arrangement would significantly minimise the time-loss in subsequent stages of industrial programming, project formulation and implementation. This is an important factor in accelerating the industrialization efforts in Africa.

15. It would also appear that an information service envisaged on these lines might not be able to operate effectively in most African countries except with the support of public funds and consequently it attracts governmental responsibility.

16. As regards the option of running the service from the ministries directly or from parastatal bodies such as Industrial Development Corporations, Industrial Development Banks, etc., the difference is really one of approach rather than of principle. The former is a policy and programme formulating body while the latter may be described as the former's major executing and implementing mechanism. Selection between the two would have to be made in the light of the status, powers and other characteristics of the planning and the executing systems in the countries. It may however be said that Industrial Development Corporations and Banks would need to focus their attention only on selected aspects of industrialisation. The information which may be required for their work might thus cover a specialised but nonetheless smaller area and some measure of even this information may also be of the kind that could be put to use by the programming bodies themselves. The latter would, of course, need information also on a more diversified basis, and would be concerned with ensuring the implementation of the programmes in their entirety.

17. Efficiency of industrial programming would be strengthened if the progress of implementation receives as much attention as the formulation of the programmes. The watch-dog functions for monitoring the progress and performance of the industrial plans and programmes in a cohesive and coordinated fashion seem to be more natural for government planning agencies than for other agencies. It may therefore be worthwhile to associate the information machinery with the primary organs like the Ministry of Industrial Development or Planning Commission with suitable arrangements for its rendering service to other agencies like Development Corporations, Banks, etc. While doing so, it would be useful to vest it with a measure of autonomy in deference to the specialised nature of its work.

18. Also on account of these considerations, it would be better if the information machinery is established at the national level only as the central focal agency. Furthermore, the flow of industrial information would need to be reversed in some cases in the interests of international sharing of the experiences and this could be ensured more smoothly through a centralised service. But at some point of time, depending upon the volume and desired frequency of service, area to be covered and availability of funds and personnel, the service may be undertaken on a decentralised basis through sub-centres to be created for this purpose. These sub-centres would still be accountable to the central agency which should bear the overall responsibility for assembling the information received from these and other sources, processing and relaying it.

19. On the question of whether the information machinery should function on commercial lines or on free-service basis, it would be pertinent to take a view on the related question of the timing and the extent of sophistication which is desired to be introduced into the proposed service. A study of the functions which the information service is expected to perform and the kind of agencies which it is expected to service would reveal the need for its acquiring sophistication in its operational approach and methods. Sophistication is also an evolutionary process and its adoption could conveniently be spread over a period of time. The acquisition, processing and dispensing of information would thus prove to be expensive in the long run and it would be difficult and impractical to subsidise this expenditure continuously and exclusively at public cost. Some fee would have to be charged from the beneficiaries of the information service at some point of time, according to the value of the information supplied and the effort and expenditure which had gone into its procurement and processing.
20. However, industrial promotion being implicit in the activities of the information service, the machinery cannot afford to treat all information as priced. It would therefore be necessary to define for this purpose as to what kind of information may have to be supplied free and what kind may have to be priced. It may generally be said that information pertaining to production process and technology, plant design and specifications and engineering, finer details of trade and marketing etc., would appropriately be classified as specialised information and hence such information might well be priced. Information pertaining to the country's industrial development laws and objectives, industrial possibilities, raw materials etc., may be regarded to be routine and of general interest and may be furnished free of charge in order to stimulate and spread out industrial interest and to serve as large as entrepreneurial clientele as possible.
21. The dimensions of this approach would mean that the governments would have to continue to shoulder the major burden of the costs of the industrial information service in almost the same manner as they do in the field of education, public health, transport, communications and similar infrastructure facilities in public interest. The national budget should therefore include a liberal provision of funds for meeting this expenditure.
22. The key elements of African industrialisation programmes may be defined as import-replacement by domestic manufacture, modernisation of export-oriented production and diversification of the industrial sector to provide for manufacture of new and sophisticated products responsive to labour and technology-intensive orientation. Implementation of this programme would need to be based on a high degree of sophistication in the information service. This is a factor to be taken into account for determining, for each country, where and when to introduce sophistication in the proposed machinery and for operating the service on commercial principles and promotional principles.
23. Apart from the above-mentioned major criteria which seem to be relevant for all countries, there may be individual requirements which each country must assess for itself and evolve an appropriate industrial information mechanism.

IV. Kind of information to be collected and dispensed

24. Information of a purely scientific character should be kept out of the purview of the proposed machinery as it is really a subject of interest to academic and research bodies. Exceptions would be those aspects which have a direct relevance to industrial application.

25. No distinction need be observed between old and current information for the purposes of collection and processing. At the dissemination stage however, some discrimination would be desirable.

26. From the point of view of industrial and technological interest, the following may be the spheres for the attention of the proposed machinery:

- Natural resources and their development
- Industrial raw materials and other inputs, their availability, uses, requirements, procurement, prices and processing and developmental prospects
- Infrastructure facilities, availability, requirements and development
- Manufactured products and their intermediates, prices, markets, specifications, etc.
- Industrial possibilities with forward and backward linkages
- Scale of manufacture and optimum plant size
- Industrial processes and technology
- Plant and equipment, availability, requirements, specifications, prices, etc.
- Potential sites for project location
- Project infrastructure, effluent disposal, etc.
- Land acquisition regulations and proceedings
- Manpower, availability, recruitment, training etc.
- Labour legislation, incentives etc.
- Industrial licensing laws, agencies, procedures etc.
- Investment laws, incentives, taxation etc.
- Company formation
- Productivity, quality control etc.
- Packaging, marketing and sales promotion

27. There may be demand for the services from industrially advanced countries also and the information machinery has therefore to be oriented to meeting the requirements of overseas clientele also.

V. Operational programme

28. The core of the operation would be:

- Anticipation and identification of the kind of industrial information which is likely to be of interest
- Location of the sources of its availability and of its utilisation
- Processing it for potential users

29. The sub-elements of the work programme may be summarized as:

- Scouting for industrial information through field activity, correspondence, literature research and participation in meetings.
- Classifying, archiving and encapsulation of the information
- Undertaking primary and secondary documentation, reproduction and publicising both periodically and ad hoc
- Inculcating the demand for industrial information and its industrial and technological application
- Serving as a Data-Bank generally for providing basic and statistical information to planning and policy-making organisations, chambers of commerce and industry, investors and public and overseas bodies.
- Assisting in providing entrepreneurial guidance on establishment and operation of industries
- Assisting in providing information on industrial and investment promotion matters
- Assisting in running industrial enquiries service

VI. Requisites

30. In addition to the administrative staff, the services of professional personnel like translators, librarians, information officers, and industrial economists and engineers would be needed for this work. Besides the information machinery, some of the other agencies could utilise their specialised services. In some cases, services of the specialists could be obtained on a consultancy basis if the nature and the volume of the work is ad hoc.

31. There must be provision for training and refresher courses in order to help build up a permanent and modern referral centre for industrial information.

32. The information machinery must also build up its library and depository facilities. Multi-lingual translation of information, mimeographing, micro-filming, TV, radio and other audio-visual means of communication would form part of the activity of the machinery. Computerisation is a desirable innovation in the long run but its introduction may not be practicable for some years to come until the volume of demand for industrial information and the number of agencies and individuals to be served justify this sophistication and expenditure.

VII. Conclusion

33. Based on the above mentioned activities of a network of national industrial information centres, the establishment of an Africa Industrial Information Centre on a regional basis may be considered. It cannot however be envisaged as a substitute for the former, but it could be an effective tool for the successful functioning of African multinational agencies.