



**TOGETHER**  
*for a sustainable future*

## OCCASION

This publication has been made available to the public on the occasion of the 50<sup>th</sup> anniversary of the United Nations Industrial Development Organisation.



**TOGETHER**  
*for a sustainable future*

## DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

## FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

## CONTACT

Please contact [publications@unido.org](mailto:publications@unido.org) for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at [www.unido.org](http://www.unido.org)



**TOGETHER**  
*for a sustainable future*

## OCCASION

This publication has been made available to the public on the occasion of the 50<sup>th</sup> anniversary of the United Nations Industrial Development Organisation.



**TOGETHER**  
*for a sustainable future*

## DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

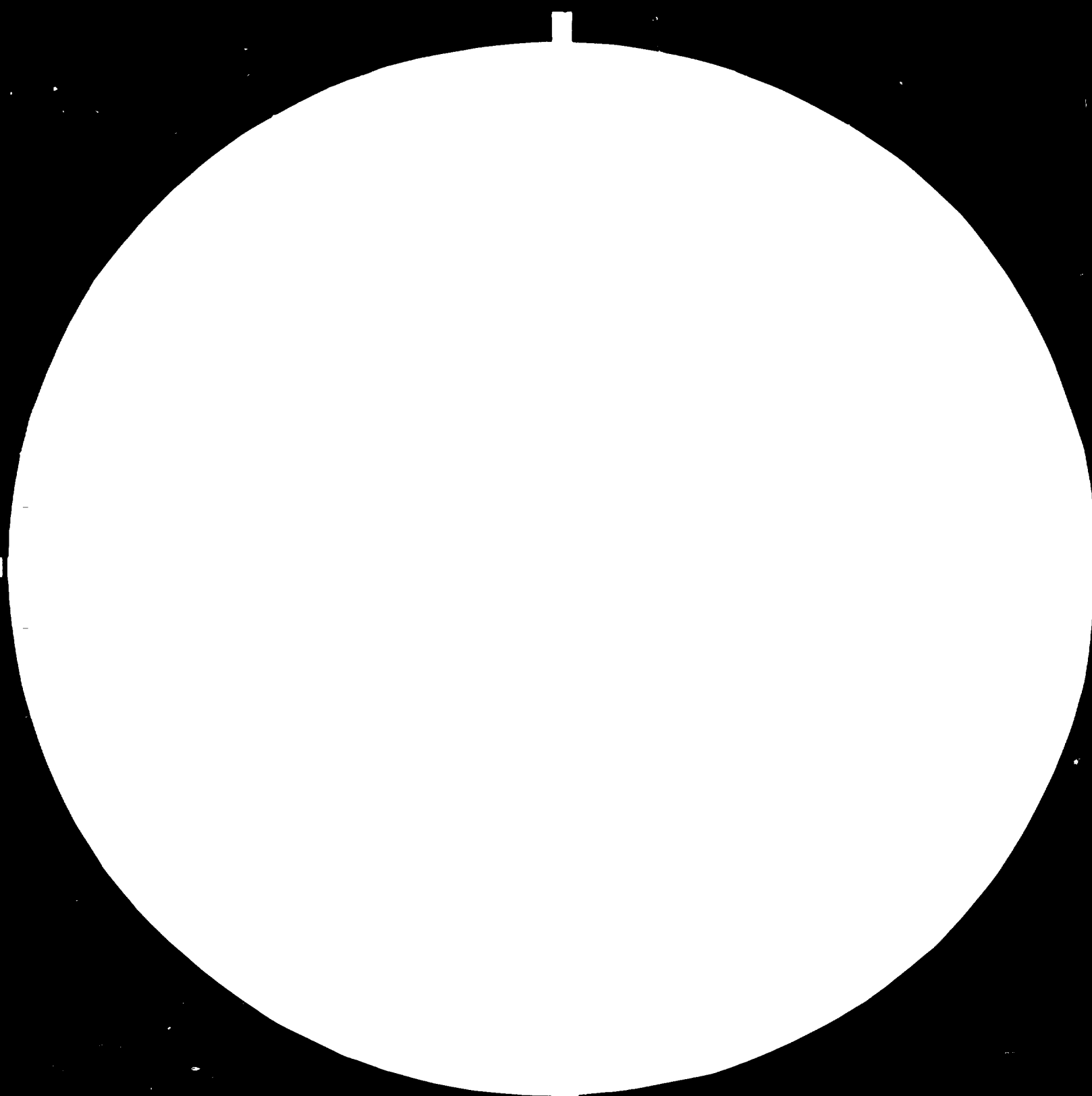
## FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

## CONTACT

Please contact [publications@unido.org](mailto:publications@unido.org) for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at [www.unido.org](http://www.unido.org)





10705

Distr.  
LIMITED

UNIDO/IS.245  
30 July 1981

UNITED NATIONS INDUSTRIAL  
DEVELOPMENT ORGANIZATION

Original: ENGLISH

TECHNOLOGY TRANSFER ISSUES-  
THE PRELIMINARY SURVEY OF INDONESIA<sup>1/</sup>

TS/INS/81/001

Mission Findings and Recommendations

By

H. A. Janiszewski  
Industrial Development Officer  
Development and Transfer of Technology Branch  
Division for Industrial Studies

001090

---

<sup>1/</sup>This document has been reproduced without formal editing.

## INTRODUCTION

The present preliminary survey of situation in Indonesia on technology transfer is based primarily on direct contacts with a variety of Government institutions and officials. The list of persons contacted with whom extensive discussion was held is attached to the present report (Annex 1).

The purpose of the advisory mission undertaken by the undersigned was two-fold, primarily to study the present situation in Indonesia in regards of imports of technology with the view to propose comprehensive and more efficient system regulating the inflows of foreign technology into the country and secondly to prepare a project document for the Government for possible UNDP financing which will enable to carry out such programme, if desired. It should be stressed here clearly that contained in the report is a diagnose of the situation as well as suggested scheme can only be treated as preliminary views of the adviser which will require further in-dept consideration in certain areas and tailored to fit into the current Indonesian context.

On the other hand attention is called to the fact that in late September this year, UNIDO jointly with COIME<sup>1/</sup> and in co-operation with COST<sup>2/</sup> is convening a high level ASEAN policy meeting on the regulation of imports of technology at which the feasibility and possibilities of regulation of inflow of technology will be discussed along with the possible action in ASEAN member countries, particularly those who at present do not have a clear-cut policy and administrative framework in this area (Singapore, Indonesia, Thailand).

---

<sup>1/</sup> Committee on Industry and Metals of ASEAN.

<sup>2/</sup> Committee on Science and Technology of ASEAN.

Finally, it should be stressed that the present report when employing the terms "technology transfer", "inflow of technology" and "imports of technology" has in mind exclusively the following contractual arrangements:

- know-how;
- patent license;
- trade mark agreements;
- management and consultancy arrangements;
- franchising arrangements.

Imports of technology embodied in equipment, turn-key deliveries, joint ventures and DFI are not at present considered in detail in the report, however, it may be discussed later, and included in the overall programme in the future.

#### CURRENT STATUS OF FLOWS OF FOREIGN TECHNOLOGY INTO INDONESIA

Although in the first two (2) channels often separate agreement on transfer of technology may occur, for purpose of the present report, we will look particularly into the three (3) last main channels, as those, it seems, are frequently used by both public and private corporation to bring in technology and which, at present enjoy quite a considerable freedom from any consistent Government regulations.

While it was not possible to ascertain which channels most of the technology in terms of value, flows into the country - it is possible to say that the totals are quite impressive with the three (3) last channels playing an increasingly important role.

At present, current attempts of regulating imports of technology take place, in principle, at two (2) institutional levels.

The first is BKPM<sup>1/</sup>, which approves on semi-annual basis, investment projects according to priorities and provides accordingly special incentives (often of a fiscal nature) in its guidelines that includes technological considerations, although they do not play at present a major significance.

Technological considerations - if any at all - are taking place at the technical departments (Ministries) with certain involvement of LIPI<sup>2/</sup> in terms of research and the Ministry of Research and Technology (particularly concerning the most advanced developments<sup>3/</sup>).

It should be underlined here, however, that the central coordinating role of BKPM renders it considerable leverage and influence in the negotiations of investment projects, particularly in relation to the private sectors which may as well be used in question pertaining regulating inflow of technology.

The investment projects, particularly those which do not carry special incentives or facilities are in principle handled by individual departments or Ministries, after being approved in principle by BAPPENAS<sup>4/</sup>; such agreements like acquisition of know-how and franchising agreements etc. are direct responsibilities of individual Directorate Generals in those Ministries and it concerns both ca 360 public corporation - directly responsible to individual sectoral Ministries - as well as all private corporations.

From what was possible to ascertain on the basis of discussions and meetings, each Directorate General has its own policy and criteria

---

<sup>1/</sup> Investment Coordinating Board.

<sup>2/</sup> Indonesian Institute of Sciences.

<sup>3/</sup> The Ministry of Research and Technology is supposed inter-alia to coordinate all Research and Development efforts in the country as well as provide ad-hoc advise regarding selection of appropriate technology.

<sup>4/</sup> Planning Commission.



for evaluation of individual technology agreements; there is no central inventory of such agreements, nor is there any exchange of experience and cooperation within the individual Departments or Among Departments themselves, nor detailed information on the value of total technology imports, their structure, conditions and similar.

The emphasis on evaluation done by DGs is on technical aspects, including absorption of technology, and in case of public corporations certain commercial aspects are also evaluated.

It should, however, be clearly stressed that all officials with whom meetings were arranged were aware of the current situation and expressed their concern that Indonesia does not have clear and coherent policies vis-a-vis importation of foreign technology.

On the basis of available facts and discussions held, the present situation often leads to the following negative effects:

- (a) purchases of technology not necessarily fitting the current Indonesian needs or priorities;
- (b) purchases of technology in non-coordinated manner very often leading into repetition in acquiring the same technology by different recipients;
- (c) high costs of imports of technology;
- (d) extremely one sided conditions imposed by foreign suppliers of technology on local licensees - particularly due to lack of negotiating skills;
- (e) lack of proper absorption of technology by recipients leading into extended reliance on foreign suppliers; and
- (f) under-utilization of local R and D establishment, therefore low level of unpackaging.

In view of the above facts - which should definitely be supported by further research in selected priority sectors and on the basis of experiences of other developing countries both in the region as well as in other parts of the world - it is clear that unless Indonesia introduces a fast coherent policy on technology transfer in line and part of overall industrial and economic policy - the negative effects of imports of technology will not only hamper fast industrialization and gradual development of local technological capabilities, but will also negatively affect the social progress of the peoples of Indonesia.

It should be stressed that the present Government economic and industrialization policy emphasize the need of self-reliance and the need to attend to such basics like food, shelter and clothing based on available natural resources of Indonesia. This policy of self-reliance may be complemented by a long-term technological self-reliance to be achieved by a technological policy to be evolved and introduced at the national level.

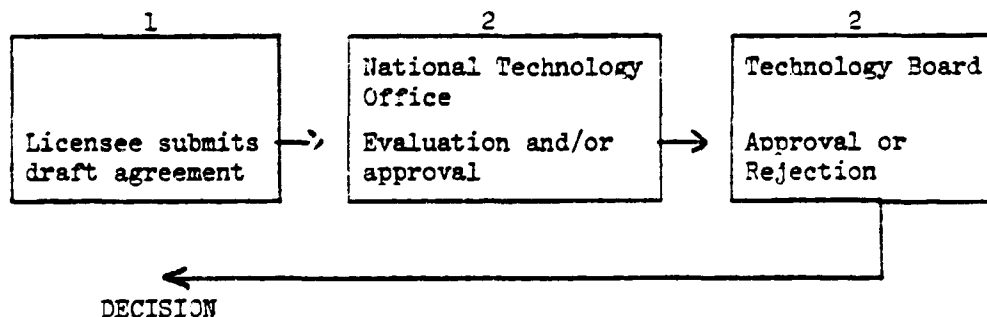
For example, the technological capabilities developed in the Basic Chemical Sector like fertilizers, cement, pulp and paper are very impressive and no doubt may be repeated in other strategic sectors of industry; however, such development should rather be based on a single long-term policy of a national character, which will take into account possibilities, capabilities and needs of the economy as a whole.

#### BROAD OUTLINE OF PROGRAMME ON TRANSFER OF TECHNOLOGY

The consideration below should be considered of preliminary nature only subject to further discussions within the Government and requiring, in certain aspects, further investigation as well as commitments from Government institutions concerned. On the basis of available information and preliminary discussions, three (3) different alternatives of introduction and implementation of coherent policy vis-a-vis imports of technology can be considered.

Alternative One

This alternative follows the experience of other developing countries as well as UNIDO experience in this area, which calls for one central Governmental body solely in charge of all imports of technology. Such body (it could be called National Technology Transfer Office) will be located above all Government institutions<sup>1/</sup> at present concerned with the different aspects of technology transfer, and may be entrusted with the evaluation and approval of all technology transfer transaction. It may be headed by the Secretary General with a staff of ca fifteen (15) professionals (lawyers, economists, engineers) and be supported by the Technology Board consisting of representatives of the Ministry of Industry, BKPM, Ministry of Research and Technology, LIPI, Ministry of Mines and Energy and any other agency concerned. The maximum number of members of the Board may be limited to five (5) or seven (7). In order to speed up proceedings the Secretary General (also ex-officio member of the Board) may have the authority to approve agreements of a total value of, let us say, US\$1 million, while all above should be referred to the Board. The diagram below shows the new procedure of approval and evaluation of technology transfer agreements.



<sup>1/</sup> Perhaps similar to the Committee of Purchases and Contracts of BAPPENAS.

As mentioned earlier, all agreements pertaining technology imports, be it for public or private sector should be evaluated and approved in a similar way. The Technical Ministries as well as BKPM and the Ministry of Research and Technology will jointly work out a general evaluation criteria as well as introduce priority areas where inflow of technology will be desired. Such central office will also maintain contacts with similar offices in other developing countries within UNIDO's TIES<sup>1/</sup> system or bilaterally.

#### Alternative two

This alternative calls for maintaining, in principle, the current system, but in addition the establishment of a Central Coordinating Agency either attached to BKPM or the Ministry of Research and Technology. The Central Coordinating Agency should consist of representatives of major Ministries concerned and will play in addition to coordinating the inflows of technology, the role of ultimate decision-making authority.

In this system each of the Technical Ministries will establish Technology Transfer Units, reporting to the Secretary Generals. In case of doubts or major projects, the contracts will be referred to the Central Coordinating Agency for final decision. The Central Coordinating Agency will keep inventory of all agreements approved and will also cooperate with similar agencies in other developing countries. Guidelines and criterias of contract evaluations and approval will be issued by such agency, which will supervise their implementation.

#### Alternative three

This alternative calls for centralizing all Government involvement in the area of foreign investments and technology transfer in one place, in this case BKPM. In this case, either National Technology

---

<sup>1/</sup> Technological Information Exchange System

Transfer Office is located there, with all responsibilities described in Alternative one, or the Central Coordinating Agency as per Alternative two, depending which alternative is more feasible.

#### POLICY CONSIDERATIONS

It should be made very clear that prior to the selection of any of the alternatives described earlier, the Government should commit itself to the introduction of coherent and clear policy in the area of imports of technology as an initial stage of evolvement of national technological policy.

Such policy - in the view of the undersigned should aim at:

- (a) rapid improvement of condition of import of technology;
- (b) lowering the cost of importation of technology;
- (c) improvement of bargaining position of local industry vis-a-vis foreign suppliers of technology;
- (d) channelling of technology into priority area of economy; and
- (e) gradual building up of local technological capabilities.

It should be stressed that the regulation arising out of policy declaration should be flexible enabling adjustment of policy implementation to changing priorities and long and short term goals. Once policy commitment is made, further steps should be taken in the legal and administrative areas necessary for smooth implementation, and here in particular UNIDO assistance should be considered.

It should be underlined, that in view of the rather complex bureaucratic set-up in Indonesia, the administrative arrangements as suggested in Alternatives one, two and three may be developed

gradually, over a period of time and only after the long-term policy objectives have been formulated taking into consideration the existing institutions whose functions may be modified in order to fit selected alternative.

It is worth considering, for example, once policy guidelines are established, that the central focal point for technology transfer<sup>1/</sup> is established at the beginning with limited objectives of collecting inventory of all technology agreements entered into in the last three to five (3-5) years, which will enable inter-alia to study those contracts for development of future evaluation guidelines based on sectoral approach, and on the other hand for the establishment of direct and immediate access of Indonesia to similar focal points of other developing countries (through UNIDO TIES<sup>2/</sup> scheme or directly).

Once the above activities have been completed to a certain degree, then such focal point may assure other functions as outlined before, and thus gradually assume controlling functions.

Annex 2 of the present report contains a draft project document for possible UNDP financing and UNIDO execution and outlines the main objectives and activities leading into the development of national programme on Transfer of Technology in Indonesia. The period for such development has been estimated in the project document at twelve to fourteen (12-14) months.

The undersigned wishes to express his gratitude and thanks to all the persons met during his assignment in Indonesia as their assistance and guidance have been indispensable for the successful carrying out of the said assignment.

---

<sup>1/</sup> Either per alternative one, two or three.

<sup>2/</sup> TIES - Technological Information Exchange System  
- A system enabling exchange of information on contractual conditions.

Special mention of gratitude is expressed to Mr. Anwar Ibrahim, Deputy Chairman of BKPM on whose initiative the assignment has been carried, to Mr. Ahmed Slamet, Advisor to the Minister of Industry and last but not least to Messrs. F. Iqbal and P. Aula of UNIDO office in Jakarta who have arranged extensive programme of meetings and discussions.

ANNEX 1

List of Persons Met During my Mission  
to Indonesia = 5-17 July 1981

1. Mr. Anwar Ibrahim - Deputy Chairman, BKPM
2. Ms. Sridati Soebono - BKPM
3. Mr. A. Qoyum - BKPM
4. Mr. Ahmad Slamet - Advisor to the Minister of Industry
5. Ms. Ita Gambiro - Chief, Legal Office -  
Ministry of Industry
6. Mr. Rucinto Umar - Ministry of Industry
7. Mr. Median Sirait - Director General for Drug and  
Food Control; Department of  
Health
8. Mr. Muhammadi - Deputy Chairman, LIPI
9. Mr. Hartarto - Director General of Basic  
Chemical Industry -  
Ministry of Industry
10. Mr. Agus Sujono - Secretary General -  
Ministry of Industry
11. Mr. Soetaryo Sigit - Secretary General Ministry  
of Mines and Energy
12. Mr. Prihadi Waluyo - BPPT
13. Mr. Eman Yogasara - Director General of  
Basic Metal Industry
14. Mr. Trisura Suhardi - BPPI, Ministry of Industry
15. Mr. Dipo Alam - LIPI
16. Mr. Laode M. Kamaluddin - LIPI
17. Mr. Ilchaidi Elias - Chief, Bureau of Planning -  
Ministry of Industry
18. Mr. N. Ukar - Ministry of Research  
and Technology
19. Mr. M. Togib - Ministry of Industry



DRAFT

ANNEX 2

UNITED NATIONS DEVELOPMENT PROGRAMME

Country : Indonesia  
Project Title : Development of National Programme on  
Technology Transfer  
Project Number: DP/INS/81/...

UNDP input - \$ 150,000  
Government input - \_\_\_\_\_  
Duration - 14 Months  
Starting Date 1 January 1982

\_\_\_\_\_  
Agreed on behalf of the Government

\_\_\_\_\_  
Date

\_\_\_\_\_  
Agreed on behalf of the Executing  
Agency : UNIDO

\_\_\_\_\_  
Date

\_\_\_\_\_  
Agreed on behalf of UNDP

\_\_\_\_\_  
Date

LEGAL CONTEXT

PART I.

PART II.

THE PROJECT

A. DEVELOPMENT OBJECTIVES :

The development objectives of the project is to assist the Government in building up an indigenous capacity in industrial technology as well as to permit the government to gradually exercise a greater control in the selection and acquisition of industrial technologies not only appropriate for Indonesian conditions but also under favourable terms and conditions including the diffusion and absorption of the acquired technologies. It is expected that this will assist the Indonesian Government in the implementation of its present and future industrial development plans and programmes; in raising the level of its technological competence thereby cutting down on its dependence on foreign consultancy services and technologies; in optimizing the utilization of funds invested in the acquisition of foreign technologies; and consequently in reducing the amount of foreign exchange being currently used for the purchase of these foreign technologies. There is no doubt that this will also bring about several multiplying effects on the total industrial and economic development of the country, as well will directly attend to needs of all sectors of country population.

../..

B. IMMEDIATE OBJECTIVES :

The immediate objective of the project is to assist the Government in carrying out the groundwork for the development of the programme on Technology Transfer including necessary administrative framework. This would entail assistance in :

1. Defining the objectives and scope of national technological policy ;
2. Drawing up its legislative and administrative framework ;
3. Establishing of short and medium-term work programme for administrative set-up and necessary budget ;
4. Setting up the organizational structure including linkages with other relevant national institutions and relevant institution in other developing countries;
5. Identifying the needed staff requirements in the different phases of programme evolution;
6. Formulation guidelines for the establishment of training programmes for the needs of the programme;
7. Development of inventory and information system for technology transfer agreements;
8. Carrying out promotional activities for the successful implementation of the programme.

C. SPECIAL CONSIDERATIONS :

The project is considered of primary importance since it will stimulate and enhance the industrialization of Indonesia.

D. BACKGROUND AND JUSTIFICATION

The Indonesian economy has maintained a high rate of growth in recent years. This rate is expected to hold also in the future at ca. 6.5% for next five years. Industry will be among the fastest growing sectors and its growth rate is expected to achieve high rate of 11% per annum. Notwithstanding this

achievement the Industrial base is still narrow, currently accounting for only 15.1% of the GDP (1979/80).

The major constraints being faced in the industrialization of the country include: inter alia inadequate infrastructure; inadequate man-power; and slow implementation of public sector enterprises. Current industrial policy stresses self reliance by long term based on available natural resources and attending to basic needs of large sectors of population.

As a result of the present economic expansion in Indonesia the industrial sector is developing rapidly. The industrialization effort in Indonesia is characterized inter alia, by a large inflow of foreign technology. This rapid inflow of technology may have certain negative consequences, particularly because of the volumes involved and the capacity to evaluate, acquire and absorb it in a proper manner. In this connection, the Government, inter alia, is seeking to establish a mechanism which will further accelerate the inflow of technology from abroad, encourage the development of local technological capabilities and make the most efficient use of all technological inputs both in industry as well as in the other sectors of the economy. Such an ambitious task will not only require the undertaking of certain legislative and administrative steps on the side of the Government, but will also require rapid inputs of skills to handle and tackle the complex issues involved in the process of technology transfer. In this connection, the Government has decided to launch the programme on Technology Transfer, charged with the responsibility of development of national policies for technology acquisition as well as the execution of the policies, decisions, vis-a-vis, local and foreign companies.

E. PROJECT OUTPUTS :

In the course of the project a number of activities will be undertaken which would assist the Government to crystallize ideas on the various aspects of the development of the National Policy on Technology Transfer including its legal and administrative framework. The outputs of the project emanating from these activities will, in particular, include :

1. Clear definition of the objectives and scope of the National Policy ;
2. Preparation of the legislative and administrative framework;
3. Definition of the short-and medium-term work programmes for needed administrative set-up;
4. Proposals for the Organizational Structures needed for policy implementation including linkages with other relevant national institutions; 1)
5. Identification of the needed staff requirements including the training of key personnel required for the implementation of the programme;
6. Preparation of guidelines for the establishment of training programmes for the cooperating Government agencies and public and private industries;
7. Development of information scheme based on inventory of the contracts for use by the Government and industry ;
8. Promotional activities to be carried out to ensure the successful launching of the programme.

F. ACTIVITIES :

The activities of the projects which will be undertaken with the assistance of UNIDO recruited experts and consultants as well as its competent Headquarters staff will be oriented essentially to accomplishing the immediate objectives.

../..

---

1) Outline of preliminary nature is contained in UNIDO report entitled "Technology Transfer Issues - the preliminary survey of Indonesia" prepared by H.A. Janiszewski, UNIDO Adviser on Technology Transfer.

These activities will include:

1. General Activities

Activities geared towards acquiring more background information to enable the formulation of meaningful proposals will include -

- a study of the current five-year development plan and consultations regarding the next plan;
- a review of the existing industrial infrastructure and the patterns of the general productive development;
- identification of the critical areas of concern in the productive structure;
- review of the existing practices for the acquisition of technology;
- identification of the range of technological and other skills required for the implementation of the recurrent development plan; and
- review of the existing institutions in order to identify those that would be called upon to collaborate in the implementation of the programme.

An important activity of the project will be the organization of study tours to selected countries for a number of Indonesian staff to benefit from the experiences of these countries in the relevant areas and apply those relevant in implementation of the programme.

2. Definition of the Objectives and Scope of the National Programme

Activities will be undertaken to evolve government policy concerned primarily with the acquisition of foreign technology. In this connection, the formulation and implementation of technology transfer policy will be guided by a strategy to enhance the national capabilities for acquiring foreign technology, and to promote the continuous flow and application of technology into priority sector of the economy. Certain elements will be evolved as well for overall national technological policy of which approach towards imports is only one element.

It is envisaged that through this project, the Government will initiate actions oriented to define explicit regulatory and promotional measures in the field of technology transfer.

3. Drawing up of the Legislative and Administrative framework:

On the basis of information collected from the general activities described above, essential elements will be identified to assist the Government in drafting the legislative framework for the implementation of policy on Technology Transfer. These would also help to lay the groundwork for guidelines to serve as a basis for the negotiation of specific technological agreements which ensure that the terms and conditions of the agreements conform with the overall interest of the Indonesian Economy.

4. Establishment of Short-and Medium-Term work Programme for future administrative set-up

On the basis of the information collected in the course of the implementation of the general activities of the project, the short and medium-term work programme and budget for the future administrative set-up will be formulated and oriented to meet the most immediate requirements related to the formulation of a policy framework for the creation of a such administrative set-up as desired. The medium-term workplan will concentrate on the development of the operational criteria for the evaluation and approval of technological transactions with foreign enterprises. The future administrative set-up will enhance the government's capabilities for planning and co-ordinating national efforts for the development of technological capabilities in the country.

5. Setting up of Organizational Structure including Linkages with other relevant National Institutes :

The project will serve to identify various alternatives concerning the organizational structure and operative procedures for the administrative set-up for Technology Transfer. Such framework will also require in the future the necessary capability to regulate and promote the transfer of technology into the country. In this connection, the project will assist in establishing the inter-linkage that is required with the industrial sector as well as mechanisms for communicating and co-operating with relevant government agencies and technological institutions that would have direct involvement in matters related to the development and transfer of technology, particularly such as BKPM, Ministry of Industry, other sectoral Ministries, Ministry of Research and Technology and BPPT.

6. Identification of Staff Requirements:

Relevant activities, including the ones briefly described in the general activities, will be undertaken to define specific staff requirements both at the initial stage and also through the different phases of evolution of the work of the National Programme on technology transfer.

7. Formulation of Guidelines for the Establishment of Training Programme for Government and Industry :

On the basis of the background information to be collected from the general activities of the project, guidelines will be formulated to indicate the philosophy, methodology and priority areas for the training of the staff involved in implementation of the programme.



Specific training activities will be established through a programme whereby national officials could be prepared to undertake technical, economic and legal evaluation of foreign proposals. Training activities also will rely on the experience of other developing countries by enabling them to visit and work in similar institutions in various countries.

3. Development of Information Scheme on Technology Transfer

Information system will be developed regarding the contracts entered into by Indonesia in last 3 to 5 years with the purpose to develop internal evaluation guidelines; this information scheme will also enable Indonesia to participate in TIES<sup>1)</sup> system of UNIDO as well as similar programmes carried out within ASEAN.

9. Promotional Activities

A number of consultations and promotional activities will be undertaken with a view to establishing mutual dialogue and understanding of the Programme by the business community and cooperating Government agencies. One activity would be the organization of joint consultations or workshops to produce an understanding of the intricacies of efforts directed to optimize the flow of technology.

g. INPUTS

1. Description of UNDP/UNIDO Inputs:

a. Assignment of International Staff:

The UNDP/UNIDO will provide the services of high level experts in the implementation of National Programme on Technology Transfer and the Establishment of Information activities for said programme.

(i) Expert on the Organization of National Offices for Technology Transfer

Duration 3 m/m

The Expert will :

- advise and assist in developing the operational framework for the regulation and promotion of technology transfer activities including evaluation techniques;

---

<sup>1)</sup> TIES - Technological Information Exchange Scheme.

- assist in identifying the overall requirements of National Office of Technology Transfer including its staff procedures, and promotional activities.

This expert should have adequate experience, at a senior level in a National Office of Technology Transfer or a similar technology regulatory body.

- |      |  |                   |
|------|--|-------------------|
| (ii) | <u>Expert on the Establishment of Information Activities for National Programme on Technology Transfer</u> | Duration<br>6 m/m |
|------|--|-------------------|

The Expert would advise and assist in the preparation of information procedures, to ensure that key aspects of information related to technological transactions are properly secured, classified and organized for retrieval purposes. This would include preparation of questionnaires or formats, indexing methods, summaries of decisions and other types of information material that could complement specific data contained in technological contracts. This expert would also assist in identifying the most relevant sources of industrial and technological information within the country and others available at the international level. The expert should have broad experience in the information field preferably in a developing country and should have a university degree in the field of Industrial Engineering or Economics.

../..

- (iii) Expert on the technological policies Duration  
4 m/m

The expert will advise the Government on the evolvement of the long and short term policy objectives as well as modes of its implementation.

- ( iv) The services of short-term consultants will also be provided in specialized aspects of the project activities.
- ( v) The services of UNIDO Headquarters technical staff will also be provided for implementing certain aspects of the project including the organization of national joint consultation of workshops on technology transfer.

b. Training Provisions

Fellowship Training will be provided for the staff of the National Office for Technology Transfer once it is established and study tours will also be organized for its staff.

c. Equipment and Supplies

Not applicable.

d. Miscellaneous

In addition to meeting the expenses for the usual miscellaneous and unforeseen expenses, provisions will also be made for periodic consultation by national project staff, especially the Project Coordinator with UNIDO Headquarters.

2. Description of Government Inputs

- (i) Pre-requisites (see under (L) below)

(ii) Assignment of National Staff

The Government shall assign the following staff to the project:

- 
- 
- 
- 
- 

(iii) Buildings, Equipment and Supplies

The Government shall provide suitable office premises, office equipment and supplies for the project. The Government shall also provide at least two vehicles to the project.

Housing accommodation for experts and their families shall be provided according to the standard government arrangements, however, if no government houses are available, government shall assist in locating privately owned residences and pay the difference between the rental charge and the rent normally paid for government houses.

../..

(iv) Miscellaneous

The Government shall make adequate provisions for proper operation and maintenance of the premises, vehicles and office equipment; for communications (letters, telexes and telephone) expenses, as well as for such sundries as cost of stationery, office supplies etc.

H. PREPARATION OF WORKPLAN

<u>Project Activities</u>	<u>Location</u>	<u>Starting Date</u>	<u>Duration</u>
1. Implementation of the general activities	Jakarta	January 1982	Continuing
2. Definition of the Objectives and scope of the Programme	Jakarta	End of March 1982	Completed
3. Drawing up of the Legislative and Administrative framework	Jakarta	May 1982	Completed
4. Establishment of short-and medium-term work programme and budget of the Programme	Jakarta	April/May 1982	Continuing
5. Setting up of the Organizational Structure, including linkages with other relevant national institutions.	Jakarta	May 1982	Continuing
6. Identification of staff requirements	Jakarta	June 1982	Completed

../..

<u>Project Activities</u>	<u>Location</u>	<u>Starting Date</u>	<u>Duration</u>
7. Training of personnel	Jakarta/ abroad	July 1982	Continuing
8. (a) Joint Consultation or Workshop on the acquisition and transfer of technology in Indonesia	Jakarta or other city	January 1983	1 week
(b) Other promotional activities	Jakarta	May 1982	Continuing
9. Terminal project review	Jakarta	February 1983	1 week
10. Drafting, finalization and submission of Terminal Report	Jakarta	March 1983	1 month

A detailed Work Plan for the implementation of the project will be prepared by the leader of the international staff assigned to the project, in consultation with the leader of the national staff. This will be done at the start of the project and brought forward periodically. The agreed upon Work Plan will be attached to the Project Document as Annex I and will be considered as part of that document.

I. Preparation of the Framework for Effective Participation of National and International Staff in the Project

The activities necessary to produce the indicated outputs and achieve the project's immediate objectives will be carried out jointly by the National and International Staff assigned to it. The respective roles of the National and International staff will be determined by the leaders, by mutual discussion and agreement, at the beginning of the project, and set out in a Framework for Effective participation of National and International Staff in the project. ..../..

The Framework, which will be attached to the Project Document as an Annex, will be reviewed from time to time. The respective roles of National and International Staff shall be in accordance with the established concept and specific purposes of technical co-operation.

J. Development Support Communication

The ..... would receive results of the activities carried out in the course of the project.

Other information would be made available on requirements for setting up specific types of organizations, as part of the information services is intended to provide. Also information on services provided, and programme of courses, seminars and other training facilities for entrepreneurs, would be disseminated as a regular procedure.

K. Institutional Framework

The official Government body responsible for the execution of this project is the .....

L. Prior Obligations and Pre-requisites

- The Government shall assign the above-mentioned (2.ii) staff to the project,
- The Government shall provide the above (2.iii) facilities,

../..

M. Future UNDP Assistance

The requirements for UNDP future assistance will be identified in the course of the project and is foreseen in one of the outputs of the project.

PART III. SCHEDULES OF MONITORING, EVALUATION AND REPORTS

A. Tripartite Monitoring Reviews: Technical Reviews

The project will be subject to a periodic review in accordance with the policies and procedures of UNDP.

B. Evaluation

The project will be subject to evaluation, in accordance with the policies and procedures of UNDP. The Organization terms of reference and timing of the evaluation will be decided by consultation between the Government, UNDP and the Executing Agency concerned.

C. Progress and Terminal Reports

A Project Progress Report will be prepared every six months and submitted to the Government, the Executing Agency and UNDP. The Agency will prepare a Terminal Report at the end of the project.



PROJECT BUDGET

<u>PROJECT PERSONNEL</u>	<u>TOTAL</u>		1982		1983	
	<u>m/m</u>	<u>\$</u>	<u>m/m</u>	<u>\$</u>	<u>m/m</u>	<u>\$</u>
11-01 Expert on evolvment of technological policies	4	24.000	4	24.000	-	-
11-02 Expert on establishment of information activities	6	36.000	5	30.000	1	6.000
11-03 Expert on Organization of National Office for Technology Transfer	3	18.000	2	12.000	1	6.000
11-04 Short-term Consultants	6	36.000	4	24.000	2	12.000
Sub-total	19	114.000	15	90.000	4	24.000
15-00 Experts travel	-	3.000	-	2.000	-	1.000
16-00 Other personnel costs	-	12.000	-	8.000	-	4.000
19-00 Total Personnel Costs	19	129.000	15	100.000	4	29.000
32-00 Study tours	-	10.000	-	10.000	-	-
99-00 Total training	-	10.000	-	10.000	-	-
52-00 Reports		3.000		2.000		1.000
53-00 Sundries		8.000		6.000		2.000
59-00 Total Misc. Component		11.000		8.000		3.000
99-00 GRAND TOTAL	19	150.000	15	118.000	4	32.000



