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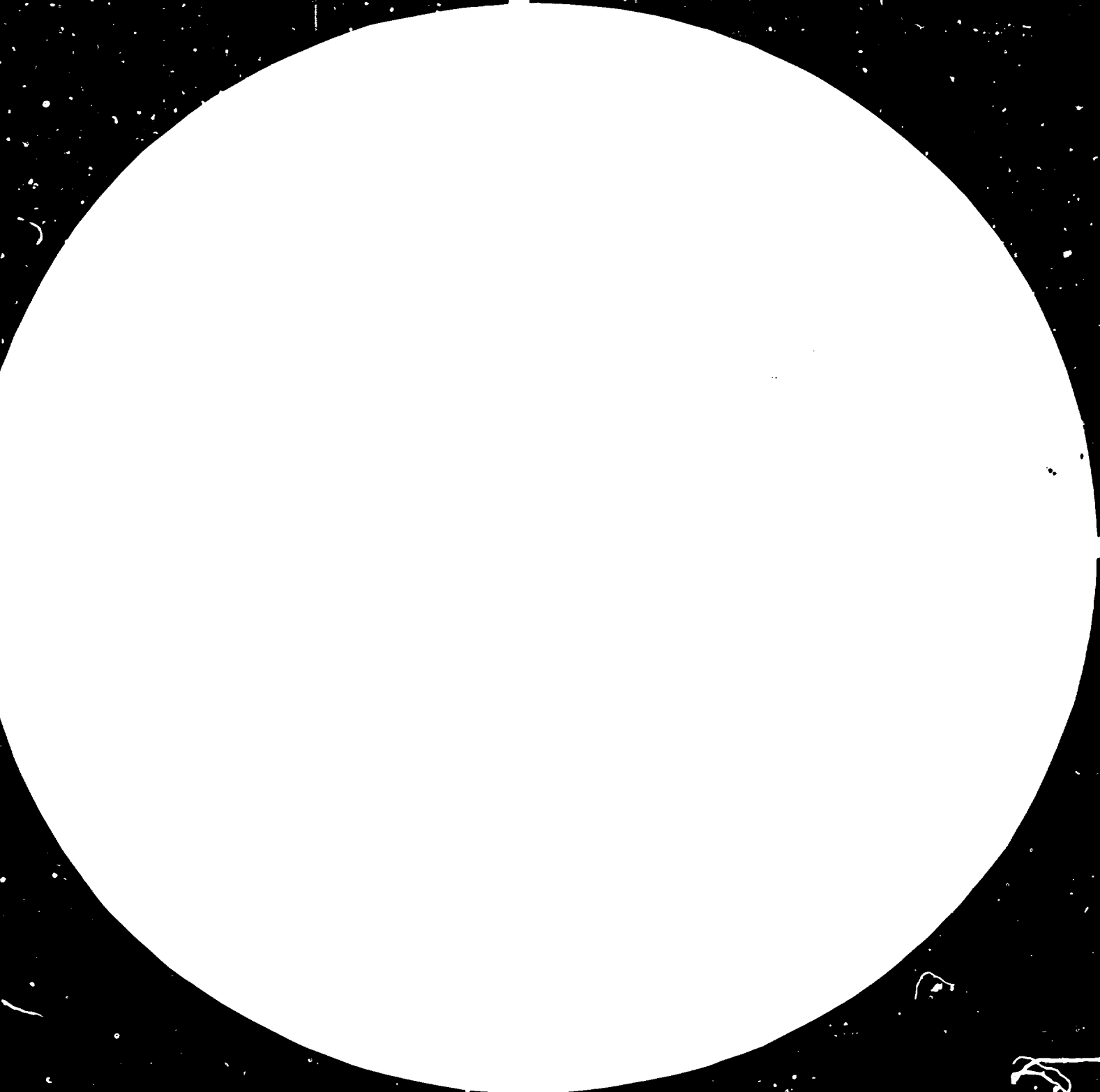
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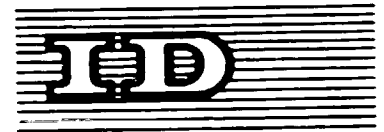
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09521



Distr.  
GENERAL

ID/B/242  
21 March 1980

ORIGINAL: ENGLISH

United Nations Industrial Development Organization

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## Industrial Development Board

Fourteenth session

9 - 19 May 1980

Agenda item 7

DEVELOPMENT AND TRANSFER OF TECHNOLOGY

Report by the Secretariat

060342

80-33262  
Distr.: 27 March 1980

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Summary

This report recounts briefly UNIDO activities in the field of development and transfer of industrial technology since the Second General Conference and the review of such activities by the Board and the General Assembly. The discussions in the Third General Conference are summarized. There was uniform recognition of the need to increase activities aimed at strengthening the technological capabilities of the developing countries. UNIDO was requested to assign high priority to its technology programme and to make appropriate institutional arrangements within the Secretariat. The various programmes that may have to be undertaken following the Third General Conference are enumerated. The need for a substantive increase in the momentum already generated in the developing countries has become imperative and urgent. The Board is requested, therefore, to endorse the broad programme directions emerging from the Third General Conference, and to take decisions with regard to the provision of additional resources and regular reporting to the Board on the subject.

### Background

1. A report on the development and transfer of industrial technology was last submitted to the Industrial Development Board at its twelfth session.<sup>1/</sup> That report was a sequel to a series of actions originating from the Second General Conference of UNIDO. The present report is submitted after the Third General Conference. It is therefore necessary to view the progress of work of the UNIDO Secretariat in this field in an overall perspective starting from the Second General Conference.

2. After that Conference, a Development and Transfer of Technology Section was created in the UNIDO Secretariat which, together with the Industrial Information Section, provided, as the Technology Group, the focal point within the Secretariat for the promotion of technological activities. Two major programmes subsequently emerged, namely the Co-operative Programme of Action on Appropriate Industrial Technology and the Industrial and Technological Information Bank (INTIB). It will be recalled that the Board at its eleventh session had adopted resolution 47 (XI) on international co-operation in the transfer of technology, which represented a consolidation and restatement of UNIDO activities and mandates in that field.

3. It was in the context of those activities that the report was submitted to the twelfth session of the Board. The General Assembly, at its thirty-third session, after considering the report of the Board on the work of that session, requested, in resolution 33/78, that "suitable measures be carried out, in accordance with established practice, including consideration by the Industrial Development Board when required, to strengthen, within the Secretariat of the United Nations Industrial Development Organization, its activities relating to the development of the technological capability of and the transfer of technology to the developing countries in the industrial field".<sup>2/</sup> Following that resolution, the Board in the report of its thirteenth session,<sup>3/</sup> observed that:

"the UNIDO programme with regard to the development and transfer of technology and its adaptation to the needs of the developing countries was an important one that would help these countries to industrialize, using technology their nationals could usefully employ. The work being carried out by the organization was commendable, and the activities of the Secretariat in assisting developing countries to identify appropriate policies in that area were welcomed, but it was thought that those activities should be further strengthened, in accordance with General Assembly resolution 33/78".

4. Since the last report to the Board, activities in the particular field have gained momentum. An International Forum on Appropriate Industrial Technology held in November 1978 resulted in the evolution of a conceptual and policy framework for appropriate industrial technology and the detailed examination of technological options in a dozen industrial sectors. The pilot operation of INTIB, followed by an expert group evaluation led to recommendations by the Board for INTIB's continuation as an ongoing activity and for an expansion of its coverage to include a larger number of industrial sectors.<sup>4/</sup> Implementation of an active publications programme featured the issuing of 13 monographs on "Appropriate industrial technology" and 12 titles in the "Development and Transfer of Technology" series.

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1/ ID/t./206.

2/ General Assembly resolution 33/78.

3/ A/34/16, para.35.

4/ Ibid., para.153.

The work of the Technology Group also extended to the development of a composite programme for strengthening the technological capabilities of the developing countries through the provision of advisory services, training and other activities related to technology selection and acquisition and enhancing the negotiating capabilities of the developing countries.

5. The United Nations Conference on Science and Technology for Development (UNCSTD), held in Vienna in August 1979, in its Vienna Programme of Action on Science and Technology for Development,<sup>5/</sup> adopted a comprehensive set of recommendations which were also broadly applicable to industrial technology. The recommendations served to confirm the orientation that UNIDO activities had taken and to provide guidelines for the future.<sup>6/</sup>

6. These developments culminated in the Secretariat's having reached at the time of the Third General Conference, the threshold of the more intensified and substantial effort needed to sustain and increase the momentum created, to reach a level commensurate with the effort required to achieve the Lima target.

#### I. PROPOSALS EMERGING FROM THE THIRD GENERAL CONFERENCE OF UNIDO

7. The Secretariat presented to the Third General Conference proposals for strengthening the technological capabilities of the developing countries at the national level as well as a programme of work to be undertaken by UNIDO for that purpose.<sup>7/</sup> The programme highlighted four major directions of activity:

- (a) Generating an extensive movement for creation of awareness, sensitization and mobilization of interest and effort;
- (b) Assisting developing countries in a practical manner through technical assistance and advisory services in developing and implementing a framework for national action in the field of industrial technology;
- (c) Development of human resources;
- (d) Development of technology in terms of both processes and equipment.

8. Issues concerning the international flows of technology were analyzed in the document Industry 2000: New Perspectives presented to the Conference.<sup>8/</sup> The need for certain institutional functions at the international level was highlighted, and suggestions were made for the creation of the following institutions:

- (a) An International Industrial Technology Institute to serve as a focal point for developing country governments and enterprises and to provide such services to them as monitoring and providing information, financing to catalyse ongoing and new research efforts and evaluating and sifting priorities in research efforts;
- (b) An International Centre for the Joint Acquisition of Technology which would assist developing countries to effect economies on the skills involved in collecting information and negotiating the acquisition of technology;
- (c) An International Patent Examination Centre, to realize economies of scale in regard to the dissemination of technical and legal information on patents.

Supporting recommendations covered the relocation of industrial R + D and the mobilization of the potential of small and medium-sized enterprises.

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<sup>5/</sup> A/CONF.81/16, chap.VII.

<sup>6/</sup> Cf. cross-sectional presentation in document ID/WG.309/4, "Recommendations of UNCSTD".

<sup>7/</sup> Cf. ID/CONF.4/7 and Corr.1; A/CONF.81/BP/UNIDO.

<sup>8/</sup> ID/CONF.4/3, chaps. 2, 4 and 7.

9. The subject of industrial technology, while also figuring in the general debate, was discussed in detail in Committee II of the Conference under agenda item 5(b)(iii) viz. "Recommendations for policies, procedures and frameworks to foster, develop and strengthen international co-operation in the field of transfer and development of industrial technologies with a view to increasing the technological capabilities of the developing countries". The report of Committee II (ID/CONF.4/21) was adopted on 9 February 1980 by the Conference. Using chapter III of document ID/CONF.4/GRP.16/Add.1 ("New Delhi Declaration and Plan of Action") as a basis, Committee II had also discussed the elements of a programme of action in the field of industrial technology, reaching broad agreement, subject to changes in wording and rearrangements, on substantially the same elements as those which figured in that chapter.
10. In the Committee II discussions, there was uniform recognition of the need to expand activities aimed at strengthening the technological capabilities of the developing countries.<sup>9/</sup> The need was voiced for an intensification of UNIDO's efforts to promote technological co-operation among developing countries through, inter alia, identification of their existing technological expertise and capabilities. Support was given to the concept of technology planning developed by UNIDO as a part of national development planning; the establishment and strengthening of national technological centres; as well as the improvement of the negotiating capabilities of the developing countries. There was general agreement on the need to support financial and technological assistance to national, regional and inter-regional centres and UNIDO was requested to intensify its technical assistance programmes accordingly. UNIDO was also urged to intensify its co-operation with regional centres for the transfer of technology.
11. The initiatives taken and the results so far achieved by UNIDO in its technology programme, especially the International Forum on Appropriate Industrial Technology (New Delhi, November 1978), were welcomed. UNIDO was urged to continue its work in the area of appropriate industrial technology in accordance with the specific needs of the developing countries. The activities of INTIB, it was declared, should be expanded to include training and technical assistance aimed at inter alia, enhancing the negotiating capacities of the developing countries.
12. There was agreement that, instead of establishing new institutions, some of the tasks envisaged for the proposed International Industrial Technology Institute and an International Centre for the Joint Acquisition of Technology "should be pursued within the framework and responsibilities of existing institutions, particularly UNIDO which, for the most part, is already carrying out these tasks and, to this end, its relevant programmes should be strengthened and appropriate institutional arrangements made within the Secretariat".<sup>10/</sup> In that respect, it is the intention of the Executive Director to review the situation and make an appropriate recommendation to the Secretary-General at a suitable time.
13. Regarding the proposed International Patent Examination Centre, "there was agreement that the problems which this centre was intended to solve could be undertaken within the WIPO framework".<sup>11/</sup>

<sup>9/</sup> ID/CONF.4/21, paras.22-32.

<sup>10/</sup> Ibid., para.30.

<sup>11/</sup> Ibid.



14. It was also suggested in Committee II that developing countries should take an integrated view of technology, energy and the utilization of natural energy resources, particularly coal, solar and other conventional, non-conventional and renewable sources of energy. A request was made to the UNIDO Secretariat to assign high priority to the technology programme in general, including the promotion of energy-related technologies and the provision of technical assistance and training in that field.

15. The discussions reinforced the case for a programme-oriented approach, as outlined in the report by the UNIDO Secretariat on "Strengthening technological capabilities of developing countries: the role of UNIDO".<sup>12/</sup> Several additional programme elements were highlighted. Therefore, specific implementation programmes need to be drawn up, including those listed below:

- (a) Further activities under the Co-operative Programme of Action on Appropriate Industrial Technology, including the mobilization of interest and effort and the organization of further meetings like the New Delhi International Forum on Appropriate Industrial Technology;
- (b) Further activities under INTIB<sup>13/</sup>, to the extent resources permit;
- (c) Programmes for strengthening the technological capabilities of the developing countries, in particular capabilities related to the negotiation and acquisition of technology;
- (d) Programmes of assistance to, and co-operation with, regional centres for technology transfer, in order that those centres might provide, at the regional level, natural links for INTIB and other UNIDO activities in the field of industrial technology;
- (e) Programmes of technical assistance, to be rendered at the request of the countries concerned, to support national action for industrial technology, special attention being given to the least developed countries;
- (f) Programmes for the identification and greater use of the technologies, as well as the technological expertise and capabilities, of developing countries;
- (g) Further promotion of technological co-operation among developing countries, keeping particularly in view the recommendations of the Round Table Ministerial Meeting of the Ministers of Industry, held in New Delhi in January 1977, and the Istanbul Declaration;
- (h) Promotion of, and assistance to "centres of excellence" or specialized centres for technological co-operation;
- (i) Promotion of networking and co-operation among industrial and technological institutions at national, regional and interregional levels;
- (j) Preparation of technology perspectives in important industrial sectors and monitoring of technological breakthroughs for the benefit of the developing countries;
- (k) Preparation of portfolios of R + D projects and the promotion of the implementation of those projects;
- (l) Support on technological aspects to follow-up activities of the meetings organized by the System of Consultations;
- (m) Preparatory work for a global consultation on industrial technology.<sup>14/</sup>
- (n) Promotion of technology transfer in the redeployment process, and the further development of technology so transferred;
- (o) Promotion of research and dissemination of information on energy-related technologies;
- (p) Participation in the formulation and implementation of projects financed from the United Nations Interim Fund for Science and Technology for Development;
- (q) Strengthening UNIDO as an executing agency in the field of industrial technology and its co-ordinating role within the United Nations system in this field.

<sup>12/</sup> ID/CONF.4/7, in particular chap.IV, "Proposals for action".

<sup>13/</sup> Cf. ID/B/241.

<sup>14/</sup> See New Delhi Plan of Action, ID/CONF.4/CRP.16/Add.1, Section III, C.(e).

16. The implementation of such programmes would involve the continued mobilization of interest and effort at the international, regional and national levels. Within the United Nations system, as a result of periodic consultations held with the United Nations Conference on Trade and Development (UNCTAD), the International Labour Organisation (ILO), the World Intellectual Property Organization (WIPO) and other bodies, several co-operative activities have been developed, e.g. in selected industry sectors (with UNCTAD); in the preparation of technical memoranda (with ILO); and in the field of patent information (with WIPO). The Secretariat of UNIDO has also actively participated in the follow-up to UNCSTD, bearing in mind that industrial technology is a key element in overall technological development. In recent years, and particularly in the context of the International Forum on Appropriate Industrial Technology, the Secretariat has kept in close contact with several intergovernmental and non-governmental organizations and agencies with a view to mobilizing their interest and participation in various activities in the field of industrial technology. Joint activities have also been undertaken at the regional level. In the ECAP region, UNIDO has co-operated with the Regional Centre for Technology Transfer to mobilize the interest of national focal points and to organize workshops in the field of technology acquisition and development. A programme of co-operation with the African Regional Centre for Technology has also been developed. At the national level, continuous efforts are made to maintain contact with the institutions that participated in the International Forum on Appropriate Industrial Technology, with those involved in the work of INTIB, and with the national focal points (where they continue to exist) for the UNCSTD preparations. The Secretariat intends to pursue systematically further avenues of co-operation, especially those leading to greater mobilization of interest and effort.

## II. ACTION REQUIRED OF THE BOARD

17. The lack of technological capability in the developing countries being one of the most critical constraints to achieving the Lima target, the need to increase the momentum already generated in the developing countries in the field of industrial technology has become imperative and urgent. In view of this, the Board may wish to endorse the broad programme directions that have emerged from the discussions in the Third General Conference of UNIDO, particularly the specific activities enumerated in the present report.

18. The broader and more intensified programmes that now need to be undertaken will require strengthening of the relevant institutional, financial and manpower resources within the Secretariat. This aspect has already been acknowledged by the Board, by the General Assembly, and by the Conference.<sup>15/</sup> The resources available to the Technology Group from the programme budget for 1980-1981 will only enable it to continue its activities at the pre-Conference level.<sup>16/</sup> For an intensified effort, and for the implementation of several new programme elements, particularly those enumerated above, additional resources will be required.<sup>17/</sup> The Board is invited, therefore, to decide on the additional resources to be provided, taking into account the following possibilities:

<sup>15/</sup> See A/34/16, para.35; General Assembly resolution 33/78, section IV; and New Delhi Plan of Action, Section VII C. (a) and (b) (ID/CONF.4/CRP.16/Add.1).

<sup>16/</sup> In the case of INTIB some resources have been provided but additional resources have been sought. See in this connection ID/B/241.

<sup>17/</sup> See the report of the Executive Director on the follow-up of UNIDO VII, ID/B/243.

- (a) That additional allocations to the programme budget for 1980-1981 be made by the General Assembly;
- (b) That governments make additional voluntary contributions to UNIDF for development and transfer of technology activities.

19. It also emerged from the discussions in the Conference that the UNIDO Secretariat should report regularly to the Industrial Development Board on mechanisms to facilitate the generation of increased and more appropriate flows of technology to the developing countries; on suggestions regarding the modalities of better utilization and co-ordination of the activities of existing organizations, including sectoral institutions; and on the elaboration of proposals submitted to the Conference in the light of the discussions, with particular reference to the special needs of the least developed countries. Through the submission of such reports, the Secretariat would have the benefit of continuous guidance from the Board on programmes in the field of industrial technology. The Board may wish, therefore, to take a decision concerning such reporting.

