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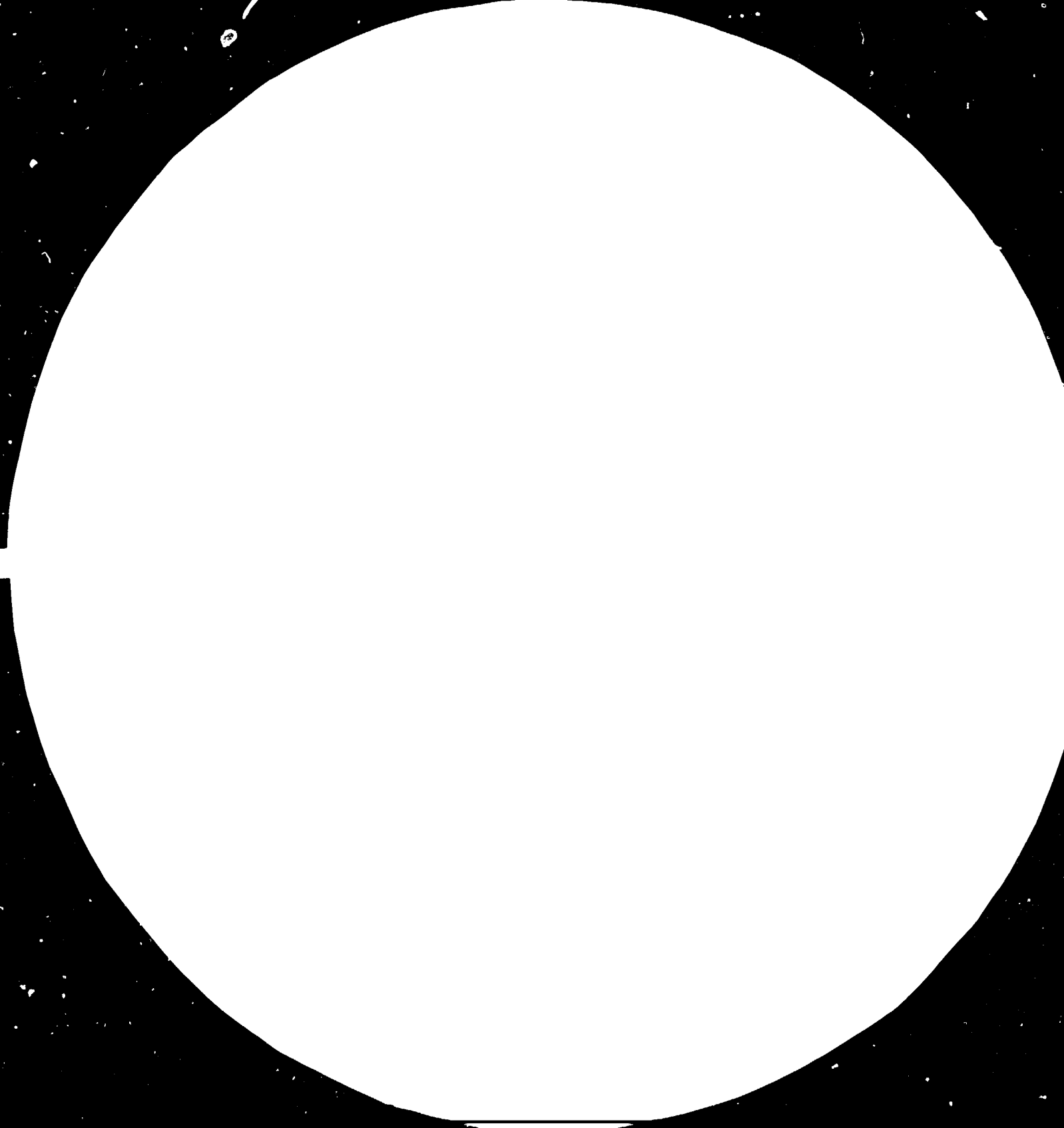
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UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Meeting of Selected Heads of
Technology Transfer Registries
6-8 July 1983, Vienna, Austria

REPORT*

(Meeting on technology
transfer registries).

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INTRODUCTION

1. The meeting of Selected Heads of Technology Transfer Registries was held at Vienna from 6-8 July 1983 and was organized by UNIDO at the request of the Seventh Meeting of Heads of Technology Transfer Registries, held in New Delhi, India, in December 1982. The purpose of the meeting was to discuss the future orientation of the TIES system and new areas of the system's activities which would be considered by the eighth regular meeting of the TIES system, to be held in October in Caracas, Venezuela.

2. The objectives of the meeting were:

- a. to review the feasibility of a periodical review of trends in technology transfer; and
- b. to prepare suggestions and recommendations for the further consolidation, orientation and extension of the TIES system.

CONCLUSIONS AND RECOMMENDATIONS

3. Upon the recommendations of the Seventh Meeting of Heads of Technology Transfer Registries, the meeting of Selected Heads of Technology Transfer Registries discussed a number of items and issues and adopted the following conclusions and recommendations which would be discussed further at the eighth meeting of the TIES system.

- a. It was agreed that a publication on trends in technology transfer, as discussed in New Delhi would constitute a unique contribution towards the provision of a consolidated informative report aimed particularly at policy-makers, registries and academic and business communities involved in the process of technology transfer in the developing countries. The paramount importance of technology transfer to industrial development makes it even more desirable that such a publication be issued as soon as possible by UNIDO. An outline of a periodical review of technology transfer trends was discussed and adopted (Annex III) with the recommendation that UNIDO prepare a draft issue paper on the basis of this outline for discussion at the next TIES meeting in October.

b. It was decided that an increased membership of the TIES system by those countries having a central registry on technology transfer contracts would enhance its value and in this connection it was recommended that regional focal points be established. UNIDO would then provide these regional focal points with a list of potential new member countries and a consolidated set of information on TIES in order to facilitate the promotion of the system in the region. If appropriate, regional or sub-regional organizations may assume the role of focal points.

c. The level of active participation of present TIES members in the regular exchange of information was found to be lacking and should be substantially improved. Therefore, greater efforts should be undertaken to urge the members to provide as much information as possible to the TIES system. In particular, the recently initiated system on service agreements has received an inadequate response from member countries and UNIDO is requested to evaluate the potential value of continuing this part of the information exchange.

d. It was agreed that an organized information system on technology transfer contracts at the national level is indispensable for the active participation in the regular exchange and contribution of information at the national level towards the preparation of an annual review and in this connection the meeting recommended that UNIDO assist the TIES members in strengthening their national information systems and ensure that those systems are compatible for the purposes of information exchange.

e. The informal information exchanged on experiences related to the evaluation of specific contracts was considered to be an important element of the TIES system and the meeting recommended therefore that this ad hoc exchange of information be promoted either at the bilateral or regional levels, in addition to the already accepted modus operandi for all TIES members.

f. The training programmes for registry personnel was considered to be an essential component of all registry activities and in this connection it was recommended that training programmes be made available for registry personnel either at a regional or at a global basis. UNIDO was urged to locate suitable financing for these training programmes.

g. In view of the fact that the promotional aspect of technology transfer is considered to be an important element of the registries' activities, it was recommended that those registries having experience in such promotional activities (which could take the form of seminars on technology transfer negotiation) should make available to other registries the fruits of their experience. UNIDO is requested to collect all available information that may be utilized for promotional activities and is urged to locate suitable financing for assisting in their execution.

h. Technology transfer among developing countries could play an important role in the TIES activities and the meeting therefore recommended that the registries should study the modalities under which such transfers take place in detail. In addition, the technologies available from other developing countries should be made available to respective registries by the potential licensees. Listing of such technologies have been prepared by India, Korea, Spain, Portugal and Yugoslavia and registries were urged to follow this example and prepare similar publications concerning technologies available from their countries. UNIDO was requested to assist the TIES members in preparing guidelines for the treatment of technologies coming from other developing countries as well as descriptions of technologies available.

i. It was felt that the registries could play an active role in the preparation of long and medium term technological import requirements forecasts, which may be exchanged among the members of the TIES system.

j. A more active contribution from the TIES members for the TIES Newsletter was called for and it was recommended that inter alia registries should prepare brief (500 words) case studies on the evaluation of technology transfer contracts which were subsequently to be published on a regular basis in the TIES Newsletter.

k. The importance of the various studies the TIES system has produced over the past years in the field of technology transfer was recognized and it was recommended that at least three joint studies per year should be initiated in the fields of common interest. UNIDO was requested to co-ordinate these studies on the basis of inputs received from the TIES members. UNIDO was also requested to secure sufficient funding in order to ensure that these studies reach a high standard and that the results of these studies are disseminated among interested parties other than TIES.

I. ORGANIZATION OF THE MEETING

4. The meeting of Selected Heads of Technology Transfer Registries was attended by nine participants from six countries (see Annex I).

Opening of the Meeting

5. The meeting was opened by Mr. G.S. Gouri, Division for Industrial Studies who outlined the background of the meeting as well as its major objectives. One objective was the need to prepare suggestions and recommendations as to further consolidation, reorientation and extension of the TIES system and the second was the feasibility of the launching of a periodical review of trends in technology transfer. He further stated that the TIES system had achieved a considerable degree of efficiency, particularly in terms of actual and real co-operation among developing countries and the TIES members in exchanging information on terms and conditions of technology agreements mutual assistance in setting up and improving the work of the technology registries and assistance in contractual negotiations. On the other hand, new avenues and means of co-operation should be explored. In conclusion, Mr. Gouri stressed that the foreseen new activities of the TIES system would not be possible without the active commitment by the member countries inclusive of additional financial means needed to achieve such objectives.

Election of Officers

6. The meeting unanimously elected Mr. S.L. Kapur of India as Chairman of the meeting.

Adoption of the Agenda

7. The agenda as submitted to the meeting was adopted, and was as follows:

1. Opening Statements
2. Election of Chairman
3. Adoption of the Agenda

4. Review of Scope and Draft Outline of Annual Review of Development and Technology Transfer Trends
5. Proposals for Extension of the Co-operative Activities among Technology Transfer Registries
6. Other Matters
7. Adoption of the Report
8. Closure.

II. SUMMARY OF DISCUSSIONS

8. The discussions concentrated mainly on two agenda items, namely, the scope and focus of the proposed periodical review of trends on technology transfer and the direction the expansion of the TIES system should take.

9. The participants at the meeting stressed the need for a publication on trends in technology transfer since it was felt that such a publication would considerably assist and enhance the work of the registries and other main actors in the field of technology transfer.

10. The participants at the meeting reviewed the draft outline of the report in detail and as a result, a consensus was reached that in view of the nature of the potential recipients of the report it should focus its contents on the two following issues:

- a. the detailed analysis and factual data concerning international technology flows particularly to developing countries, and
- b. the implications of the inflow of technology to developing countries on their technological and economic development.

The revised outline of the report attached as Annex III reflects the above considerations.

11. The discussion concerning the expansion of TIES activities took into consideration the present and planned activities, as well as potential new areas from which attention was drawn to the possibility of strengthening the

role of the registries and the promotion of technology flows among developing countries; extended use by the TAS of the expertise available in the technology registries and the need in the future to provide guidelines for contractual arrangements in the technology area among suppliers and recipients in developing countries.

12. The conclusions and recommendations from the present meeting will be submitted for consideration and approval to the eighth meeting of the TIES system.

13. In view of financial and programme implications to the UNIDO secretariat in respect of the recommendations made, the meeting was of the view that a Letter of Transmittal to the Executive Director of UNIDO should be prepared so that necessary preparations can be made at the UNIDO secretariat for the implementation of the agreed programme.

ANNEX I

LIST OF PARTICIPANTS

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N. Popov, Industrial Development Officer, Development and
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ANNEX II

LIST OF DOCUMENTS

| | |
|---|-------------|
| Draft Guidelines for Annual TIES Review | ID/WG.383/5 |
| Report: Seventh Meeting of Heads of Technology Transfer Registries | ID/WG.383/8 |
| Some Observations on the Need and Objectives of an Annual Review of Development and Technology Trends | CRP/1 |
| Draft Outline of the Annual Review of Technology Transfer Trends | CRP/2 |
| Some Observations on the Broadening of the Scope of the Co-operative Programme among Technology Transfer Registries | CRP/3 |

AN OUTLINE OF A REVIEW ON TRENDS
IN TECHNOLOGY TRANSFER

CHAPTER I - Trends in Industrial and Technological Development

Objectives

- a. To meet the varied needs of the different target groups it would be necessary first to describe briefly the economic setting within which each country strives to achieve its economic goals.
- b. For this purpose, basic economic, industrial and technological indicators will be presented. Technology has come to be recognized as the critical element in industrial growth, and later chapters will describe in detail the technology flows, their analysis and their linkage with economic development.

2. The Indicators Presented in Chapter I

The Chapter will only utilize existing published material, and will give an overview of world economic industrial and technological development trends, with special emphasis on the developing countries. The Chapter will not give the detailed statistics. A few indicators will be in the statistical tables - for the rest a reference to where further information can be found.

CHAPTER II - Operational Strategies and Policies towards Technological Development

Objectives

This Chapter will be devoted to analysing the ways that developing countries orient their efforts to achieve their technological transformation. It describes briefly the different levels that they have reached in the field of technology policy and plans, including instruments and mechanisms that they utilize to translate policies into specific activities. The Chapter will focus on the integration of technology transfer policies without indigenous R + D and with the long term strategy of technological and industrial development.

The principal elements of this Chapter will be:

- trends in technology policy and planning;
- resource allocation and fiscal incentives for indigenous development of technology;
- co-ordination of technology policies with programmes for absorption, adaptation and innovation.

CHAPTER III - Legal and Institutional Framework for Transfer of Technology

Objectives

This Chapter will present the manner that the governmental policy environment, including legislative actions, and the institutional infrastructure, interact in the negotiations between licensors and recipient enterprises.

Descriptive Parts

1. Categories and Elements of Technology Transfer

- a. intangible technology
 - patents
 - trade marks
 - industrial design
 - know-how
- b. technical and allied services
- c. engineering and consultancy services.

2. Modes of transfer

This includes a brief description of the manner in which the transfer for each element or their combination takes place, e.g.

- pure know-how
- embodied in imported capital goods
- as a part of a turnkey package
- through joint ventures
- by means of production units, etc.

3. Regulation through legislation and administrative mechanisms

Trends in legislations related to technology transfer:

- a. types of legislative framework
 - regulatory only
 - developmental plus regulatory

- b. Administrative mechanisms
 - rules
 - regulations
 - .. special procedures

c. International framework

- treaties and conventions
- bilateral agreements
- subregional and regional arrangements
- interregional arrangements

d. Scope of legislation

- what activities it regulates and in what manner

e. Review of legislations and administrative procedures regarding key issues
in technology transfer

4. The institutional framework

a. types of institutions engaged in technology transfer regulation

b. their place within the government system

c. internal organization

- registries
- finance exchange control mechanisms
- linkages with R+D or other technology development institutions
- tax bodies and their inter-connection with the technology transfer institutions

5. Characteristics of the regulatory activities

a. evaluation and approval

- approval procedures
- scope of evaluation
- evaluation criteria and methods applied and detailed analysis.

- b. co-ordinating activities
- c. promotional activities
- d. monitoring activities

6. Interaction in the transfer of technology process

Discussions on alternatives, modes of interaction among actors in the technology transfer process, e.g.:

- a. technology recipient enterprise
- b. supplier of technology
- c. institutional infrastructure
- d. government policy and legislative instruments.

CHAPTER IV - Trends in Technology Flows

Objectives

- a. To provide in a consolidated fashion basic data on technology flows among countries which are presently being collected and published in piecemeal fashion by a number of organizations.
- b. It shall also provide a basis for the further analysis in Chapter V where various aspects of technology policy, technology development and technology purchase will be studied in conjunction with different indices of economic, industrial and technological development.
- c. Definition of technology transfer (imports).

Data Presently being Collected at TIES I Level

The types of information to be collected in the respective table formats would be:

TIES I - Table 2 - breakdown by collaboration type
(it is to be examined whether the table needs slight revision)

Table 4 - by level of foreign holdings

Table 5 - by duration

Table 7 - by royalty rates

Table 8 - by total/ISIC contractual payments.

In addition to the TIES data collection, an attempt will be made to expand data bases with regard to the following:

1. Expenditure on technology transfer:
 - a. as per cent of total imports of industrial goods
 - b. as per cent of total industrial investment
 - c. as per cent of total R+D expenditure.
2. Expenditure on technology imports compared with manufacturing value added.
3.
 - a. per cent of approvals, of the total contracts evaluated
 - b. of the approvals, per cent implemented by sectors if possible
4. Per cent of contracts with buy-back arrangements (by sectors).
5.
 - a. per cent of technology contracts which resulted in local R+D in relation to agreements which were granted extensions
 - b. how much was spent on R+D in these contracts by the local party.
6. The incidence of restrictive clauses by type on the contracts approved (list to be prepared by the UNIDO secretariat).

7. Impact of the technology import on balance of payments
 - a. number of contracts by ISIC (if possible)/payments for technology/payments for equipment/payments for imported raw material/payment for imported components/total turnover (years full production to be used)
 - b. sample studies may have to be used for illustrative purposes rather than definitive/detailed country-wise information because of paucity of data e.g. studies carried out on Korea, Thailand and the Philippines.

8.
 - a. the export performance of the manufacturing sector, based on imported technology
 - b. number of contracts by ISIC/payment for technology/turnover for the products/product exports (five years full production to be used).

Again sample studies as at 7 may be used.

9. Prevailing patterns, per cent of local content in manufactures based on technology transfer contracts. Illustrative sample studies to be used.

10.
 - a. Per cent of the total technology inflows by companies with foreign equity above 50 per cent
 - b. per cent of total output according to industrial sectors generated by these companies
 - c. their contribution to exports from developing countries.

11. Payments for technology as compared with remittances on profits and dividends.
 - a. of companies with more than 50 per cent foreign equity
 - b. others.

12. Number of contracts signed by public sector enterprises by industrial sectors and their values as per cent of total technology inflow.

13. Trends in the flows of technological advances (UNIDO definition to be used) number of contracts, breakdown by industries, suppliers and recipient countries.
14. Technology flows among developing countries and members of TIES
 - a. number of contracts, value by sectors
 - b. number of joint ventures between developing countries by sectors.

CHAPTER V - Conclusions

An analysis will be attempted to see what are the types of relationships which are visible between technology transfer, technological and industrial development and industrial development in the light of data available especially in Chapter IV.

Some of the relationships which could be examined are:

1. Between economic and industrial development with:
 - a. the number of technology transfer contracts and their value
 - b. the role of foreign equity, including through joint ventures and policies related thereto
 - c. import dependency (equipment plus raw materials plus components) related to technology imports
 - c. impact of technology flows on export expansion, export diversification - especially manufactures from modern sectors of industry, and export diversification - by geographical areas.

We may have to use illustrative studies to supplement the statistical information available.

2. Industrial development with:
 - a. the presence, scope and depth of national technology policies
 - b. the institutional mechanisms available for technology transfer and the regulatory policies followed.

3. Technology transfer (inflows and policies) with:
 - a. indigenous technology development mechanisms and policy
 - b. R+D expenditures
 - c. scientific and industrial manpower
 - d. technology absorption mechanisms and regulations.



