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CONSIDERATIONS ON THE FUTURE DEVELOPMENT
OF THE INDUSTRIAL AND TECHNOLOGICAL INFORMATION BANK ^{1/}

by

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1. Before discussing the problems of the Industrial and Technological Information Bank, I would like to express satisfaction with the efforts which UNIDO has made since its foundation in providing the developing countries with industrial and technological information. Especially high praise should be given to the Industrial Inquiry Service in providing the valuable information flow from the developed to the developing countries; the Industrial Development Abstracts were the first UNIDO attempt to put into practice industrial information processing by computer.

These and other works of UNIDO indicate that an information service for developing countries in the field of industry and technology is an important part of UNIDO activities in the implementation of its programmes of the technical assistance and the transfer of technology to the developing countries.

2. Para 65(k) of the "Lima Declaration and Plan of Action on Industrial Development and Co-operation" adopted by the Second General Conference of UNIDO, and subsequent Decision V(xi) of the 11th Session of the Industrial Development Board on the "Establishment of Industrial and Technological Bank" are indicative of the attention which UNIDO gives to industrial and technological information. Para 65(k) of the Lima Declaration runs as follows: "Appropriate measures including consideration of establishment of an industrial and technological information bank should be taken to make available a greater flow to the developing countries of information permitting the proper selection of advanced technology".
3. What is the role, in my mind, of the information services of UNIDO and, in particular, of the Industrial and Technological Information Bank in the many-sided activities of this international organization in its mission for the industrial development and the transfer of technology in the interests of developing countries?

First of all, the information bank is not able to substitute any other kind of UNIDO activities; it should only provide the information support of these activities.

All UNIDO projects and programmes, in particular the programme for the transfer of technology in the interests of the developing countries, all activities of consultants and experts, either on the staff or otherwise, all kinds of activity realized through the medium of UNIDO can rely upon the information support of the Bank. On the other hand, all information coming from any UNIDO activity or activities being carried out through this medium should become the property of the Information Bank for the purpose of up-dating and continuing its successful work.

Information systems in their up-to-date meaning are specific services requiring from their workers a good knowledge of principles, methods and means of information. There are enough problems and difficulties in achieving this main task: timely providing the unbiased and complete as possible information for those who can analyse it with a high level of competence and to make concrete decisions and formulate the policy.

4. The specific character of the UNIDO activity on industrial development and the transfer of technology has given birth both to specific information service methods and to a specific character of information itself. As regards the information service methods, approved in the UNIDO, they are subject of special study and evaluation, and the latest attempt to make such an evaluation has been made in Mr. Schwoerbel's analytical review.

I would only like to touch upon the character of information as such, circulating in the UNIDO information system and constituting the information base of the Bank.

In my opinion, the Information Bank should not limit itself to the "technological" or even "industrial and technological" information. Para 65(k) of the Lima Declaration underlines: "..... industrial and technological information bank should make available a greater flow to the developing countries of information permitting the proper selection of advanced technology". Therefore, the information from the Bank should not limit itself to the set of technological variants and solutions. It should contribute to the technical mental outlook of the specialists of the developing countries and should assist them to make proper decisions in the choice of advanced technology. In this sense the information of the Bank should be not only "technological" but to a certain degree "scientific". Surely, the UNIDO information system should on no account duplicate the existing technical and scientific information systems. It should be able to provide a fast, easy and cheap access to information stocks of the above systems when necessary.

5. The decision of the Lima General Conference on the establishment of the Industrial and Technological Information Bank indicates that traditional information service methods existed in the UNIDO for a long time but no longer meet the growing needs of developing countries for industrial and technological information. The adoption of para 65(k) of the Lima Declaration means the beginning of a new approach to the solution of this problem. First of all the acceptance of the term "Bank", taken from the modern informatique, foresees that a new information system should possess at least the following features:
 - a) The efficient organization of the information stock with clearly outlined boundaries and with the possibilities of comparatively easy reorganization and up-dating;
 - b) The good organization of input flows with the standard procedure of information processing (descriptive cataloguing, indexing, abstracting, coding, etc.) providing a high level of consistency;
 - c) Well developed means and techniques of information retrieval, providing a high level of relevance;
 - d) Compatibility with other information systems which are of use to the UNIDO activity, easy and cheap access to the information data of these systems.

To the above considerations it is necessary to add the demand of the Lima Declaration " to make available a greater flow of infor-

mation", reflecting the fact that information flows, circulating in the UNIDO information system are not enough in comparison with the information needs of the UNIDO programmes of industrial development and transfer of technology.

All the above problems cannot be solved by traditional methods and in the decisions of the 2nd General Conference and the 11th Session of the Industrial Development Board there is an evident conception of a computer orientation of the Bank.

Such an approach would be complicated by financing and staffing problems; nevertheless world-wide accumulated experience indicates that the computer orientation is the only possible approach, leading to the best solution of the problem of information services, and that the expenses incurred by this approach would, in the end, be justified.

6. What are the steps, to my mind, to be undertaken with the view that the Bank adopts a well organized information system capable of being oriented on the present up-to-date methods of the existing UNIDO information services.
 - a) First of all it is necessary to clearly define the subject boundaries and subject scope of the Bank. Since in the pilot operation period of the Bank only four industrial sectors have been approved but it is necessary to have two versions of subject scope: limited subject scope for a pilot operation and complete subject scope for operation on a full scale. If the Bank is to be put into operation, the priority to industrial sectors should be given on the basis of analysis of statistics of the user needs and not by volitional decision.
 - b) It is necessary to collect all UNIDO information data in the central information store of the Bank. Probably there is no necessity to collect them physically, but no UNIDO document related to the problems of industrial development and transfer of technology should be missing from the Bank. Every such document should have a certain place, certain co-ordinates and should be ready for immediate use in the Bank's activities.
 - c) It is necessary to study the flows of documents generated by UNIDO or coming from outside. The registration procedure should ensure that all documents, related to the Bank activity be included in the Bank's field.
 - d) It is necessary to establish a standard procedure for selection and processing of documents for input in the Bank to work out the record formats for descriptive cataloguing, abstracting, indexing, coding, etc. on the base of ISO standards. This work will help to use the computer, both for better organization of the Bank's store of information and for the organization of the retrieval operations.
 - e) As stated above, there are two features of the Bank: specific methods of information services and the specific character of information as such. I would like to underline another peculiarity of the Bank: In many international information systems, the Centre of system only collects the information from the member-states, processes the information in agreed standards and distributes the information in cumulative form to

to the member states. All retrieval operations are provided by member states accordingly to their technical capabilities and information needs. This is not the case for the Industrial and Technological Information Bank. The specific feature of the Bank is the necessity to provide most retrieval operations by the UNIDO itself. Besides the work on collecting and processing the information, the Bank should know the needs of all users, should formulate the search queries and should provide all retrieval operations in the interests of the users.

All this work should be in the hands of skilled personnel, capable of providing the feedback to the users, the evaluation of retrieval operation relevance, the maintenance of the Thesaurus, etc. It is necessary to study and select up-to-date methods of information services and the computer hardware and the software.

The existence of many information systems in the world provides a wide choice of the best means.

- f) It is necessary to study more extensively and carefully the external sources of information which can be of use to the Bank activities and to determine the compatibility of these sources with the Bank.
7. The implementation of the Bank tasks together with all UNIDO activities along with the fulfilment of the programme of the transfer of technology requires the establishment of a certain UNIDO institutional mechanism. The experience of other international organizations indicates that the most appropriate institution for these purposes is a division.

On one hand the division is compact, an efficient mechanism with certain frames of competence. On the other hand it has some kind of self-dependence and ability to provide the professional connections with similar services of external institutions and to organize the systematic professional relations with users.

Bearing in mind the Bank activities, the above division could possess the following functions:

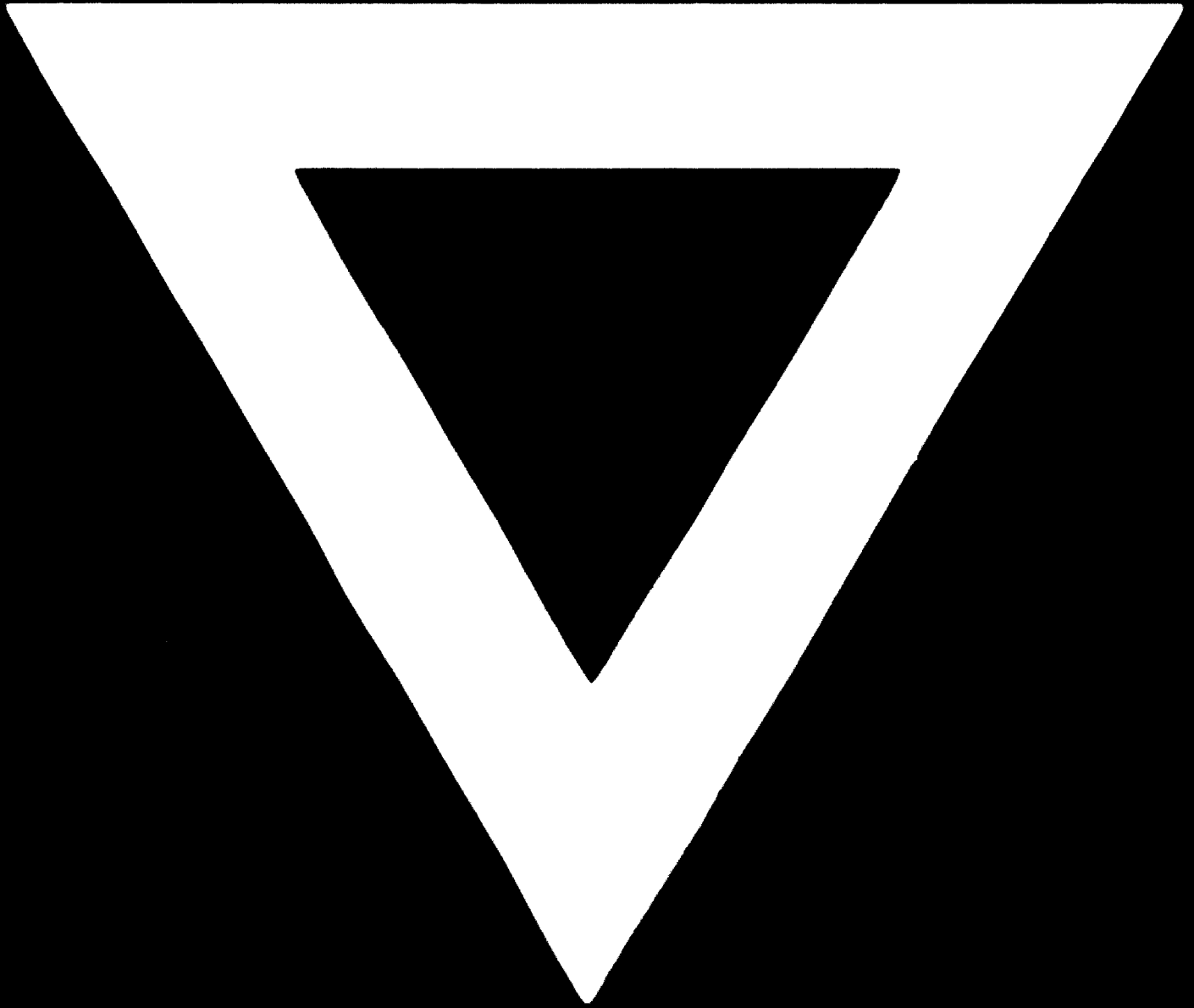
- up-dating of the information store of the Bank
- processing of information being put into the Bank
- all kinds of retrieval operations in accordance with the user's inquiries
- organization of the feedback to users and evaluation of retrieval operations
- training of personnel of information centres and services of developing countries
- liaison with the information services of external institutions.

8. Those considerations cited above are only general, relating to feasibility, structure and functions of the Industrial and Technological Information Bank. For more complete evaluation of the frames and content of the Bank's activity, it is necessary to study in detail the needs of the developing

countries for industrial and technological information; to study the real possibilities of UNIDO to meet these needs (financing, staffing, etc.), to study the world flows of technical, industrial and technological information services, and on the basis of this study to develop the frames of existing and forms of functioning of the Bank on a short and long term basis. Such a work, to my mind, could be done by a study group of skilled experts. This group relying upon the support of UNIDO staff-members could create the terms of references and some kind of "First reference design" for the Bank.



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