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Interregional Consultation or Exchange of Experience
Between Developing Countries : Formulation and Application
of the Mexican Law on Licensing and Patents and Comparable
Experience in other Developing Countries

Mexico City, Mexico,
11-15 November 1974

FINAL REPORT ✓

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice to ensure transparency and accountability.

2. The second section outlines the procedures for handling discrepancies between the recorded amounts and the actual cash received. It states that any such variance must be investigated immediately and reported to the appropriate authority.

3. The third part of the document details the requirements for the physical handling of cash. It specifies that all cash must be stored in a secure, fireproof safe and that access to the safe is restricted to authorized personnel only.

4. The final section provides information regarding the periodic audits of the cash handling process. It notes that these audits are conducted by an independent team to verify the accuracy of the records and the security of the cash.

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INTRODUCTION

1. Background

The new Mexican law for the registration of transfer of technology and the use and exploitation of patents and trade marks has been effective from 1 January 1973. The law provides general regulations controlling the inflow of technology in agreement between foreign and national companies and creates the national register for transfer of technology. This will be constituted as a directorate general within the Ministry of Industry and Commerce in charge of all documents containing acts, contracts or agreements related to (1) the licensing of the use and exploitation of trade marks, (2) the licensing of the use or exploitation of patents for inventions, improvements, industrial models and drawings, (3) the furnishing of technical information by plans, diagrams etc., (4) the supply of basic or detailed engineering plans for the building of facilities of manufactured products, (5) the technical assistance in whatever form it may be furnished, and (6) to services for the administration and operation of business enterprises.

2. Objectives of the Consultation and Action by UNIDO

The new Mexican law on transfer of technology has generated much interest not only in Latin America, but also in other parts of the developing world. Taking into account the above, UNIDO in co-operation with the Government of Mexico organized interregional consultation to exchange views and experience between participants on the experience of their countries as related to regulation and promotion of transfer of technology agreements. It was expected that the participants, apart from in depth studies of Mexican regulations, would gain additional practical knowledge on licensing policies at national and enterprise level. The consultation was open to Government nominees from the following countries: Argentina, Peru, Brazil, Colombia, Venezuela, Mexico, Nigeria, Ghana, India, Philippines, Pakistan, Malaysia, Indonesia, Republic of South Korea and Sri Lanka.

3. Agenda

..... The Agenda of the Consultation is given in Annex I to this report.

4. Participants

Participants in the Consultation included :

- (a) Senior Government officials responsible for licensing policies;
- (b) UNIDO secretariat.
- (c) Observers from international organizations,
- (d) Observers from various Mexican agencies representing the public sector.

A full list of participants is given in Annex II.

5. Opening of the Consultation

The Vice-Minister of Commerce and Industry welcomed all participants and observers on behalf of the host government and opened the Consultation. Mr. I. Ahmar, Deputy Resident Representative, welcomed the participants on behalf of UNIDO and UNDP.

Opening remarks were also given by Mr. Enrique Aguilar, Director General of the National Registry of Transfer of Technology.

6. Election of Officers

The following were elected officers of the Consultation:

- Chairman : Mr. Enrique Aguilar, Director General of the National Registry of Transfer of Technology
- Vice-Chairman : Mr. Jaime Alvarez, Deputy Director of National Registry of Transfer of Technology
- Rapporteur : Mr. S.P. Shukla, Director, Ministry of Industry and Civil Supplies, New Delhi, India.

7. Discussion Papers

Seven discussion papers were presented by selected participants (see Annex III). The highlights of each paper were briefly presented by the authors in about half an hour to one hour. This was followed by an intensive discussion of the paper of ca 3 hours. At the end of the discussion the chairman and the rapporteur presented the salient points and recommendations.

8. Closing of the Consultation

At its closing session of 15 November 1974, the report of the rapporteur was unanimously approved after an intensive discussion and UNIDO

was authorized with the preparation and distribution of the final report on the basis of a draft report as adopted by the participants.

RECOMMENDATIONS OF THE SEMINAR

Conclusions reached and recommendations made as a result of deliberations are stated in what follows.

1. Conclusions

The need to evolve a dynamic and efficient national regulatory system for dealing with the transfer of technology was recognized. It was also recognized that the particular structure and shape that such a system may have would depend on the specific circumstances and the requirements of a particular national economy. While some participants expressed their preference for evolving a unified system, others emphasized the need for coordinating the activities of the different regulatory organs looking after different aspects of technology transfer. The paramount importance of ensuring adequate and competent human resources to operate the regulatory system was emphasized.

There was a general consensus that a more adequate and efficient information base was needed to be established at various levels, including national, sub-regional, regional and international, to make the operation of such regulatory systems more effective and viable.

Considerable stress was laid in the course of deliberations on the need to ensure built-in flexibility in the application of the regulatory mechanism in view of the extremely complex nature of the phenomenon of transfer of technology and wide variations obtaining not only as between different regions and countries but also between different sectors and at different points of time in the same economy.

The need to evolve an integrated approach was recognized; in this context, emphasis was laid on the positive and promotional content of the technology transfer policy in terms of encouraging absorption, adaptation, and development of technology within the country. The

requirement for broader scientific and technological national policy was also underlined.

As regards the objectives of the system dealing with the phenomenon of technology transfer, it was felt that they could be viewed in terms of short and long run goals. In the short run, the objective should be strengthening the negotiating capacity of the receiver of technology and modification and improvement of the terms of contract. In the long run, however, the system should gear itself to the broader objective of absorption, adaptation and generation of technology to achieve substantial social benefits. However, it was recognized that in view of widely differing conditions and requirements of various countries, no single set of pre-determined objectives could be specified in detail. Every country has to assess its requirements and put right emphasis on different elements of the regulatory and promotional aspects of the policy.

It was stressed that before a decision regarding the importation of any technology is undertaken, a careful analysis should be effected as regards the appropriateness of the technology to the needs of a particular country or enterprise. With such guidelines, a waste of efforts and financial resources will be avoided.

The question of restrictive business clauses introduced by the suppliers of technology in the technology contracts was discussed at great length. There was a general agreement that the regulatory system should be geared to remove such restrictive practices. In this context, the steps taken by various countries, both administrative and statutory were noted, particularly the experience of some of the Latin American countries, which were of benefit to both the recipient enterprise and the nation.

There was consensus that the concern about the regulatory aspects of technology transfer should go together with a concern for the important role of the recipient enterprise to whom the technology is licensed. As it was the recipient enterprise that acquires and uses the technology, it was considered essential to take all steps to strengthen its negotiating ability and absorptive capacity. It was considered that measures be taken to increase the usage of indigenous engineering consultancy in technology transfer operations.

Taking into consideration the fact that in numerous countries the main channel for transfer of technology is through the relationship between the parent house and the subsidiary houses, it was recognized that the effective regulation of the inflow of technology should devise particular modalities for its regulation.

In view of the experience gained by various countries in the implementation of the regulatory system, considerable importance was attached to post-registration monitoring of the agreements. It was felt that efforts should be made to incorporate such monitoring in the regulatory system so as to provide for adequate follow-up of the stages through which the agreement passes after it is registered by the Governmental authorities.

While fully appreciating the potential role of the International Code of Conduct on Transfer of Technology, participants took note of possible operational problems arising out of certain generalized and seemingly salutary prescriptions. In this context, a reference was made to "the most favoured licensee-clause" and uniform rate of royalties for internal as well as export production. Apart from the conceptual difficulty, it was recognized that, in practice, insistence on application of such clauses would give rise to some difficulties and in certain cases may ultimately lead to increase the initial price of technology. There could be valid grounds under certain circumstances for different rates of royalty for internal production and export. The general consensus was that while evolving any set of general principles for guidance, it was necessary to keep in view the operational problems and leave a degree of flexibility to deal with the same.

The role of patents in the transfer of foreign technology in its positive and negative aspects was discussed during the meeting. Concern was expressed as to the inadequacy and inefficiency of the present patent system which, at times, inhibits or restricts the fuller use of technology in the country where the patent has been granted.

The role of UNIDO in the Transfer of Technology, particularly at the governmental, sectoral and enterprise levels, was appreciated. It was stressed that appropriate measures should be taken by UNIDO concerning its work programme in order to meet various needs of developing countries including supporting activities i.e. consultative and other meetings, case studies, training and fellowship programme, as well as direct technical assistance at all levels.

Taking into consideration the need for closer co-operation among developing countries in the field of technology transfer, participants felt that UNIDO will consider the possibility of organizing on the occasion of major industrial fairs, an exposition of the technologies offered by developing countries. It is also recommended that licensing and engineering symposia may be held on such occasions.

In view of the shortage of time, it was decided that UNIDO may be entrusted with the preparation and distribution of the final report on the basis of this draft report, incorporating conclusions and recommendations. Spanish translation will be provided also by UNIDO.

2. Recommendations

In the light of deliberations held and the conclusions reached, the participants in the first UNIDO consultative meeting on Exchange of Experience between Developing Countries on Technology Transfer, strongly recommended that UNIDO should organize, on a continuing basis, similar types of meetings in the future. It is desired, however, that future meetings should also include practical deliberations devoted to specific industrial sectors in the form of case studies. It was further recommended that UNIDO should arrange for diffusion of experience gained by developing countries in the adaptation and development of technology so that all developing countries could benefit from this valuable experience.

Taking into consideration, relatively weak negotiating position of developing countries in transfer of technology agreements, particularly as regards information on commercial, legal and technical elements of such agreements as well as information regarding sources of alternative technology, technologies developed by developing countries themselves, market of technologies, etc., the participants strongly recommended that UNIDO/UNDP should take initiative in studying appropriate institutional arrangements to serve the needs of developing countries, which might include creation of an interregional centre for technology transfer.

While fully appreciating the necessity of an International Code of Conduct on Transfer of Technology, the participants were concerned with some of its provisions in respect of the applicability at the national and enterprise levels, and recommended to UNCTAD to convey these reservations at the appropriate forum discussing the draft of the Code of Conduct.

SUMMARY OF DISCUSSIONS

November 11, 1974

The afternoon session was devoted to a discussion on the paper presented by Mr. J. Valeiras on "Legislative and Institutional System for Foreign Technology Transfer Agreements".

Mr. Valeiras gave a brief historical background of the growing concern experienced in developing countries about implications of uncritically accepting technology transfer agreements enjoying a number of impediments on the receiving parties. Subsequent efforts both at the national and international levels to improve and rectify the situation can be viewed as part of the general struggle of developing countries against dependency. The regulatory systems developed by India, Japan, Argentina, Brazil, Mexico and other countries were referred to in this context. Although, there were considerable differences between countries in the methods used and the degree of progress achieved in implementing their systems, there were a number of features which were common to many of them. Broadly speaking, their major objectives could be stated as follows :

- a) Regulation of the Transfer of Technology with a view to making the conditions in the contracts compatible with broader national objectives in the social and economic fields.
- b) Strengthening the negotiating position of the receivers of technology and securing for them the most advantageous terms of payment.
- c) Building up adequate information base so that better planning of industrial and technological development is possible.
- d) Stimulation of indigenous technological capability.

The regulatory systems mainly cover disembodied technology and therefore, stipulate norms or rules in respect of licensing, trade-marks, patents, technical documentation, training of skilled personnel, preparation of detailed engineering and the like. While some systems have provided statutory basis, the others seek to achieve the same objective by means of suitable administrative arrangement.

As regards the focal point for the administration of transfer of technology, in most of the countries the same has been located within the Ministry of Industry or its equivalent. Close linkages have also been attempted in some countries between such bodies and other government organs responsible for similar type of regulatory work such as bodies implementing regulations governing industrial property. The functions of such focal unit can be briefly stated as below :

- a) Registration, deposit, review and approval of agreements involving the transfer of technology.
- b) Assisting in the evaluation, negotiation or renegotiation of contracts involving transfer of technology.
- c) Assisting a domestic enterprise in locating alternative sources of supply of technology.
- d) Making arrangement for training of personnel to staff institutions concerned with transfer of technology.

As a result of functioning of such regulatory systems, there has been notable progress in rationalising the process of import of technology. Efforts have been made in some countries to split-up the technological packages so that proper evaluation is made of different ingredients of the technology to be imported and appropriate terms determined for such imports. Definite duration for technology transfer agreements is being insisted upon. Close scrutiny is also being made when requests are made for extension of such agreements.

In some countries, specific ceilings have been prescribed for royalty payments for different sectors of industry. While computing the royalty payable, the cost of imported inputs is excluded from the royalty base with a view to avoiding non-functional payments as well as encouraging the process of indigenisation. Special attention is being given to removing

restrictive provisions from technology transfer contracts such as tying-up of imported raw materials or capital goods, prohibition of exports, restrictions on the scale of manufacture or pricing of the product, etc.. It is also being insisted that the contracts will be subjected to laws of the receiving country.

To sum up, it is being recognized that a well-articulated regulatory system and preferably a single specialized government organ to implement it are essential for rationalization of the process of technology imports. Although there is considerable difference in detailed definition of the functions of the regulatory system from country to country, definite progress can be noted in that there is a shift in emphasis from mere registration to deeper evaluation of technology transactions.

Some of the important issues that emerged in the discussion that followed the presentation of the paper are mentioned in what follows. As regards the tangible benefits arising out of the centralized regulatory system operating in Argentina, it was stated that it was not possible to make a quantitative assessment in the absence of relevant data pertaining to the period prior to coming into being of the system in 1971. Qualitatively speaking, definite improvements have been realized in as much as the agreements were being scrutinized comprehensively and restrictive/onerous provisions were being removed and the agreements were being made to conform to the broader goals set for the system. Although there was no single legislative body to initiate and coordinate promotional measures for indigenous technological development, incentives, both fiscal and monetary were being provided for the purpose. It was generally appreciated that the road of the hour was to adopt an integrated approach to this problem.

In this context, the need for evolving a comprehensive science and technology policy was also emphasized. While recognizing the importance of such fundamental approach it was considered that a clearly defined regulatory system in itself played a kind of promotional role in that it laid down rules of the game, which facilitated inflow of technology.

It was pointed out that the establishment of a dynamic and efficient regulatory system to suit the requirements of a particular country was not only a question of political will or financial resources.

It was equally important to organize adequate, competent human resources to operate such a system with understanding and imagination.

The question of describing definite ranges of rates for payments such as royalty was briefly discussed. No maxima have been stipulated in countries such as Mexico, Argentina and Peru. In some other countries, however, e.g. India, specific maxima have been indicated for different sectors of industries. While recognizing that there was some practical advantage in having such rates in as much as they facilitate the negotiations for transfer of technology, it was felt that the quality of technology to be received and proper techno-economic evaluation thereof were more important issues that needed greater attention.

The discussions also underlined the need for organizing more adequate and sophisticated information base so as to make the operation of the regulatory system more meaningful and effective.

November 12, 1974, morning

The forenoon session was devoted to review the Mexican Law on Technology Transfer and its Impact on the Acquisitor of Technology. The session commenced with exposition by Mr. Alvarez of the Mexican Law and its impact. He gave the historical background, the salient features and the achievements of the system brought into being as a result of the Mexican Law on the Transfer of Technology and the Use and Exploitation of Trade Marks promulgated in December 1972.

Before the Law came into being, the technology imports were subject to no regulation or restrictions and they were being allowed freely on terms mutually agreed between the parties. Payments for technology were of the order of US\$ 200 million p.a. A study had revealed that about 90 percent of such contracts incorporated restrictive clauses.

The Law promulgated in December 1972 is in keeping with the resolutions adopted at the Third UNCTAD Meeting. Before the Law was presented to the Congress, there had been a broad exchange of impressions with labour, management, and other sectors of the country by which a consensus of opinion was obtained. The statement of motives that accompanies the Law recognizes the vital importance of technology for industrial development. The legislation is conceived as a means to help Mexican entrepreneurs to

obtain the best technology under the most favourable conditions. The Law is also intended to eliminate obstacles to industrial development and foreign trades to adjust technology contracts to the guidelines of the industrialization policy and to stimulate generation of indigenous scientific and technological development.

The Law establishes a registry in which the following types of contracts must be registered

- a) Use of trade-marks
- b) Use of patents
- c) Provision of technical know-how
- d) Provision of basic or detailed engineering
- e) Technical assistance of any kind
- f) Management and marketing services.

The compulsory registration provides an opportunity to examine the terms and conditions of such contracts and rejects the registration of those containing unacceptable terms or clauses.

Article 7 of the Law lays down fourteen types of cases in which the registration shall be denied. Thus, contract shall not be approved when they refer to technology freely available in the country; when the price is out of proportion to the technology acquired or entails unwarranted burden on the national economy; when they restrict technological development of the receiver; when they interfere with the management of the receiver company; when they tie up purchase of inputs such as raw materials and capital goods or sale of the product exclusively to the supplier company; when they restrict exportation; when they limit the size of production or lay down prices for the domestic production or exports or prohibit the use of complementary technology; when they establish excessively long duration, exceeding ten years or when they make the claims arising out of such agreements subject to the jurisdiction of foreign laws.

Operationally, the most important of these provisions have been those relating to excessive compensation, tying clauses, limitations on volume of production, unduly long duration and application of foreign laws. The Law provides flexibility in as much as the Secretary of Industry can register contracts that do not meet one or more of the conditions but the technology proposed to be acquired is of special interest to the country's economy through its effects on employment,

balance of payment or general industrial development. In practice, scrutiny of agreements under these provisions has given opportunity for renegotiations. Indeed, there has been general willingness on the part of suppliers of technology to renegotiate and lower the terms in appropriate cases. In contracts where no period has been specified for the confidentiality clause, modifications were introduced to make the obligation coterminous with the duration of the agreement itself. While the applicability of Mexican Laws is insisted upon, there is no objection to arbitration being provided under the appropriate international bodies as per international agreements to which Mexico is a signatory.

Contracts not registered shall be null and void. Companies entering into such contracts shall also be denied fiscal or other benefits offered by the Government to Industry and Trade.

The law makes it obligatory on the Central Registry to decide the contracts filed with them one way or the other within 90 days' period, failing which the contract shall be taken as automatically registered. This provision is intended to protect the parties from inordinate bureaucratic delays.

About 6,000 agreements existed before the Legislation was enacted. Now agreements are coming in at the rate of 350 per year. So far, 5870 contracts have been presented to the Registry. Out of those, 1629 have been determined, 1235 positively and 386 negatively. The percentage of positive decisions is about 73.80%. The rejections were mainly on account of excessive compensation proposed in the agreements. The second important circumstance leading to rejection related to the excessively long terms of enforcement.

The operation of the Law has identified abuses which were earlier exposed by the studies made by national and foreign economists and other experts. Such abuses are being removed effectively. The operation of the Law has also strengthened the negotiating power of the indigenous entrepreneurs. The Law has been implemented with flexibility and imagination and it has been generally well received.

In the discussion that followed, a number of issues emerged, both concerning the operation of the system in Mexico and of general significance from the point of view of policy on technology transfer.

These are summarized in what follows.

It was clarified that the companies affected by the regulation are not formally associated with the institutional set-up and the process of decision-making in the Registry. However, informal association is secured at appropriate stages, before final decisions are made. As regards the process of adaptation and absorption of imported technology, it was clarified that basically the regulatory system as it is operating at present concerns itself with the first two stages in the process of technology transfer, namely, "selection" and "negotiation". The desirability of analyzing the agreements according to size of companies, national origin of suppliers of technology and industrial sectors is recognized. However, a beginning is yet to be made in this direction. It was also stated that multinational corporations have not presented any distinct problem as such. The character of receiving company e.g. its size and the structure of ownership, tended to influence the character of the transaction of technology transfer. Although such factors cannot be specifically provided for in the legislation, they are taken into account in the process of case-by-case evaluation.

A question was raised whether it was necessary to have one single body for evaluating/ approving technology transfer agreements. In many countries, bodies dealing with registration of patents and trade-marks exist separately. In so far as such bodies function as legal agencies for registration under the provisions of patents/ trade marks acts, they do not concern themselves with the process of evaluation as such. Whether a single integrated agency should be evolved will depend on the functions defined for such body. At any rate, even where a multiplicity of agencies exist, close coordination in the functioning of these bodies is necessary.

It was stated that in some countries, for example, Colombia, excessive outflow of foreign exchange on account of the patent/trade marks rights was a considerable problem. Indeed, outflow on this account was higher than that on account of the acquisition of know-how. Such situation pointed to necessity of adequate legislative measures regulating payments for patents and trade-marks.

In response to certain queries, it was clarified that under the provisions of the Mexican Law grant-back of property rights in the respect of innovations and improvements between the parties is permitted on strictly reciprocal basis. As regards the maximum period of ten years for duration of agreement was concerned, it was clarified that actual duration depended on the facts and merits of the case and the need to allow sufficient time for absorption of imported technology was not overlooked.

Since considerable stress was laid on the flexibility in application of Article 7 of the Mexican Law, a good deal of interest was evinced by the participants in knowing the concrete instances showing flexibility of approach. Attention was drawn to Article 8 which enables the Government to make exceptions when "special interests" of the country were involved. It was also pointed out that while total restrictions on exports were not accepted, partial restrictions, where adequate justification was available, were accepted. Existence of inhibitions on the supplier on account of the laws of the supplier's country had also to be recognized as one could not possibly expect the supplier of technology to violate the laws of his country. Similarly, restrictions arising out of the suppliers' licensing arrangements in other countries were also reckoned with. As regards the duration of agreements, it was clarified that the maximum limit was enforced only in so far as the obligations of the receiver were concerned. A question was raised regarding the post-registration monitoring of the agreements. It was pointed out that the law conferred on the Registry the powers to study and inspect relevant documents etc., with a view to ensuring implementation of various provisions of the agreements. Moreover, copies of the resolutions of the Registry in respect of individual agreement were being forwarded to the concerned Ministries and the National Council of Science and Technology. These measures are expected to provide tools for post-registration monitoring.

A question was raised as to the attitude of the Registry to contribution by the receiver of technology towards financing R&D effort undertaken by the supplier of technology abroad. It was stated that no concrete instance has come to notice. It was, however, agreed that it was quite appropriate and necessary in such cases to ensure that such payments are for an identified need and the research profile of the supplier company is in tune with the National Research Perspective.

A question was raised as to the internal assessment procedure adopted by the Registry. A large proportion of rejections was reported to be on account of the excessive compensation proposed in the agreements. The methodology adopted by the Registry in determining what was "reasonable" and what was "excessive" was, therefore, of great significance. It was stated that no set formula has been evolved. Various considerations went into the judgment regarding "reasonableness". They included factors such as profits, production, capital invested, counterliability of the supplier such as performance guarantees, quality of the technology supplied etc.. Wherever possible, data published by Institutes such as M.I.I.T. of Japan were also utilized. It was, however, obvious that the methodology of internal assessment would evolve over a period of time and it would be unrealistic to expect cut and dry formulae for all types of cases.

The consensus was that while a regulatory system, either on statutory basis or as an administrative arrangement, was necessary, it was even more necessary to provide built-in flexibility in operation of such a system. Close liaison with the affected parties was also necessary. In the short run the objective of the system was necessarily confined to modification of the contracts and strengthening the negotiating ability of the receivers. Development of indigenous technology including local engineering services was the objective in the long run. While in terms of value, the proportion of imports of the embodied technology was much higher than that of the disembodied technology, the latter presented much more complex problems. The system for regulation for technology transfer mainly sought to deal with such problems. It was for the broader industrial and economic policy to co-ordinate the operations in these related fields. The methodology needed to be further refined in the light of experience gained. However, the basic fact must not be overlooked that the "reasonableness" of payments differed widely, not only in different countries but also in different industrial sectors and at different points in time.

November 12, 1974 (afternoon)

The afternoon session was devoted to a discussion on the impact of legislative and institutional regulations regarding technology transfer on national economy and industrialization. Discussion was led by Mr. Kim of the Republic of Korea and Mr. S.P. Shukla of India.

While presenting his paper on the subject, Mr. Kim underlined various aspects of the technology transfer such as distinction between the software and the hardware of technology, the horizontal versus vertical process of transfer etc. Having surveyed broadly the regulatory framework obtaining in various countries, with particular reference to that obtaining in the Republic of Korea, he emphasized that the dynamic and the positive objectives were as much important as the static and regulatory ones. Every effort should be made to eschew restrictive and negative aspects of the technology transfer transactions by evolving a suitable screening mechanism. Similarly, unduly long dependance on imported technology or excessive payments therefor should be avoided. At the same time, it would be only realistic to recognize that the so-called international technology shelf was so fluid in character that the timely acquisition of the desired technology from this source, not to mention equitable terms of transfer, was at best precarious. Imaginative approach was necessary while considering the problems such as depackaging of technology or introduction of high potential technology. A routine approach in terms of fixed criteria of the static regulatory framework may prove counter-productive under certain circumstances. In conclusion, it was stated that in a developing country what was necessary was not so much a microscopic scrutiny of the technology transactions as the macroscopic examination of what the transfer of technology was expected to do for the economy.

In his talk Mr. Shukla dwelt on the Indian experience. He stated that the objectives of the Indian system governing the transfer of technology could be summed up as follows

- (a) To ensure inflow of modern technology.
- (b) To introduce selectivity in the importation of technology, keeping in view the indigenous availability, factor-endowment of the economy and constraints such as foreign exchange gap.
- (c) To bring about clarity, stability and uniformity in decisions regarding foreign collaboration and foreign investment, and
- (d) To achieve technological self-reliance over as wide an area as possible by promoting adaptation, absorption and diffusion of imported technology as well as by developing indigenous technology.

It was stated that there is no legislative system governing transfer of foreign technology in India. However, there is administrative system

for screening applications for foreign collaboration which includes foreign investment as well as technical collaboration. A high level Foreign Investment Board screens and approves all such proposals in terms of broad guidelines set out for the purpose. Illustrative lists are available indicating industries in which foreign investment may be permitted, those in which technical collaboration may be permitted but not foreign investment and others in which no foreign collaboration, financial or technical, is considered necessary or permissible. Where foreign collaboration is allowed, ranges of gross royalty permissible are also indicated. The lists are only illustrative and not exhaustive. The system provides for a sufficient degree of flexibility to take into account special features of the proposals such as export-orientation, high degree of import substitution, particularly sophisticated nature of the technology in question and priority of the industry or the product to the economy. Special care is taken to eschew restrictive provisions such as tying up import of machinery and raw materials, restrictions on export franchise, restrictions on the use of technology after the expiration of the agreement, payment of minimum royalties, etc.. Payments for technology are normally related to production so as to avoid infructuous payment as far as possible. Suitable provisions for training of Indian personnel, adequate arrangements for research and development, engineering design and other measures for the absorption, adaptation and diffusion of imported technology are also insisted upon. Consultancy services are required to be obtained from Indian consultancy firms as far as possible and even where foreign consultancy is unavoidable, an Indian consultancy firm is required to be the prime consultant. Extensions of collaboration agreements are not looked upon with favour and duration is normally restricted to 5 years. Old agreements with indefinite or undefined duration have been reviewed and brought in line with the existing policy regarding duration and other aspects.

Broadly speaking the system as it has worked over the last few years can be definitely said to have achieved the objectives of ensuring uninterrupted inflow of sophisticated technology and introducing selectivity in importation of technology, particularly in respect of technology coming through the medium of foreign investment.

It has also provided a fairly clear and stable framework of policy for decisions in individual cases. Indeed, the last mentioned achievement is of particular significance in as much as such framework, although regulatory in its nature, goes a long way in promoting flow of technology as both the recipient and the supplier know the broad parameters within which they are expected to operate.

Coming to the long-term objective of technological self-reliance and promotion of indigenous technical capabilities, he observed that it is necessary to recognize the complex and dynamic nature of the problem. A legislative or administrative regulatory framework is not by itself adequate for achievement of this objective. The process of adaptation, absorption and diffusion of imported technology throws up a number of problems. Formal insistence on certain terms and conditions in the technology transfer agreements serves only a limited purpose. In this connexion a reference was made to the question of repetitive imports and how the same could be avoided. The question can be viewed in its two aspects, i.e. repetitiveness over a period of time and as to the source. As regards the first aspect, the policy of prescribing shortest possible period of duration for collaboration agreements, normally not allowing any extensions, insistence on establishment of appropriate R&D facilities and training of personnel during the currency of the collaboration agreement, inclusion of a standard sub-licensing clause making it possible for the technology to be sub-licensed to third party on terms agreed to by all parties concerned will, no doubt, provide the necessary framework. But the content of the R&D efforts, the training of personnel and finally the absorbing capacity of the receiver will alone impart real meaning to these conditions and on that will depend the degree to which the objective of developing indigenous technological capability is achieved. Coming to the other aspects of phenomenon of repetitiveness of imports, i.e. repetitiveness as to the source, it is possible to reduce this only when there is a likelihood of a number of units of the same industry being set up at the same time, all of them requiring foreign collaboration. In such cases, centralized negotiations or acquisition of know-how conducted in a coordinated manner with selected foreign parties can result in more favourable terms being acquired. However, this option is not always available, particularly when the forecast of development of certain industries

is either not well developed or where, for certain other reasons, the coordination of such efforts is not possible.

Consultancy can play a useful role in facilitating absorption and avoiding repetitive imports of technology. However, it has to be recognized that this possibility is of greater significance where what is necessary is basically to replicate the experience acquired in the initial import of technology. Where the know-how relates to the area of production technology, the experience is that the transfer of technology thrives best on direct and intimate contact between the giver and the taker and to that extent, the mechanism of central purchase of technology through consultancy has its limitations.

The question of lateral diffusion of technology also raises some important broader issues having a bearing on the basic objectives of national economic development. Historically, it may be the case that the units having relatively advanced technology are either foreign owned or belonging to dominant industrial groups within the country. If for reasons of equity and national self-reliance, certain amount of limitation of the activities of such units is considered desirable, it is possible that this national objective may impede the process of rapid lateral diffusion of technology. On the other hand, complete freedom for these units to extend their technological dominance in the economy may not be consistent with the broader objective of equity, egalitarianism and national self-reliance. A balance, therefore, has to be struck between these competing objectives. The purpose in mentioning this problem is that the problem of adaptation, absorption and diffusion of technology is much more complex and can hardly be expected to be adequately dealt with by imposing a few standard terms and conditions to be incorporated in the technology transfer agreements.

In conclusion, it was stated that while the importance of the regulatory framework as evolved over time cannot be minimized, it would be undesirable to ignore the equally important and more complex problem relating to the positive and dynamic aspects of the growth of indigenous technological capabilities. The objective of technological self-reliance is basically a function of the capacity of the economy to absorb the fast growing technology and essentially, it is a question of developing human capabilities and appropriate social and economic milieu. Unless this is done, the achievement of the regulatory framework is bound to remain illusory and peripheral.

In the discussion that followed the presentation of view points by Mr. Kim and Mr. Shukla, there was consensus on the need to develop an integrated and positive approach. It was recognized that the regulatory system must provide a considerable element of flexibility to meet the dynamic and positive requirements of the economy. It should provide the base which should facilitate various positive and promotional steps for building up technological capability. Experience of Japan was referred to and it was stated that the regulatory aspects were emphasized only for a limited period. The Japanese approach has been very pragmatic and their system has provided for necessary changes and dynamism. Just as the suppliers of technology applied the tests of profitability, selectivity and risk, the receivers of technology also should apply these tests with somewhat different content. Profitability for the developing countries should be in terms of not commercial, but social criteria. The selectivity test will be in terms of the stage of development and the goals of national economy. Similarly, the receivers of technology must also minimize the risk involved in the transaction by avoiding excessive payments or choice of inappropriate technology or minimum payments unrelated to production.

In the course of discussions it was stated that in the Republic of Korea, entrepreneurs were urged to set apart adequate funds for research and development. Appropriate fiscal incentives were provided for this purpose. It was also stated that the experience of Poland has been that bankers providing hard currency loans exercised salutary influence on the process of adaptation and absorption of imported technology.

It was also felt that since the promotional measures are by their very nature time-taking and long range, they should be initiated simultaneously with the introduction of the regulatory system and should not be treated as those to be introduced only at a later stage after the regulatory system has worked for some time.

November 13, 1974 (Morning) : Part I

The forenoon session was held in two parts. First a paper on "Identification of Long-term needs of Developing Countries in Technology Licensing" was presented by Mr. K.D.N. Singh, UNIDO Consultant, which was followed by a discussion on issues arising therefrom.

Mr. K.D.N. Singh referred to recent developments in the field of technology transfer and said that there appeared to be a trend towards confrontation between multinational corporations and developing countries receiving technology from the former. To some extent such a confrontation was unavoidable. However, the basic fact that transfer of technology from developed countries and particularly, the multinational corporations (who happen to be a repository of such technology) to developing countries is essential, must not be overlooked or understated.

Various restrictive features of technology transfer agreements which should be guarded against have been the subject matter of a number of studies and are fairly well known. There is, on each clause of such agreement, a licensor's viewpoint and a viewpoint of the licensee. Differences between the two viewpoints lead to negotiations which is desirable. However, such negotiations will be more meaningful if there is fuller knowledge of alternatives available. Because of historical associations certain sources of technology have tended to assume ubiquitous importance for certain developing countries. For example, India and Pakistan mainly relied on Britain and Latin American countries on USA. However, it is necessary to widen the range of information on the sources of technology beyond these traditional sources in order to obtain the best terms and the latest technology.

Another important phenomenon which needs to be mentioned is that in many developing countries decision-making authority in respect of import of technology most often does not reside in the entrepreneurs making such imports. This is true of most developing countries where subsidiaries and branches of foreign companies dominate fields of industrial production. Where such authority is wanting, all talk of rationalising import of technology is largely academic. In order to remove this disability, countries like India and Mexico have launched a systematic programme of indigenization of capital. Thus, in India there is a systematic insistence on the dilution of foreign holding whenever expansion is sought by such companies. Mexico is following consistent policy of Mexicanization. In absence of such policy, policy on technology import is in the danger of being a hard-aiden of the investment policy of such companies.

On the important question of evaluation of cost of imported technology it was stated that a stage was yet to be reached where objective, foolproof formula would be handed out for such exercise. There were many unquantifiable factors involved in the process. Weight to be attached to various factors would differ from country to country and from time to time. There were also difficulties in quantifying indirect benefits. Ultimately, the knowledge of the receiver in regard to alternative terms and costs is the only effective guarantee against excessive remuneration being claimed by the supplier of the technology.

While the need for investing decision-making authority in the hands of national enterprises receiving the technology cannot be overemphasized and the utility of clearly defining areas where import of technology is considered desirable, cannot be questioned, the approach of regulatory framework evolved by developing countries for governing the technology transfer agreements tended to be negative. It must be recognized that the regulatory approach is productive up to a point. It has to be supplemented by a positive and promotional approach and that too, sooner rather than later.

In the context of regulatory framework, it is necessary to recognize that the licensee enterprise plays the pre-eminent role in the process of technology transfer. Bureaucracy concerned with the regulatory framework must play only a supporting role. It is the licensee enterprise which ultimately makes the choice of technology and bears the risk attendant on the production-process. The preeminent position that the licensee enterprise has in this whole process, therefore, needs to be clearly borne in mind while evolving the regulatory framework for governing the transfer of technology.

On the question of defining the areas for import of technology, Mr. Kim of the Republic of Korea, referred to studies conducted in his country where matrix defining intercorrelation of technologies by products revealed cluster of technologies around certain products. On the question of building-up indigenous engineering capabilities, Mr. Kim stated that it was desirable to encourage such capabilities in the country but competitiveness of the same must also be ensured. Mr. Singh agreed with Mr. Kim and counselled that extremes of complete protection and complete exposure to international competition should be avoided.

Mr. Shukla stated that a certain amount of healthy pressure with a view to building up national engineering and consultancy organizations may have to be exercised by Government particularly in the initial stages. Whenever a significant indigenous technological input is likely to be contributed in terms of, say, detailed engineering by indigenous organizations, it may be necessary to stipulate that maximum use of indigenous capabilities is made by the importers of technology. However, it may not be advisable to prescribe compulsory association of consultancy/engineering organizations with every proposal of import of technology, because this may reduce the competitiveness of such services. It may also be useful to encourage direct import of technology by consultancy/engineering firms in selected areas. This would go some way in building-up indigenous engineering and consultancy capabilities.

Mr. Alvarez of Mexico said that Mexican Association of Engineering Organizations urged that positive encouragement be given to local engineering organizations. In as much as services provided by indigenous organizations are less expensive, they had a competitive advantage over the foreign suppliers of such services. However, the experience was that it was difficult to compel the importers of technology to use only indigenous engineering organization's services.

Mr. Dasa of Pakistan raised the question of appropriateness of imported technology. He further analyzed the question of developing indigenous capabilities in terms of civil engineering services and plant design engineering capability. While the former was comparatively easy of achievement, the latter was difficult, particularly when the plant design and engineering depended on the patented process know-how.

Mr. Singh observed that over a period of time, as the indigenous capabilities develop, it should be possible to delink the question of the patented process know-how and the plant design engineering.

Mr. Janiszewski of UNIDO referred to the Japanese experience where highly developed information system has been developed in respect of technology transfer agreements and the same has been of great assistance to the licensee enterprises. Such information has various facets such as alternative sources of technology, terms and conditions of the import and technical information. He suggested that it would be useful if an appropriate international organization is set up to build up such information

by co-operation of developing countries. Mr. Singh agreed that the scope for compiling and sharing such information is indeed very great and inter-governmental exchange of information is very desirable. He suggested that UNIDO should consider setting up a Centre for Technology Licensing, which can be a source of information on terms and conditions, the alternative sources of technology and problems encountered during negotiations etc.. In this connexion he referred to the experience of the Mexican Registry and excellent documentation built-up by them. He, however, observed that the information system to be so developed should not be merely of a general nature but should go into specifics so that it is of use to other countries. On the question of confidentiality, he was of the opinion that while the technical information can be treated as confidential, the terms and conditions of transfer cannot be so treated. Mr. Valciras of Argentina stated that such information could be grouped by products without mentioning the names of parties. This device would take care of the legal complications on account of confidentiality.

Mr. Dast of Pakistan referred to multiplicity of UN agencies dealing with the transfer of technology and underlined the need for coordination between these agencies. He also stressed the need to make information systems compatible as between different UN organizations. Mrs. Vertiz of Peru agreed that it was essential to organize exchange of information and said that it should be possible to organize it in such a way that it does not come in conflict with requirements or obligations on account of confidentiality clause. Mrs. Acosta of Venezuela referred to efforts being made to organize a systematic exchange of information on certain aspects of technology transfer between the Andean group of countries. Mr. Alfonso of Colombia also supported the idea of setting up an international clearing house for information on technology transfer. Miss Soepadmi of Indonesia pointed out that in order to strengthen the negotiating ability of licensee-enterprise, it was necessary to organize dissemination of information on legal aspects of agreements on transfer of technology.

While recognizing the existence of some amount of duplication and also the need for better coordination between various agencies in the UN family dealing with the question of transfer of technology, the general consensus was that it was necessary to evolve appropriate institutional mechanism to strengthen the negotiating capability of the weaker developing countries and the licensee-enterprises therein and a beginning should be made in the shape of a clearing house on transfer of technology.

November 13, 1974 (morning), Part I

In the second part of the forenoon session, Mrs. Vertiz of Peru presented her paper on "Restrictive Business Practices and National Regulations on Transfer of Technology". She broadly surveyed the process of industrialization experienced by the Latin American countries over the last few decades and particular problems faced by the smaller Latin American countries on account of relatively smaller market size of their national economies. In this context she referred to the Latin American Free Trade Areas conceived in the 50's and the subsequent Treaty of Montevideo signed by 11 Latin American countries in 1960. Since the problems of smaller Latin American countries such as Peru, Ecuador, Colombia, Chile and Bolivia were different from those of large countries such as Argentina, Brazil and Mexico in some respects, the sub-regional integration came into being in the shape of the Andean Group of countries with its headquarters at Peru. In 1971 this group of countries adopted a common regime governing foreign capital, trade-marks, patents and the licenses and royalties. In Peru, there is statutory requirement that the agreement for technology transfer must be for a definite duration, should identify the form in which the transfer of technology is taking place and also specific elements of technology covered by such contracts and the contractual value put on each. It also requires that such contracts should not include any restrictive provisions regarding supply of capital goods, raw materials or intermediate products or any terms fixing the quantum of production or prohibiting use of competitive technology or requiring the licensee to hand over improvements to the licensor or compelling payments for trade-mark and patents not used. Restrictions on exports also are not accepted.

While dealing with the basic factors responsible for the weak negotiating position of the licensee enterprise in developing countries, she pointed out that there appeared to be a lack of co-ordination in approaches of the basic research institutions and the institutes carrying out industrial and production research. There was also absence of appropriate socio-cultural milieu encouraging generation and dissemination of technology. In order to develop scientific infrastructure, the State is taking various measures. It has provided the general direction for research so that it caters to the requirements of industry and production. It is also requiring that enterprises carry out required amount of research and development or

in the alternative pay a certain amount to the State as a contributor towards research and development efforts. Legal, technical and economic criteria have also been evolved so that the technology transfer agreements are decided with respect to these and modified wherever necessary.

In the discussions that followed Mr. Valeires of Argentina underlined the need for international contacts and exchange of information on the problems of transfer of technology. He also stressed the need for training specialized personnel to deal with such problems. He further stressed the need for post-registration monitoring of agreements on technology transfer. Mr. Prati of Ghana stated that in his country there was no formal enactment to deal with the technology transfer and the contracts were entered into by the parties freely on a bilateral basis. The State generally followed the maxim of non-intervention except when the question of public interest was involved.

Mrs. Vertiz of Peru referred to the problem of unexploited foreign patents and the abuse of monopoly patent rights. Mr. Alvarez of Mexico referred to the problem of foreign trade-marks and observed that use of foreign trade-marks appeared justified only in so far as they encouraged exports but there was no functional justification for use of such trade-marks in the internal markets. Mr. Alfonso of Colombia referred to the requirements in his country that all trade-marks and brand names must be written in the national language. He also stated that limitations of the period of use of such trade-marks was desirable.

November 4, 1974 (morning)

The forenoon session was devoted to exchange of experience on transfer of technology between developing countries. Opening the discussion Mr. Alvarez briefly summarized the Mexican experience and added that the Mexican legislation on transfer of technology was not intended to be merely regulatory in its objectives but also intended to promote development of technology on desirable lines. Different agencies of the Government such as Secretariat of Industries, Directorate of Industries, Council of Science and Technology were assisting the Registry on Transfer of Technology in discharge of its duties.

In elaborating the scope of the applicability of the legislation, it was stated on behalf of the Mexican Delegation that the agreement not

existing in the universe of law cannot be examined by the Registry. In other words, contracts where the objectives are not specified or the terms are left vague are not allowed to be filed with the Registry. In such cases, new contracts free from such lacura have to be signed and then filed with the Registry for scrutiny and acceptance. It was clarified that the contracts on the use of Trade Marks, Patents and provision of management assistance were also included within the scope of the legislation.

Mr. Alfonso of Colombia enquired whether the effects of legislation on technology transfer or wider problems such as employment etc. were being studied. It was explained on behalf of the Mexican delegation that the need for keeping in view the wider aspects such as effects on employment and other objectives of national development was recognized. Consultations with other agencies such the Secretariat for Industries and Commerce, Council of Science and Technology was intended to bring in consideration of the wider significance.

Mr. Valeiras of Argentina briefly referred to the organization and working of the Registry on Technology Transfer in Argentina. The Argentinian Registry differed from the Mexican system in as much as it worked through inter-disciplinary groups representing various departments/agencies concerned with Law, Economics and Technology. The Mexican system on the other hand established area competence in the field such as Economics, Law and Technology within different wings of the Registry itself.

Mr. Desai of Pakistan described the system operating in his country which has an administrative basis. There was no enactment as such, governing the transfer of technology. Industrial investment schedules have been drawn up, keeping in view the plan priorities. State Bank of Pakistan and the Investment Promotion Committee are invested with a supervisory role. Opportunity is provided to the entrepreneurs intending to import technology to explain their case before the approval bodies who take the decision. On the question of the role of patents, he observed that patents by themselves do not play a very important role as the information contained therein is fragmentary and had to be supplemented by process know-how and engineering skills. It is the development of the latter which really presented more difficult problem.

He referred to the register of agreements on technology transfer which is being compiled in his country. Referring to the achievement of the regulatory system, he particularly mentioned the success achieved in modifying older contracts on technology transfer.

Mr. Desa further observed that the employment objective should be given serious consideration while considering the transfer of technology to developing countries. He also emphasized the need for promoting transfer of technology between developing countries. Those developing countries which have achieved some degree of success in adapting and absorbing imported technology should be in a position to transmit such technology to other developing countries. The role of international co-operation between developing countries is of great significance in this respect.

Mr. Kim of the Republic of Korea said that it was necessary to recognize that every country has its strong points and development of technological capabilities need not take the same course or pattern everywhere. He referred to the experience of his country where considerable progress has been made in developing indigenous plant engineering capacity. No centralized organization was set up to develop these capabilities. Individuals who gathered experience in different areas set up plant engineering groups and have now earned recognition even overseas. It is individual effort that has been responsible for this development. In this context he emphasized the importance of organizing adequate training of engineering and technical personnel.

Mr. Gorod of the Organization of American States referred to two distinct levels of evaluation of technology transfer agreements. One concerned itself with the economic and legal aspects of the terms and conditions of the contract, the other with the technical content of the process. There was considerable information gap in developing countries in respect of both the levels and this indicated the need for continuing dialogue between developing countries so that exchange of information and experience can take place. He observed that the problem of transfer of technology was so complex that it is futile to talk in terms of a single policy on technology transfer. There are different aspects of this phenomenon, technical, economic, legal and

ever, political. In the last analysis, transfer of technology is transfer of power in some form or the other and therefore, the political aspects of the problem cannot be ignored. While evolving suitable solutions, it is necessary to adopt a pragmatic and step-by-step approach.

Mr. Shukla of India stressed the need to clearly define the role of the regulatory and promotional system. In his opinion, the role was two-fold. First, such a system should strengthen the negotiating capability of the recipient enterprise. For this purpose, it was necessary to build adequate information system at the national level. Exchange of experience between developing countries was also of great significance in this regard. This aspect of the role of the system essentially was meant to remove or reduce the obvious imperfections in the international market of technology. In this context, the system is expected to help the licensee-enterprise to obtain more favourable terms and conditions of transfer and also better quality of technology.

Secondly, the system should also provide for adaptation, absorption and diffusion of imported technology, with the ultimate objective of termination of dependence except in the fast developing and sophisticated areas. This role, admittedly, is more difficult of achievement and requires co-ordination between different organizations responsible for developing indigenous technological capabilities.

Mr. Shukla added that it would not be realistic to expect such a system to deal with the much wider question of evolving appropriate technology with reference to factor-endowments of the economy. This question is really connected with national strategy on economic development and cannot be expected to be tackled by a system meant for regulating transactions in technology and promoting adaptation and absorption of imported technology. In this context, he referred to the objective of creation of employment and said that the experience of India was that in areas with large employment potential such as construction, agro-industries, transportation and services, import of technology has been on a minimal scale. In sophisticated areas such as engineering, electronics, chemicals and metallurgical industries, import of technology has been significant, but the objective of employment-creation cannot

be the main or even important criterion while deciding the question of import of technology in such areas.

Mr. Shukla raised the question of capitalization of payment for know-how. In India, this is generally not allowed. In Argentina, the new law prohibits capitalization of payments for know-how except in certain special circumstances. In Mexico also, this is not allowed. In course of discussions, it was pointed out that the evaluation of know-how in terms of equity capital posed difficult problems. Comparative evaluation for different technologies was very difficult. Moreover, value of know-how diminishes as time progresses whereas the value of equity appreciates. The consensus was that, generally, capitalization should not be permitted.

The question of centralized purchase of technology also came up for discussion. Mr. Aguilar of Mexico said that the Mexican experience showed that it was not easy to attempt centralization of acquisition of technology. Public sector companies can be expected to play some part in this process. Mr. Valeiras of Argentina also agreed that in practice this posed a number of problems. It was, however, possible to effect some amount of co-ordination in negotiating import of technology, where more than one enterprise required to import the same technology more or less at the same time.

Another point which came up for discussion was the feasibility of securing "most-favoured-licence" clause in contracts of technology transfer. Mr. Valeiras of Argentina pointed out that there were both practical and conceptual difficulties in this proposal. It is difficult to define what will constitute similar contract or transfer of technology even within the same country. Mr. Jariszewski pointed out that large differentials existed in magnitudes of payment for what was apparently the same technology. There was also a wide spectrum of other associated conditions. Transactions in technology were far more complex than the ordinary transactions in commodity trade. Even in fairly homogenous group of countries such as European Economic Community, this concept was not easily applicable. He also referred to another provision of the Draft International Code of Conduct on Transfer of Technology which laid down that there should be no differential in the rates of royalty, irrespective

of whether the production is for exports or for internal consumption. It was felt that under certain circumstances, such differentials may be in the interest of developing countries. The general consensus was that the practical aspects of various seemingly salutary prescriptions of the Code need more detailed examination.

November 15, 1974 (morning)

In the forenoon session Mr. Janiszewski of UNIDO presented a paper on "The Role of UNIDO Assistance in Technology Transfer and especially Licensing to Developing Countries". Mr. Janiszewski referred to the importance of the technology licensing arrangements to the economic development of developing countries and briefly reviewed UNIDO's approach in assisting developing countries in the process of transfer of technology. On the basis of practical experience of both developing and developed countries, and keeping in view the need to eliminate possible duplication of efforts by other UN agencies, UNIDO has selected the following areas for its activities in this regard :

- (1) Strengthening and/or establishing of national institutions or machinery handling the flow of foreign technology into the countries.
- (2) Improvement of negotiating strength of developing nations in the field of international licensing.
- (3) Promotion of co-operation among developing countries in the field of international licensing.

As an example of direct technical assistance, Mr. Janiszewski referred to the expert assigned to the Ministry of Industry, Trade and Tourism in Ethiopia, for preparation of draft legislation on Patents and Trademarks and for Screening and Evaluation of Licensing Arrangements. He also referred to UNIDO experts assisting the activities of INTI Argentina and the Mexican Registry of Transfer of Technology. A number of fellowships have been offered by UNIDO in order to develop expertise in licensing in developing countries. This facility, however, is not being fully utilized by developing countries. He also referred to publication of "Guidelines" and regional and interregional meetings arranged by UNIDO on the question of licensing know-how and transfer of technology.

Stressing the fact that one of the biggest problem facing developing countries was lack of information, Mr. Janiszewski listed various points, which in the opinion of UNIDO, would have to be considered, if developing countries were to achieve a higher level of economic independence in the area of technology transfer. They were :

- (1) Information on source of available and alternative technologies;
- (2) Information on available indigenous technologies,
- (3) Information on research and development activities in developing countries
- (4) Comparable information on financial, legal and technical conditions of technology transfer agreements;
- (5) Information on legal framework in which foreign companies are operating.
- (6) Information on foreign companies especially multi-nationals;
- (7) Information on recent development of international licensing, patent and trademark law, compulsory licensing, etc..

In this connexion, he referred to a survey of advanced technologies made by the Ministry of Science and Technology of the Republic of Korea in 1973. This survey contained information on over 4000 itemized processes with short technical descriptions, operational data, and name and address of the owner of technology. He also referred to well-developed systems of legislation and administration on technology transfer operating in Mexico and India. In conclusion, he said that what was lacking was a permanent flow of exchange of information among developing countries themselves. It was his feeling that this kind of information in selected areas could be, with co-operation of interested countries, collected, worked out and disseminated by UNIDO.

Mr. Aguilar of Mexico referred to the work being done in this area by regional organizations such as ECLA, OAS and ESCAP. He stressed the need for co-ordination in the activities of these bodies. He also emphasized that developing countries should be selective in asking assistance from UNIDO. Referring to the Mexican experience, he said that what was needed by Mexico was specialized services in specific industrial sectors and not services of persons having broad general knowledge of transfer of technology.

Dr. Del Carill, UNIDO Senior Industrial Development Field Adviser, said that a beginning has already been made in exchange of information but this process has not been organized in a systematic way. A focal point needs to be provided to institutionalize the exchange of information on regional and interregional basis.

Mr. Shukla referred to the meeting held by UNIDO in Manila and the current interregional consultations and said that while these exchanges were of immense value, in future, the stress should be on more specific consultations such as exchange of experience in respect of technology licensing in particular industries, supported, where necessary, by case studies.

Dr. Gorod said that information system had to be developed in order to formulate more clearly the demand for technology. He said that very detailed and specialized information was required to tackle the difficult question of opening the technological package. He also cautioned that the problem of building up information system was very complex and involved extensive work of documentation. He suggested that as a first step, exchange of technical personnel may be organized as between registries of technology transfer of different Latin American countries.

Summing up, Mr. Aguilar stated that it was agreed on all sides that the first step to be taken was to set up centres for information at the national level. Such centres should build up information on licensing conditions as well as technological data. Close association would be necessary between not only different agencies of the Government but also between the Government, on one hand, and the licensee enterprises on the other. The question of organizing exchange of information at regional and interregional levels was also important and should constitute the next important step. The need for more specific regional and interregional consultations supported by concrete case-studies was also recognized.

ANNEX I

AGENDA

1. Registration and administrative matters
2. Organization of the Consultation :
 - a) Election of officers
 - b) Adoption of the Agenda and Programme
 - c) Organization of the work
3. Presentation of discussion papers by participants
4. Discussion
5. Draft Report
6. Adoption of Recommendations
7. Closing Remarks

ANNEX II

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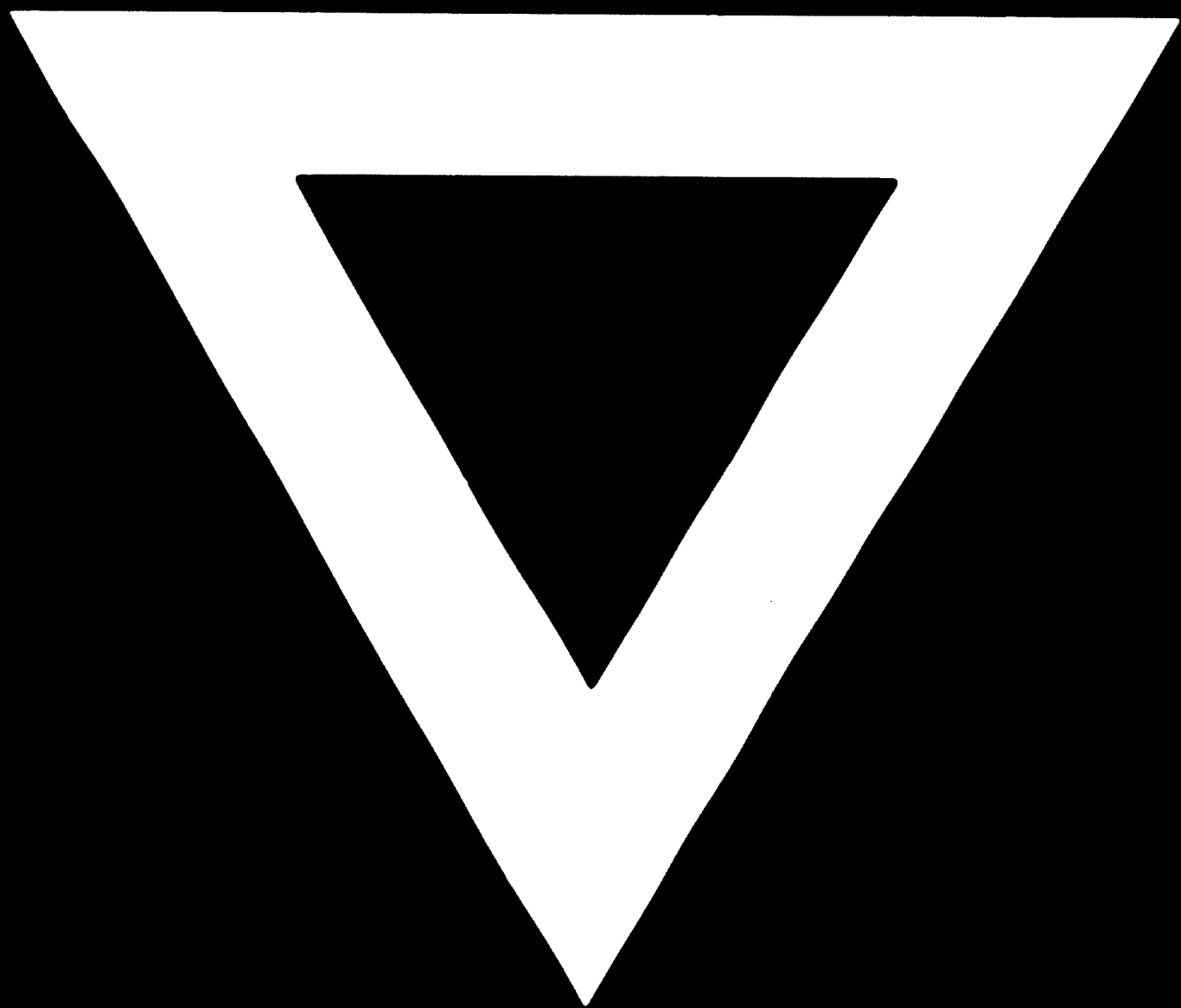
ANNEX III

LIST OF DOCUMENTS

- ID/WO.194/1 "Restrictive Business Practices and National Regulations of Transfer of Technology" by Mrs. Olga Combe de Vertiz, Chief of Division of Patents and Trade Marks, Ministry of Industry and Tourism, Lima, Peru
- ID/WO.194/2 "Legislative and Institutional System for Foreign Technology Transfer Agreements", by Mr. J.A. Valeiras, Director, National Registry of Licensing Contracts and Transfer of Technology, INTI, Buenos Aires, Argentina
- ID/WO.194/3 "The Role of UNIDO Assistance in Technology Transfer and especially Licensing to Developing Countries" by the Secretariat of UNIDO
- ID/WO.194/4 "Identification of Long-Term Needs of Developing Countries in Technology Licensing" by Mr. K.D.N.Singh, UNIDO Consultant and UNIDO Project Manager, Capital-Goods Development Programme, Mexico
- ID/WO.194/5 "The Impact of Legislative and Institutional Regulations of Technology Transfer on National Economy and Industrialization" by Mr. Hyung-Ki Kim, Director, Bureau of Technical Co-operation, Ministry of Science and Technology, Republic of Korea.
- "Review of the Mexican Law of Technology Transfer and its Impact on the Acquisition of Technology" by the Representative of the National Registry for Transfer of Technology, Mexico *)
- "Exchange of Experience on Transfer of Technology between Developing Countries", by the Representative of the National Registry for Transfer of Technology, Mexico*)

*) Part of presentation was not available for distribution.





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