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REPORT OF THE AD HOC EXPERT GROUP MEETING */

ON

PILOT ACTIVITIES (AGRICULTURAL MACHINERY AND IMPLEMENTS)

OF

INDUSTRIAL AND TECHNOLOGICAL INFORMATION BANK (INTIB), UNIDO

Vienna, 26 November 1977

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I. PREFACE:

An Ad-hoc Expert Group meeting was held on 26 November to discuss the working of the Industrial and Technological Information Bank (INTIB) in the areas of pilot activities in agricultural machinery and implements taking advantage of the presence in Vienna of experts who were attending the First Preparatory Expert Panel Meeting for Consultations on Agricultural Machinery Industry (23-25 November 1977).

In spite of the relatively short notice given to this meeting the majority of the experts remained for the additional day and representatives of nine developing countries and seven industrialized countries were present. The discussion that took place involved contributions from nearly all the participants and reflected the very considerable interest which the experts felt concerning the working of the UNIDO Industrial and Technological Information Bank.

II. INTRODUCTION:

The background to the establishment of the Information Bank was explained with particular reference to the report to the Industrial Development Board by the Executive Director of UNIDO (ID/B/183 of 12 April 1977).

The relevant paragraph is that on page 9, para 34, which specifies the following activities:

- (a) Mobilizing and organizing in-house information and the systematic expansion of this information in the sectors chosen for the pilot activity;
- (b) Collecting selected information from external sources;
- (c) Creating a network of information for the identification and selection of technologies through joint action with United Nations agencies and other international or national institutions;
- (d) Establishing interlinks between the Bank and the users in the developing countries, including a continuous appraisal of their information requirements;
- (e) Preparing technological profiles in the sectors chosen for the pilot operation;
- (f) Building up a stock of technological information in the four chosen sectors and processing it for selection purposes;
- (g) Identifying and utilizing technological sources and capabilities available in developing countries;

- (h) Evaluating the pilot activities at the end of the second year of operation.

With reference to pilot activities in agricultural machinery and implements, it is also stated on page 10 in par. 40 that "Emphasis will be placed on technological information about:

- (a) Tools, implements and simple hand-operated machinery, and small low-cost tractors;
- (b) Alternative choices of production technology, scale of production, size of the plant, ancillary industry development with respect to the assembly and manufacture of tractors, implements and engines, with special reference to investment, licences and patents;
- (c) Guidelines for the development and establishment of small and medium-scale manufacturing plants."

It was explained that this was only a pilot activity which was intended in the first instance to last for 18 months and that the general activities as set out above in para. 34 were intended to cover all four pilot activities namely iron and steel, agro-industries, fertilizers, and agricultural machinery and implements. The nature of these industries differed widely and the agricultural machinery industry was typified by having a very large number of small and medium scale manufacturers producing a very wide range of products to suit the different needs of agricultural production.

The initial work of the Information Bank in the sector of agricultural machinery and implements would be confined to categories (i), (ii) and (iii), which are most appropriate to the needs of the developing countries as defined by the consultation meeting on agricultural machinery. These included:

- (i) simple implements and machinery - hand tools and animal drawn equipment for which there is a strong demand in many developing countries either in a traditional form or, more likely, in new and improved versions. Such simple implements may be manufactured in units that are appropriate to a country's manufacturing capability, either by upgrading the artisan level or establishing small production units with simple forge and machine facilities.
- (ii) crop intensifying machinery - to raise yields using more fertilizers requires pumps for water control, better ploughs and harrows to give quicker cultivation, weeders, sprayers, trailers for transport and appropriate irrigation equipment. Such machinery is also of the kind that could be manufactured in small to medium production units with machining, forging and welding facilities provided well-proven designs were available and there was a supply of suitable castings, bearing and steels.

(iii) powered machinery - as yields are increased through cropping intensification and especially where multiple cropping is practised, a stage is reached at which it is not possible to meet the timeliness requirements of cultivation, planting and harvesting without using powered machinery such as tractors, power-tillers, threshers and dryers as well as more complex pumping equipment. Manufacture of such equipment requires an adequate infrastructure in the metallurgical and capital goods industries such as foundry, forging, heat treatment, precision machining and quality control facilities.

At this stage work has been started on the identification of institutions in the developing countries who are involved in the design and development of agricultural machinery as well as those institutions in the industrialized countries who have specific links with developing countries.

Likewise attempts are also being made to identify manufacturers of agricultural machinery in the developing countries and particularly in the less developed countries.

This programme has been initiated in order to identify organizations and manufacturers involved in this particular field so that UNIDO can contact potential users of the Bank and at the same time discover the range of technologies which are presently being used in the developing countries. The programme will also aim to identify through questionnaires what are the specific requirements of manufacturers in the developing countries.

It is intended to collect comprehensive information on the manufacturing and development capability of the developing countries classified under the different categories of agricultural machinery and by countries.

Some technological profiles will be prepared in order to illustrate the alternative technologies which are available for the manufacture of any particular category of agricultural machinery and these may be followed up by compiling case studies of selected manufacturing systems.

Data already contained in UNIDO and elsewhere will be collated in the form of country profiles.

In the first phase the information will be provided to selected institutions in the developing countries:

- (a) To illustrate to policy makers the choice of technology available to them;
- (b) To make available detailed illustrations of technologies which have been practised elsewhere and which can be used and adapted to their own situation;

- (c) To facilitate the exchange of information on development work connected with agricultural machinery between developing countries and between industrialized and developing countries;
- (d) To provide information to investors and banks.

Later this service could be expanded to include selected manufacturers in the industrialized countries and to provide a link between them and manufacturers in the developing world.

III. CONCLUSIONS AND RECOMMENDATIONS

- (a) It is necessary to define very clearly the functions of the Information Bank particularly in addition to the various other activities of UNIDO.
- (b) The information provided by the Bank should concentrate on what is being done in the sector of agricultural machinery design development and manufacture; where it is being done and how it is being done. However, in the final detailed stages there is no substitution for personal consultation.
- (c) Priority should be given to:
 1. Information on research and development work being carried out in both developed and developing countries;
 2. Documentation regarding manufacturers in developing countries and especially in the least developed countries;
 3. Collection of information already existing in UNIDO and other International Agencies in the form of
 - country profiles
 - regional profiles.
 4. Preparation of technical manufacturing profiles on selected products. The exact format and purpose of these profiles would require more detailed definition.
 5. Information on items in category (iii) particularly tractors to define elements of investment, licensing, sub-contracting and the transfer of technology based on experience already gained in the developed countries and manufacturing plants in the developing countries.
 6. The preparation of an annual publication relating to agricultural machinery and implements and which would include:
 - (i) statistical data relating to imports and exports between developing countries and the developed countries;

- (ii) Production in the developing countries based on available data and information from UNIDO field activity;
 - (iii) Market requirements ;
 - (iv) New technologies.
- (d) All delegates felt that it was very important to hold regular meetings of experts similar to this in order to monitor and advise on the progress of the Information Bank. However it was recommended that the next meeting may be organized by UNIDO after sufficient progress on the activity of the Bank has been achieved.

IV. SUMMARY OF DISCUSSION

The discussion which took place involved nearly all the delegates and covered very many aspects of the work of the Information Bank. These included the following :

1. General role of the Bank

The members of the Ad-hoc Expert Group suggested in view of ID/B/183 paras 17 and 19, that if the Bank was to fulfil the idea described there in general terms it would in fact be fulfilling much of the main functions of UNIDO. It was therefore necessary to distinguish between the Bank acting as the nucleus of information dissemination and as fulfilling the total function of UNIDO.

It was generally agreed that a pilot project for only 18 months was insufficient and that the project must be extended and re-assessed at regular intervals.

2. The depth of information

Following on the exact role of the Bank, it was generally agreed that the Bank should attempt to define what was being done by whom and where in the field of technological development and manufacture. At the same time the Bank should identify organizations and consultants who could assist in the final selection of technologies which would be appropriate to the particular situation.

3. The range of information to be covered

It was suggested that it should be possible to restrict the number of items to be covered by the Bank in the pilot phase. The discussion clearly emphasized the fact that different developing countries require different information depending upon their stage of industrial development and the nature of their agriculture. Manufacturing technological profiles on hand tools, pumps/irrigation equipment and tractors should be started first.

It was generally agreed that information on design and development work being carried out throughout the world was extremely important since very often one research station did not know what research (often of a similar nature) was being carried out in the same country, or in the neighbouring countries.

4. The choice of manufacturing technologies

It was pointed out that in most countries the choice of any particular kind of manufacturing technology was influenced by factors other than technical (i.e. sociological and political). Therefore the choice had to be made by the country concerned. However in certain countries, particularly the least developed countries, it was necessary to identify the different technologies that were available. It was also helpful to investors and financing agents to have more detailed information on the establishment of different industries.

5. Country profiles and regional studies

It was generally felt that country profiles covering the state of agricultural machinery design development and manufacture would be extremely useful provided that the information was up to date and would be readily available to everyone. In this respect it was suggested that information contained in the regional studies should be de-classified.

6. Marketing information

There were several suggestions that the Bank should provide marketing information based on extracts from international statistics and various reports of UNIDO. This would help in making decisions on investment particularly where the scale of production might necessitate an export market in order to make production economic.

7. Publications

The question of the presentation of the information collected by the Bank was raised. Much of the data would be used to answer specific inquiries. It was pointed out that there was no publication covering the agricultural machinery industry on a global basis. Something was needed but the content and frequency of publication would have to depend on the resources available.

Ideally a yearbook would be required and the following information would be included:

- (a) Statistical data on exports and imports;
- (b) Production data from developing countries based on information from selected correspondents and UNIDO field staff;
- (c) Market trends and forecasts;
- (d) Recent technological developments.

Further consideration needed to be given to this particular aspect of the work.

8. Contracts and licensing arrangements

Suggestion was made that UNIDO should act as a depository for contracts although it was felt that this would be difficult since commercial security was involved. However it was felt that the first activity of UNIDO in this connection is to contact the developing countries which have already entered the manufacturing stage through contractual arrangements, and UNIDO should collect the vital information on such manufacturing units as well as details on critical elements of technology transferred as outlined in the contractual agreements.

ANNEX A

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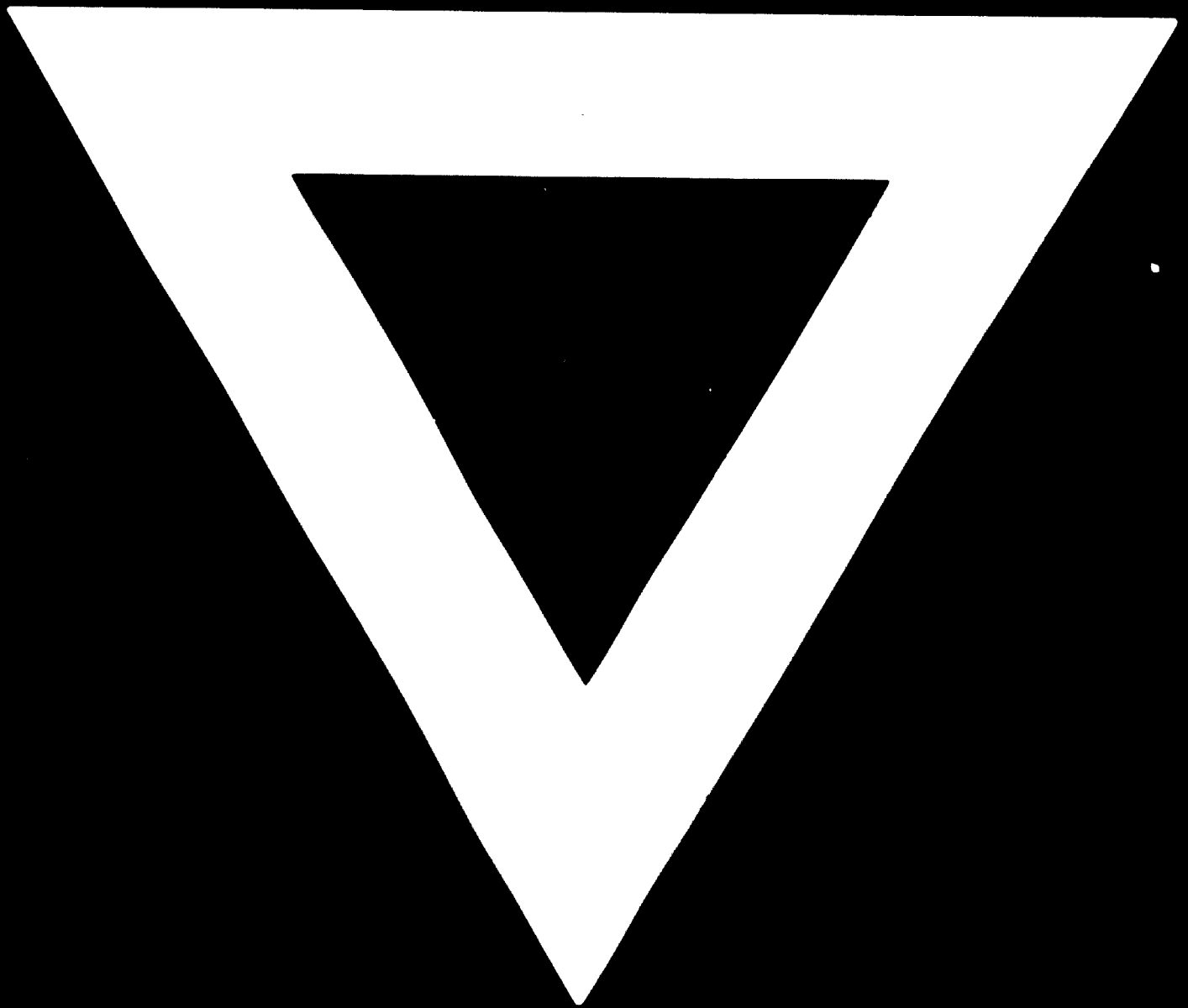
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