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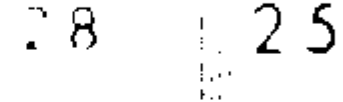
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TIES NEWSLETTER

TECHNOLOGICAL INFORMATION EXCHANGE SYSTEM

Issue Number 10

12034

July 1981

Dear Reader,

The 15th Session of UNIDO's Industrial Development Board took place in May. In its report, satisfaction was expressed at the Organization's progress achieved in the field of development and transfer of technology and to the priority accorded to this area by the Third General Conference of UNIDO. The assistance rendered by UNIDO in the transfer and acquisition of technology was noted with satisfaction, as was the importance of the TIES system which was considered to be a useful device which not only helped to strengthen the negotiating capabilities but also provided an excellent example of co-operation among developing countries. Support was also given to the UNIDO proposal to organise a meeting of senior officials of ASEAN countries in regard to technology transfer. The initiative taken by UNIDO regarding the industrial technology programme in Africa was also commended.

The programme of activities undertaken by UNIDO for the study of long-term technological trends and emerging advanced technologies was welcomed. Such activities, it was stated, would contribute to better decision-making by developing countries. In that connection, mention was made of a project initiated in co-operation with UNIDO for setting up a mechanism to monitor technology perspectives. The proposal to hold an international forum on advanced technology was welcomed. Some of the technologies, it was said, would have an enormous impact on the world economy and that that was the last chance for developing countries to bridge the technology gap.

Appreciation was also expressed about the assistance given to national and regional institutions in the field of technology and it was hoped that such assistance would be increased and expanded to cover more institutions in future, particularly those concerned with the processing of natural resources.

The progress achieved during the first full year of INTIB's operation was welcomed and a number of suggestions were made for its future work. INTIB's main objective was to act as an information processor in a situation characterised by an inflation of published and unpublished technological and industrial data, the selection of which constituted a major problem. It was not a conventional data bank but rather a switchboard, selector and translator of data in order to provide problem-oriented information on industrial technology for user needs. The selection and expansion of networks of co-operating experts and centres of excellence was an important element in the future development of INTIB and therefore the creation of data banks of individual experts to deal with specific enquiries to secure specialised information was welcomed, especially since much useful technological information was not to be found in written documents but rather in human minds. INTIB's services should be channelled to end users through the network of national institutions, and close links developed between regional institutions in Africa, Asia and Latin America. Linkage with institutions in the developed countries was considered to be basic to INTIB.

A directory of information systems and services in developing countries was already available and profiles in sectors such as solar energy equipment, alcohol fuels etc. as well as a users guide on the scope, manner of operation and services provided by INTIB will be prepared in future.

G.S. Gouri

Registry activities

HIGH LEVEL ASEAN MEETING TO BE HELD IN VIENNA

As indicated in the previous issue of the TIES Newsletter, a joint UNIDO/COIME meeting will be held at UNIDO headquarters between 28 and 30 September this year.

The purpose of this high-level meeting is to review the current situation regarding the regulation of imports of technology in individual ASEAN countries as well as to discuss matters pertaining to common policies vis-à-vis transfer of technology.

The group, after extensive discussions in Vienna will pay a working visit to the Spanish Registry of Technology in Madrid and to the Foreign Investment Institute in Lisbon, Portugal.

It is expected that the chairman of COIME, Vice Minister of Industry, Mr. E.L. Tordesillas, will also attend the meeting.

National study on technology transfer in the pharmaceutical industry

At the Fifth Meeting of Heads of Technology Transfer Registries, it was recommended that sectoral studies of technology transfer be initiated by different registries and co-ordinated by UNIDO.

Compiled by the Technology Group of UNIDO P.O. Box 300, A-1400 Vienna, Austria

The main objectives of national sectoral studies of technology transfer are:

(1) To give an overall view of technology transfer in the industry concerned;

(2) To assess the impact of regulatory mechanisms on commercial terms and conditions of import of technology and on promotion of local technological capacity;

(3) To assess the technological impact of the import of technology and the possibility of technology exports.

The national sectoral studies will be synthesized by UNIDO in order to prepare an overall sectoral analysis on general trends in technology transfer. The results of the studies could be a posteriori utilized by national registries to appraise their main weaknesses and to identify possible solutions to those shortcomings. The studies will be carried out by the technology transfer registries linked with UNIDO, inter alia, by the TIES system. Following this recommendation, UNIDO has recently initiated a study in the pharmaceutical industry and has requested the TIES participants to contribute to a monograph on this sector, according to a preset common structure. If for some reason the pharmaceutical sector could not be considered for detailed study, UNIDO suggested as an alternative the petrochemical and capital goods sector. UNIDO strongly feels that such studies are valuable tools for technology transfer policy makers. It is hoped that draft reports can be discussed at the next meeting of Heads of Technology Transfer Registries to be held in November in Manila, Philippines.

Registry news

New Data Centre in Egypt

A new data centre will be set up in the Investment and Free Zones Authority in Cairo to serve foreign and national investors. The centre will provide economic information to foreign companies willing to undertake investment projects in Egypt and assist in the preparation of feasibility studies. Functions of the new data centre will include the collection, storage and dissemination of information relating to investment, active promotion of Egypt as a location for investment, and assistance to prospective investors.

Acquisition of Foreign Technology in Egypt: A New Approach

(This article was abstracted from the April issue of Investment Review a quarterly journal on investment conditions in Egypt. The journal is edited by Dr. W.G. Wahba, an active member of TIES.)

Since the initiation of the "open door" policy in 1974, foreign investors have been encouraged to form joint ventures with public sector companies or with private local investors. Such projects are encouraged if they incorporate a high proportion of local materials and introduce advanced technology as well as managerial and marketing expertise.

In essence this policy reflects a greater effort to accelerate economic development by modernization and through changing Egypt's economy to a more market-oriented one, with greater decentralization of the public sector, more scope for the private sector and a larger role for foreign investment.

Until recent years Egypt did not give explicit attention to the import of technology in its official policies. Attitudes are now changing, partly because of a growing recognition that the country possesses a scientific and technological potential of its own and hence it is not always necessary to import technology; but also because Egypt will continue to seek the best technology available in relation to its own needs, this in turn requiring a policy for dealing with foreign suppliers.

A committee, representing the Investment Authority, the General Organization for Industrialization, the Academy of Scientific Research and Technology and the Council of State, has been established recently to suggest a draft code on technology regulation in Egypt. This code is intended to design a set of flexible policies that would take into account the conditions under which technology can be acquired in the international market; the different conditions introduced by foreign ownership; the characteristics of the domestic and export market and the improvement of technological capabilities in the country.

Recent legislation

Argentina

In our Newsletter issue number 9 we published information on the new legislation regarding the regulation of Transfer of Technology effective 1 April 1981. In continuation we reproduce the full text of the corresponding regulations and an unofficial English version.

It can be observed from these regulations that the Technology Transfer approval process in Argentina has been liberalized substantially.

Buenos Aires, 25 de marzo de 1981

VISTO el Expediente S.E.D.I. No. 71.034/81 y la sanción de la Ley No. 2242.

CONSIDERANDO:

Que es necesario proceder a su reglamentación.

Por ello,

EL PRESIDENTE DE LA NACION ARGENTINA
DECRETA:

ARTICULO 1º - A los efectos de lo establecido en el Artículo 1º de la Ley se entiende por tecnología:

a) las patentes de invención,

b) los modelos y diseños industriales,

c) todo conocimiento técnico para la fabricación de un producto o la prestación de un servicio.

ARTICULO 2º. - Cualquiera de las partes contratantes podrá efectuar las presentaciones que establecen los Artículos 2º y 3º de la Ley a cuyos efectos se deberá acompañar junto con la información que determina el Artículo 8º de la Ley, tres copias simples del documento que instrumente el acto jurídico respectivo. Si dicho instrumento hubiera sido redactado en idioma extranjero, se acompañarán también tres copias simples de su traducción al idioma español realizada por traductor público matriculado.

ARTICULO 3º. - A los efectos de lo establecido en el Artículo 5º de la Ley se presume que la contraprestación pactada guarda relación con la tecnología transferida cuando no supera el CINCO POR CIENTO (5%) del valor neto de las ventas de los productos fabricados o servicios prestados mediante la tecnología transferida.

ARTICULO 4º. - Se entenderá por valor neto de las ventas el valor de la facturación en puerta de fábrica deducidos los descuentos, bonificaciones y devoluciones y los impuestos internos y al valor agregado o aquellos que los sustituyan, reemplacen o complementen en el futuro y cualquier otro que se creare en lo sucesivo con referencia a los mismos hechos imponibles.

ARTICULO 5º. - En ninguna presentación a efectuarse ante la Autoridad de Aplicación se requerirá la certificación de autenticidad de documentos o de firmas del presentante o de las partes contratantes, bastando la declaración jurada de aquél.

ARTICULO 6º. - La Autoridad de Aplicación deberá notificar al presentante dentro de un plazo de CUARENTA Y CINCO (45) días a partir de la presentación si existen deficiencias formales o impedimentos de fondo que obsten a la aprobación del acto.

El presentante tendrá un plazo de SESENTA (60) días a partir de la notificación para efectuar las modificaciones pertinentes o para contestar la vista, durante el cual se suspenderá el plazo establecido en el artículo 7º de la ley. El plazo para resolver se reanudará cuando se conteste la vista, se efectúen modificaciones, o venza el plazo para hacerlo.

ARTICULO 7º. - Deducida la apelación que prevé el artículo 7º de la ley, el Secretario de Estado de Desarrollo Industrial tendrá un plazo de TREINTA (30) días para resolver.

ARTICULO 8º. - Todas las actuaciones relativas al trámite de aprobación serán mantenidas por la Autoridad de Aplicación en estricta reserva.

ARTICULO 9º. - La resolución definitiva, emanada de la Autoridad de Aplicación o del Secretario de Estado de Desarrollo Industrial, se enviará dentro de los QUINCE (15) días de dictada a la Dirección Nacional del Registro Oficial para su publicación, sin perjuicio de la notificación al presentante.

ARTICULO 10. - Las partes interesadas podrán presentar proyectos de contratos en consulta requiriendo el asesoramiento de la Autoridad de Aplicación sobre el particular, la que emitirá su dictamen dentro de los SESENTA (60) días de la presentación.

ARTICULO 11. - Aprobado el acto jurídico la Autoridad de Aplicación entregará a cada una de las partes:

1) un ejemplar del documento que instrumente el acto jurídico con la debida constancia de aprobación.

2) una copia de la resolución respectiva.

3) un certificado de aprobación para su presentación ante el Banco Central de la República Argentina que contendrá: nombre y domicilio real del receptor y del proveedor, lugar de pago, número de aprobación, período contractual, fechas en que deben efectuarse los pagos, aclaración sobre el modo y la oportunidad para la fijación del tipo de cambio, si se establece en el acto y moneda en que se devenga la deuda.

ARTICULO 12. - Cuando se trate de la presentación establecida en artículo 3º de la Ley se devolverán dos copias simples del documento con la correspondiente constancia.

ARTICULO 13. - Los documentos que instrumenten los actos jurídicos comprendidos en el artículo 3º de la Ley que se encuentren en trámite de aprobación, serán devueltos a los presentantes con las constancias de su presentación y de la fecha de su desglose del expediente, a los efectos de lo establecido en el artículo 10 de la Ley. Un ejemplar del documento y el formulario de inscripción quedarán en el expediente a título informativo.

ARTICULO 14. - En todos los plazos que establece este decreto se contarán los días corridos.

ARTICULO 15. - Derógase el Decreto Nº 1885 de fecha 18 de agosto de 1978.

ARTICULO 16. - Comuníquese, publíquese, dése a la Dirección Nacional del Registro Oficial y archívese.

DECRETO no. 580
Article 1

With the object of that established in article 1 of the law, technology is understood to mean:

a. patents

b. models and industrial designs

c. All the technical know-how for the production of goods or rendering services.

Article 2

Either of the two parties concerned, is entitled to make the presentation, as required by articles 2 and 3 of the law. In addition to the information required by article 3 of the law, it is necessary to submit three copies of the document which governs legally the agreement. If the above-mentioned agreement is drafted in a foreign language, it must be accompanied by three copies of a translation, prepared by a public approved translator.

Article 3

With the object of that established in article 5 of the law, it is presumed that the remuneration shall be in relation to the transferred technology when it does not exceed five per cent (5%) of the net value of product sales or services rendered through the transferred technology.

Article 4

The value of net sales will be understood to mean the ex-factory value deducted by discounts, allowances and returns and the internal and value added taxes or those which substitute, replace or complement these in the future or whatever others which will be created henceforth related to similar taxable facts.

Article 5

In none of the presentations made before the Application Authority, will it be necessary to certify the authenticity of the documents or the respective signatures of the parties involved, a sworn authenticity declaration being sufficient.

Article 6

The Application Authority must notify the presenting party, within a period of forty-five days (45) beginning on the day of presentation, if there exist formal shortcomings or severe obstacles which hinder the approval of the agreement. The presenting party will have a period of sixty (60) days beginning on the day of notification to contest the hearing, during which the period establisned in article 7 of the law will be postponed. The period for resolution will be renewed when the hearing has been answered, modifications have been introduced or the period to do so has been exceeded.

Article 7

Regarding the appeal which is provided for in article 7 of the law, the Secretary of State for Industrial Development has a period of thirty days (30) to come to a decision.

Article 8

All proceedings related to the approval process will be carried out by the Application Authority in strict confidence.

Article 9

The final decision, coming either from the Application Authority or the Secretary of State for Industrial Development, will be sent within fifteen (15) days after its dictation to the National Direction of the Official Registry for its publication.

Article 10

The interested parties can present contracts of projects for consultation to the Application Authority, which will give its advice within sixty (60) days of receiving the presentation.

Article 11

Having approved the legal agreement, the Application Authority will hand over to each of the parties:

1. one example of the document which dictates the legal agreement with the evidence of approval;

2. a copy of the respective decision;

3. an approval certificate to be presented to the Central Bank of the Republic of Argentina which will contain: name and address of the recipient and supplier, place of payment, approval number, duration of agreement, dates on which the payments are to take place, an explanation about the establishing of the exchange rate and currency in which the amounts due should be repaid.

Article 12

In the case of the kind of presentation as set out in article 3 of the law, two copies of the agreement with the corresponding certificate of evidence will be returned to the presenting party.

Article 13

The documents which dictate the legal agreements as understood in article 3 of the law which are in the process of approval will be returned to the presenting parties with a certificate of evidence of its presentation and the date of its removal from the proceedings, to comply with article 10 of the law. One example of the document and the inscription form will be kept for reference purposes.

Article 14

All periods set out in this decree are expressed in calendar days.

UNIDO activities

UNIDO meeting to exchange views on the implications of micro-electronics for developing countries

A meeting bringing together some 30 electronic experts, development specialists and economists was held at Vienna from 10-12 June to discuss possible actions at the national and international levels to respond to the challenge presented by the micro-electronics revolution. This was the second in a series of meetings organized by UNIDO to discuss ways in which developing countries can develop the

capability and preparedness to utilize the benefits of critical technological advances in their own development. The first meeting was on technological advances on bio-technology and genetic engineering, which was reported in the TIES Newsletter of March 1981, issue number 8.

In an interdependent world economy with a technology-dependent third world, the quickness and perceptions with which developing countries respond to technological advances may well be a major factor in determining their industrial, economic and social development in the coming decades. In this regard, micro-electronics is particularly important in view of its interranging impact on a number of industrial sectors. The issues involved include aspects such as policy, trade, employment and technology; impacts in regard to micro-electronics as an industry; micro-electronics for information activities; micro-electronics for industrial applications; and micro-electronics for non-industrial applications.

The meeting called upon UNIDO, as the United Nations agency responsible for the industrialization of developing countries, to help them initiate programmes in micro-electronics and their application in other industrial sectors. The programmes would include the improved monitoring of technological advances in micro-electronics and the sensitization of decision-makers and technologists in developing countries.

A further recommendation made was for UNIDO and other agencies to provide advisory services and technical assistance for the establishment of micro-electronics assembly/manufacture and the development of human and institutional capabilities. Particular emphasis was recommended for the development of the necessary infrastructure, especially software capability, and to promote and support special applications in areas such as health and agriculture in rural areas. It was agreed that further studies should be made of the likely impact of micro-electronics development and application in other industrial sectors in developing countries. UNIDO was asked to implement, as a first step, several practical programmes of: monitoring, research and studies; promoting special applications; promoting technological co-operation among developing countries; and promoting software development.

Patentability of micro-organisms and implications for the developing countries - I

(This article was abstracted from the preliminary note prepared by the Technology Programme of UNIDO presented at the first UNIDO-sponsored meeting on the implications for developing countries of advances in genetic engineering. In our next issue we will print abstracts of the draft final report concerning technology transfer aspects.)

Introduction

The oil spills treated with hay dosed with man-made, oil-eating micro-organisms have produced the patent controversy of the century.

After prolonged discussions the Supreme Court of Justice in the United States reversed, by a narrow margin of 5 to 4, earlier decisions by the Patent and Trademark Office of the United States and accepted patentability of "life human made micro-organism".

The case of a patent application filed by General Electric in the name of scientist Ananda Chakrabarty thus went into the history of patents. The patent application was filed in 1972 and revolved around a type of pseudononas bacterium that had been modified artificially by man.

The issue soon became extremely important to many parties interested in the growing recombinant DNA industry, some of which filed briefs with the Supreme Court warning that genetic research is dangerous. The court, however, rejected such considerations.

At present, it is difficult, if not impossible, to predict how the court decision of June 1980 will affect efforts to turn recombinant DNA technology into commercial use. It is estimated that there are probably hundreds of patent applications pending all over the world.

The future of several such applications is deemed to be crucial to the future of genetic engineering and will no doubt affect the cost of products to users of the technology and customers.

For example, researchers from Stanford University and University of California, Berkeley, applied for patents for very fundamental processes necessary for gene-splicing. Genetech based in California also made broad patent claims for some of its early work in producing peptide hormones in bacteria.

Should these applications follow the two cases of Bergy and Chakrabarty et al., royalties charged for licensing of such patents, even if nominal, would bring a very substantial sum of money to the patent holders.

Potential fields of industrial application of so-called genetic engineering of micro-organisms are manifold. For the purpose of the present paper, let us follow the few enumerated by Dr. Herbert W. Boyer. Micro-organisms can be used to amplify an enzyme or set of enzymes which can direct the synthesis of organic compounds (such as ethanol, acetone, antibiotics or naturally occuring drugs). Further one can generalize that genetic engineering techniques provide the basis for designing specialized bacteria or other organisms such as viruses, fungi, or tissue culture cures which will produce useful gene products. Associated applications will utilize cloned genes or gene fragments as diagnostics in medical genetics.

A more futuristic application is one that has been described as "gene therapy". This possibility shows that individuals afflicted with severe genetic defects might have a sufficient number of malfunctioning cells corrected by the incorporation of an artificially deprived gene or set of genes into their chromosomes.

The response of neuropeptide hormones and transmitters to stress, drugs, disease and aging will be a major area of research in the next few years.

The historic United States Supreme Court decision caused a lot of movement and feverish activity in and around the recombinant DNA industry with large investments being made or increased among major and minor corporations involved in genetic engineering.

Such companies as Eli Lilly, Revlon, Brunswick, Johnson and Johnson, Schering, Abbott Laboratories, Standard Oil, Sumitomo and others are stepping up research in bio-technology. In addition a number of privately-owned small companies like Genetech, Biogen, Life Instruments etc. received substantive financial inputs (partially by way of going public) which points to the great future of this industry.

Current Practice of Patenting Man-Made Micro-Organisms in Selected Countries

The Federal Republic of Germany

In the Federal Republic of Germany both the micro-organism invention, that is, the micro-organisms as such as well as the process of using the micro-organism can be patented; however, it is necessary that the micro-organism be deposited at the culture collection at the time of filing the application. Furthermore, the product claims for the micro-organism per se are also patentable; the pre-condition for granting a patent for such per se micro-organism is that the inventor should disclose a repeatable method for the production.

European Patent Convention

According to this convention, an invention can be granted a patent concerning the micro-biology process where a product of the invention covers the use of micro-organism which is not available to the public. As in the law of the Federal Republic of Germany, such micro-organisms are to be deposited and should be in certain cases reproducible.

Japan

According to the Japanese Patent Law the micro-organism per se can be patentable provided that it can be reproduced. There is a special description regarding specifications which should be filed for the invention of the micro-organism.

The United Kingdom of Great Britain and Northern Ireland

According to the United Kingdom Patent Law, patents claiming micro-organisms per se have been granted for many years.

Finally, it should be noted that in August 1978 a convention has been signed in Budapest providing for the establishment of an international depository of micro-organisms for patenting purposes.

In the light of the above, it seems that from now on no major obstacle exists prohibiting application of similar rights to patenting man-made micro-organisms, as those enjoyed in other types of patents world-wide.

Implication of Patenting of Micro-Organisms in Developing Countries

At the outset it seems that in principle in all so-called developing countries man-made micro-organisms can be (and were in the past) patented, using predominantly similar formulas concerning their reproducibility.

The above situation is based on the fact that in a great number of these countries the patent system is based either on British or French patent laws, both enabling grants of patents on living micro-organisms.

With the probable effects and implications in mind, the Secretariat of UNIDO is putting forward for consideration the issue, whether Governments of developing countries, within the framework of existing national patent laws should consider patentability of "life man made micro-organism", in combination with a research strategy related to micro-organisms. Alternatively, they could also examine whether there is a need for a special type of patent for this subject.

It should be stressed in this context that it is the prerogative of the Government and its institutions (like their Patent Offices, for example) to decide on the patentability of certain types of products. Such practice is generally applied in the area of military inventions and technology (due to the so-called national interest) as well as other fields (for example, in the field of pharmaceuticals, access to which may have a profound effect on the health of human beings etc.).

The implications and effects of genetic engineering are far more important than those in the above outlined spheres and therefore careful consideration should be given to the issue raised.

The discussion has far-reaching consequences for developing countries: more than two-thirds of the human race may lose access to the current new technological revolution.

What is even more important, as centres of research are concentrated in only a few countries, and basic research is already covered by patent application, the possibility of carrying parallel further development in this field in and by developing countries seems remote and difficult and may ultimately lead to further increasing the technological gap between the rich north and the poor south.

The establishment of an international research facility to which free access would be provided would benefit all countries and in particular the scientists and technologists from developing countries. Such research would be extremely useful if unrestricted by existing patent law.

Technology Services Delivery System (TSDS)

In early 1978, on the basis of a trust fund contribution of the Government of Japan to UNIDO, a project was developed and put into operation, entitled: Technology Services Delivery System (TSDS). The project was developed through joint consultations between

UNIDO, representatives of the Ministry of International Trade and Industry (MITI) of Japan, the Ministry of Industry (MOI) of the Republic of the Philippines and ESCAP. The objective was to assist the small and medium industries to improve their technological performances by mobilizing existing technological know-how, experience and facilities possessed by the technological research institutes in the country, in a systematic manner. The concept was developed following the recognition of many cases in developing countries where a number of industrial research and servicing institutes are established but rarely respond to actual technological needs and requirements of the local industries, particularly the small and medium size industries located in the rural areas.

The MOI had created a Commission for Small and Medium Industries (CSMI) within the Ministry, and a set of Small Business Advisory Centres (SBAC) in 12 regional districts. The SBACs were entrusted with the task to provide necessary advisory services to the small and medium industries in their regions. However, with the lack of sufficient expertise, they were not able to satisfactorily comply with the requirements. The MOI had also promulgated a number of laws and regulations to support the needs of the small and medium industries in the technological, financial, managerial and marketing aspects; however, the potential users were making little use of such arrangements due to ignorance of the available opportunities. It was for this reason that an agreement was reached with UNIDO in strengthening this network through appropriate activities.

Surveys were carried out on 45 selected small and medium industries to identify their technological service needs, as well as on the activities and capabilities available at five selected industrial institutions, referred to within the project as Technological Resource Institutions (TRI).

The project then proceeded in institutionalizing an action programme on the basis of three subsystems, namely on information, training and consultancy services. A methodology was developed that the routine visits to the small industries in the region undertaken by the SBACs would be strengthened by the participation of representatives from the CSMI co-ordinating headquarters and from the TRI. Training courses were organized to cover all of the three sub-system aspects in order to reach a broader coverage of the target industries in a complementary and supplementary manner. In this manner, it was ensured that specific problems facing the small industries would on the spot be jointly considered and a solution found, the process itself becoming a learning-on-the-job process of the whole system, and eventually serve in strengthening the over-all technological capability level in the country. A typical example of a successful functioning of such approach was proven in the province of Isabella, north of Manila and the centre of the wood working industries. Many industries were facing the problem of the quality of their furniture products, which fact was brought up at one of the training/advisory meetings between the manufacturers and the TSDS team.

It was identified that the problem referred to could be solved through the pre-treatment of the material wood by a kiln drier.

Since none of the individual furniture manufacturers were in the position to install his own kiln drier, a proposal was made to form an industry association of 47 manufacturers who contributed, and collected a sum of about 80,000 pesos, short of some 60,000 pesos to cover the foreseen cost of 140,000 pesos for such a kiln drier.

FOPREDICOM, the TRI for wood working industries, volunteered to design and construct the kiln drier and the facilities related thereto.

The development bank was approached with a request for a loan to cover the missing 60,000 pesos, and the proposal was welcomely accepted.

For the construction of the kiln drier and facilities, FOPREDICOM arranged with a local metal-works factory in that region, supplementing unavailable parts and components procured from the Manila area. The kiln drying facility accordingly became a real locally produced set-up.

Thus the whole process resulted in the actual establishment of the kiln drier work which was inaugurated on 15 June 1981, for a joint use of the facilities.

A similar example, encouraged by the positive results in Isabella, is currently under negotiation in the Cagawan-de-Oro province, by forming a metal working association to set-up a jointly owned heat-treatment plant.

The TSDS programme has also demonstrated its usefulness through a systematic programme of disseminating practical information and reference material of direct interest to the participating SBACs and through it, to the small and medium industries. A number of training programmes have been implemented, focusing on specific subjects of common and acute interest of the small and medium industries in the respective regions.

The usefulness of the programme was further proven by the fact that the MOI has now allocated funds from the Government budget to ensure the continued and extended functioning of the TSDS.

It is planned to hold a Dissemination Meeting in autumn 1981 where the experiences collected during the implementation of this pilot project would be disseminated to other selected developing countries and, later on, through documentation to all countries interested in the concept.

1980 Foreign Investment in Thailand

(The following is excerpted from Thailand Investment Bulletin published by the Special Projects Division of Business Information and Research Co. for the Thailand Board of Investment, Office of the Prime Minister, Royal Thai Government.)

Although the number of projects has fallen somewhat, the amount of Thai and foreign investment continued to grow in the 1980 fiscal year. From October 1979 to September 1980, project applications involved a total investment of 79.4 billion baht. This figure exceeded by more than five billion baht the total investment in promoted projects from 1960 to the end of 1979.

Foreign investors continued to show their confidence in Thailand. Of 69 promoted projects beginning operation in the 1980 fiscal year, 24 were joint ventures, with a total investment of 1.9 billion baht. The percentage of joint venture projects was even higher among the 148 projects granted promotional certificates. These included 64 joint ventures with a proposed investment of 9.5 billion baht and one 100 per cent foreign-owned enterprise with an investment of 149 million baht.

Starting up

While Japan had dominated foreign investment in the past (holding approximately one third of all foreign equity in promoted projects to date), foreign investment in the 1980 fiscal year was more evenly balanced. Thus bilateral joint ventures starting operations included two Thai-German companies with a total investment of 635 million baht, six Thai-Japanese companies with a total investment of 349 million baht, six Thai-Taiwanese ventures with a total investment of 150 million baht, one Thai-Australian venture (85 million baht), one Thai-Korean company (64 million baht), two Thai-British companies (40 million baht) and one Thai-Swiss company (15.5 million baht).

Major projects getting underway were Bangkok Glass Industry Co. Ltd. - a Thai-German joint venture with a total investment of 540 million baht, two Thai-Japanese diesel engine manufacturers, Yanmar Thailand Co. Ltd. (180 million baht) and Siam Kubota Diesel Co. Ltd. (100 million baht), Siam United Navigation Co. Ltd., a 63.8 million baht Thai-Korean venture involved in international shipping, and Thai Present Co. Ltd., a 50 million baht enterprise to manufacture pewterware combining Thai, Dutch, Swiss and Belgian interests. Thai Industrial Gases Co. Ltd., a Thai-Australian joint venture, opened a new 85 million baht plant to produce pipeline oxygen, liquid oxygen and argon.

Applications

Applications during this period included several billion baht worth of projects in such fields as cement, sponge iron and steel, chemicals and hotels. In November 1979 ten applications were submitted for cement projects involving a total investment of almost 37 billion baht. Although seven of these applications were rejected in March, three massive projects were approved. They were Tanaphum Cement Co. Ltd.-SIP Cement Co. Ltd.'s project to produce 1,245,200 tons of cement in Nakhon Sawan (a Thai-Japanese-Hong Kong national-European joint venture with total investment of 3,454,100,000 baht), the Siam Cement Co. Ltd.'s project to produce 1,550,000 tons of cement yearly in Ayutthaya (a 100 per cent Thai project involving 1,360,000,000 baht investment) and Jalaprathan Cement Co. Ltd.'s projects for cement production in Nakhon Sawan and Petchburi (this is a 100 per cent Thai venture with two plans). Plan A calls for a 116,200,000 baht investment and production of 148,000 tons of cement yearly; Plan B calls for a 2,478,100,000 baht investment and production of 1,537,600 tons of cement yearly. These projects were poised to get underway after the Government decided to allow the price of cement to rise by 75 baht a ton, and the BOI was slated to review the cement situation again in early 1981.

Major projects proposed in the steel industry include Thai Billet and Steel Products Co. Ltd.'s project to invest 1,250,000,000 in billets and Siam Ferro Industry Co. Ltd.'s 1,553,750,000 sponge iron plant (both 100 per cent Thai). Chemical projects were a 9 billion baht proposal submitted by Mr. George Davison and Mr. Somsak Pitakmongkolkul to produce chemical fertiliser, Ruam Eastern Agriculture Co. Ltd.'s 605 million baht project to produce ethyl alcohol, a 100 per cent Thai venture, a 1,810,000,000 baht project to produce ethyl alcohol proposed by Mr. Visoot Tudaum, and Chaimonkol Keyberger Co. Ltd.'s 560 million baht project to produce ethanol organic content fertiliser (a Thai-German joint venture).

INVESTMENT COUNT

BoI promotions *September 1980*

APPLICATIONS SUBMITTED

Name and address	Objectives	Total investment Date submitted Shareholders' nationality
ANIMAL FEED		
Nakhon Sawan Feed Co Ltd 97 Soi Arthakat, Klongton, Phrakanong, Bangkok 391-1780	Animal feed, 40,000 tons (Nakhon Sawan)	34,000,000 baht Sept 1, 1980 Thai
Sin Kamphaeng Feed Co Ltd 97 Soi Arthakat, Klongton, Phrakanong, Bangkok 391-1780	Animal feed, 40,000 tons (Chiang Mai)	34,000,000 baht Sept 1, 1980 Thai
CHEMICALS		
Caspee Refrigerants Ltd Mr Pittaya Pongpanboon 364 Surawongse Road, Bangrak, Bangkok	Freon 11,400 tons; Freon 12, 1200 tons; Freon 22, 600 tons; Hydro fluoric acid (55%), 875 tons; Hydro fluoric acid (100%), 875 tons; Cryolite, 1760 tons; Aluminium fluoride, 800 tons	300,000,000 baht Sept 3, 1980 Thai & Indian
United Tungsten Industries Co Ltd 19/1 Soi Sukhocha 5, Rajwithi Road, Dusit, Bangkok 281-0921	Ammonium para tungstate (APT) 1080 tons (Pathum Thani)	80,000,000 baht Sept 25, 1980 Thai & American
CONSTRUCTION MATERIAL		
Concrete Pipe Co Ltd 1003 Lard Prao Road, Bangkhen, Bangkok 511-2211	Concrete pipe and ferro concrete, 94,515 metres	20,922,000 baht Sept 25, 1980 Thai
ENERGY		
Mr Kihei Hashimoto 480/1-7 Siam Square, Pathumwan, Bangkok 252-8081 – 5, 251-9867-70	Flat plate solar collector 18,000 units (Pathum Thani)	92,374,000 baht Sept 5, 1980 Thai & Japanese
ENTERTAINMENT		
Celestial Yachts (Thai) Co Ltd 1 AICE Bldg, Chaloemlok Arcade, Rajdamri, Bangkok 252-6082, 51-7254	Luxury sailing yachts, 28 yachts (Chonburi)	6,000,000 baht Sept 25, 1980 Thai, American & British
FOOD & LIVERAGES		
Mr Chanchai Kanapanichkasem 253/7 Rama IV Road, Pathumwan, Bangkok 214-3008	High fructose syrup (HFS), 20,000 tons (Khon Kaen)	150,000,000 baht Sept 9, 1980 Thai & Korean
FURNITURE		
Thai Harison Co Ltd 84/15 Soi Charoen, Thonburi-Patathor Road, Chomthong, Bangkhunthien, Bangkok 469-1353	Furniture from rattan: table 8000 sets; chair 20,000 sets; others 20,000 units	4,500,000 baht Sept 29, 1980 Thai
HOTELS		
Rassawat Krabi Co Ltd, 28/11 Soi 77 Petchkasem Road, Bangkhem, Bangkok 420-1119	Hotel 120 rooms (Krabi)	22,000,000 baht Sept 3, 1980 Thai
Mrs Malee Thongsharoenkiet 1244-1246 Krungkasem Road, Makkasan, Pomprab, Bangkok 223-2637	Hotel 208 rooms (Chiang Mai)	130,000,000 baht Sept 25, 1980 Thai
The Thai Leaf Tobacco Co Ltd 107 Charoj Lor Road, Tambon Haiya, Amphur Muang, Chiang Mai	Hotel 200 rooms (Chiang Mai)	130,000,000 baht Sept 8, 1980 Thai
World Investment Corporation Ltd 1168 New Road, Sophra, Bangrak, Bangkok 234-8971-5	Hotel 300 rooms (Chonburi)	150,000,000 baht Sept 26, 1980 Thai & British

Name and address	Objectives	Total investment Date submitted Shareholders' nationality
Cho-Um Farm Co Ltd 51/8 Changwattana Road, Bangkhen, Bangkok 521-1290, 521-1957	Hotel 480 rooms (Prachuap Khirikhan)	299,000,000 baht Sept 17, 1980 Thai
MACHINE TOOL		
Mr Chuan Rungsay 37/2 Soi Srisukhmvit, Sukhumvit Road, Bangchak, Phrakanong, Bangkok 311-2615	Self tapping screw & machines screw 1200 tons (Samut Prakan)	33,500,000 baht Sept 15, 1980 Thai & Taiwanese
METALS		
Rasmithai Industry Aluminium Co Ltd 205 Bangpleng-Prakasa Road, Moo 2, Tambon Thaybard, Amphur Muang, Samut Prakan 395-3317	Copper tubes sections, 2400 tons Aluminium sections, 1200 tons (Samut Prakan)	120,000,000 baht Sept 30, 1980 Thai & Taiwanese
PAPER		
Thai European Paper Co Ltd 343 Nangton, Phrakanong, Bangkok 311-3487	Cigarette paper 27,000 tons; thin paper 900 tons; Air Mail onionskin and others 800 tons (Pathum Thani)	150,000,000 baht Sept 9, 1980 Thai, Scots & German
PLANTATION		
Sriracha Forestry Co Ltd 140 Wireless Road, Bangkok 251-8291	Cultivation area of 2500 rai for Suan Padpet (Chanburi)	67,678,000 baht Sept 11, 1980 Thai
SHIPPING		
SRI Co Ltd 332 Charoenrak Road, Klongton Shai, Klong San, Bangkok 466-0813	International shipping consisting of 3 ships 4800-10,000 DWT (Service between Bangkok-Malaysia- Indonesia-Philippines- Taiwan)	60,000,000 baht Sept 23, 1980 Thai
Thai Maritime International Co Ltd 118 Mahesak Road, Silom, Bangrak, Bangkok 236-8661, 236-8847-8	International shipping consisting of 5 ships 2000-10,000 DWT (Service between Bangkok- Malaysia-Singapore- Vietnam-Cambodia- Brunei-China-Australia- USA-Hong Kong)	125,000,000 baht Sept 26, 1980 Thai, Hong Kong national & Singaporean
Mrs Sagarn Chiraworat 238/37 Soi Laud Road, Tambon Thaybard, Amphur Muang Samut Prakan 395-1038	Cold storage 3200 tons (Samut Prakan)	32,000,000 baht Sept 15, 1980 Thai & Japanese
TEXTILES		
Mr Gurah Mac Singh Sojathop 207-208 Raychawong Road, Bangkok 221-8856, 221-8888	Velvet 1.8 m yards	20,000,000 baht Sept 19, 1980 Thai & Indian
WOOD		
Nakhonsithammarat Parasa Co Ltd 1538/3 Sripradit Road, Tambon Thawang Amphur Muang Nakhonsithammarat 356-838	Parawood conversion 580,000 m^3 (Nakhon Sri Thammarat)	11,150,000 baht Sept 8, 1980 Thai
MISCELLANEOUS		
Samui-Kanom Ferry Co Ltd 42 Soi Phuntawith Sukhumvit Road, Bangchak, Phrakanong, Bangkok 311-2027	Tour by ferry boat of 3 units (Service between Samui-Kanom)	20,000,000 baht Sept 3, 1980 Thai
Siam Coir Industry Co Ltd 457 Silom Road, Bangrak, Bangkok 233-9511	Rubber coated coconut fibre 1400 tons (Prachuap Khirikhan)	20,000,000 baht Sept 11, 1980 Thai & Indian
Mr Veera Sathaworapan 83/8 Wireless Road, Bangkok 252-5587, 252-8472	Porcelain insulator suspension 2000 tons, surge arrester 400 tons, cap pin 1200 tons, fuse cut-out 400 tons	65,000,000 baht Sept 24, 1980 Thai

APPLICATIONS APPROVED

Name and address	Objectives	Total investment Date of approval Shareholders' nationality
AGRICULTURAL PRODUCT		
Siam Seeds Co Ltd 67/21 23 Thanya Road Siam, Bangrak Bangkok 234 9844-5, 234 9647 9	Corn seeds 2000 tons (Nakhon Ratchasima)	25,000,000 baht Sept. 12, 1980 Thai & Japanese
Supper Seeds Co Ltd 235/2 Sukhumvit Soi 9 Road (Soi Klang) Phrakanong Bangkok 392 7462	Corn seeds 2000 tons (Prachinburi)	17,800,000 baht Sept 12, 1980 Thai
CHEMICAL		
M Thai Industrial Co Ltd 42-44 Chakrmkat 2 Road Thapanra, Prompratb Bangkok 223-6817	Acetylene black 1500 tons (Samut Prakan)	44,000,000 baht Sept 12, 1980 Thai
ELECTRICAL EQUIPMENTS		
Sirikosol (1972) Co Ltd 968-990 Sukhumvit Road Phrakanong, Bangkok 391-2914, 391-0772, 391-3486	Transformers 12,900 sets (Samut Prakan)	9,000,000 baht Sept 12, 1980 Thai
Maxwell (Thailand) Electric Co Ltd 61/3 Soi Samakki Wuthakas Road Taladplu, Thonburi Bangkok 22?-3361	Transformers 950 sets (Nakhon Pathom)	17,000,000 baht Sept 12, 1980 Thai, Taiwanese & Singaporean
HOSPITAL		
Mr Manas Sethaputchon 42/2 Ekamai Road Bangkhunthian, Bangkok 281-4640	Hospital 60 beds	17,800,000 baht Sept 12, 1980 Thai
HOTELS		
Rama Tower Co Ltd 981 Siam Road, Bangkok 236-8701 – 4	Hotel 289 rooms	825,000,000 baht April 11, 1980 Thai
Rama Tower Co Ltd (Rama Garden Hotel) 981 Siam Road, Bangkok 236-8701 – 4	Hotel 384 rooms	375,000,000 baht April 11, 1980 Thai
Miss Chanira Rattapong 532/7 Sukhapiban 2 Road, Amphur Bandpai, Khonkaen 272-670	Hotel 90 rooms (Khon Kaen)	26,250,000 baht Sept 12, 1980 Thai
RUBBER		
Mr Sara Parkpoongarnich 471 Sriyuthaya Road, Phyathai, Bangkok 281-7283, 281-8954	Rubber products: TTR 5L 3000 tons; TTR 5 10,000 tons (Songkhla)	48,000,000 baht Sept 12, 1980 Thai & Singaporean
SHIPPING		
Sri Siam Marine Co Ltd 154/7 Charoennakhon Road, Bookkalow, Thonburi, Bangkok 466-2548	International shipping consisting of 4 ships size 1500-2500 DWT (Services between Bangkok Malaysia-Singapore- Indonesia)	68,000,000 baht Sept 12, 1980 Thai
TRADING COMPANY		
Mr Jirayuth Vasurat 141 Soi Charoenmitr, Ekamai, Bangkok 391-6374	International trading company	30,000,000 baht Sept 12, 1980 Thai

APPLICATIONS REJECTED

Name and address	Objectives	Total investment Date of rejection Shareholders' nationality
AGRICULTURAL PRODUCTS		
The Siam Agro-Products Co Ltd 713/16 Soi Phramomary, Chan Road, Yannawa, Bangkok 211-2531	Dehulled seed meal, 700 tons (Phetchaburi)	5,500,000 baht Sept 12, 1980 Thai & British
CHEMICALS		
Indo-Thai Synthetics Co Ltd 109 Surasa Road, Pomprab, Bangkok 223-1891 – 8	Acetylene black, 1800 tons byproduct: Calcium hydroxide, 6480 tons (Ayuthaya)	110,000,000 baht Sept 12, 1980 Thai
ELECTRICAL EQUIPMENT		
Mr Chawin Likitvanichkul 72/2 Lard Prao Soi 15, Bangkapi, Bangkok 511 2772	Audio equipments preamplifier and power amplifier 20 W-40 W 11,000 units, tuner 8000 units, room equalizing instrument 8000 units	38,000,000 baht Sept 12, 1980 Thai
FOOD & BEVERAGES		
Mr Kiet Mongkonkarn 75 77 Chakrmkat 2 Road, Suan Mak, Pomprab, Bangkok 223 766* – 2	Coffee beans 800 tons (Chumphon)	15,600 000 baht Sept 12, 1980 Thai & Singaporean

APPROVALS CANCELLED

Name and address	Objectives	Total investment Date approved, cancelled Shareholders' nationality
ENERGY		
Wooden Bio-Solar Thailand Co Ltd 33/581 Ruamchoknavi, Chakchai 4, Lard Prao, Bangkapi, Bangkok 282-1469	Solid fuel 100,000 tons (Nakhon Pathom)	35,000,000 baht Approved Oct 29, 1979; cancelled Sept 11, 1980 Thai
IRON & STEEL		
Thai Steel Co Ltd 868 Rama IV Road, Bangkok 234 6307	Pig iron 16,000 tons (Lampang)	73,745,000 baht Approved June 28, 1979; cancelled Sept 15, 1980 Thai
LIVESTOCK		
Siam Agriculture Co Ltd 1644 Moo 10, Sukhapiban 2 Road, Talangchan, Bangkok	Livestock raising 210 head of cattle; fresh milk 512,400 litres (Lopburi)	6,846,000 baht Approved Aug 27, 1979, cancelled Sept 12, 1980 Thai
RUBBER		
Mr Setsermsarn Tangtrakul 14 Soi Srikanchana, Sukhumvit Soi 71, Phrakanong, Bangkok 391-3058	Reclaimed rubber 1600 tons (Samut Sakhon)	12,000,000 baht Approved June 28, 1979; cancelled Sept 17, 1980 Thai
STORAGE		
Ek-Udomthai Fishery Co Ltd 92 Jetsadawithi Road, Tambon Mahachai, Amphur Muang, Samut Sakhon 411-22	Cold storage 10,000 tons (Samut Sakhon)	21,770,000 baht Approved Dec 24, 1979; cancelled Sept 17, 1980 Thai
MISCELLANEOUS		
Western Medical Manufacturing (Thailand) Co Ltd 14 Surasak Road, Silom, Bangrak Bangkok	Medical equipment	22,900,000 baht Approved Oct 29, 1979, cancelled Sept 12, 1980 Thai, Swiss & British
Siam Polypropylene Industry 33 Sukhumvit Soi 44/1, Phrakanong, Bangkok 392 5182	Biaxially oriented polypropylene film (BOPP films special) 736 6 tons	45,000,000 baht Approved Nov 26, 1979, cancelled Sept 11, 1980 Thai

FIRMS GRANTED PROMOTION CERTIFICATES

Name and address	Objectives	Total investment Date of certificate Shareholders' nationality
CHEMICALS		
Imperial Industrial Chemicals (Thailand) Co Ltd 868 Rama IV Road, Silom, Bangrak, Bangkok 233-3252, 234-5021	Chemical products: fatty acids 2000 tons, glycerine 300 tons; stiff drying oil 800 tons (Samut Prakan)	38,800,000 baht Sept 30, 1980 Thai & Indian
ELECTRICAL EQUIPMENTS		
Saha International Co Ltd 61/17 Moo 3, Sukhumvit Soi 105, Bangna, Phrakanong, Bangkok 393-7884	Integrated circuits, 23 4 m units (Samut Prakan)	88,418,000 baht Sept 15, 1980 Thai, Swiss & Indian
FISHERY		
Aqua-Seeds Research Center Co Ltd 76 Chakrmkat 1 Road, Thapanra, Pomprab, Bangkok 223-6152, 223-9214 – 5	Aquaculture: prawn 15 m units; bass 7 m units, other aquatic animal 8 m units (Rayong)	71,000,000 baht Sept 25, 1980 Thai
FOOD & BEVERAGE		
Union-Sori Co Ltd 32/3 Soi Chamthima, Lard Prao Road, Wang Thong Lang, Bangkapi, Bangkok 514-0511 – 9	Canned seafood: tuna 237,600 cases (2110 tons), sardine 240,000 cases (3415 tons), pet food 187,000 cases (1082 tons) (Samut Prakan)	38,000,000 baht Sept 26, 1980 Thai

Name and address	Objectives	Total investment Date of certificate Shareholders' nationality
HOTELS		
Tara Co Ltd 4/1 Charoenrat 2 Road, Tambon Suhaisalai, Amphur Suhaisalai, Narathiwat	Hotel 120 rooms (Narathiwat)	21,000,000 baht Sept 22, 1980 Thai
IRON & STEEL		
Usha Siam Steel Industries Ltd 76 Ratchawong Road, Chakkawat, Samphanthawong, Bangkok 223-3178	Steel wire ropes & strands 6000 tons (Ayutthaya)	80,000,000 baht Sept 22, 1980 Thai & Indian
Thai Malleable Iron and Steel Co Ltd 489/19 Petchkasem Road, Thungmahamek, Yannawa, Bangkok 286-8375	Galvanized malleable iron pipe fitting 3000 tons, others 900 tons (Pathum Thani)	25,000,000 baht Sept 9, 1980 Thai
LIGHTING EQUIPMENTS		
Practical Flashlight Co Ltd 143 Changwattana Road, Talad Bangkhen, Bangkhen, Bangkok 521-1002	Portable flashlights from plastic 9.6 m units, flashlight bulbs of 2.4-12 V, 19.2 m units	30,000,000 baht Sept 25, 1980 Thai & Taiwanese
Tungsram Industry Co Ltd 775/1 Charoenrakhon Road, Klong Tonsrai, Klong San, Bangkok	Light bulbs for motorcycles 2 m bulbs; passenger cars and trucks 2 m bulbs, boats 500,000 bulbs (for export) (Nakhon Pathom)	11,000,000 baht March 28, 1980 Thai
MACHINE TOOLS		
Bangkok Fastening Co Ltd 951/1 Soi Prachu 1, Samparadit Road, Yannawa, Bangkok 294-0078	Bolts and nuts 1000 tons	18,320,000 baht Sept 9, 1980 Thai
OFFICE EQUIPMENTS		
Thai Kenga Co Ltd 367-383 Manachon Road, Somrasrai, Phrakanong, Bangkok 221-9998, 221-0382	Safe 9000 units (Samut Prakan)	15,800,000 baht Sept 30, 1980 Thai & Japanese
PLASTIC		
Bangkok Polysack Co Ltd 23 Moo 3, Rama II Road, Rasb Klang Pasicharoen, Nongkhaem, Bangkok 426-1823, 420-2415	Woven plastic bag 3.8 m units	15,000,000 baht Sept 25, 1980 Thai
RUBBER		
Yala Rubber Co Ltd 398-400 Sirorose, Tambon Satang, Amphur Muang, Yala	Block rubber TTR (SMR) 5L, 12,000 tons (Yala)	24,500,000 baht May 20, 1980 Thai & Taiwanese
STORAGE		
International Cold Storage Co Ltd 1668/75 New Road, Yannawa, Bangkok 286-6876, 286-6887	Cold storage 7680 tons	16,000,000 baht Sept 30, 1980 Thai
TEXTILES & GARMENTS		
Siam Garment Manufacture and Trading Co Ltd 1016 Rama IV Road, Silom, Bangrak, Bangkok 233-2237 – 8	Industrial work gloves: PVC impregnated work gloves 550,000 doz prs; PVC dipping work glove 480,000 doz prs; cotton drill work glove 580,000 doz prs; hot mill work glove 100,000 doz prs (Nakhon Pathom)	8,080,000 baht Sept 22, 1980 Thai, British, Portugese & Taiwanese
MISCELLANEOUS		
Q & Q Co Ltd 724/17-18 Mangkorn Road, Pomprab, Bangkok 222-1597, 221-1364	Foam rubber sole (printed neoprene) 653 tons	27,500,000 baht Sept 22, 1980 Thai
Super Metal Industry (Bangkok) Co Ltd 46/1 Moo 6, Ekachai Road, Bangbon, Bangkhunthien, Bangkok	Blanks 11,900 kgs; standard drawing dies 1280 kgs, header dies 860 kgs, special shape dies 860 kgs	10,000,000 baht July 23, 1980 Thai & Taiwanese
Thai Cooling Tower Co Ltd 108/91 Moo 18, Soi Sukhapiban 14, Sukhapiban Road, Tambon Bangsaung, Amphur Phrapradaeng Samut Prakan 462 6717	Cooling tower 350 units (Type counter flow and cross flow) (Samut Prakan)	28,000,000 baht Sept 25, 1980 Thai & Taiwanese

Name and address	Objectives	Total investment Date of certificate Shareholders' nationality
Metallina Products (Thailand) 940/2 Somdetchaopraya Road, Bangkok 465-8380	Products from polypropylene BOPP films standard 1090 tons, BOPP films special 1,000 tons, metallized paper 52.16 m m^2, metallized film 21 m m^2, wall paper and decorative paper 13.05 m m^2, BOPP films special 21 m m^2 (Samut Prakan)	265,500,000 baht July 23, 1980 Thai

PROMOTED FIRMS STARTING OPERATIONS

Name and address	Objectives	Total investment Date of operation Shareholders' nationality
HOSPITALS		
Praset Development Co Ltd (Phyathai Hospital), 364/1 Sri Ayutthaya Road, Phyathai, Bangkok 251-0161	Hospital 96 beds	148,900,000 baht July 7, 1980 Thai
Ailaohad Hospital Co Ltd 31 Soi Chaolao, Suthasmanuchai Road, Samsen Nai, Bangkok	Hospital 80 beds (Chonburi)	42,000,000 baht Oct ' 1980 Thai
HOTELS		
Oluankarn Hotel Co Ltd 125-127 Rajdamri Uthid Road, Tambon Nai Muang, Amphur Muang, Phuket 611 321, 611 206	Hotel 86 rooms (Phuket)	14,800,000 baht Sept 9, 1980 Thai
Klantheng Co Ltd 76/3 Vrauthasat Road, Tambon Nai Muang, Amphur Muang, Phitsanulok	Hotel 101 rooms (Phitsanulok)	41,000,000 baht Sept 9, 1980 Thai
DB Shoes (1979) Co Ltd 979 Moo 7, Thaparatbamrung Road, Tambon Samrong Nua, Amphur Muang, Samut Prakan 394-4378 – 9	Upper leather for walking shoes 240,000 pairs (Samut Prakan)	10,000,000 baht Sept 1, 1980 Thai & British
SHIPPING		
Siam United Navigation Co Ltd 968 U-Chulang Bldg. 7th Floor, Rama IV Road, Bangkok 233-0162, 233-0186	International shipping, consisting of 2 ships (one ship of size 2800 DWT and 5620 DWT) (Service between Bangkok-Assen-Australia)	63,750,000 baht Aug 1, 1980 Thai & Korean
STORAGE		
Central Silo & Drying Co Ltd 7/3 Paholyothin Road, Moo 11, Tambon Klong Nung, Amphur Klong Luang, Pathum Thani	Silo and redrying of maize 144,000 tons (Pathum Thani)	151,000,000 baht Aug 1, 1980 Thai, British, Hong Kong national, Singaporean, Portugese & Taiwanese
TRADING COMPANIES		
CP Intertrade Co Ltd 61 Thanit Bldg. Kasemrad Road, Klong Toey, Phrakanong, Bangkok 286-4539, 286-3181	International trading company	50,000,000 baht July 29, 1980 Thai
MISCELLANEOUS		
Lert Silp Studio Co Ltd, 11/13-15 Opposite Coliseum Theatre, Phyathai, Bangkok 281 2583, 281 0664	Developing and printing service film 15 copies	6,372,000 baht Sept 2, 1980 Thai
Chatarong Film Service Co Ltd 467 Phrasumeun Road, Banlumphoo, Bangkok 281-5844, 281 5859	Developing and printing service film 20 copies (Nonthaburi)	15,479,000 baht Sept 1, 1980 Thai

Republic of the Philippines and Nauru Joint Venture Agreement

A joint venture agreement undertaking the construction of the P2.4 billion ($370 million) phosphatic fertilizer project of the Philippines was signed on 6 February 1981 by President Hammer de Roburt of Nauru for the state-owned Nauru Phosphate Company and Industry Minister Roberto V. Ongpin in behalf of the National Development Company. President Ferdinand E. Marcos signed as a witness to one of the biggest single investments ever made by a foreign government in the country.

Under the agreement, the Nauru Phosphate Company will put up a $40 million investment, representing 40 per cent foreign equity participation. The balance of 60 per cent will be provided by the National Development Company (NDC) and other local investors. Local investors have thus been allowed to take advantage of the profitable business in fertilizer by setting a limit of 40 per cent on the foreign equity participation.

Under the same agreement, the state-owned Nauru Phosphate Company is expected to provide a long term supply of 300,000 metric tons of phosphate rock to the fertilizer plant each year. Phosphate rock is one of the three basic raw materials needed to set up the fertilizer plant in Isabel, Leyte. The other two basic raw materials required in the production of phosphate fertilizers are sulfuric acid and anhydrous ammonia. Of these three basic raw materials, only sulfuric acid can be obtained locally, and only to a certain extent. Sulfuric acid, which is also the cheapest among the components will be available locally when the country's copper smelter project, another major industrial undertaking, starts operation at about the same time the fertilizer plant gets ready to function. Waste sulphur from this copper smelter plant will be mixed with the phosphate to be used as fertilizer.

The 300,000 metric tons yearly supply of phosphatic rock from Nauru represents 27 per cent of the estimated 1.1 million tons of phosphatic rock required by the fertilizer complex per year. Other sources being considered by the government are Florida and North Carolina, which is about 11,000 miles from the Philippines, and Morocco, which is located 9,000 miles away from the country, and which has gained the distinction of holding 75 per cent of the world's reserves of phosphate rock. The country is also discussing proposed long term supply contracts with the Jordanian Government.

The Republic of Nauru, an island located in the Central Pacific and only 3,600 miles away from the Philippines, surfaced to be the most ideal source of phosphate rock for the country's fertilizer plant due to its proximity to the country. At present Nauru holds the slot as the 6th largest exporter of phosphate rock in the world, exporting from 1.8 million tons to about 2.2 million tons annually worth $80 to $100 million, most of which is contracted to buyers in Australia, New Zealand and Japan. Phosphate rock is Nauru's sole export. The country imports mainly coal, building construction materials and machinery.

Nauru's offer to invest in the project is the third received by the Philippine Government. The two others were from Agrico Chemical Company of the United States and International Mineral and Chemical Corporation of Canada.

Industry Minister Roberto V. Ongpin said that the country has received the respective bids of the four foreign consortia vying for the right to build the country's phosphatic fertilizer plant in Isabel, Leyte.

Construction of the fertilizer complex composed of four separate plants - namely the sulfuric acid plant, the phosphoric acid plant, the granulation plant and the ammonium sulfate plant - will be done on a "turnkey basis, with an escalation clause for domestic cost."

The four consortia bidding for the project are Mitsui Co. of Japan and Badger Co. of the U.S.; Simchem Corp. of Britain, and Toyo Engineering Co. and Marubeni Corporation of Japan; Foster Wheeler Iberia and Technicas Reunidas S.A. both of Spain and Lurgi of West Germany; and CoppéeRust of Belgium and Mitsubishi and C. Itoh, both of Japan.

The phosphate fertilizer complex is one of 11 major industrial projects of the Philippines. In addition to this fertilizer compound the copper smelter project, a diesel engineering industry and an alcogas program have already progressed beyond the negotiation stage.

Recent publications

UNIDO/IS/230 Technological perspectives in machine tool industry with special reference to micro-electronic applications.

UNIDO/ME 2 Application of micro-electronics for development: Issues for consideration.

UNIDO/ME 1 Implications of micro-electronics for developing countries: A preliminary overview of issues.

UNIDO/IS/222 Industrial technology in Africa: A preliminary view.

UNIDO/IS/205 Directory of industrial information services and systems in developing countries.

UNIDO/IS/214 - Mini hydro power stations: A manual for decision makers.

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ID/WG.337/3 Major features and trends in contracts and agreements in the international petroleum industry - Second meeting of the ad hoc group.

ID/WG.337/4 - Major features and trends in mining agreements.

ID/WG.337/5 Features and issues in turnkey contracts in developing countries.