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FINAL REPORT

1 March - 31 December 1995

The Execution of Services Related to the Energy and Environment Information System (Phase II)

Project No: XP/INT/94/014

Submitted to

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
(UNIDO)
Vienna, Austria

by

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Asian Institute of Technology (AIT)
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Bangkok 10501, Thailand

January 1996

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The Execution of Services Related to Energy and Environment Information System(Phase II)

Final Report
1 March - 31 December 1995

1. Introduction

In 1991, the United Nations Industrial Development Organization (UNIDO) Environment Program commissioned a study to assess the current supply of industrial information to developing countries, with particular focus on energy and environment information for small and medium industries (SMIs). Four in-depth national studies, based on the findings of the 1991 survey, were undertaken in Hungary, Peru, Thailand and Zimbabwe and were completed in early 1993. To follow-up these national studies, pilot information systems are being developed in those countries.

UNIDO Industrial and Technological Information Bank (INTIB), in response to findings and recommendations of the 1991 study and based on the recommendations contained in the consultant's report "INTIB Energy and Environment Information System: Thailand" (April 1993) has supported the Center for Library and Information Resources (CLAIR, formerly: Library and Regional Documentation Center (LRDC)) of the Asian Institute of Technology (AIT) of Thailand in the pilot phase of Energy and Environment Information System (EEIS) to initiate the delivery of industrial energy and environment information to SMIs in Thailand. The EEIS is intended to be an extension of the Industrial and Technological Information Bank (INTIB) network.

The EEIS provides a number of services including the provision of relevant, and up-to-date information, and the institution of high impact mechanisms for commercialization, distribution and promotion of information, which correspond to each participating country's capabilities in disseminating information. The EEIS is a non-profit venture, but operates on a fee-paying basis.

The UNIDO contract No. 94/102 between the United Nations Industrial Development Organization (UNIDO, Vienna) and the Asian Institute of Technology (AIT) of Thailand for The Execution of Services Related to Energy and Environment Information System (Phase II) was signed by UNIDO on 23 December 1994 and by AIT on 20 February 1995.

CLAIR/AIT is the Primary Contact Point (PCP) of EEIS Network in Thailand. This final report summarizes the activities carried out by CLAIR/AIT during 10 months of contract operation.

2. The First Meeting of the EEIS Network in Thailand

The first meeting of the EEIS Network in Thailand was organized by CLAIR for UNIDO on 8 December 1994 at the Asian Institute of Technology (AIT), Bangkok.

The meeting was intended to inform the potential Secondary Contact Points (SCPs) of the background information of EEIS and for all potential partners to discuss the potential activities and network of EEIS in Thailand. A demonstration of UNIDO's databases was conducted by Mr. P. Pembleton of the Industrial and Technological Information Section, UNIDO, Vienna.

The minutes of the meeting, the list of organizations invited to the meeting, and the list of participants are included in Appendix A.

As a result of this meeting representatives from the Technical Information Access Center, the Industrial Estate Authority of Thailand and the International Institute of Energy Conservation affirmed their willingness to serve as SCPs. The Thailand Environment Institute and the Department of Energy Development and Promotion also expressed interest, however, decision will be made by their management. The possible Roles and Benefits for SCP in the EEIS were discussed and defined.

3. Roles and Benefits for Secondary Contact Points (SCP) in the EEIS

Considering that the main function of the SCP is to mediate between end-users and the providers of information and related services, the participants agreed on the following roles and benefits for SCPs. The roles were categorized into promotion and information intermediaries. Possible mechanism to achieve the selected roles were also included. The SCP may select one or both roles based on the mission of their organization.

The participants also agreed on the possible benefits for SCPs and these are presented including suggestions to develop a charging mechanism in order to generate income.

3.1) Promotion

SCPs are expected, as a minimum, to play a pro-active, promotional role, vis-a-vis their target audience – especially with respect to industrial energy/environmental conservation issues. As part of this promotion, they could

also provide advice on where information seekers may go (the PCP or specialist SCPs) for assistance.

The SCP may be an end-user of EEIS information itself or simply a promoter.

An SCP is expected to have existing communication channels with their user-groups (e.g. newsletters, electronic bulletin boards, seminars) which could be low-cost promotional channels for the EEIS. The PCP should not itself incur costs in using these channels, as economies of scale in reaching potential end-users are essential

Part of the promotion may be aimed at identifying national funding mechanisms (apart from charging for information services) to support continuance of the EEIS activity beyond its pilot phase.

3.2) Information intermediaries

SCPs may, in addition to promotion, act as information distribution nodes. In such a case, they would generate, collect and forward requests to the PCP, thereby acting as information intermediaries.

In addition, some SCPs (e.g. consulting companies, educational and research organizations, even regulatory bodies) will be in a position to make use of EEIS information themselves as part of their programme. In such cases, they would be adding value to the raw data by interpreting it for their own ends, for the local conditions or a customer.

Effective communication channels between PCP and the SCPs should be established so that queries from end-users can be promptly serviced.

3.3) Possible benefits

SCPs could be given increased credibility, visibility and attractiveness through the introduction of new, enhanced services.

Serving as a distribution node for the EEIS will be an additional resource for them and will enhance their effectiveness in achieving their programme targets.

Taking on distribution of the EEIS information packages will strengthen their existing services and boost their client base as well as increase their credibility with local enterprises and enable them to meet a demand they cannot presently meet through providing technical advice.

SCPs are expected to develop a charging mechanism (e.g. as a charge per usage of the service, or as part of annual membership fees) for providing an information service, in order to generate an income. This may also be in the form of a mark-up whenever information is built into a wider 'product' such as a consultancy service. Such information, provided in a 'packaged' form will enhance its usefulness and justify a higher mark-up.

Promotion and marketing materials can be provided through the PCP.

4. Operational Procedure and Guidelines between EEIS and UNIDO

Based on the discussion with Mr. P. Pembleton during his visit to AIT in December 1994, the AIT Team has developed the operational procedure and guidelines for the use and sales of UNIDO information resources. The operational guidelines are presented in Appendix B. These guidelines were disseminated and discussed with potential SCPs.

5. Visits to Potential SCPs.

In May 1995, the AIT Team visited two potential SCPs, namely the Technical Information Service (TIS) at the King Mongkut's Institute of Technology, Thonburi and the Technical Information Access Centre (TIAC) of the National Science and Technology Development Agency.

The operational guidelines, roles and benefits were discussed with TIS and TIAC. Both organizations have agreed to serve as SCPs of the EEIS network in Thailand.

PCP representatives (Mrs. On-Anong Suraniranat and Ms. Supaluk Sookpath) visited the Work Plant Division of the Department of Energy Development and Promotion on 21 September 1995. Discussion was made with Ms. Nonglak Boonyawath and Ms. Daraka Suwannakul who are responsible for activities of the Computer Center and the Energy and Information Service, respectively.

Due to the reorganization of the Department of Energy Development and Promotion (DEDP) and the National Energy Information Center, and the available human resource, they have decided not to serve as one of the SCPs of EEIS-Thailand. They, however, have agreed to assist the PCP in the promotion and marketing the activities of EEIS to potential users who visit the Energy Library at DEDP.

The PCP representatives also visited the Industrial Estate Authority of Thailand. The Environmental Control and Safety Division, Environmental Enhancement Center. IEAT agreed to serve as SCPs of the EEIS network in Thailand.

In October 1995, the PCP representatives visited The Federation of Thai Industries and The Department of Science Service. The Federation of Thai Industries agreed to serve as one of SCPs of EEIS-Thailand and The Department of Science Service, represented by Mrs. Mayuree Pongpudputh, the Director of the Scientific and Technological Information Division declined to participate as one of the SCPs.

6. The Secondary Contact Points (SCP)

Four Secondary Contact Points were selected for this pilot project. The copy of the brochure of each SCPs are in Appendix C. A brief description of the SCPs, the roles they selected, communication channels, and possible benefits are presented.

* Federation of Thai Industries (FTI)

FTI was selected to represent the trade and industry association. FTI is the largest and only officially recognized private sector industrial organization. FTI has over 3,600 member companies from 26 Industry Clubs and 19 provincial clubs. Member companies include small, medium and large companies throughout the country. The roles selected by FTI are to promote energy and environment conservation issues and to act as information intermediary. The Industrial Environmental Management Office (IEM) is the direct contact as SCP.

The IEM/FTI comprising of representatives from the industrial sector, other non - governmental organizations (NGO'S) and academic institutions has been set up to formulate project policy and monitor the implementation of the project. IEM provides technical assistance and has been involved with projects to protect Thailand's environment and promote environmental technology transfer to Thailand.

The existing FTI communication channels with their clients are: FTI newsletter (in Thai), fliers, posters and through club meetings. Funding is generated through membership fees.

FTI generates reports in environment of specific sectors with case studies on specific factories. For 1995, FTI published three (3) major reports, recommendation on the improvement of the industrial environment, and audit reports for distribution. IEM collects references on its topic coverage.

According to IEM head, being SCP of the EEIS is very useful for them. As communication channel with PCP, FTI preferred email, however, telephone, fax and mail are good alternative.

IEM/FTI promotes EEIS through the following: newsletter, display in library, brochure (new brochure for release in June 1996); video; monthly committee and

club meetings; and seminars. In 1995, IEM/FTI conducted four (4) seminars on clean technology, two (2) on environmental audits and three (3) on environment in general.

IEM/FTI distributed the UNIDO fact sheets and received three (3) requests. IEM use UNIDO publications regularly as reference.

IEM/FTI representatives think that SCP of the EEIS Thailand has a positive effect, however, they also think that it is too early to evaluate the benefits.

* **Industrial Estate Authority of Thailand (IEAT)**

IEAT was selected as representative of local enterprise, technology transfer and industrial productivity enforcement agencies. IEAT is a state enterprise attached to the Ministry of Industry. IEAT operates 23 industrial estates with a total of 1,000 factories mainly medium and large industries. IEAT provides a one-station service for Thai and Foreign industrial organizations. IEAT is charged with implementing policy with regards to the government 's rules and regulations in order to stop damage to the environment as necessary development takes place.

The Environmental Enhancement Center (EEC) of the IEAT is the direct contact as SCP. The roles selected by EEC/IEAT are to promote and enforce environmental conservation and to serve as information intermediary. EEC/IEAT communicates with their clients through newsletter and technical seminars. EEC conducts at least one technical seminar a month. The number of participants ranges from 30 to 80 and they are from factories, academe and government agencies. EEC acts as technology transfer broker.

Promotion is also achieved through newsletter, through information dissemination through managers in each estate and through TV, radio, video and posters in the airport. However, the seminars have been the most effective communication channel.

IEAT publishes a quarterly newsletter and maintains a database of their clients. They perceived that being SCP is useful to IEAT, however, according to them it is too early to evaluate the benefits as they have not distributed the UNIDO fact sheets.

* **Technical Information Access Center (TIAC)**

TIAC was selected to represent information centers. TIAC is Thailand's first information service operating as a commercial division of a government agency, the National Science and Technology Development Agency (NTSDA).

For the past six years, TIAC has successfully served the information needs of users from the public and business sectors, in the fields of science, technology, business and industry. TIAC offers the following services: searches of international on-line and CD-ROM databases; produces database, supplies full text document, trains information professionals and serves as consultants in management of information systems. The main function of TIAC is to provide information in science, technology, business and industry. To achieve this function they also promote energy and environment conservation issues.

TIAC communicates with their client through fliers, poster and computerized library network. TIAC is 100% government sponsored.

During 1995, TIAC organized six (6) conferences/seminars, and has established a database of Thai thesis. The EEIS will be included in all TIAC marketing activities and will be introduced during users monthly training and seminars. EEIS will be promoted through newsletter, newspapers, fliers, posters, journals, TV and video. The preferred communication channel with PCP is through email, however, telephone, mail and fax are also alternatives. TIAC considers EEIS as useful and beneficial as information source.

* **Technical Information Services (TIS)**

TIS is designed to keep modern business, industry, public sector and researchers up to date with international technical development with focus on non-conventional energy, environment, biotechnology and food technology. TIS specializes on information from and about ASEAN. Membership of TIS in the EEIS will ensure that the PCP will be well informed of the ASEAN information needs on energy and environment. This will be useful for future EEIS expansion in the region.

TIS selected the roles to promote energy/environment conservation issues and to serve as information intermediary. Their existing communication channels are newsletter, fliers and networking through the ASEAN committee on Science and Technology. They generate 30% of their income, 10% from the government of New Zealand and 60% from the Royal Thai Government. TIS maintain three databases and has a total of more than 29,000 records. TIS and RERIC has an exchange agreement. However, TIS does not consider EEIS as useful to them because information is not relevant to ASEAN and no income is generated from EEIS. The UNIDO fliers were distributed to their network members and they received one request from Malaysia. This indicated that distribution of factsheets is not the way to sell EEIS and members would only buy if they see the publications.

7. Marketing and Promoting the EEIS

For marketing and demonstration purposes, the PCP requested UNIDO to supply sample copies of the "Energy and Environment Series" and the "Industrial and Environment: A Guide to Sources of Information". Demonstration diskettes were also provided by UNIDO. A list of publications received from UNIDO and publications distributed to SCPs is included in Annex D.

In June 1995 two thousand sets of EEIS factsheets were distributed by TIS to the network members of TIS. TIS received one request from Malaysia (Appendix E). PCP distributed 150 sets of the factsheets to small and medium industries in Thailand (Annex F). Fifty sets of the factsheets were distributed to consultancy firms and academicians who are potential consultants involved in energy and environment fields (Annex G). RERIC received three requests (Appendix E).

In October 1995 two hundred and fifty sets of EEIS factsheets were distributed to TIAC, IEAT and FTI for their network members and presentation at the conferences, seminars and workshops.

In November 1995 the PCP included a home page in the World Wide Web. Information for each SCPs were also included (Appendix H). The PCP marketed the EEIS through announcement in the AIT Bulletin, Press release in the national dailies and teletex. During 1995, information on EEIS were published in the RERIC News and the RERIC International Energy Journal (Appendix I).

In January 1996 two hundred sets of EEIS factsheets in Thai language were printed and distributed to SCPs as promotional material. (Appendix J)

It is too early to evaluate the effectiveness of the promotional materials. Based from responses received from SCPs, distribution of factsheets alone is not adequate. According to IEAT, companies that has identified problems usually consult consultants to solve the problems rather than buy publications. This is faster and more effective.

8. Workshop of the EEIS Network

The end of the pilot project meeting was a workshop on EEIS held at AIT on 16 January 1996. The participants are representatives from the three SCPs, the UNIDO Country Director, and representatives from the PCP.

The objectives of the Workshop are :

1. To formulate marketing strategy

2. To discuss problems encountered and to identify possible solutions

3. To recommend activities that could be undertaken to achieve sustainability

4. To identify organizations to be invited as EEIS member

5. To recommend monitoring process and criteria.

Prof. R.D. Stueart, Executive Director of CLAIR and principal investigator of EEIS pilot project in Thailand delivered the Welcome address. He discussed the importance of information for SMI, the barriers to information and function of information intermediaries.

Mr. Ari Huhtala, UNIDO Country Director, presented the focus of the current UNIDO's activities specially those concerning Thailand such as establishment of Cleaner Production Center, networking. He also discussed the challenges for Thailand to produce ecologically manufactured products.

Mrs. Lilia R. Austriaco, RERIC Manager and principal investigator of the EEIS pilot project, presented the EEIS objective and activities with special emphasis in EEIS Thailand.

Mr. Divas B. Basnyat, RERIC Senior information scientist assigned to the EEIS pilot project, demonstrated the INTIB databases, RERIC databases, EEIS home page in the World Wide Web, and UNIDO's home page.

Each representative from the SCPs [Ms. Kasemsri for IEAT; Ms. Praditta for TIAC and Ms. Suchada for FTI] presented their report. They introduced their organizations and then their functions as EEIS node.

Prof. Stueart served as Leader of the panel discussion.

The panel discussed marketing strategy, problems encountered and possible solutions, operation and procedures within the network, and monitoring.

The panel agreed on the following:

* **Marketing Strategy**

  The marketing strategy developed during the reporting period is to integrate marketing the EEIS in the existing marketing activities of the SCPs and PCP. In summary these include

* Publish information on EEIS in current publications i.e. newsletters, journals, magazines

* include information on EEIS on the SCPs organizations' communication channels such as brochures fliers, posters, meetings/seminars, and circulars.

* promote through internet, World Wide Web, press releases and teletex.

During the Workshop on 16 January it was agreed that the most effective channel for promoting EEIS is through meetings, seminars or conferences targeted for entrepreneurs e.g. meetings/seminars of the industry club of FTI and technical seminars of IEAT.

* **Network Operational Procedure and Guidelines**

The network members agreed that within the network there should also be on operation and procedure guidelines which should be developed. A charging mechanism will be developed for each network member within the existing rates. It was also agreed that preference of communication between members are through email, fax and telephone in that order.

They also agreed that network members should meet every six (6) months to provide opportunity to exchange ideas and information.

* **Monitoring**

The SCPs agreed to use the following achievement indicators.

- Increase in number of
  * queries
  * active end-users
  * information sources
  * cooperation and information exchange between SCPs

- Develop new products

- Achieve revenue targets

- Number of effective technology transfer

- Promotion through newspapers and other media

The UNIDO provided the PCP with the INTIB formsheet for monitoring purpose on 11 January 1996. (Appendix K)

* **Sustainability**

The network members agreed that at this stage, the EEIS can not generate income for sustainability from the target groups. There is a need for external support. It was agreed to submit proposals to external donors to support identified activities e.g. reaching small enterprises, producing video, etc.

* **Recommended Organizations to join EEIS**

The member of the pilot project can reach more than four thousand small and medium industries. To reach more SMIs, it was agreed to invite the Department of Industrial Promotion, the Department of Pollution Control and Department of Industrial Works.

The minutes of the meeting, list of participants and copy of reports are included in Appendix L.

First UNIDO-EEIS Meeting
8 December 1994, 9:30 AM - 3:30 PM
CLAIR, Asian Institute of Technology
Bangkok, Thailand

I. Attendance:

Fourteen participants from eight agencies/organizations involved in energy, industry, environment, and information service attended the meeting (See attached list).

II. Highlights of the meeting:

1. The meeting formally started at 9:30 AM with the welcome remarks of CLAIR Director, Prof. R.D. Stueart. Mr. P. Pembleton of UNIDO was the main presenter in the meeting. In his first session, he oriented the participants on the activities and roles of UNIDO, INTIB, and EEIS in today's economic development and environment. In the second session, he demonstrated the retrieval facilities of the databases (IDA, METADEX, EMA, MBF) which will be used in the EEIS networking. Discussions followed the demonstration.

2. The importance of information technology and the productive use of information in sustainable development were emphasized with reference to UNCED's Agenda 21. One of UNIDO's major goal is technology transfer through information dissemination hence the development of INTIB and EEIS network project. Mr. Pembleton stressed UNIDO's need for partners (e.g., PCPs and SCPs) in disseminating the relevant information. He expressed that there is no funding for the operation of the EEIS network and its sustainability would depend much on the cooperation of the participating agencies/organizations and collection of service fees. The UNIDO-EEIS would still be in a pilot project stage and flexibility in charging service fees would be practiced; some services would be paid, others not, depending on the agreement of network members. Other ways of fund raising to sustain the EEIS are through membership fees, donations, or subsidies. Information charges or service fees would take care of expenses in searching and reproducing the information needed and not for profit.

3. Since UNIDO-EEIS would be in the pilot stage, the main concern would be to establish the need for the information network. This could be done

through promotion, i.e. informing end-users about the presence of the information system and how it could be accessed. Promotion could be done through the existing media (e.g., company/organization newsletters, reports, or journals) for information updates at minimal costs; through lectures or presentations in seminars or workshops; or through consultancy.

4. On the issue of charging fees for non-useful information given to the customer, majority agreed that clients should not pay unless he/she is satisfied with the results given. However, the information center/researcher will lose in this case since operational costs will come in right from the start of searching and this could not be recovered from unsatisfied clients.

5. In the case of NGOs (like Thailand Environment Institute - TEI) and government agencies, they could not charge service fees to the clients so they would have a problem of unrecovered costs and lack of fund for the EEIS. It was suggested by Mr. Acosta to find another way of charging, e.g., through suppliers or donors.

6. On the question about the role, responsibilities, and benefits of the SCPs, it was pointed out that they will help much in the promotion (and marketing) of EEIS since they have direct contact with the end-users; hence their role as channels of information transfer. The primary benefit will be the SCPs increased profile in terms of better services to their clients. Despite discussions on these issues, there is still a need for clarification and definition of responsibilities and benefits.

7. Regarding their willingness to be SCPs only the representatives from the Technical Information Access Center, the Industrial Estate Authority of Thailand, and the International Institute for Energy Conservation affirmed their participation. The TEI representative also expressed her interest in the EEIS. The representative from the Department of Energy Development and Promotion would discuss first with the office higher ups before making any decision. The decisions of the others are still to be solicited.

8. A second meeting will be organized for the SCPs (participating agencies/organizations) to discuss the strategies for EEIS.

Operational Procedure and Guidelines for EEIS with UNIDO

Factsheet No.	Name	Description	Number of records/pages	Cost/item	PCP	SCP	Cost to user	Order	Delivery	Payment
1	IDA-Database	Industrial Development Abstracts-20,800 abstracts of UNIDO documentation, 1965 to date	Diskette of dataset (500 records each)	Developed countries US$ 75. Developing counties US$ 50 per set	15% of sale	10% of sale	Developed Country US$ 75. Developing Country US$50 per set	SCP and PCP collect orders and send to UNIDO	UNIDO sends invoice & diskettes to user directly	Payment made to UNIDO UNIDO will send payment to PCP or SCP two times per year
2	IDA-paper & microfiches	Paper copies of microfiches of full document of IDA abstracts	less than of equal 10 pages	US$ 15	20% of sale	10% of sale (if SCP collects the order for PCP)	-	PCP collects orders from SCPs and user s and sends to UNIDO	UNIDO sends invoic e & papers to user directly	Payment made to UNIDO. UNIDO will send payment 20% of sale to PCP and 10% to SCP if SCP collected the order for PCP
			less than or equal 50 pages	US$30						
			less than or equal 100 pages	US$45						
			more than 100 pages	US$0.75 per page						
3	Industrial and Environment : A Guide to Sources of Information	Book, Published in 1991. 50 databases are in English	290 pages	Airmail Europe US$ 17.60 Airmail overseas US$ 190.00	More than 50 copies receive 10% of sale; between 50 and 100 copies receive 15% of sale; between 100 and 150 copies receive 20% of sale, over 150 copies receive 25% of sale	-	Airmail Europe US$ 176.00. Airmail overseas US$ 190.00	PCP collects orders from SCPs and user s and sends orders to UNIDO	Publisher sends book and invoice to user directly	-

Appendix B (Cont.)
Operational Procedure and Guidelines for EEIS with UNIDO

Factsheet No.	Name	Description	Number of records/pages	Cost/item	PCP	SCP	Cost to user	Order	Delivery	Payment
5	Energy and environment series	Publication on energy and environment issues in Industry and Technology: list of Publications Energy Conservation in Industry No. 1	140 Pages	£55/US$100 (US$66 in Developing Countries)	more than 50 copies receive 10% of sale; between 50 and 100 copies receive 15 % of sale; between 100 and 150 copies receive 20 % of sale over 150 copies receive 25 % of sale	-	£55/US$100 (US$66 in Developing Countries)	PCP collects orders from SCPs and users and sends orders to UNIDO	Publisher sends book and invoice to user directly	-
		- Hazardous Waste Management in Industry	170 pages							
		- Industry Safety	164 pages							
		- Effluent control in Industry	190 pages							
		- Energy Conservation in Industry No 5	181 pages							
6	MICRO - METADEXplus*	Metallurgical data base - Environment/Scrap recycling	3,000 records	US$395 + US$7			30% discount for developing countries	send to Unido	UNIDO sends invoice and the data set to user directly	Payment made to UNIDO.
		- Gold & Silver production recycling	3,500 records	US$395 + US$7						
		- Foundry technology	3,600 records	US$395 + US$7						
		- Welding	3,500 records per year	US$395 + US$7						
		- Beneficiation	700 records	US$255 + US$7						

* METADEXplus: One year records of the database is available at PCP. The charge per useful record is US$0.80. PCP will receive US$0.40 per record if the user come to PCP directly. SCP will receive US$0.20 per useful record if the user requests the search through SCP. UNIDO and the "Data Owner will each receive US$0.20 per useful record.

List of SCPs and their Brochures

1. Technical Information Service
   ASEN-SCNCER
   King Mongkut's Institute of Technology. Thonburi
   48 Sukswasdi Road
   Rasburana, Bangkok 10140

   Contact person:
   1. Mr. Terry Commins*
   2. Khun Navaporn*

2. Technical Information Access Center
   Room No. 602, 6th Floor
   Vidyabhathana Building
   Chulalongkorn University
   Phyathai Road,
   Bangkok 10130

   Contact person:
   1. Dr. Sudhiporn Patumtaewapibal
   2. Ms. Praditta Siripan*

3. Environmental Control & Safety Division
   Environmental Enhancement Center
   Industrial Estate Authority of Thailand
   618 Nikom Makkasan Road
   Rajthevee, Bangkok 10400

   Contact person:
   1. Khun Kasemsri Homchean

4. The Industrial Environmental Management Program
   The Federation of Thai Industries
   Queen Sirikit National Convention Center
   60 New Rachadapisek Road.
   Klongtoey, Bangkok 10110

   Contact person:
   1. Khun Pechalada Sinhaseni*
   2. Khun Suchada Sungpreeda

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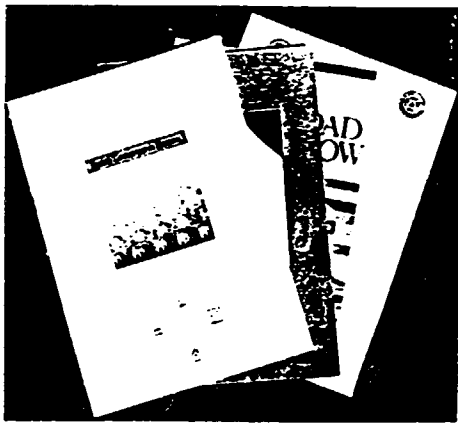

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○ Any three journals	US$130 for one year (Baht 2,250 in Thailand).
○ Any four journals	US$165 for one year (Baht 3,000 in Thailand).
○ All five journals	US$200 for one year (Baht 3,500 in Thailand).

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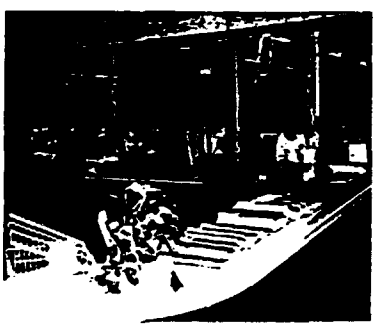

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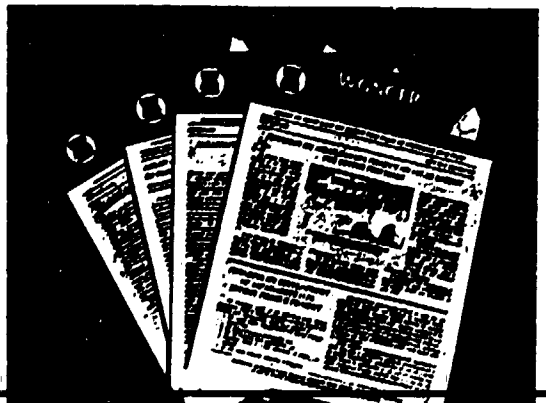

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Established 1989

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- Database production. TIAC is producing databases of Thai Universities' Theses, research projects, and Thai Government Organizations Directory;

- National supply of fulltext documents from within Thailand and abroad. Services cover information available in all formats, print, non-print, video and multimedia, and delivered to users via traditional mail or transmitted electronically over national networks;

- Training of information service professionals from private and public organizations in database management, online/CD-ROM database searching, and document delivery;

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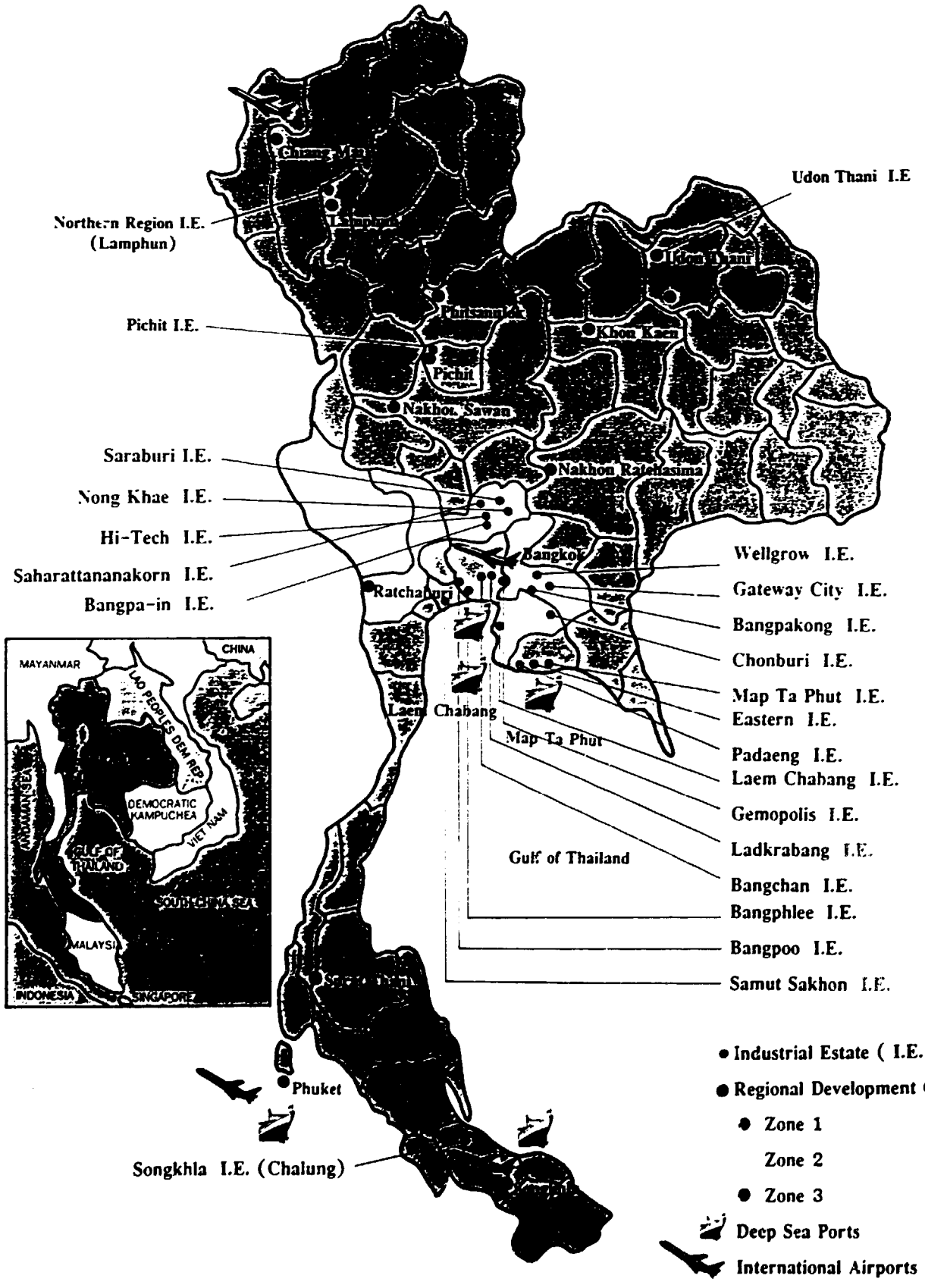
Bangkok 10330. THAILAND
Tel 662 216 8801-4, Fax 662 216 8800
Internet: oispt@chulkn.chula.ac.th

THAILAND'S INDUSTRIAL ESTATE
THE INDUSTRIAL ESTATE AUTHORITY OF THAILAND (IEAT)



Zone 1 - Bangkok Samutprakarn Samutsakhon Pathumthani Nontaburi Nakhonpathom

Zone 2 - Ratchburi Kanchanaburi Suphanburi Angthong Ayutthaya Saraburi Nakhonnayok Chachoengsao Chonburi Samutsongkham

Zone 3 - Other provinces except Z1 and Z2 plus Laem Chabang industrial Estate

Industrial Estate Authority of Thailand

Who WE Are?

- State Enterprise Attached To the Ministry of Industry
- Set Up & Empowered by Legislation (IEAT Act Enacted In 1979)

What IEAT Do?

- **Standard Infrastructure & Utilities:**
  - Road Way System
  - Water Supply System
  - Power Supply System
  - Drainage System
  - Central Waste Water Treatment Plant
  - Telecommunication System
  - Strong Soil Bearing Capacity
  - Incentives & Privileges
  - One Stop Service In Permit & Licencing

- **Providing Strategic Profile for Bases With Globally Competitive Edge**
- **Strategic Production Factors Completely**
  - Strategic Location
  - Transportation Networks
  - Deep Sea Ports
  - International Airports
  - Raw Materials
  - Market Access

What are Our Products ?

- ***Industrial Estates*** *Providing developed areas of two kinds*
  - Free Tax Zone for Export Oriented Manufacturing (**Export Processing Zone : EPZ**)
  - General Industrial Purposes Zone (**General Industrial Zone : GIZ**)
- ***Industrial Port***
  - Map Ta Phut Industrial Port for Raw Material Loading & Unloading Purposes

How Do IEAT Service you?

- ***One*** Stop Service In Permit & Licencing (enabled by IEAT Act)
- ***Privileges*** and Incentives (by IEAT Act and augmented by BOI)
- ***Simplified*** Procedures to speed your business transactions
- ***Market*** Bound for End Products

How to Select Locations?

- *Regulation & Procedure*
- *Location Map of Estates*
- *Privileges & Incentives In Industrial Estate Promotion Zone 1,2,3,*

What are the Land Price & Utility Cost?

- ***Land*** Price & Utility Cost In Industrial Estate (to be attached)

More Information Please Contact:

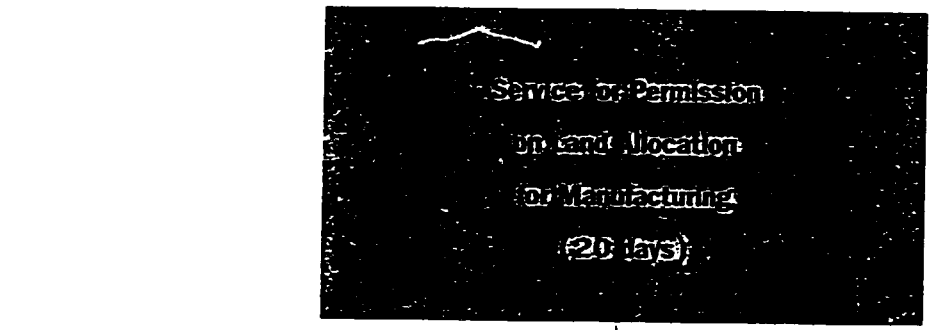
Marketing Promotion Section, Investment Promotion Division,

Industrial Estate Authority of Thailand, 618 Nikom Makkasan Rd., Bangkok 10400

Phone: (02) 253-0561 Ext 105,106 Fax: (02) 253-2965, 253-4086

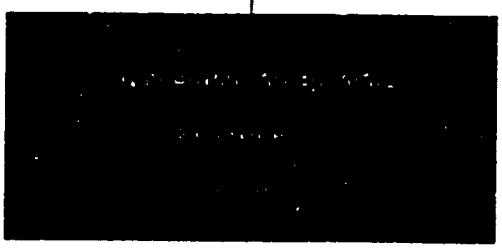
ONE STOP SERVICE

Process of Permission For Manufacturing in the Industrial Estate



Form IEAT 01

Form IEAT 03



Form IEAT 05

Application for factory operation
(7 days)

Forms available at Coordinate and Services Section
Investment Promotion Division, IEAT
Tel. 253-0563 Ext. 105, 106

Privileges and Incentives for Investors
In Industrial Estates Located in Promotion Zone 1,2,3

IEAT Privileges and BOI Incentives	Industrial Estates											
	Project with BOI promotion						Project without BOI promotion					
	Zone1	Zone2	Zone3	Zone1	Zone 2	Zone3	Zone1	Zone 2	Zone3	Zone1	Zone2	Zone3
Non Tax Incentives												
1. Permission for Foreign Investors to own land												
2. Permission to bring in Foreign Technicians and Experts to work												
3. Permission for Foreign Technicians, Experts and Spouse or Dependents to stay in the country												
4. Permission to take or remit aboard Foreign Currency												
Tax Incentives												
1. Import Duty: Payment												
- Machinery	50%	-**		-	-		*	*		-	-	
- Raw Materials:				-	-		*	*		-	-	
a) Exemption 1 Year (Export at Least 30%)	a	a										
b) Exemption 5 Years (Export at Least 30%)			5									
c) Pay 25% for 5 Years (Domestic Sales)			5									
2. Export Duty: Payment	*	*		-	-		*	*		-	-	
3. VAT, Excise Tax, Surcharge: Payment	*	*		-	-		*	*		-	-	
4. Corporate Income Tax: Exemption	3years	7years	8years	3years	7years	8years	*	*		*	*	
5. And Other 50% Reduction After Corporate Income Tax Holiday	*	*	5years	*	*	5years	*	*		*	*	
Other Benefits												
1. Double Deduction For the Costs of Transportation, Electricity, and Water Supply from Taxable Income	*	*	10years	*	*	10years	*	*		*	*	
2. Deduction for the Costs of Installing Infrastructure Facilities from Net Profit	*	*	10%	*	*	10%	*	*		*	*	

Zone 1 - Bangkok Samutprakarn Samutsakhon Pathumthani Nontaburi Nakhonpathom

Zone 2 - Ratchburi Kanchanaburi Suphanburi Angthong Ayuthaya Saraburi Nakhonnayok Chachoengsao Chonburi Samutsongkham

Zone 3 - Other provinces except Z1 and Z2 plus Laem Chabang Industrial Estate

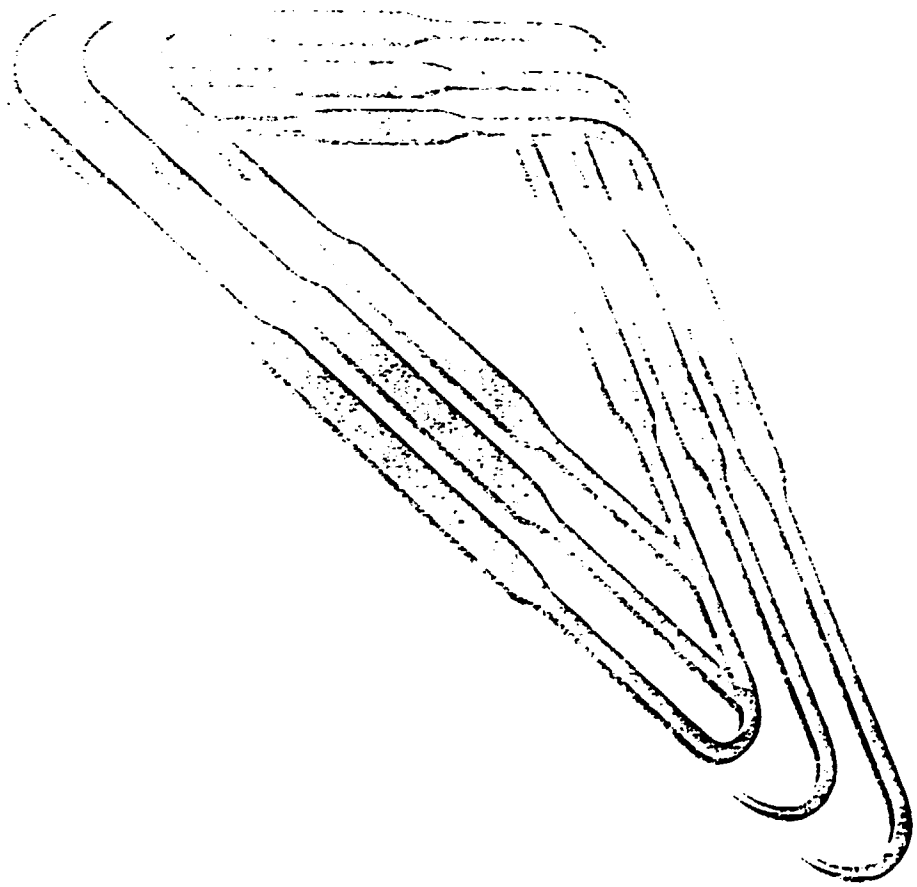
* Pay Normal Duty Rates

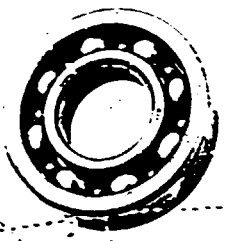
** Export not less than 80%

*** Except Laem Chabang Industrial Estate

Coordinate and Services Section
Investment Promotion Division

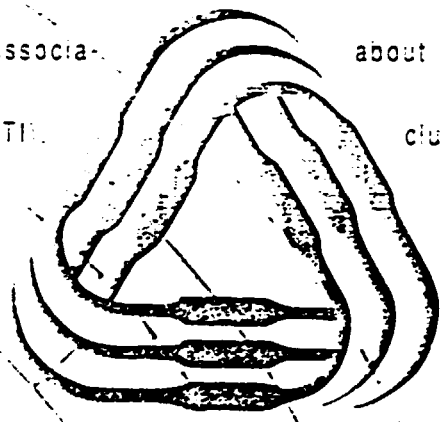
THE FEDERATION OF THAI INDUSTRIES



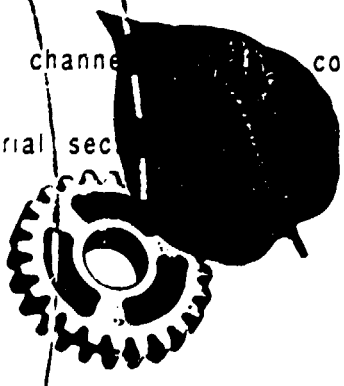


THE SPOKESMAN FOR PRIVATE ENTERPRISE

The Federation of Thai Industries (FTI) is the largest and only officially recognized organization for the industrial private sector in Thailand. Formerly known as the Association of Thai Industries (ATI), the Federation of Thai Industries (FTI) came into existence since December 29, 1987 when the Federation of Thai Industries Act, B.C. 2530 (1987 A.D.) was promulgated and published in the Government Gazette No. 104 Section 269. It was the transformed body of ATI which was created in 1967. Founded for more than 28 years with a skeleton staff serving only 26 industrial members, today FTI has more than 3,000 members from about 26 separated industry clubs and about 19 provincial clubs.

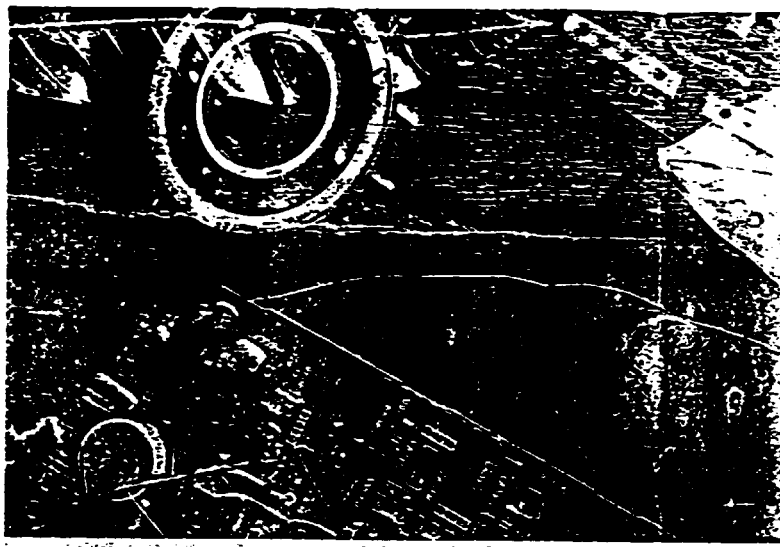


The transformation to the new status of FTI came from the need to strengthen the private sector body in enabling to act as a unified and representational channel for the country's industrial sec



OBJECTIVES OF FTI

1. To act as a representative of manufactures who form part of private sector in establishing linkage with the government sector at both the policy and operational levels.
2. To engage in the development and promotional activities for the benefit of industrial enterprises.
3. To conduct study and seek remedial actions for problems arisen in industrial enterprises and related activities.
4. To promote and encourage the provision of such services to members as those involving the study, research, analysis, test, advancement, training, dissemination of information on technology, and technical knowledge related to manufacturing. These may be organized to serve the need of the general public as well.
5. To engage in the testing of products, issuance of certificate of origins and product quality certificate.
6. To provide to the government consultations and advices with a view to enhancing the country's industrial sector contribution to economic development.
7. To give encouragement to manufacturers and at the same time act as a focal point for industrialists in various fields to exchange views which will be beneficial to the industrial circle.
8. To see to it that members comply with the laws related to industries and related activities so that the pride and intergrity



A FULL-SERVICE ORGANIZATION

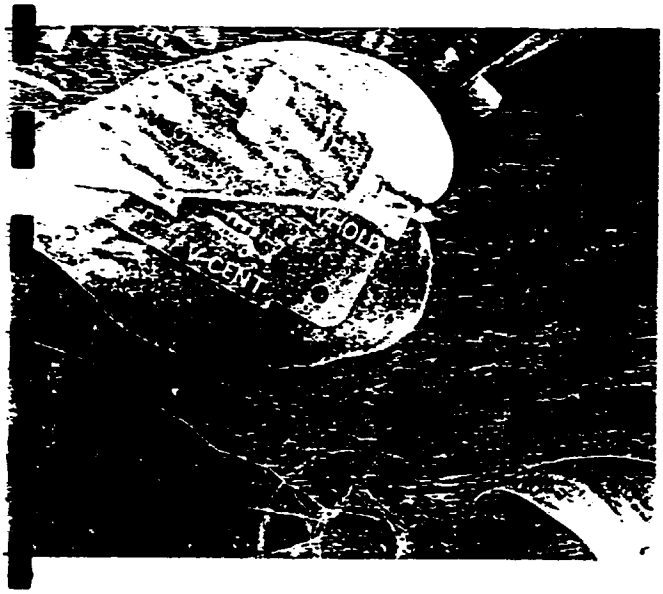
Up-to-date data is vital in keeping up with market trends, technological advances and government policies. FTI keeps you informed by:

- Working with government in setting up the national policy and planning to develop industry sector.
- Acting as a leading voice of Thai manufacturers, representing its members and Thai industrial community at both national and international levels.
- Making consulting services available, dispensing advice and issuing certificates as a service to members.
- Receiving and dispatching international missions.
- Acting as a match maker between foreign industrialists and Thai industrialists.
- Cooperating with the government in helping more Thai industries reach international standards

of industrial circle can be preserved

9. To engage in other activities which are prescribed by other laws, the duties of the FTI or otherwise to be assigned by the government agencies.

These objectives were listed under Section of the Feceration of Thai Industries Act, 1987.



and become competitive in world markets.

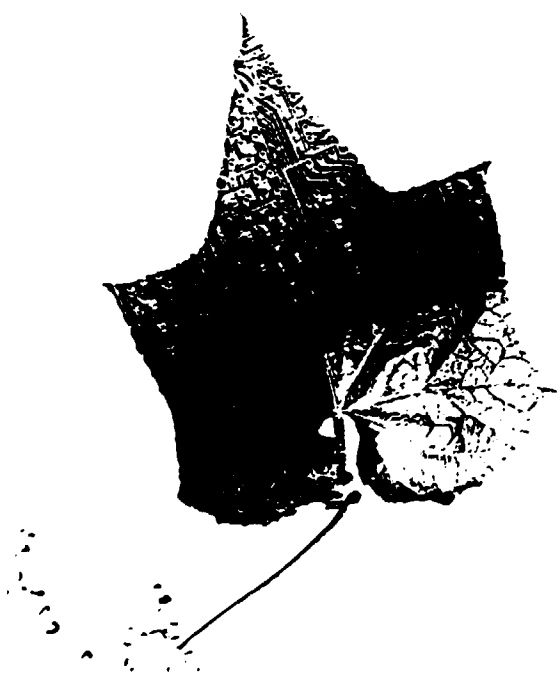
- Showcasing the latest techniques for energy conservation, and technology transfer.
- Holding training sessions and seminars. Information is circulated through information centre, newsletters and technical video tapes featuring the latest manufacturing processes, management techniques and quality control system. These videos are also aviable to members for use a their companies at moderate prices.
- Arranging international training scholarships, trade fairs and exhibitions.

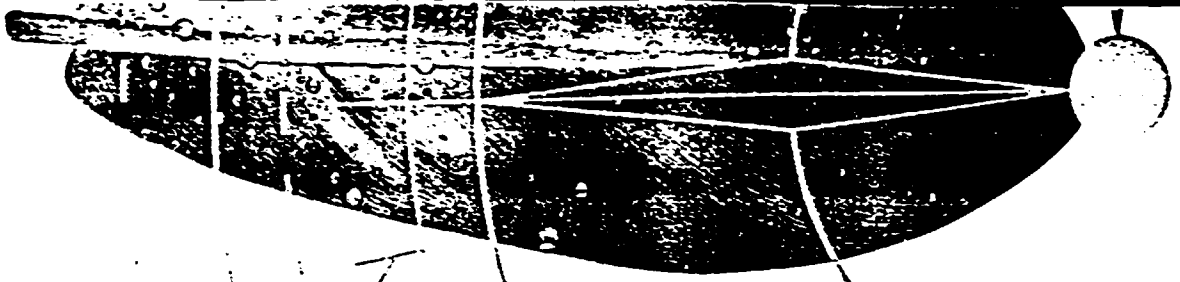
From its office on Samsen Road, the FTI large and well-trained permanent staff also conducts research, compiles business data and puolished handbooks to provide members with the lates trade information.

MEMBERSHIPS ARE OPENED FOR COMPANIES OF ALL SIZES

ORDINARY MEMBERSHIP : Open to corporate bodies engaged in any type industry and registered according to Thai law. This is also extended to all types of industrial trade associations in Thailand.

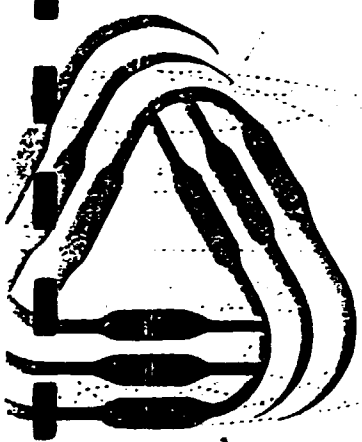
ASSOCIATE MEMBERSHIP : Open to small enterprises, companies and persons involved in industrial enterprises or in the trade of industrial products which are ineligible for ordinary membership.





SMALL FIRMS, IMPORTANT IDEAS

The Thai Government's Seventh Economic and facial Development Plan endorses the development of industry outside the Bangkok Metropolis. FTI has been promoting this process for more 25 years. That is why our 3,000 members include small provincial comapnies as well as the giants of industry. Through its Provincial Clubs. FTI organizes worker training programs and introduces modern industrial techniques to promote indusirial development and manufacturing in towns and villages throughout the kingdom. Provincial Clubs act as the intermediary between local industrialists and the government. In fact. the improvement of the country's transportation network and water systems can be attributed in part to FTI's hard work.



FOREIGN AFFAIRS

FTI is a valuable gateway for information and introduction to Thailand for foreign businessmen an efficient source from which to learn about services and regulations of Thai Government. FTI is also the central clearing house for information about the human and natural resources and manufacturing opportunities available here. The Federation is unmatched in its ability to provide foreigners with the right business contact.

CONTACTS AND LEADERS

Businessmen have always been a political force to be reckoned with. FTI is the sole organization which has the resources to combine the financial strenght, planning ability and persuasive powers of Thailand's industrialists. FTI is the businessman's voice, an organization whose aim is to strengthen Thailand's private sector.

POWERFUL The same faces that are pictured daily in the business press appear at the functions sponsored by FTI. Numerous government officials. Ministers and Members of Parliament have worked with and for the Federation. FTI is known and respected in both the private and public sectors.

IMPORTANT International business leaders and technical experts know that no visit to Thailand is complete without informal or formal discussions with representatives of FTI. When the ASEAN Chambers of Commerce and Industry come to town, their host and local representative is the FTI.

INDUSTRIOUS Beginning with a skeleton staff and only 26 members, the Federation now has over 3,000 representatives from throughout Thailand - 7,900 percent growth in only 28 years ! Membership still grows were than 15-20% annually. With a full schedule of seminars, technical courses and educational programs throughout the country, FTI not only works for today's Thailand but is heavily involved in guiding tomorrow's development.

INDUSTRY, THE PRIME MOVER OF THE THAI ECONOMY

THE FEDERATION OF THAI INDUSTRIES

Queen Sirikit National Convention Center Zone C, 4th Floor 60 New Rachadapisek Road Klongtoey, Bangkok 10110 Thailand.
TEL. NO. : (662) 229-4255 FAX. NO. : (662) 229-4941-2

List of publications received from UNIDO and distributed to SCPs

No.	Title	No. copies received from UNIDO	No. copies distributed to TIAC	No. copies distributed to TIS	No. copies distributed to IEAT	No. copies distributed to FTI
001	Industry and Environment: A Guide to Source of Information, UNIDO, 1991	7	1	1	1	1
002	INTIB Energy and Environment Series No. 1: Energy Conservation in Industry, UNIDO, 1992	3	1	1	-	-
003	INTIB Energy and Environment Series No. 2: Effluent Control in Industry, UNIDO, 1993	6	1	1	1	1
004	INTIB Energy and Environment Series No. 3: Hazardous Waste Management in Industry, UNIDO, 1994	8	1	1	1	1
005	INTIB Energy and Environment Series No. 4: Industry Safety, UNIDO, 1994	8	1	1	1	1

006	INTIB Energy and Environment Series No. 5: Energy Conservation in Industry, UNIDO, 1993	6	1	1	1	1
007	IDA demo diskettes	6	1	1	-	-
008	Clean Product No.8, 9 and 10	50 copies each				
009	Genetic Engineering and Biotechnology Monitor, UNIDO, 1994	2				
010	Environmental Technology Monitor, UNIDO, 1994	2				
011	A Training course on Ecological Sustainable Industry Development, UNIDO, 1994	50				

Details of Information Requests

A. Requests received by TIS

- Mr. Mustsffa Hj Darimi*
  Technical Processing Division
  University of Malaya Library
  Pantai Valley
  59100 Kuala Lumpur
  Malaysia.

  (Factsheet No. 5 "Energy and Environment Series")

  - Energy Conservation in Industry No. 1
  - Effluent Control in Industry
  - Hazardous Waste Management in Industry
  - Industrial Safety
  - Energy Conservation in Industry No. 5

B. Requests received by PCP

- Mr. Pisit Puthipiroj
  39 Ladprao 124 Rd.
  BKK. 10310

(Factsheet No. 3 "Industry and Environment-A Guide to sources of Information(1991), 1 copy.

* Request for more information

- Mr. Suvit Wanapradit
  N.S. Consultant Co.,Ltd.
  1131/318 Sahakorn-kaehasathan Bldg.
  Terd-Dumri Rd.
  Dusit, BKK. 10300

- Mr. Syed Murtuza Ali
  Consultants of Technology Co.,Ltd.
  39 Ladprao 124 Rd.
  Wangthonglang
  Bangkapi
  BKK. 10310

List of Small and Medium Industries to Whom the EEIS Factsheets Were Sent

	Type of Industry	Number
1.	Agricultural Products & Commodities	
	- Processing or preservation of food	17
	- Corn Products	1
	- Sugar	1
	- Grain mill products	1
	- Other food products	3
2.	Minerals, Metals & Ceramics	
	- Processing of metal	10
	- Casting of non-ferrous metal	5
	- Ceramic products	2
3.	Chemicals & Chemical products	
	- Chemical products	11
	- Acetylene black products	1
	- Petrochemical products	5
	- Pharmaceutical products	1
	- Fertilizer	1
	- Paints or similar products	3
	- Pulp, paper and paper board	5
4.	Mechanical & Electrical equipment	
	- Production/Assembly of engine	4
	- Production/Assembly of machinery or electrical equipment	7
	- Engine/Mechanical/Electrical equipment component and part products	6
	- Production of vehicle components or part	5
	- Production/Assembly of electric products	43
5.	Other products	
	- Manufacture/Assembly of sport equipment, musical instruments or toys	4
	- Production of ready made garments for export	2
	- Plastic or plastic-coated products	5
	- Rubber tree products	1
	Manufacture of plastic in primary form and synthetic rubber	3
	- Tanning of leather	1
	- Finishing of textile	1
6.	Service	
	- Natural gas transport	1
	Total number of manufactures	150

List of Academicians/Researchers/Consultants to Whom the EEIS Factsheets Were Sent

	Institutions	Number
1.	Chulalongkorn University	
	- Faculty of Environment Science	10
2.	King Mongkut's Institute of Technology, Thonburi	
	- School of Energy and Materials	5
	- Department of Environment Engineering	1
3.	Mahidol University	
	- Faculty of Environment and Resources Studies	5
4.	Kasetsart University	
	- Department of Environmental Engineering	4
5.	Ching Mai University	
	- Department of Environmental Engineering	1
6.	Consultancy companies involved in energy and environment activities	24
	Total number	50

EEIS Homepage in WWW

Energy and Environment I...ystem (EEIS) in Thailand http://www.ait.ac.th/clair/eeis/eeis.htm

Energy and Environment Information System (EEIS) in Thailand

The Regional Energy Resources Information Center (RERIC) of the Center for Library and Information Resources (CLAIR), Asian Institute of Technology (AIT) is the Primary Contact Point (PCP) of the Energy and Environment Information System in Thailand (EEIS-Thailand). EEIS is a United Nations Industrial Development Organization (UNIDO) supported industrial information system on small and medium scale industry sector. EEIS, an extension of the UNIDO Industrial and Technological Information Bank (INTIB) network, will provide a number of services including the provision of relevant, and up-to-date information on energy and environment and the institution of high impact mechanisms for commercialization, distribution and promotion of information which correspond to Thailand's capabilities in disseminating information. The EEIS is a non-profit venture, but will operate on a fee-paying basis. RERIC coordinates EEIS activities in Thailand.

The following are some of the information materials to be provided by INTIB through RERIC.

a. Energy and environment databasets drawn from the EEIS program which currently gives access to data from the following databases

- Industrial Development Abstracts (IDA) -- i.e. over 25 years of UNIDO's own industrial development experience in developing countries -- currently over 1,800 environment-related records. Paper and microfiche copy, as well as the full database will be available in Vienna to provide additional support, if required.
- METADEX abstracts -- i.e. commercial information source on all aspects of metallurgy -- currently over 27,000 environment-related records.
- Engineered Materials Abstracts -- i.e. commercial information source on all aspects of plastics, composites, ceramics and adhesives -- currently over 3,000 environment-related records.
- Materials Business File -- i.e. commercial information source on business aspects of metallurgy, plastics, composites, ceramics and adhesives -- currently over 5,000 environment-related records.

b. Publications for sale (upon request to the publisher)

- Industry and Environment -- A Guide to Sources of Information, 1991 (available from Verlag Dr. Gr•b Nachf.)
- INECA Journal Vol. 2, No. 1, 1991 (available from Materials Information) Recycling '91.

Energy and Environment Series

No. 1: Energy Conservation in Industry, November 1992 (available from Materials Information)

No. 2: Effluent Control in Industry, May 1993 (available from Materials Information)

No. 3: Hazardous Waste Management in Industry, January 1994 (available from Materials Information

No. 4: Industrial Safety, June 1994 (available from Materials Information)

No. 5: Energy Conservation in Industry, 1994 (available from Materials Information)

For details. please contact:

Primary Contact Point (PCP)

Regional Energy Resources Information Center (RERIC)
Asian Institute of Technology (AIT)
Email : enreric@ait.ac.th
Telephone : (66 2) 524 5866
Fax : (66 2) 524 5870

Secondary Contact Point (SCP)

* *Technical Information Service*
ASEAN-SCNCER
King Mongkut's Institute of Technology, Thonburi
48 Sukswasdi Road,
Rasburana, BKK.10140
Thailand

* *Technical Information Access Center*
Room No.602, 6th Floor
Vidyabhathana Building
Chulalongkorn University
Phyathai Road, BKK. 10330
Thailand

* *Environmental Control & Safety*
Environmental Enhancement Center
Industrial Estate Authority of Thailand
618 Nikon Makkasan Road,
Rajthevee BKK. 10400
Thailand

* *The Industrial Environmental Management Program*
The Federation of Thai Industries
Queen Sirikit National Convention Center
60 New Rachadapisek Rd.,
Kloongtoey, BKK. 10110
Thailand

For details contact: Regional Energy Resources Information Center (RERIC) CLAIR Building, Room 214 Tel: 524 5866 Fax: 524 5872 Email: enreric@ait.ac.th

This document last modified 19-Jan-96
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Press Release, Teletex for TV and Announcement in Bulletin, RERIC News and the Nation

PRESS RELEASE
January 4, 1996

Energy and Environment Information System in Thailand (EEIS-Thailand)

The Energy and Environment Information System (EEIS) has been initiated in Thailand to deliver industrial energy and environment information to small and medium scale industries (SMIs). The United Nations Industrial Development Organization (UNIDO) has supported the Center of Library and Information Resources (CLAIR) of the Asian Institute of Technology (AIT) to undertake the pilot phase of the EEIS in Thailand.

EEIS in Thailand provides a number of services including the provision of relevant and up-to-date information, and the institution of high impact mechanisms for commercialization, distribution and promotion of information, which correspond to Thailand's capabilities in disseminating information. It is a non-profit venture, but operates on a fee-paying basis.

The Regional Energy Resources Information Center (RERIC) of CLAIR/AIT serves as the Primary Contact Point (PCP) of EEIS network in Thailand. The following organizations serve as Secondary Contact Points (SCPs):

* Technical Information Service
  ASEAN-SCNCER
  King Mongkut's Institute of Technology, Thonburi
  48 Sukswasdi Road,
  Rasburana, Bangkok 10140
  Thailand

* Technical Information Access Center
  Room No.602, 6th Floor
  Vidyabhathana Building
  Chulalongkorn University
  Phyathai Road, Bangkok 10330
  Thailand

* Environmental Control & Safety
Environmental Enhancement Center
Industrial Estate Authority of Thailand
618 Nikon Makkasan Road.
Rajthevee Bangkok 10400
Thailand

* The Industrial Environmental Management Program
The Federation of Thai Industries
Queen Sirikit National Convention Center
60 New Rachadapisek Rd.,
Kloongtoey. Bangkok 10110
Thailand

The first meeting of the EEIS network was held on 8 December, 1994 and the final workshop to discuss the possibilities for a sustained operation of the EEIS in Thailand and to outline problems encountered is scheduled to be held on 16 January, 1996 at AIT.

Further information on EEIS and its activities can be obtained from the Regional Energy Resources Information Center (RERIC) or from the Secondary Contact Points.

Regional Energy Resources Information Center (RERIC)
Center of Library and Information Resources (CLAIR)
Asian Institute of Technology (AIT)
G. P. O. Box 2754, Bangkok 10501, Thailand.

Tel: 524-5866; Fax: 524-5870; Email: enreric@ait.ac.th
WWW: http://www.ait.ac.th/clair/reric1.html

TELETEX for TV

The Energy and Environment Information System (EEIS) in Thailand provides energy and environment related industrial information to small and medium scale industries (SMIs).

For more information, please contact the Regional Energy Resources Information Center (RERIC) of the Asian Institute of Technology (AIT), Bangkok.

Tel: 524-5866; Fax: 524-5870; Email: enreric@ait.ac.th:
WWW: http://www.ait.ac.th/clair/reric1.html

BULLETIN

Date January 8, 1996
Issue No. 2/96
Published every Monday
by the Office of Media and Information Services, tel. 524 5830, 524 5831
For further information: Please contact Khun Natnipha

What are high impact mechanisms for commercialization? Read on.

The Regional Energy Resources Information Center (RERIC) of the Center for Library and Information Resources (CLAIR) is the primary contact point of the Energy and Environment Information System in Thailand or EEIS-Thailand. An industrial information system on small and medium scale industries, EEIS is supported by the United Nations Industrial Development Organization (UNIDO) and is an extension of the UNIDO Industrial and Technological Information Bank network. EEIS services include the institution of high impact mechanisms for commercialization, distribution and promotion of information in line with Thailand's capabilities for disseminating information. EEIS is a non-profit venture, but will operate on a fee-paying basis. For details, contact RERIC, Room 214, CLAIR Bldg. Tel. ext. 5866. Email: enreric@ait.ac.th. WWW: http://www.ait.ac.th/clair/reric1.html

Vol. 18 No. 2/3 (June/ September) 1995

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Energy and Environment Information System (EEIS) in Thailand

Regional Energy Resources Information Center (RERIC) of the Center for Library and Information Resources (CLAIR), Asian Institute of Technology (AIT) serves as the Primary Contact Point (PCP) of the EEIS in Thailand. EEIS is a United Nation Industrial Development Organization (UNIDO) supported industrial information system with particular focus on energy and environment information for small and medium scale industry sector. EEIS is an extension of the UNIDO Industrial and Technological Information Bank (INTIB) network.

For details contact:

Regional Energy Resources
InformationCenter (RERIC)
Asian Institute of Technology
(AIT)
Email : enreric@ait.ac.th
Telephone : (66 2) 524 5866
Fax : (66 2) 524 5870

THE NATION | Saturday, January 6, 1996

EEIS project underway

THE Asian Institute of Technology is conducting the pilot phase of the Energy and Environment Information System (EEIS), which serves the needs of small and medium-scale industries in Thailand.

EEIS is supported by the United Nations Industrial Development Organization (UNIDO). At AIT, pilot phase activities are being carried out by the Regional Energy Resources Information Center (RERIC) under the Center of Library and Information Resources.

Industries seeking to institute high-impact mechanisms for commercialization will benefit from EEIS services. EEIS also distributes and promotes information in line with Thailand's capabilities for disseminating information.

RERIC is the primary contact point for the EEIS network in Thailand. Secondary contact points are available at the Technical Information Service ASEAN-SCNCER at King Mongkut's Institute of Technology, Thonburi; the Technical Information Access Center at Chulalongkorn University; the Environmental Enhancement Center in the Industrial Estate Authority of Thailand; and the Industrial Environmental Management Program under the Federation of Thai Industries.

Thai Translation of the EEIS Factsheets

Energy and Environment Information System (EEIS)

EEIS คือระบบข้อมูลข่าวสารด้านพลังงานและสิ่งแวดล้อมสำหรับกระบวนการอุตสาหกรรมในประเทศที่กำลังพัฒนา ระบบนี้ได้พิมพ์สิ่งพิมพ์ในรูปแบบต่าง ๆ ดังนี้

1. Industrial Development Abstracts
2. Industry and Environment
3. Energy and Environment Series
4. MICRO-METADEX plus

1. Industrial Development Abstracts

Industrial Development Abstracts (IDA) คือแหล่งข้อมูลข่าวสารที่สำคัญเหมาะสำหรับกระบวนการอุตสาหกรรม องค์การพัฒนาอุตสาหกรรมแห่งสหประชาชาติ (United Nations Industrial Development Organization, UNIDO) ได้รวบรวมข้อมูลจากแหล่งต่าง ๆ เช่นเอกสารการประชุม, การสัมมนา, บทความจากหนังสือและรายงานการปฏิบัติงานของกลุ่มผู้เชี่ยวชาญขององค์การพัฒนาอุตสาหกรรมแห่งสหประชาชาติต่างๆ

เนื้อเรื่องที่ IDA คลอบคลุมได้แก่ :

- Electronics, electrical industry
- Leather and leather products
- Building materials, cement,ceramics
- Industrial manpower training
- Wood and wood products
- Textiles and wearing apparel
- Iron and steel, non-ferrous metals
- Petrochemicals, chemicals
- Food processing
- Fertilizers
- Environmental aspects
- Pharmaceuticals
- Capital goods, machinery

องค์ประกอบของ IDA มีดังนี้

1. Industrial Development Abstracts-Data base
2. Industrial Development Abstracts-Paper & Microfiche copies

1. Industrial Development Abstracts-Data base เป็นฐานข้อมูลที่มีระเบียนบทคัดย่อมากกว่า 20,600 ระเบียนเป็นข้อมูลตั้งแต่ปี พ.ศ. 2508 จนถึงปัจจุบัน หากต้องการข้อมูลในรูปแผ่นดิสค์ขนาด 3.5 นิ้ว (1.44 Mb) หรือ 5.25 นิ้ว (1.25 Mb) พร้อม software ที่ใช้ติดตั้งกับเครื่องคอมพิวเตอร์ได้ราคาสำหรับ 500 ระเบียนเป็นเงิน 50 เหรียญดอลล่าห์สหรัฐ

2. Industrial Development Abstracts-Paper & Microfiche copies เป็นข้อมูลที่แสดงทางด้านการพัฒนาทางด้านอุตสาหกรรมอีกรูปแบบหนึ่งโดยประกอบด้วย

Microfiche:	ราคาขาย 2 เหรียญดอลล่าห์สหรัฐ (1 microficheมี 100 หน้า)
Paper copies:	จำนวน 1-10 แผ่นราคา 15 เหรียญดอลล่าห์สหรัฐ
	จำนวน 11-50 แผ่นราคา 30 เหรียญดอลล่าห์สหรัฐ
	จำนวน 51-100 แผ่นราคา 45 เหรียญดอลล่าห์สหรัฐ
	มากกว่า 100 แผ่นคิดเพิ่มแผ่นละ 0.75 เหรียญดอลล่าห์สหรัฐ

หมายเหตุ: ราคานี้รวมค่าขนส่ง

2. Industry and Environment

Industry and Environment. A Guide to Sources of Information. เรียบเรียงโดย Dr.Verlag Grub Nachf , 290 หน้า เนื้อหาภายในประกอบด้วย Industrial publication Issue, Equipment suplies, Consultancy companies, Environment-releasted R&D, Technical reviews, Institution เป็นต้น *ราคาขายปกติ 190 เหรียญดอลล่าห์สหรัฐ* **พิเศษสุดลด 30 เปอร์เซนต์** จากราคาขายปกติสำหรับลูกค้าในประเทศไทย

3. Energy andEnvironment Series หนังสือชุดนี้ประกอบด้วย

- *Recycle' 91* เป็นหนังสือที่รวบรวมรายงานต่าง ๆ ที่เกี่ยวข้องกับวัสดุภัณฑ์ด้านพลาสติกและพลาสติกที่ใช้แล้วโดยครอบคลุมไปถึงทางด้านสิ่งแวดล้อมและการจัดการ หนังสือเล่มนี้มีข้อมูลตั้งแต่ปี พ.ศ. 2534) *ราคาขายปกติ 33 เหรียญดอลล่าห์สหรัฐ* **พิเศษสุดลด 50 เปอร์เซนต์** จากราคาขายปกติสำหรับลูกค้าในประเทศไทย
- *Energy Conservation in Industry* มี 2 เล่มได้แก่
    1. Energy Conservation in Industry No. 1 เนื้อหาภายในแสดงถึงการลดการสูญเสียพลังงาน (Energy loss), การปรับปรุงเทคนิคต่าง ๆ ทางด้าน Energy conservation โดยอาศัยขบวนการการนำความร้อนทิ้งกลับมาใช้ (Waste heat recovery) ในโรงงานทางด้านผลิตภัณฑ์พลาสติก, โลหะและเครื่องจักกลต่าง ๆ *ราคาขาย 66 เหรียญดอลล่าห์สหรัฐ*

2. Energy Conservation in Industry No. 5 ประกอบด้วยเนื้อหาทางด้านอุปกรณ์และเครื่องมือที่ใช้สำหรับ Energy conservation ของโรงงานด้านเครื่องแก้วรวมทั้งเทคนิคต่าง ๆ ของประเทศแถบยุโรปตะวันออกและสถานการณ์ทางด้านสิ่งแวดล้อมของออสเตรีย *ราคาขาย 66 เหรียญดอลล่าห์สหรัฐ*

- *Effluent Conbtrol in Industry* เป็นหนังสือที่รวบรวมด้านการควบคุมและการจัดการทางด้านของเสียที่เกิดจากสารเคมีของโรงงานทำกระดาษจากผลิตภัณฑ์ด้านการเกษตร โลหะ พลาสติกรวมทั้งการบำบัดของเสียปล่อยทิ้ง *ราคาขาย 66 เหรียญดอลล่าห์สหรัฐ*
- *Hazaćous Waste Management in Industry* เรื่องราวที่เกี่ยวข้องกับการกำจัดและการบำบัดกากของเสียโดยมีผลกระทบต่อสิ่งแวดล้อมน้อยที่สุดของโรงงานโลหะ พลาสติก เซรามิคและวัสดุอื่น ๆ *ราคาขาย 66 เหรียญดอลล่าห์สหรัฐ*
- *Industrial Safety* เนื้อหาที่เกี่ยวข้องกับการแนะนำแนวทางเพื่อความปลอดภัยด้านสุขภาพในโรงงานอุตสาหกรรมรวมทั้งเทคนิคต่าง ๆ ในประเทศที่กำลังพัฒนาและโรงงานอุตสาหกรรมด้านการเกษตร *ราคาขาย 66 เหรียญดอลล่าห์สหรัฐ*

หมายเหตุ: Energy and Environment Series ทุกเล่มยังไม่รวมค่าขนส่ง 7 เหรียญดอลล่าห์สหรัฐ

4. MICRO-METADEX plus

คือฐานข้อมูลที่เกี่ยวข้องกับโลหะ พลาสติกต่าง ๆ ที่คล้ายกับ IDA data base สำหรับ MICRO-METADEX plus นี้สามารถติดตั้งกับเครื่องคอมพิวเตอร์ที่มีหน่วยความจำ 640 K RAM สำหรับช่วงนี้ **พิเศษสุดลด 30 เปอร์เซนต์** จากราคาขายปกติสำหรับลูกค้าในประเทศไทย

ฐานข้อมูลต่าง ๆ ของ MICRO-METADEX plus ประกอบด้วยข้อมูลต่าง ๆ ดังนี้

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4. Welding ประกอบด้วย 3,500 records สำหรับข้อมูล 1 ปี *ราคาขาย 66 เหรียญดอลล่าห์สหรัฐ*
5. Benefication ประกอบด้วย 700 records *ราคาขาย US$115*

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ใบสั่งซื้อ

Industrial Development Abstracts-Data base

ประเภทของอุตสาหกรรมที่สนใจ:

- ☐ Electronics, electrical industry
- ☐ Leather and leather products
- ☐ Building materials, cement,ceramics
- ☐ Industrial manpower training
- ☐ Wood and wood products
- ☐ Textiles and wearing apparel
- ☐ Iron and steel, non-ferrous metals
- ☐ Petrochemicals, chemicals
- ☐ Food processing
- ☐ Fertilizers
- ☐ Environmental aspects
- ☐ Pharmaceuticals
- ☐ Capital goods, machinery

การสั่งจ่าย:

- ☐ Cheque enclosed for US$ (or equivalent in local currency) _____
- ☐ UNESCO Coupons enclosed for US$ _____
- ☐ Payment against invoice-please forward

ชื่อ: _____

ที่อยู่ : เลขที่_____ ถนน _____ ตำบล _____

อำเภอ/เขต _____ จังหวัด _____ รหัสไปรษณีย์ _____

โทรศัพท์: _____ แฟกซ์: _____

ใบสั่งซื้อ

Industrial Development Abstracts-Paper & microfiche copies

กรุณาใส่ microfiche (M) หรือ paper (P)

IDA Number	UNIDO document symbol	Document title
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

การสั่งจ่าย:

☐ Cheque enclosed for US$ (or equivalent in local currency)

☐ UNESCO Coupons enclosed for US$

☐ Payment against invoice-please forward

ชื่อ: _____

ที่อยู่ : เลขที่ _____ ถนน _____ ตำบล _____

อำเภอ/เขต _____ จังหวัด _____ รหัสไปรษณีย์ _____

โทรศัพท์: _____ แฟกซ์: _____

ใบสั่งซื้อ

Industrial and Environment: A Guide to sources of Information

การสั่งจ่าย: สั่งจ่ายในนาม Verlag Dr. Grub Nachf

ประเภทบัตร: ☐ Amexco ☐ Visa ☐ Eurocard ☐ Mastercard

Card Number: _____

Card expiry date: _____

จำนวนเงิน: US$ _____

วันที่ _____

ลายเซ็นต์: _____

ชื่อ: _____

ที่อยู่ : เลขที่ _____ ถนน _____ ตำบล _____

อำเภอ/เขต _____ จังหวัด _____ รหัสไปรษณีย์ _____

โทรศัพท์: _____ แฟกซ์: _____

ใบสั่งซื้อ

Energy and Environment Series

หนังสือที่ต้องการ:

- ☐ Energy Conservation in Industry
- ☐ Industrial Safety
- ☐ Effluent Control in Industry
- ☐ Hazardous Waste Management in Industry
- ☐ Energy Conservation in Industry No.1
- ☐ Energy Conservation in Industry No.5
- ☐ Subscription to the Energy and Environment Series (No.1-4 plus Recycling'91)
- ☐ Recycling'91

การสั่งจ่าย: สั่งจ่ายในนาม UNIDO/INTIB

- ☐ Cheque enclosed for US$ (or equivalent in local currency)
- ☐ UNESCO Coupons enclosed for US$

ประเภทบัตร: ☐ American Express ☐ VISA ☐ Mastercard

☐ Discovercard (US$ only) ☐ Diners Clubs(US$ only)

Card Number: _____

Card expiry date: _____

จำนวนเงิน: US$ _____

วันที่ _____

ลายเซ็นต์: _____

ชื่อ: _____

ที่อยู่ : เลขที่ _____ ถนน _____ ตำบล _____

อำเภอ/เขต _____ จังหวัด _____ รหัสไปรษณีย์ _____

โทรศัพท์: _____ แฟกซ์: _____

ใบสั่งซื้อ

MICRO-METADEX plus

รายการที่ต้องการ:

- ☐ Environment/scrap/recycling
- ☐ Gold &silver production/recycling
- ☐ Foundry technology
- ☐ Welding
- ☐ Benefication

การสั่งจ่าย: สั่งจ่ายในนาม Materials Information

- ☐ Cheque enclosed for US$ (or equivalent in local currency)
- ☐ UNESCO Coupons enclosed for US$

ประเภทบัตร: ☐ American Express ☐ VISA ☐ Mastercard ☐ Discovercard (US$ only)

Card Number: _____

Card expiry date: _____

จำนวนเงิน: US$ _____

วันที่ _____

ลายเซ็นต์: _____

ชื่อ: _____

ที่อยู่ : เลขที่_____ ถนน _____ ตำบล _____

อำเภอ/เขต _____ จังหวัด _____ รหัสไปรษณีย์ _____

โทรศัพท์: _____ แฟกซ์: _____

PHASE II EEIS - EVALUATION CRITERIA

SHEET 5.1
Thailand

NETWORK EFFECTIVENESS	PCP	SCP1	SCP2	SCP3	SCP4	SCP5	SCP6	SCP7	SCP8	SCP9	SCP10
PROMOTION											
Number of promotion activities											
Frequency of promotion											
Type of promotion (*)											
No. requests for more info.											
DATA DELIVERY											
Products sold**											
Total no. queries/REED data											
Total no. queries/own data											
Number of customers											
Number of repeat customers											
Number of queries/customer											
No. SME customers											
Number queries sent to Vienna											
Speed query response (days avg.)											
COMMUNICATION CHANNELS											
SCP->PCP											
E-mail											
Fax											
Mail											
Telex											
Phone											
Personal contact											
Diskette											
On-line											

*Meetings
Pamphlets
Announcements
WWW

** Please specify

EEISII/X1

Please assign each SCP a number as above and provide a key

Appendix L

WORKSHOP on EEIS
Final Pilot Project Meeting of the EEIS Network in Thailand
16 January 1996, 9:00am -3:30pm
CLAIR, Asian Institute of Technology
Bangkok, Thailand

A SUMMARY REPORT

I. Attendance:

The meeting was attended by the UNIDO Country Director, representatives from RERIC/CLAIR, and three coordinators of the Secondary Contact Points (SCPs) of the EEIS in Thailand. The coordinator of the fourth SCP, the Technical Information Services (TIS), sent his apologies. (Annex A: List of participants)

II. Objectives of the Workshop

The workshop had the following objectives:

1. To formulate marketing strategy
2. To discuss problems encountered and to identify possible solutions
3. To recommend activities that could be undertaken to achieve sustainability
4. To identify the organizations to be invited as EEIS members
5. To recommend monitoring process and criteria

III Highlights of the Meeting

1. The program (Annex B) started with a welcome address by Prof Robert D. Stueart, CLAIR Executive Director and principal investigator of the EEIS pilot project in Thailand. He spoke on the importance and value of information for SMIs and stressed that information is a strong impetus for the development of the SMIs. He discussed the barriers (cultural, technological and financial) that may have to be overcome. He then described the roles the EEIS network members have to play as intermediaries on providing the information. He emphasized the importance to know the information needed by the organization and the worth of this information to the organization.

2. Mr Ari Huhtala, the UNIDO Country Director, presented the activities and priorities of UNIDO with special emphasis on its program in Thailand. He also presented the priorities identified in the Sixth General Conference of UNIDO which were: to focus on small and medium scale industries; to promote environmentally sustainable development; and to improve global information on industry. The EEIS in Thailand, according to Mr Huhtala, fits into these priority areas of UNIDO. He stressed that in Thailand UNIDO supports activities that have impact on industrialization, establishment of Cleaner Production Center

run by private sector but supported by the government, networking and promotion of the active role of the private sector. According to Mr Huhtala the challenge for Thailand is to produce ecologically manufactured products. These are issues that will be discussed in the four-day round table conference on cleaner production technology organized by UNIDO in Bangkok later this month. He offered to promote the EEIS activities and to distribute the EEIS Press Release to the participants of the conference.

3. Mrs Lilia R. Austriaco, RERIC Manager and principal investigator of the EEIS pilot project, presented the objectives and activities of the EEIS (Annex C). She briefed the participants on the situation of SME sectors in developing countries; similar UNIDO initiatives in other parts of the world; EEIS-Thailand's functions, strategies, and mechanisms; the activities of the PCP and the SCPs, roles and possible benefits to SCPs; available resources in RERIC/CLAIR and INTIB/UNIDO, options for marketing the EEIS and the monitoring process.

4. The second session was a hands-on demonstration of the UNIDO and CLAIR/AIT databases available in RERIC/CLAIR (Annex D) by Mr Divas B. Basnyat, RERIC Senior Information Scientist assigned to the EEIS pilot project. Each participant was provided with a computer linked to the Internet. The micro CDS-ISIS software was used to present the databases. Each participant was able to access the WWW page maintained by RERIC that includes information on EEIS in Thailand and the SCPs, the UNIDO homepage and other resources available on the internet relevant to EEIS.

5. The third session was the presentation by the SCP coordinators. The coordinators focussed on their organization's target groups, products produced for SMIs, sources of information, information distribution system, promotion, pricing/cost recovery and dissemination mechanism. They also presented the problems encountered and solutions identified for the sustainability of the activities and also gave their recommendations on effective strategy to expand and sustain the EEIS in Thailand. Ms Kasemsri from EEC/IEAT presented the activities of the EEC/IEAT and provided information on the existing and proposed industrial estates in Thailand. There were at present 23 estates and 1000 factories under IEAT. She also reported that the EEIS would be promoted through the quarterly newsletters and the monthly seminars that IEAT organizes on different technologies/topics. Ms Suchada from the Industrial Environmental Management Office/ Federation of Thai Industries reported that there were now 3,600 members of the different sectoral clubs under FTI. She said that FTI would promote the EEIS activities by informing the different sector clubs that hold meetings every month. Ms Praditta from TIAC then presented the activities of her organization and the various information services TIAC has been providing and the use of EEIS to her services. She however pointed out that a more proactive role on the part of PCP in cooperation with SCPs is needed to reactivate the end-users to make use of the EEIS activities. The reports are presented in Annex E.

6. In the final session, Prof Stueart chaired a Panel Discussion on Networking and

Sustainability. While initiating the discussion. he listed the following objectives for discussion:

- Discuss problems encountered-identify solutions
- Recommend activities to achieve sustainability
- Identify (if necessary) other SCP members
- Formulate marketing strategies

Noting that "information is power". the following questions were put forward by Prof Stueart to help in meeting the above objectives.

- Who are the users of the information?
- What information do users need?
- What do they need it for? (What do they do with it?)
- What information sources and services are currently being used?
- To what extent do these sources and services meet needs? In terms of: type; quality; access; cost? And how does it reach users?
- How do users evaluate the performance of EEIS?
- How can access be improved?
- What are the gaps?
- How can they be filled?
- How can we exchange/share information?

7. Users' Profile

The participants identified the end-users as the more than 80,000 small and medium scale industries in Thailand and the potential entrepreneurs in the country in these categories. These end-users need information to start a company or to upgrade their production to have efficient use of the energy and to conserve the environment. These end-users usually prefer to obtain information from users of the same technology. rather than from information intermediary. They usually obtain information from trade associations and government agencies. Information from these sources are usually given free-of-charge though the trade associations usually include the information cost in their membership fees. As a result the end-users does not put value on the technical information. Most of these target users are not aware of information from databases and how these can be of use to them.

8. Information Intermediaries

The role of SCPs as information intermediaries is crucial to the success of EEIS as they are the first information source for the target groups. Problems were identified and the participants identified solution based on their experiences.

* The end-users have problems trusting information from intermediaries.

The SCPs, as the first contact point with the end-users, should develop the confidence of the end-users by providing relevant and tested information that satisfies the identified needs. This means SCPs must have the capability to analyze the information and be able to provide "added value" to the information by independently and objectively assessing the information, drawing conclusions as to the sustainability, environmental soundness, etc. The EEC/IEAT assesses technology offerings and only invites those that satisfy their criteria to present a seminar to the members. The EEC/IEAT also serves as facilitator between the end-user of the technology and the technology provider. Through this effort partnerships and joint ventures are established. This is a testimony to the credibility of the information and information providers.

* The subject knowledge of information providers is inadequate to respond to all queries received. To hire many subject specialists is not cost-effective.

CLAIR/AIT has a database of resource persons/consultants. These are subject specialists willing to entertain referral letters received by CLAIR. It was suggested to create or identify an existing database of local resource persons/consultants to provide answers to queries. It was also suggested to compile information on frequently asked questions (FAQ)

* The end-users have difficulty in articulating their information needs.

The SCPs should develop a mechanism and the skill to assist the end-users articulate their information needs. The FTI uses their industry and provincial clubs to interact with the end-users and to identify their needs. Then they organize seminars to satisfy the identified needs.

* The end-users (the SMI managers and technical staff) are not used to and willing to look for information in English

The question of language barrier for effective information dissemination poses a constraint in the supply-demand relationship for information. RERIC/CLAIR has therefore prepared a translation of the EEIS factsheets in the Thai language for distribution to the end-users. The SCPs as information intermediaries can also help in overcoming the language barrier by promoting EEIS using their publications in Thai to reach the end-users.

9. Marketing

The participants realized that reaching the target groups to inform them about EEIS is a difficult problem considering the financial resources of EEIS. The marketing strategy is to integrate the marketing of EEIS in the existing marketing activities of the PCP and SCPs. In summary, these include

- Publish information on EEIS in the current publications i.e. newsletters, journals,

magazines
- Include information on EEIS in the SCPs' organizations, communication channels such as brochures, fliers, posters, meetings/seminars and circulars
- provide information through internet, World Wide Web, press releases and teletex

It was agreed that the most effective channel for promoting EEIS is through meetings, seminars or conferences targeted for entrepreneurs e.g. meeting and seminars of the clubs of FTI and technical seminars of IEAT. It was proposed that a special short presentation on EEIS be arranged through IEAT technical seminars and FTI club meetings. Factsheets in Thai can be distributed during these meetings.

Home page in the World Wide Web, press release to newspapers and teletex for TV have been undertaken by the PCP. Press release and teletex should be given out regularly.

10. Network Operation Procedure and Guidelines

The network members agreed that within the network there should also be an operation and procedure guidelines which should be developed. A charging mechanism should be developed by each network member within their existing rates. It was also agreed that preference of communication between members are through email, fax and telephone in that order.

It was also agreed that network members should meet every six (6) months to provide an opportunity to exchange ideas and information.

11. Monitoring

The participants approved the following achievement indicators and the use of INTIB formsheet

- Increase in number of
  * queries
  * active end-users
  * information sources
  * cooperation and information exchange between SCPs
- Develop new products
- Achieve revenue target
- Number of effective technology transfer
- promotion through newspapers and other media

12. Sustainability

The network members agreed that at this stage, the EEIS can not generate income for sustainability from the target groups. There is a need for external support. It was agreed

to submit proposals to external donors to support identified activities e.g. reaching small enterprises, producing video, etc. Mr Huhtala suggested names and address of some possible donors.

13. Recommended Organizations to Join EEIS

The following organizations were recommended to be invited as SCPs.

- The Department of Industrial Works.
- The Department of Pollution Control.
- The Department of Industrial Promotion.

14. A certificate of membership and a small gift as a token of appreciation were presented to each of the SCP representatives by Prof Stueart on behalf of the PCP. The meeting was then adjourned by Prof Stueart by thanking the participants for the presentations and for participating in the discussions.

Annex A

List of Participants of the Workshop on EEIS
16 January 1996

Primary Contact Point

1. Prof. Robert D. Stueart
Executive Director, CLAIR/AIT
KM. 42 Phaholyothin Rd.
Klong Luang, Pathumthani 12120

2. Dr. Francis J. Devadason
Associate Director, CLAIR/AIT
KM. 42 Phaholyothin Rd.
Klong Luang, Pathumthani 12120

3. Mrs. Lilia R. Austriaco
RERIC Manager, CLAIR/AIT
KM. 42 Phaholyothin Rd.
Klong Luang, Pathumthani 12120

4. Mr. Divas B. Basnyat
RERIC Senior Information Scientist
CLAIR/AIT, KM. 42 Phaholyothin Rd.
Klong Luang, Pathumthani 12120

5. Mrs. Ngo Than Loan
ENSIC Information Scientist
CLAIR/AIT, KM. 42 Phaholyothin Rd.
Klong Lung, Pathumthani 12120

6. Mr Leader Man Shrestha
System Analyst, CLAIR/AIT
KM. 42 Phaholyothin Rd.
Klong Luang, Pathumthani 12120

Secondary Contact Points

7. Ms Praditta Siripan
Information Specialist
Technical Information Access Center
Room No. 602, 6th Floor
Vidyapbathana Building
Chulalongkorn University
Phayathai RD, Bangkok 10330

8. Ms Kasemsri Homchean
Environmental Control & Safety Division
Environmental Enhancement Center
Industrial Estate Authority of Thailand
618 Nikon Makkasan Road
Rajthevee, Bangkok 10400

9. Ms Nuengnij Wannarat
Environmental Control & Safety Division
Environmental Enhancement Center
Industrial Estate Authority of Thailand
618 Nikon Makkasan Road
Rajthevee, Bangkok 10400

10. Ms Suchada Sungpeeda
Environmental Scientist
The Industrial Environment Management Program
The Federation of Thai Industries
Queen Sirikit National Convention Center
4th Floor, Zone C
60 New Rachadapisek Rd.
Klongtoey, Bangkok 10110

UNIDO

11. Mr. Ari Huhtala
UNIDO Country Director
UNDP
G. P. O. Box 618
Bangkok 10501

Annex B

Workshop on EEIS

Final Pilot Project Meeting of the EEIS Network in Thailand

16 January 1996

Center for Library and Information Resources
Asian Institute of Technology, Bangkok

Program

9:00 - 9:15	Registration of Participants	
9:15 - 10:00	Welcome Address	Prof. Robert D. Stueart CLAIR Executive Director
	Remarks	Mr. Ari Huhtala UNIDO Country Director
	EEIS: Objective and Activities	Mrs. Lilia R. Austriaco RERIC Manager
10:00 - 10:30	Coffee Break	
10:30 - 11:30	Demonstration of EEIS	Mr. Divas B. Basnyat RERIC Senior Information Scientist
11:30 - 13:00	Lunch at AIT Center (Lobby Lounge)	
13:00 - 14:00	Presentation by SCP Coordinators	
14:00 - 14:30	Coffee Break	
14:30 - 16:00	Panel Discussion: Networking & Sustainability	Chairperson: Prof. Robert D. Stueart

Venue : CLAIR Building, Training Room

Annex C

WORKSHOP ON EEIS

Final Pilot Project Meeting of the EEIS
in Thailand

16 January 1996

EEIS : Objectives and Activities

Lilia Robles-Austriaco

Regional Energy Resources Information Center (RERIC)
Center for Library and Information Resources
Asian Institute of Technology

INTRODUCTION

The United Nation Industrial Development Organization (UNIDO) promotes industrial development of developing countries. Recognizing that information is crucial to selecting appropriate technologies and in achieving effective technology transfer for developing countries, UNIDO commissioned a study in 1991 to assess the current supply of industrial information to developing countries, with particular focus on energy and environment information for small and medium industries (SMIs). The report of this study, published in 1992, summarizes the situation of SME sectors in developing countries as follows :

* Information available but not appropriate
* Limited communication and data handling capabilities in SME sector
* SMEs in developing countries rarely place monetary value on information
* SMEs in developing countries are not aware of the existence of databases and methods of assessing them
* Database producers and vendors do not target SMEs in developing countries
* SMEs recognizes the need for environmental and energy information but are rarely able to articulate this need
* Poor telecommunications in many developing countries.

UNIDO, considering its vast experience and resources available, decided to contribute to bridging this gap. To follow up the in-depth national studies in several countries, UNIDO established pilot Energy and Environment Information System (EEIS) in Ecuador, Hungary, Mozambique, Peru, Thailand, and Zimbabwe.

ENERGY AND ENVIRONMENT INFORMATION SYSTEM (EEIS)

Objective and Strategy

The objective of the EEIS is to establish sustainable, cost-effective mechanism for management of industrial environment information targeted to SMIs within developing countries.

The EEIS will provide a number of services including the provision of relevant and up-to-date information, and the institution of high impact mechanisms for commercialization, distribution and promotion of information which corresponds to each participating country's capabilities in dissemination of information.

The EEIS is a non-profit venture but operates in a fee-paying basis. It is conceived to complement and not to compete with existing national and international initiatives.

In the final analysis, long-term growth for productivity is related to the introduction, dissemination and use of information in technical and organizational innovations. In order to provide opportunity to developing countries to strengthen their national capabilities to select, acquire, adapt and apply foreign technologies, as well as merge them effectively with their own indigenous technologies, it is important that information be made available. To achieve this, the EEIS project strategy includes

* Know national infrastructure
* Develop high-impact mechanisms for access, distribution, dissemination, promotion, cost-effectiveness and sustainability
* Match user's capabilities and needs.

The identified primary functions of EEIS to achieve the objectives are:

* Know what information sources exist in the country
* Assess information context relative to the requirements of the program
* Gain access to major sources of information nationally
* Tap UNIDOs institutional knowledge
* Convert information to a common format
* Merge and repackage information
* Disseminate repackage information using various media.

The Primary Contact Point

To undertake EEIS objective, UNIDO established an EEIS Project Strategy Mechanism. First the project identifies a key institution which has a proven capability in information management and an existing information program with staff and budget as well as the ability to function as an information service to industry in the national context.

Such a center is the project's main liaison for the system in the country and is designated the Primary Contact Point (PCP). The PCP will establish the network in the country.

UNIDO selected the Center for Library and Information Resources (CLAIR), formerly the Library and Regional Documentation Center (LRDC), of the Asian Institute of Technology (AIT) as the PCP in Thailand. At AIT, the Regional Energy Resources Information Center (RERIC) is the PCP.

The activities and responsibilities of the PCP includes:

* Assigns a full time information officer

* Provides information service to SMI sector on a cost recovering basis.

* Organizes a meeting to introduce the EEIS to potential network partners

* Establishes and coordinates the network for disseminating information

* Markets and promotes the system

* Monitors the effectiveness of the network

* Organizes a meeting of the network nodes to discuss and solve problems encountered with the aim to achieve sustainability

* Prepares reports for UNIDO

The Secondary Contact Points (SCPs)

RERIC for the pilot project selected four organizations as Secondary Contact Points (SCP). These organizations are well selected so that it provides access to industry in Thailand,. The SCPs are:

* Federation of Thai Industries (FTI)

  FTI is the largest and only officially recognized private sector industrial organization with 3600 member companies concerning small, medium and large companies. To monitor and provide effective service to its members, FTI established 26 industry club and 9 provincial club. FTI represents the trade and industry association. The Industrial Environmental Management Office (IEM) is the direct contact as SCP.

* Industrial Estate Authority of Thailand (IEAT)

  IEAT operates 23 industrial estates with a total of 1000 factories mainly medium and large industries. IEAT provides a one-station service for Thai and Foreign Industrial organizations. The Environment Enhancement Center of IEAT is the direct contact as SCP.

* Technical Information Access Center (TIAC)

  TIAC is Thailand's first information service operating as a commercial division of a government agency, the National Science and Technology Development Agency (NSTDA). TIAC serves the information needs of users from the public and business sectors in the fields of science, technology, business and industry.

* Technical Information Services (TIS)

  TIS is designed to keep modern business industry, public sector and researchers up to date with international technical development with focus on non-conventional energy, environment, biotechnology and food technology. TIS specializes on information from and about ASEAN.

Considering that the main function of the SCP is to mediate between end-users and the providers of information and related services, the roles of the SCPs are:

* Promotion

  SCPs must play a pro-active promotional role, using existing communication channels so that their network members will know and use the EEIS,

* Information Intermediary

  SCPs serve as information intermediary. This role as information intermediary is considered crucial to the successful implementation of the EEIS. As the first contact point with the end-users, the intermediary is responsible for passing on relevant information derived from EEIS. This information influences the end-users decision making process. It is therefore important that SCP is capable of analyzing the information and adapting these information to the needs of the end users.

The possible benefits to the Secondary Contact Point (SCP) are:

* Increase credibility, visibility and attractiveness through enhance services
* Additional resources
* Strengthen existing services.

Marketing the EEIS

The marketing strategy developed is to integrate marketing the EEIS in the existing marketing activities of the PCP and SCPs.

The action plan include

* Publish information on EEIS in current serial publications i.e. newsletter, journals, magazines
* Include information on EEIS in current communication channels such as brochures, fliers, posters, circulars, meetings and seminars
* Promote through the Internet, World Wide Web , newspapers through press releases and TV by teletex
* Display of UNIDO publications
* Distribute factsheets

Monitoring

The SCPs agreed to use the following achievement indicators in addition to using the INTIB formsheet.

- Increase in number of
  * queries
  * active end-users
  * information sources
  * cooperation and information exchange between SCPs
- Develop new products
- Achieve revenue targets
- Number of effective technology transfer
- Promotion through newspapers and other media

REFERENCES

* Environmental Resources Ltd. 1992. Energy and Environment Information System (Phase 1) Draft Final Reports Submitted to UNIDO.

* Center for Library and Information Resources. 1995. The Execution of Services Related to the Energy and Environment Information system (Phase II) Project No: XP/INT/94/014 Progress Report (1 March - 30 June 1995) submitted to UNIDO.

* Contract No. 94/102 between the United Nations Industrial Development Organization (UNIDO) and the Asian Institute of Technology for the Execution of Services Related to the Energy and Environment Information System (Phase II), 23 December 1994.

* Regional Energy Resources Information Center (RERIC). 1992. Energy and Environment Information System for Small - and Medium - size Industries in Thailand, report submitted to ERL Environmental Resources Ltd.

Annex D

WORKSHOP ON EEIS
Final Pilot Project Meeting of the EEIS in Thailand

16 January 1996

DEMONSTRATION OF EEIS DATABASE

Divas B. Basnyat
Senior Information Scientist
Regional Energy Resources Information Center
Center of Library and Information Resources
Asian Institute of Technology

OBJECTIVE:

To assist in the provision of energy and environment information to the small and medium scale industry sector in Thailand

Information materials to be provided by or through UNIDO/INTIB

1. DATABASE:

1.1 Industrial Development Abstracts (IDA)

- 20,800 fully indexed abstracts of UNIDO documentation
- 1800 environmental related records

1.2 METADEX Abstracts

- commercial information source on all aspects of metallurgy
- 27,000 environment related records

1.3 Engineered Materials Abstracts

- commercial information source on all aspects of plastics, composites, ceramics and adhesives
- 3,000 environment related records

1.4 Materials Business File

- commercial information source on business aspects of metallurgy, plastics, composites, ceramics and adhesives
- 5,000 environment related records

1.5 Energy and Environment Series Abstracts

- over 4000 records

2. Access to referral sources which INTIB draws upon for the EEIS or its own Referral Database on Energy and Environment (REED)

3. Publications for Sale

- Industry and Environment- A Guide to Sources of Information, 1991

- INECA Journal Vol. 2, No. 1, 1991
  Recycling '91

- Energy and Environment Series

  No.1 Energy Conservation in Industry
  No.2 Effluent Control in Industry
  No.3 Hazardous Waste Management in Industry
  No.4 Industrial Safety
  No.5 Energy Conservation in Industry

Available INTIB Database in RERIC

Database Name	Description	No. of Records
IDAA	Industrial Development Abstracts (IDA)	1,577
MAT2	Material Business File (MBF)	590
MAT3	Engineered Materials Abstracts (EMA)	762
MATE	METADEX Abstracts	3,195
EESA	Energy and Environment Series Abstracts (EESA)	3,672

RERIC Database

Database Name	**Description**	**No. of Records**
RERIC	RERIC database on Energy Planning, Energy Conservation and Renewable Energy Resources	9,018
ERGS	Renewable Energy IDRC, Canada	5,724
INFOTE	INFOTERRA (organizations)	5,580
AENG	Agricultural Engg (Prof Chancellor, Univ. of California, Davis)	10,920
CRERI	Renewable Energy, CSIRO, Australia	6,917

Annex E

WORKSHOP ON EEIS
Final Pilot Project Meeting of the EEIS in Thailand

16 January 1996

SCPs REPORTS

WORKSHOP ON EEIS
Final Pilot Project Meeting of the EEIS in Thailand

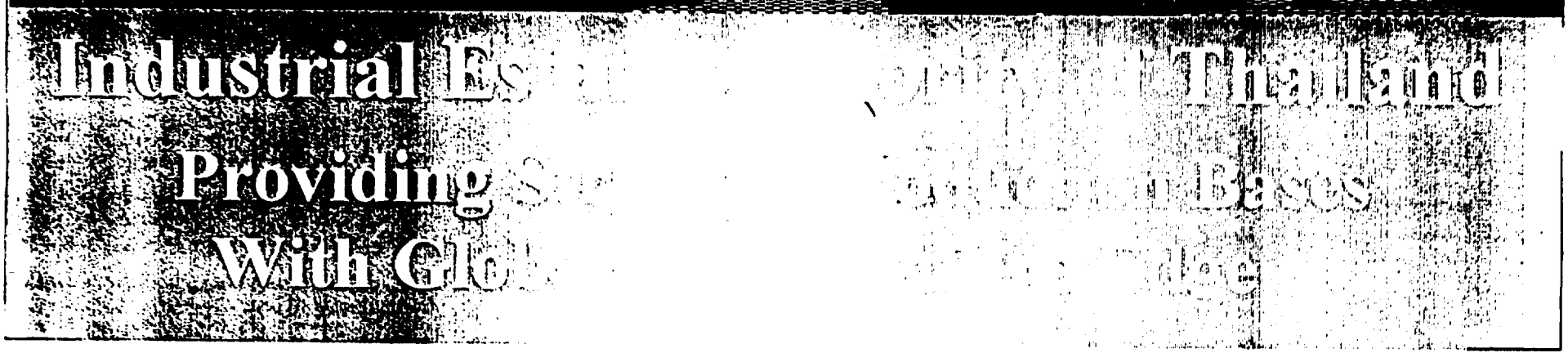
16 January 1996

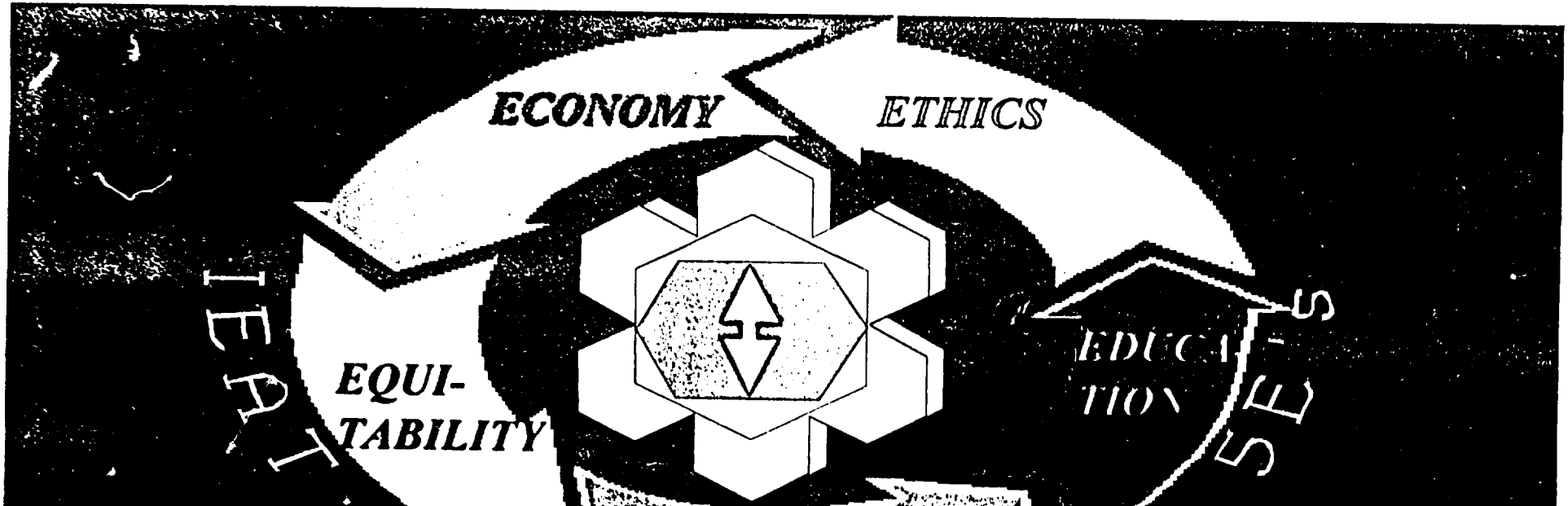
SCP REPORT

Environmental Enhancement Center
Industrial Estate Authority of Thailand

การนิคมอุตสาหกรรมแห่งประเทศไทย

สร้างสรรค์สร้างยุทธศาสตร์การผลิตทั่วไทย


Industrial E
Providing
With G
Thailand


ECONOMY
ETHICS
EQUI-
TABILITY

IEAT'S CORE BUSINESS

ONE STATION SERVICE
PERMISSION / PRIVILEGE

ENVIRONMENT / RISK
MANAGEMENT

OPERATION / MAINTENANCE
FACILITY / UTILITY
IE. MGT.

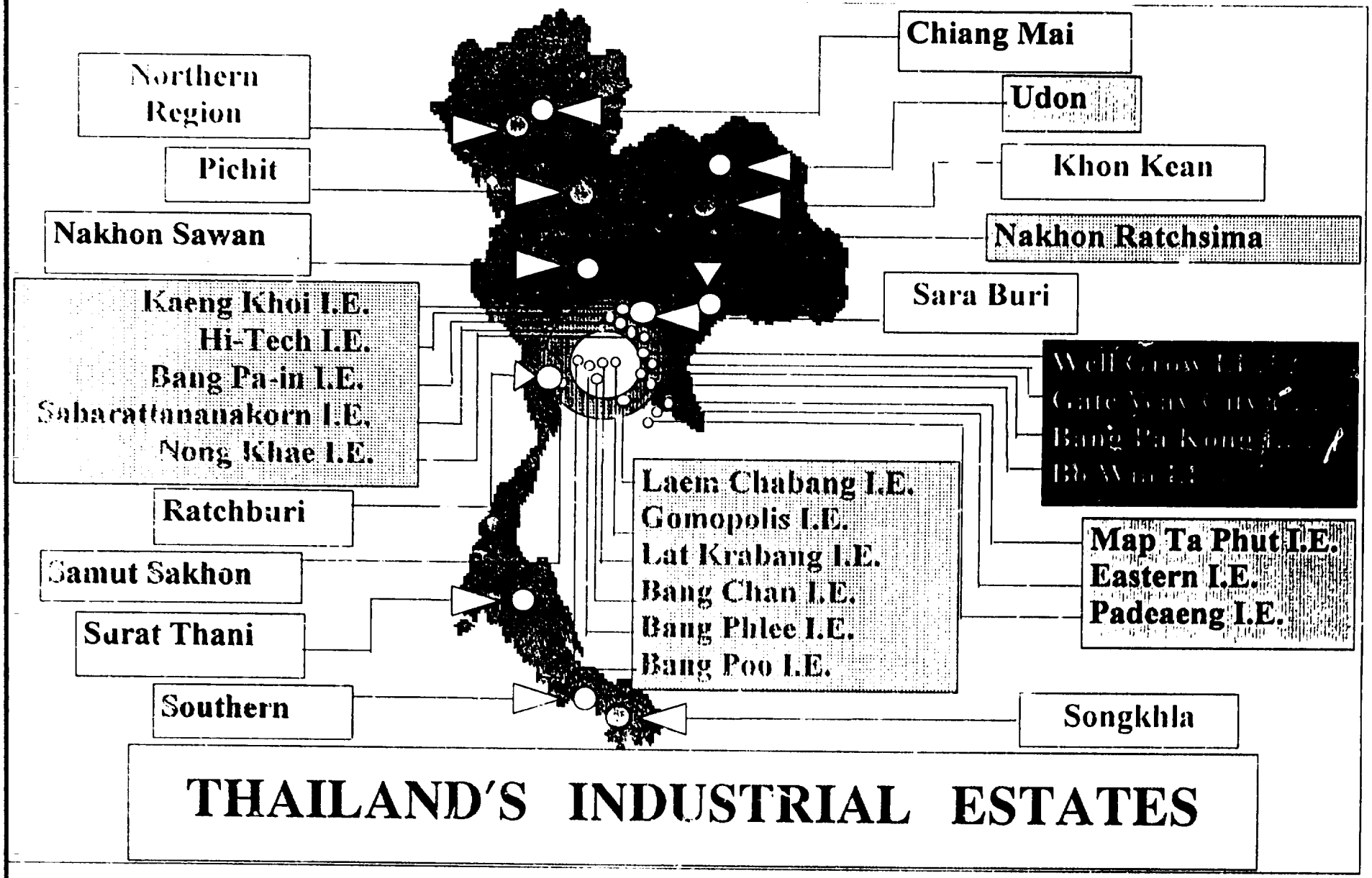
IE/SEZ
STRATEGIC PRODUCTION
& TRADE BASE

RESIDENTIAL
NEW TOWN

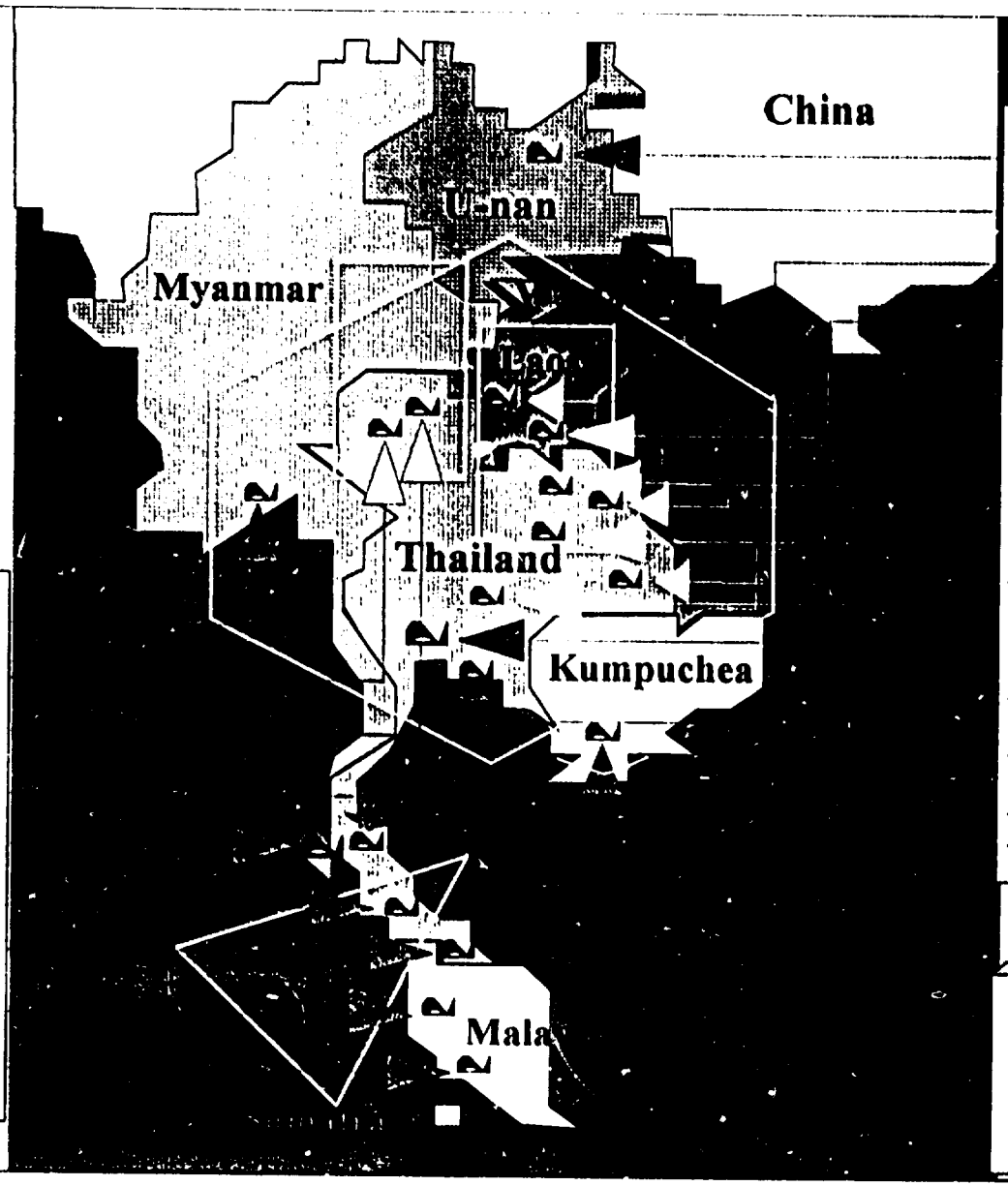
COMMERCIAL

INDUSTRIAL PORT

PREPARED BY IEAT FEB. 95


Chiang Mai
Northern Region
Udon
Pichit
Khon Kean
Nakhon Sawan
Nakhon Ratchsima
Sara Buri
Kaeng Khoi I.E.
Hi-Tech I.E.
Bang Pa-in I.E.
Sahacattanapakorn I.E.
Nong Khae I.E.
Laem Chabang I.E.
Gomopolis I.E.
Lat Krabang I.E.
Bang Chan I.E.
Bang Phlee I.E.
Bang Poo I.E.
Ratchburi
Map Ta Phut I.E.
Eastern I.E.
Padeaeng I.E.
Samut Sakhon
Surat Thani
Southern
Songkhla
THAILAND'S INDUSTRIAL ESTATES

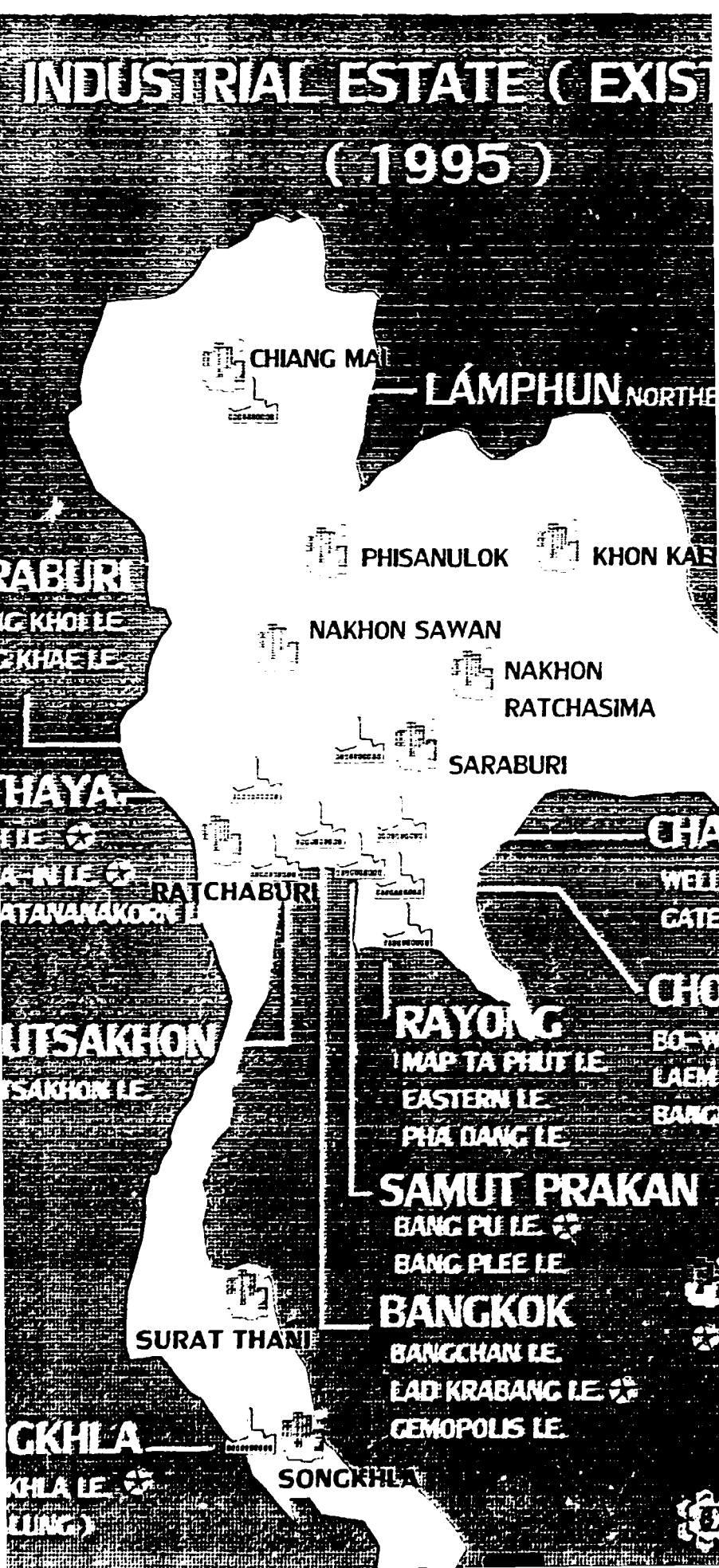
AIRPORT



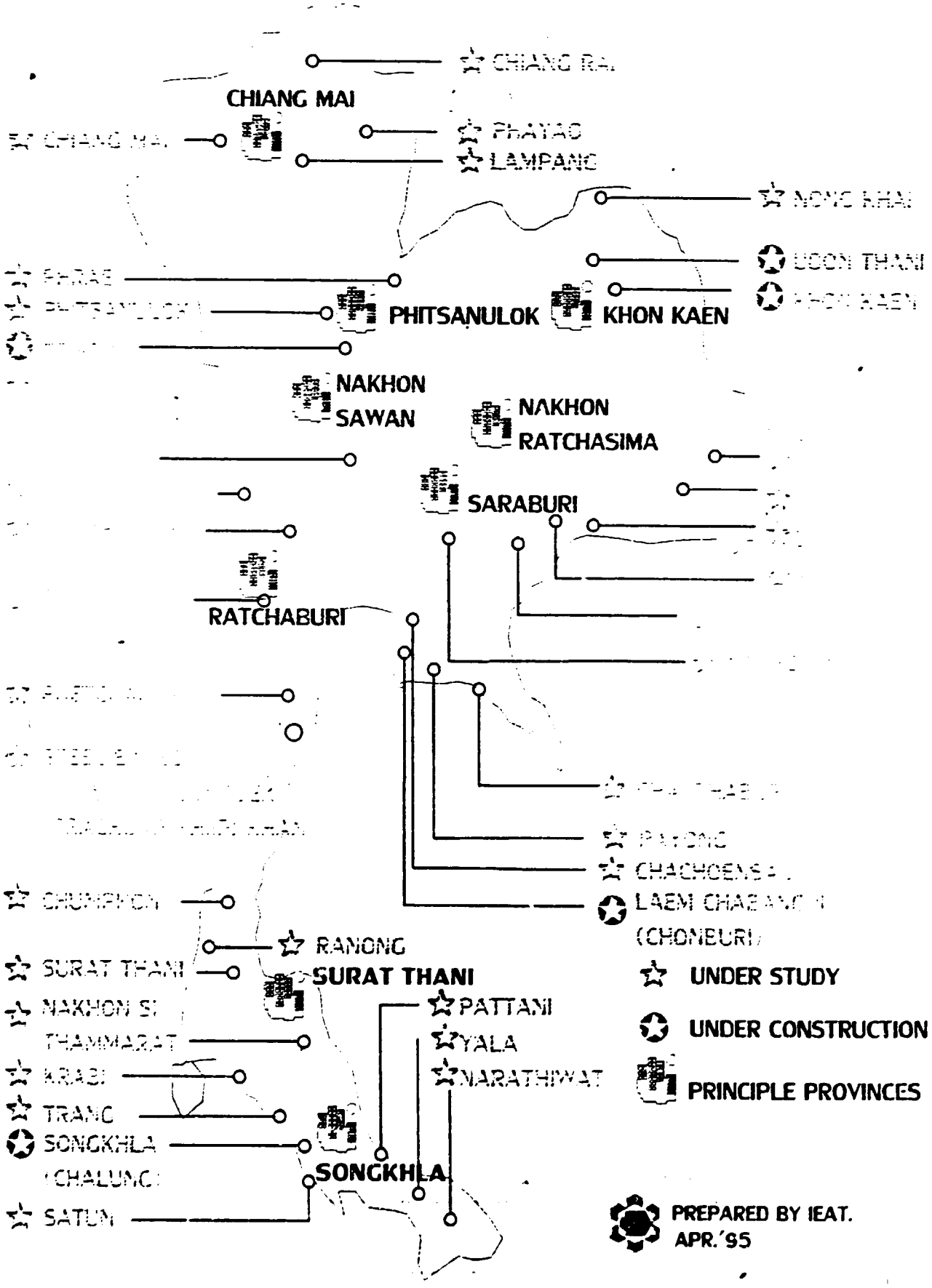
Rangoo
Chiang Mai
Chiang Rai
Suratthani
Phuket
Hadyai
KO Tabahru
Penang
Kualalumpur

Kunming
Hanoi
Luang Phabang
Viantian
Udonthani
Sakonnakon
Khonkaen
Ubonratchathani
Nakhonratchasima
BANGKOK
U-tapao
HoChiminh City
Phnompen

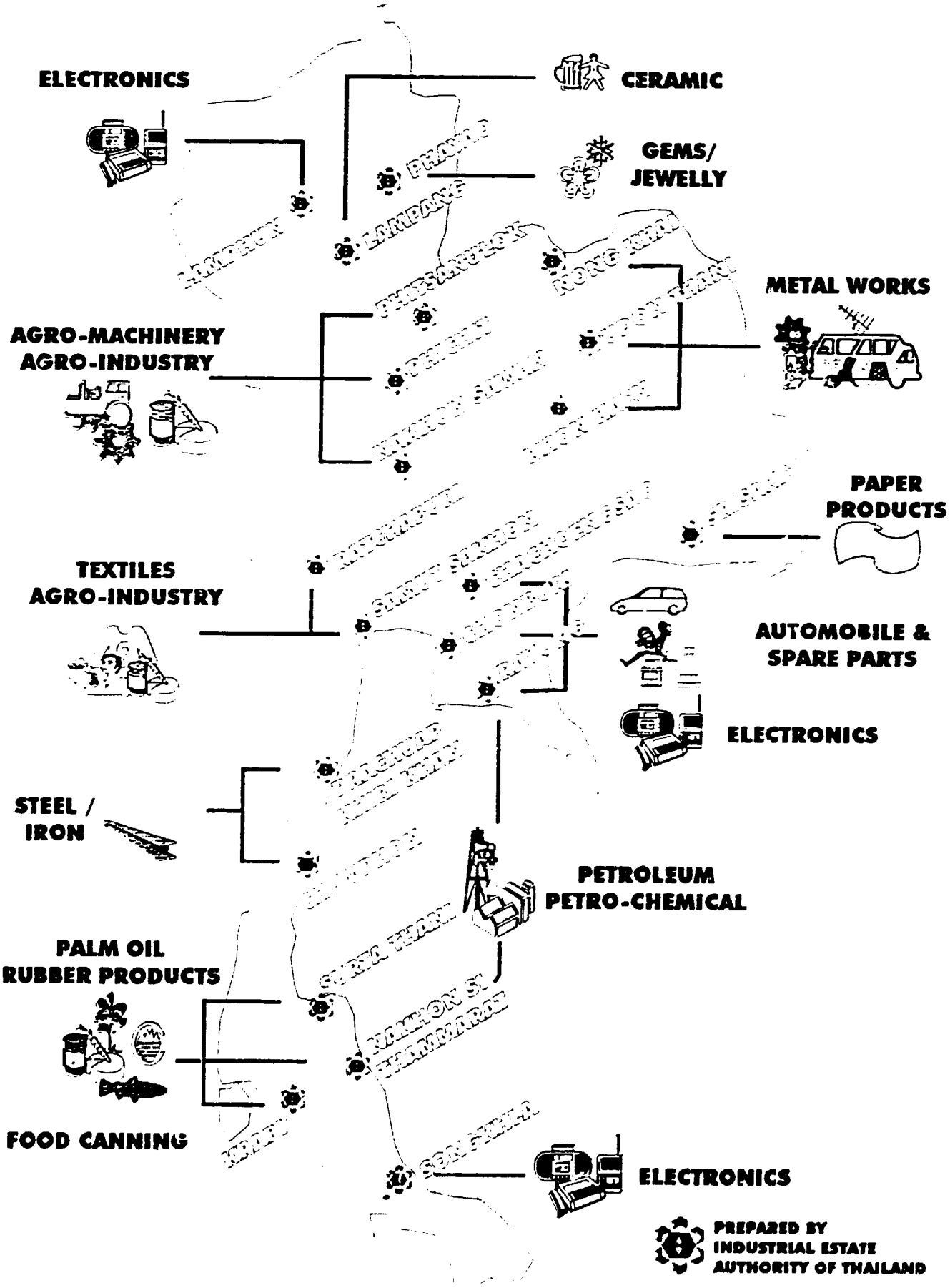
ECONOMIC REGION


INDUSTRIAL ESTATE (EXIS
(1995)
CHIANG MA
LAMPHUN NORTHE
PHISANULOK
KHON KA
NAKHON SAWAN
NAKHON
RATCHASIMA
SARABURI
RATCHABURI
RAYONG
MAP TA PHUT I.E.
EASTERN I.E.
PHA DANG I.E.
SAMUT PRAKAN
BANG PU I.E.
BANG PLEE I.E.
BANGKOK
BANGCHAN I.E.
LAD KRABANG I.E.
CEMOPOLIS I.E.
SURAT THANI
SONGKHLA

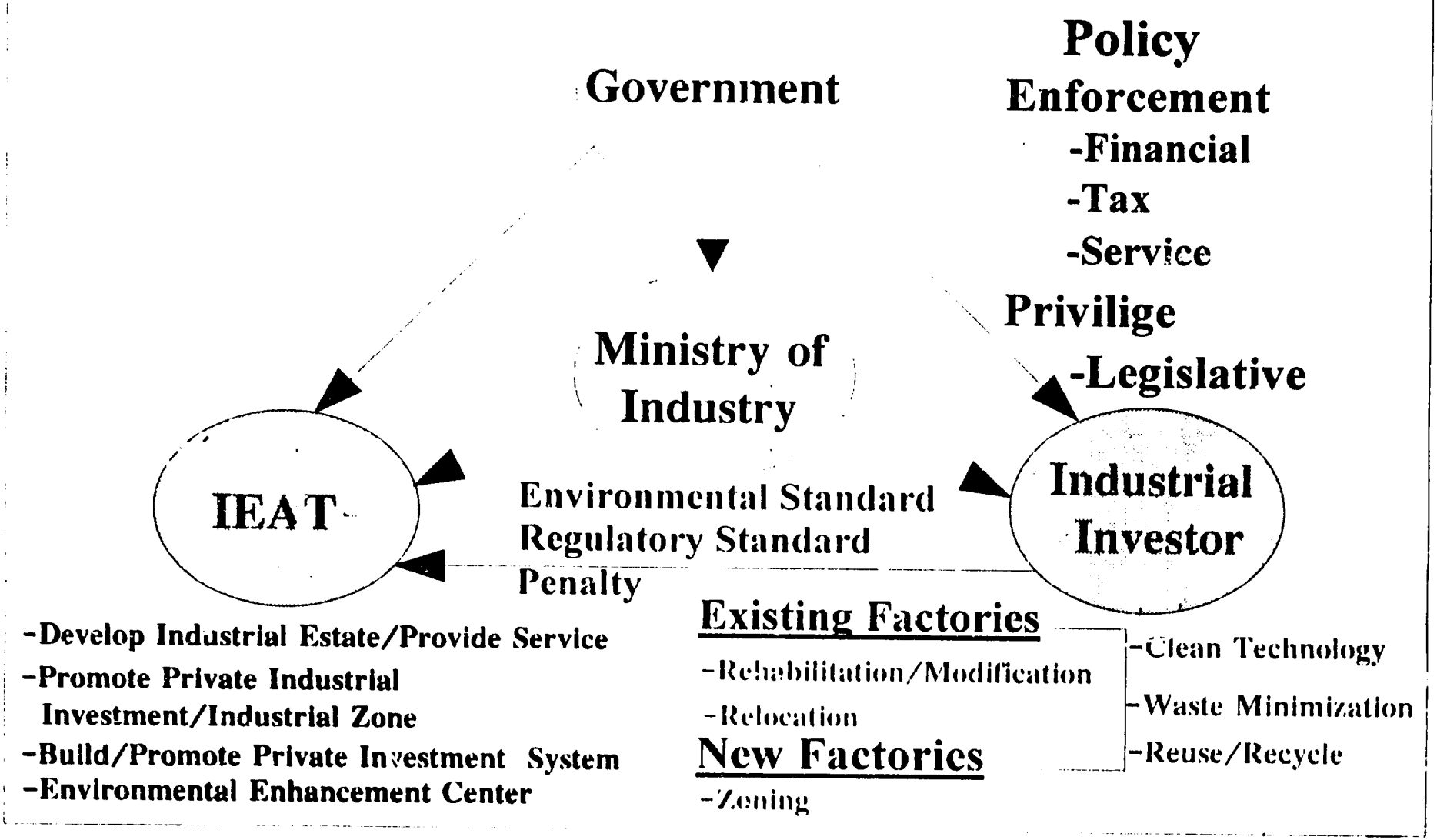
INDUSTRIAL ESTATE (PROPOSED)
(1995-2001)



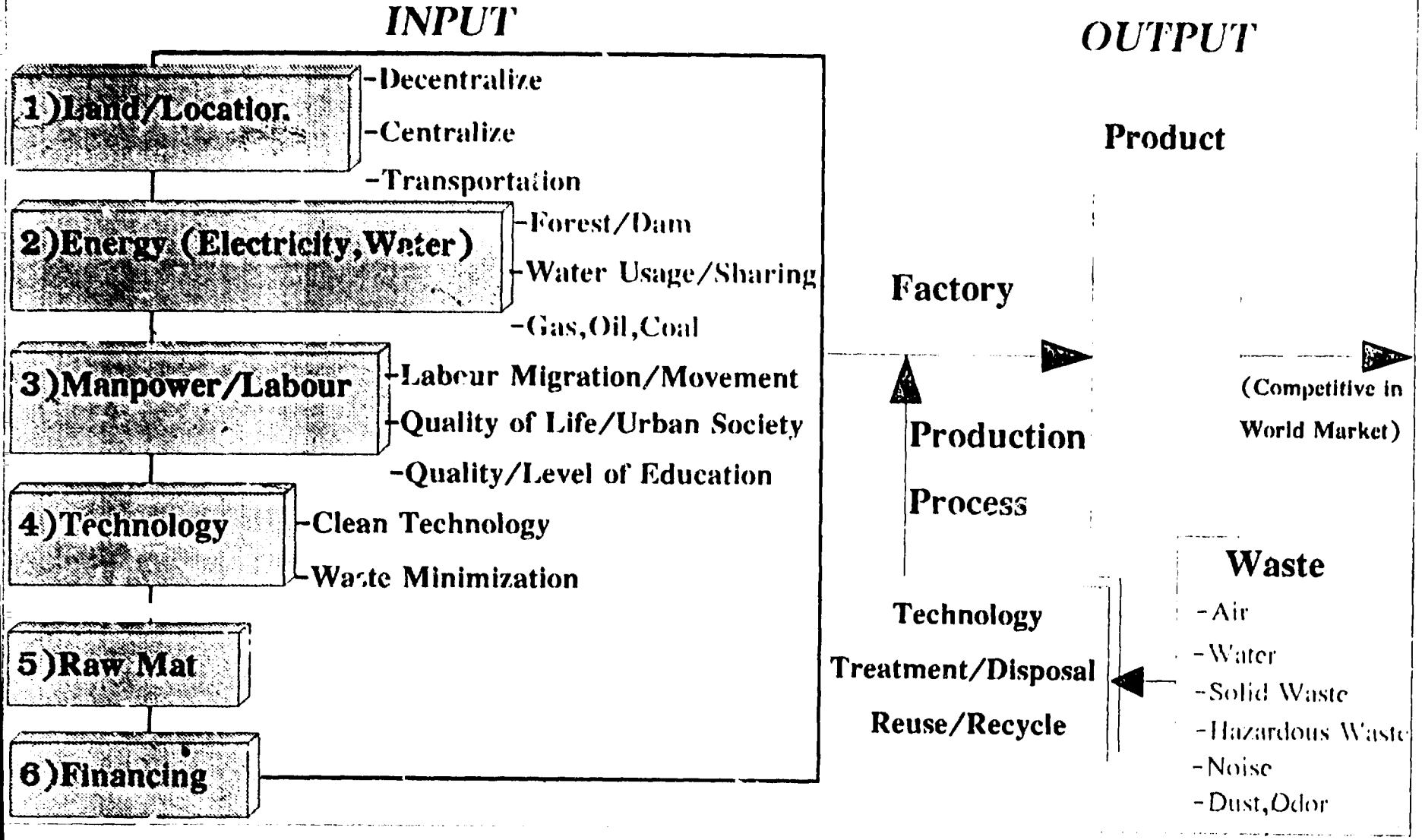
INDUSTRIAL ESTATE [BY TYPE OF INDUSTRY]



GREEN / CLEAN COUNTRY

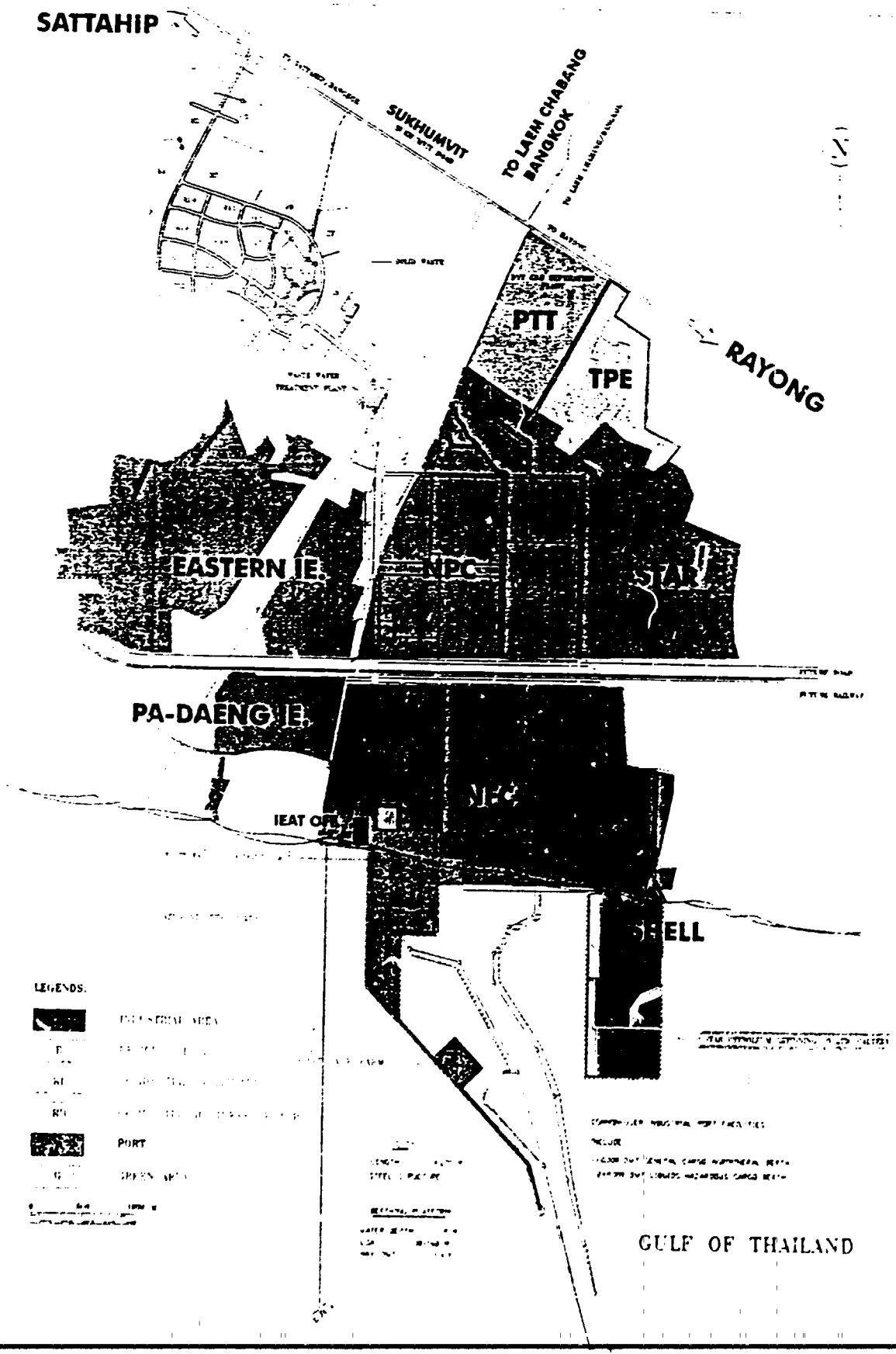


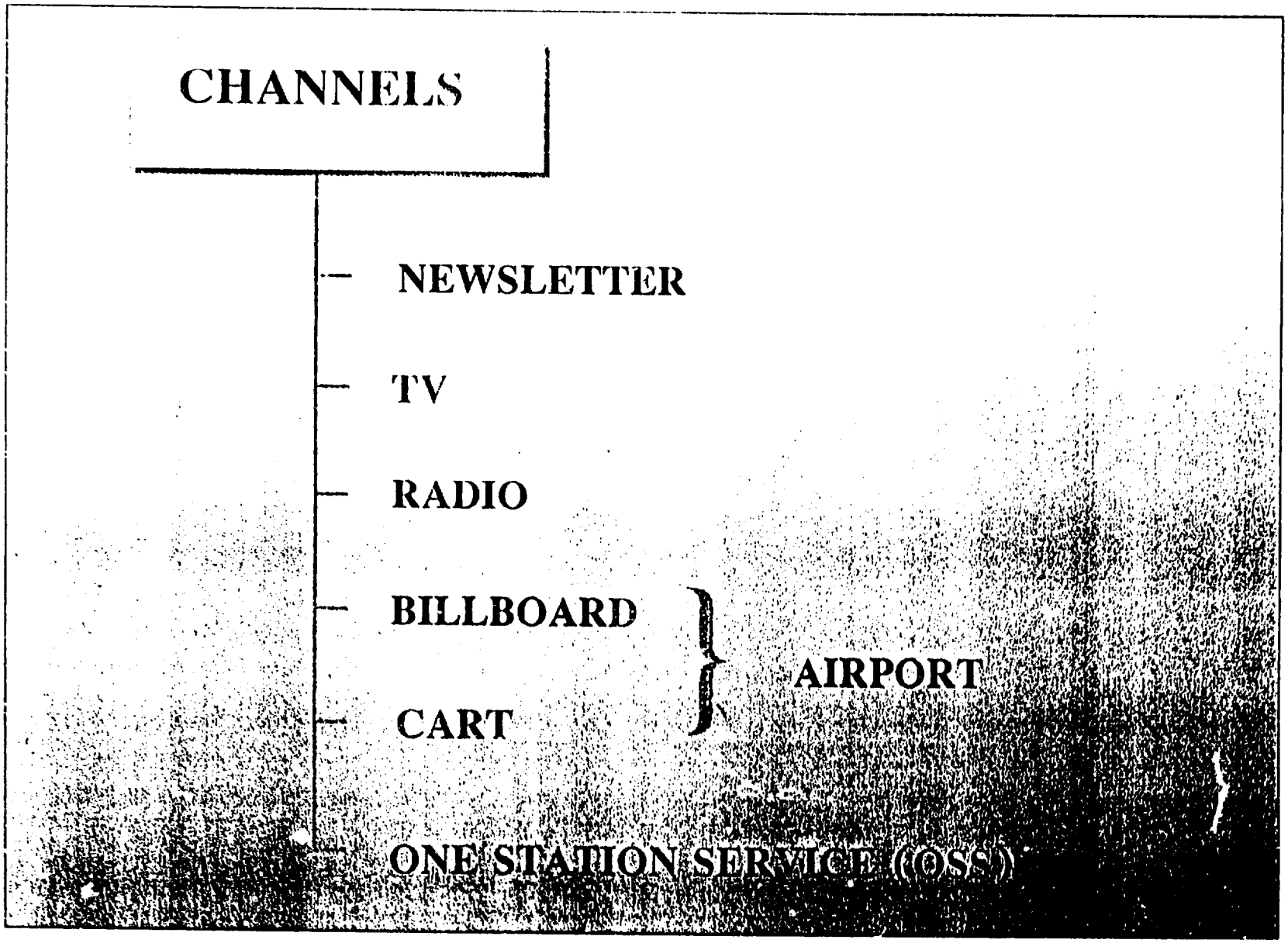
Industrial Development and Environmental Impacts



MAP-TA-PHUT COMPLEX

MAPTAPHUT-EASTERN-PADANG-INDUSTRIAL ESTATES PORT AND URBAN AREA




CHANNELS
NEWSLETTER
TV
RADIO
BILLBOARD
CART
AIRPORT
ONE STATION SERVICE (OSS)

EEC

* A place for disseminating environmental information & innovative technologies together with real practical case studies through seminar, workshop, and training
* A strategic contact point for buyers and sellers while IEAT acts as match-maker
* A place for display of environmental Business with particular reference to Industrial Applications
* A place to provide stalls to display computer works and Sustainable Economic Development in specific industries and ways of achieving a clean environment

Environmental Enhancement Center Seminar List 1995

	Topic	Specific Technology	Date
1	Oil/Solvent Waste Treatment & Disposal Techniques	- Sita-Thai Waste Management Services Ltd.	31 August 1994
2	Industrial Wastewater Pretreatment Systems (Design,Operation & Maintenance)	-Jaakko Poyry -Thames Water -Rieckermann Thai Enviro-Chem Co.,Ltd.	28 September 1994
3	Emergency Response Management (Personal Protective Equipment)	-IEAT	26 October 1994
4	Air Pollution Control	-Asian Chemicals & Engineering -Boonyium & Associates	30 November 1994
5	Environmental Monitoring for Rugulatory Compliance	-SGS (Thailand) Ltd.	25 January 1995
6	Hazardous Waste Storage Technology	-Waste Management Thailand	28 February 1995
7	Environmental Monitoring	-Thames Water	21 March 1995
8	Wastewater Process Treatment Technologies	-CMPS (Thailand)	29 March 1995
9	Air Quality Monitoring	-Environment Systems Corporations (ESC)	19 April 1995
10	Advance Water Quality Treatment Systems	-Aquathai Co.,Ltd.	26 April 1995

	Topic	Specific Technology	Date
11	Ozone Depleting Substances Phaseout	-The United Nations Environment Programme	12 May 1995
12	ISO 9000/14000 Environmental Management Systems	-Thailand Environmental Institute	31 May 1995
13	Advance Intergrated Ponding System	-Swanson-Oswald Associates Inc.	4 July 1995
14	ISO 9000/14000 Environmental Management Systems	-Kualitas Services	19 July 1995
15	Sequential Batch Reactor (SBR)	-Thai Scand Environment Co.,Ltd.	6 October 1995
16	Industrial Waste Minimization	-The United Nations Environment Programme	11 October 1995
17	Industrial Waste Incinerators Standards & Air Pollution Control Systems	-Rieckermann Thai Enviro-Chem Co.,Ltd.	19 October 1995
18	Industrial Wastewater Treatment	-Kruger Consult	3 November 1995
19	Emergency Spill Response	-Alpine Environmental Ltd.	22 November 1995
20	Vapor Separation Technology for Waste Water Treatment	- ESP CO.,LTD. & AQUA-FLO INC.	23 November 1995

Environmental Enhancement Center Seminar List 1996

	Topic	Preferred Date
1	ISO 14000 Environmental Management System	January, 1996
2	Land Fills	February, 1996
3	Environmental Impact Assessment	March, 1996
4	Emergency Spill Response	April, 1996
5	On-Site Recycling/Reuse of Wastewater	May, 1996
6	Marine Pollution Control & Abatement	June, 1996
7	Preventive Maintenance Program for for Pollution Control Equipments	July, 1996
8	Environmental Air & Water Modelling	August, 1996
9	Health & Safety in the Work Place	September, 1996
10	Air Pollution Monitoring Station	October, 1996
11	Water Pollution Monitoring Station	November, 1996
12	Hazardous Waste Management	December, 1996

บริษัทที่ต่อสัญญาเช่าพื้นที่ติดตั้ง BOOTH

NAME	ADDRESS
1.THAMES WATER INTERNATINAL (THAILAND) LTD.	TIMES SQUARE BLDG., 15 FLOOR 246 SUKHUMVIT RD., BANGKOK 10110
2. METCALF & EDDY INTERNATIONAL INC.	37/1 SOI 15 PETCHBURI ROAD RAJTHVEE, BANGKOK 10400
3. UNITED STATES-ASIA ENVIRONMENTAL PARTNERSHIP	AMERICAN EMBASSY, DIETHELM TOWER 93/1 WIRELESS ROAD, BANGKOK 10330
4. PETRO-STRUMENTS CORP.	7/409 SOI 36 VIBHAVADI-RANGSIT ROAD BANGKOK 10900

WORKSHOP ON EEIS
Final Pilot Project Meeting of the EEIS in Thailand

16 January 1996

SCP REPORT

The Industrial Environmental Management Office
The Federation of Thai Industries
IEM/FTI

WORKSHOP ON EEIS
16 January, 1996

Center for Library and Information Resources
Asian Institute of Technology, Bangkok

SCP REPORT

SCP: The Industrial Environmental Management Office
The Federation of Thai Industries (IEM/FTI)

ORGANIZATION PROFILE

The Industrial Environmental Management Office of the Federation of Thai Industries (IEM/FTI), initially named as the IEM Program was set up in March, 1990 under the cooperative agreement between the Federation of Thai Industries (FTI) and the US Agency for International Development (USAID). The FTI is a non -profit industrial organization comprising of about 3,600 member companies from 26 Industry Clubs and 19 Provincial Clubs. The IEM program aimed to increase institutional environmental management and promote environmental awareness among Thai industries, through seminars, training, conferences, in - plant assessments, study tours, and information services. The core of IEM activities was the promotion of clean technology and effective environmental management in industries. Since its inception in 1990, IEM has provided assistance to sector - specific industry groups including textile dyeing and finishing, pulp and paper, food and chemical industries. With the termination of the cooperative agreement with USAID in September, 1995, IEM has been fully integrated into the FTI system, and has since then focused into five main services namely: Promotion of Clean Technology/Environmental Auditing; Technical Training on ISO 14000 and other Environmental Topics; Environmental Laboratory; Reference Library and Environmental Information Center; and Plant Visit/Industrial Promotion activities.

IEM LIBRARY AND ENVIRONMENTAL INFORMATION CENTER

The IEM Library and Information Center was set up to provide relevant environmental information to Thai industries in order to stimulate industry knowledge and appreciation of the availability of and benefits in pollution prevention and waste management. Information provided to the industries include cleaner production and environmental processes, technologies, services and environmental policies. It was also designed to increase information sharing and cooperation between Thai industries and other international organizations, and industry and government counterpart in other countries through various means including the INTERNET.

The IEM Library consists of over 1,000 documents including the following:

- ❑ Technical books in both Thai and English
- ❑ Industrial environmental regulations and standards in Thailand and the US (USEPA)
- ❑ Research papers and seminar proceedings published locally and internationally
- ❑ Directory of environmental organizations
- ❑ Technical bulletin, journals (e.g. AWWA, WEF,etc.), newsletters
- ❑ Reports on IEM activities and waste reduction assessments in textile, pulp and paper, iron and steel, including seminar proceedings in ISO 14000, training materials on Environmental Auditing, and case studies for some specific industrial sectors.
- ❑ Technical videos and cassette tapes.

IEM INFORMATION CENTER AS SCP

The IEM has officially become a secondary contact point (SCP) for the EEIS Network in early November, 1995. Being an SCP has enabled IEM to enhance its current services in providing the latest industrial environmental information to the Thai industries. In order to disseminate the information available under the EEIS Network, IEM plans to implement the following:

- ❑ display of EEIS publication at the IEM library and distribution of EEIS information to the library users
- ❑ distribution of EEIS information during IEM technical seminars, training programs and conferences.
- ❑ promotion of EEIS Network in IEM journals and FTI newsletters and other relevant publications.

IEM INFORMATION PRICING MECHANISM

IEM has not devised its own pricing mechanism in providing Industrial Environmental Information. Most information has been provided to the industries almost free of charge. Other publications such as training materials are priced according to the actual cost of publication.

BENEFITS TO INDUSTRIES

The benefits of EEIS information to the industries, can not be assessed at the moment, since the promotional activities have not been fully implemented. One factor that will affect the success of the EEIS Network is the unwillingness of the small and medium scale industries (SMI's) to pay for the information especially those published in English. In order to be utilized by the SMI's, the information has to be translated in Thai. The information published in English will be mostly beneficial to the large companies; and IEM and other consulting companies who provide technical assistance and consultancies to the SMI's. In this case, IEM primarily becomes the end - user for the Network.

WORKSHOP ON EEIS
Final Pilot Project Meeting of the EEIS in Thailand

16 January 1996

SCP REPORT

Technical Information Access Center
TIAC

Technical Information Access Center

National Science&Technology Development Agency

Vidhayabhattana Building 6th Floor

Chulalongkorn University

Tel 216-8801-4, Fax 216-8800

E-mail: oispt@chulkn.chula.ac.th

TIAC Target Groups

- Researchers (Government&Private)
- Academic (Faculty,Graduate Students)
- Business enterpreneurs
- Interested public

Sources of Information

- On-line & CD-ROM databases (Local and International)
- Document Supply Services (Local libraries & Foreign Suppliers)

Information Distribution System

- Electronic
- Facsimile, Mail, Phone
- Personal Pick-up

Promotion

- Brochures, Posters, Exhibition, Newspapers, Journals,
- Television,
- Seminars & Training & Conferences,
- Internet WWW

Pricing & Cost Recovery

- Charges ,not-for-profit
- Different rates for government and private sectors

Dissemination Mechanism

- Requests for information from customers through personal visits, by mail, phones, e-mail,
- Special Notes to selected regular customers (individuals & institutions)

Problems & Recommendations

- Less promotion both to SCP and to Endusers,
- More proactive role on PCP's part to reactivate endusers through and in cooperation with SCPs

WORKSHOP ON EEIS
Final Pilot Project Meeting of the EEIS in Thailand

16 January 1996

SCP REPORT

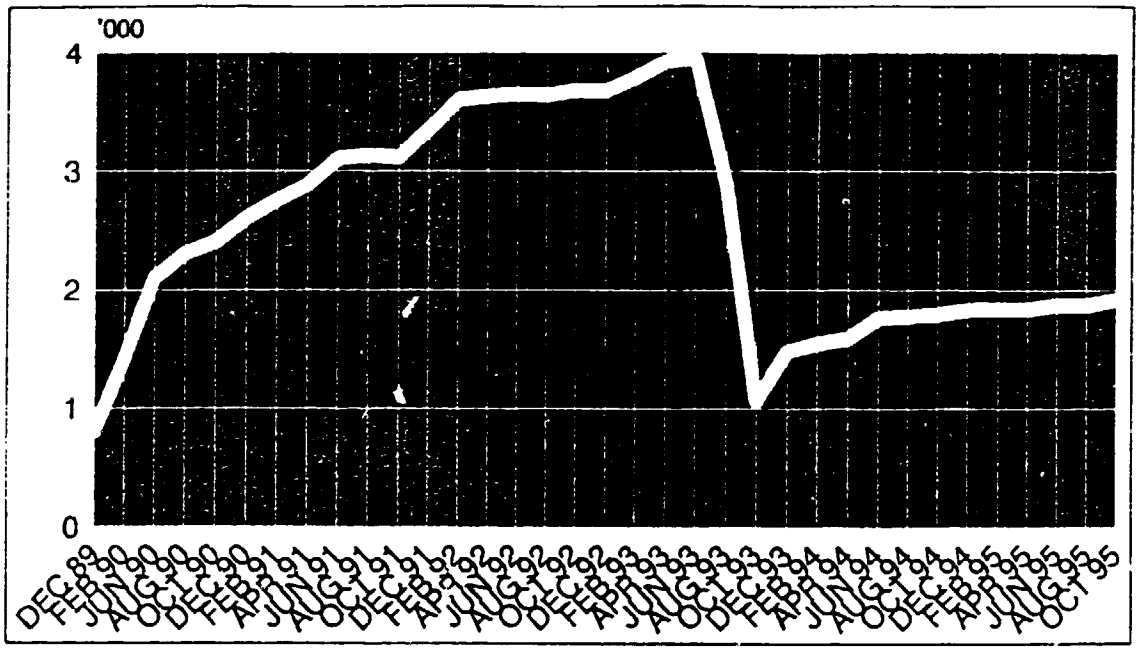
Technical Information Services
TIS

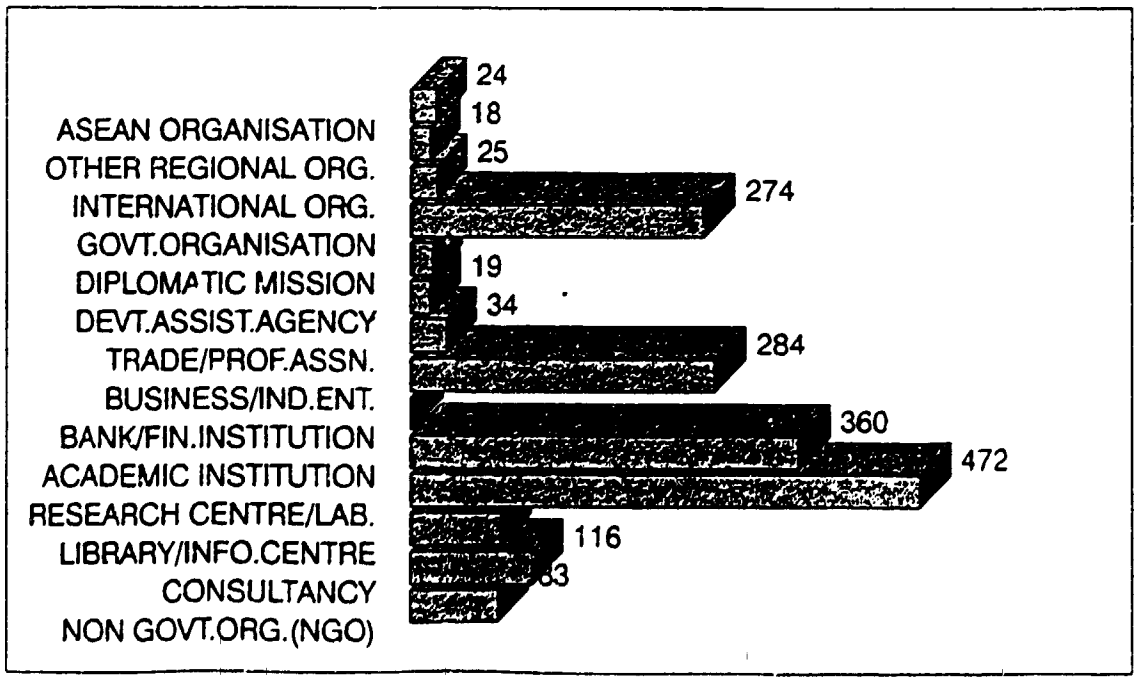
(NOT PRESENTED)

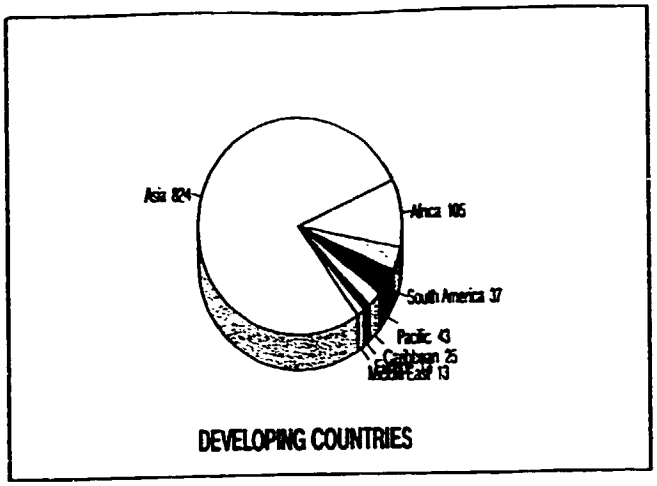
REPORT ON SCNCER : TIS AND RELATED ACTIVITIES AS AT END OCTOBER 1995.

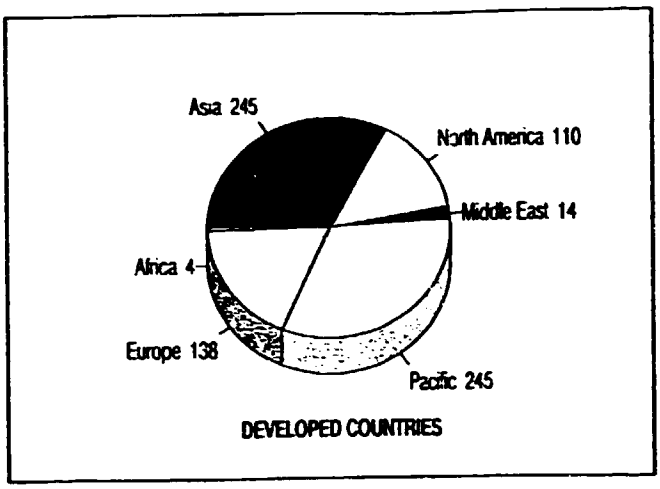
Newsletter Mailing List

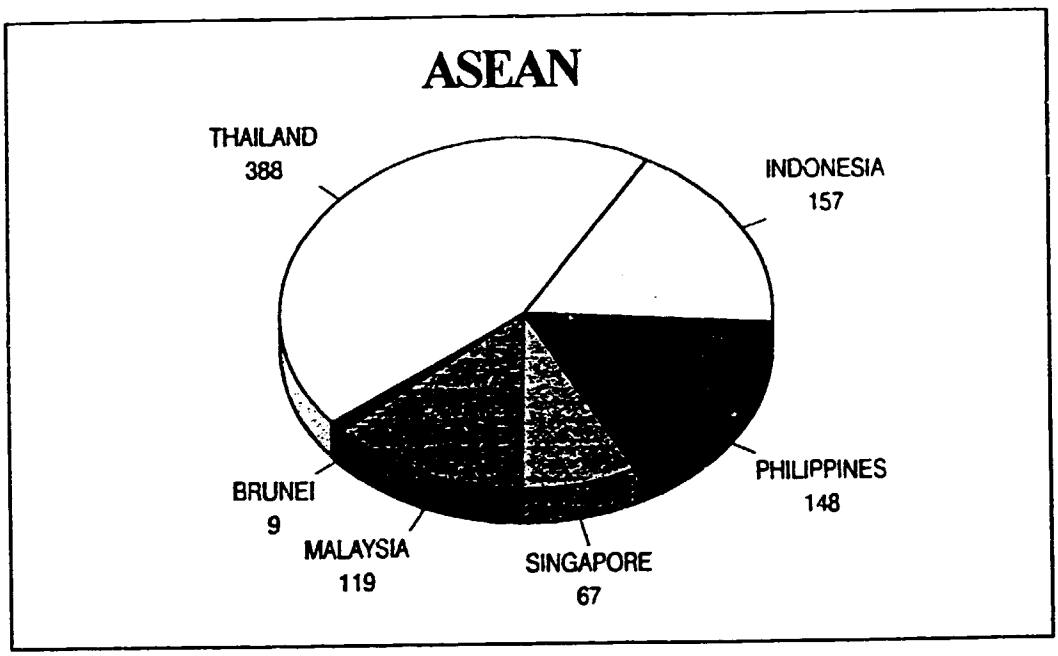
The SCNCER Mailing List contains 1,912 entries and the Newsletter is distributed to 132 countries. The following graphs illustrate the growth and decline in readership, an organisational breakdown of that readership and how the readership is distributed on a regional basis between developing and developed countries. The final graph shows the distribution within ASEAN.









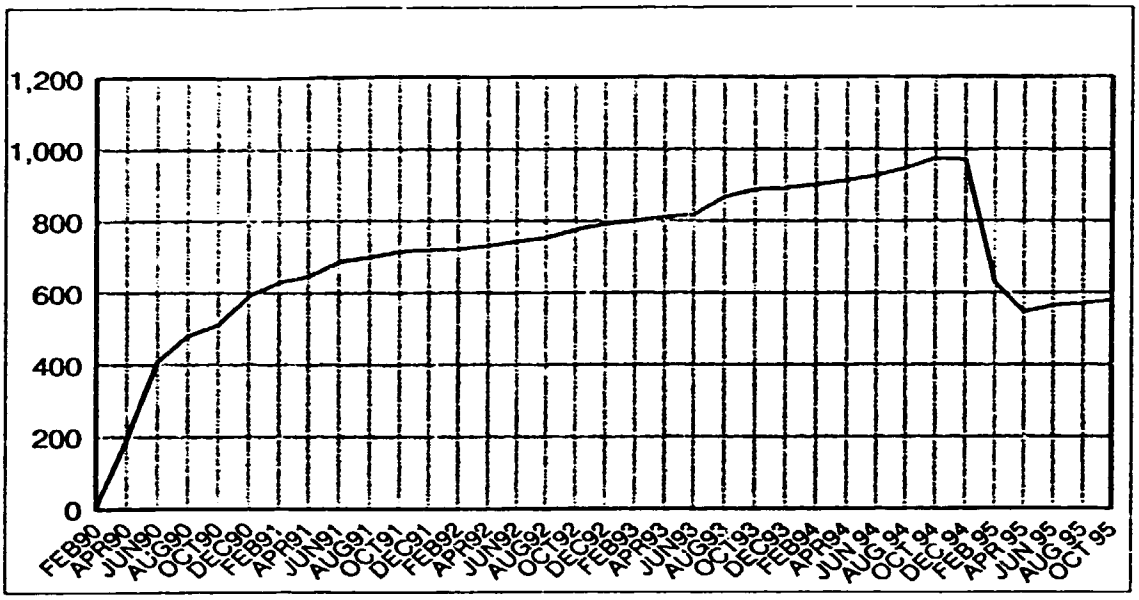


TIS Subscriptions

Publications ordered during the period	:	Baht 29,523
Publications awaiting funds	:	Baht 260,000

TIS Registration

As at the end of October, 579 subscribers from 72 countries were registered with TIS. The following graphs illustrate the growth and decline of subscribers, organisation groups and the major countries TIS is serving.


1,200
1,000
800
600
400
200
0
FEB90
APR90
JUN90
AUG90
OCT90
DEC90
FEB91
APR91
JUN91
AUG91
OCT91
DEC91
FEB92
APR92
JUN92
AUG92
OCT92
DEC92
FEB93
APR93
JUN93
AUG93
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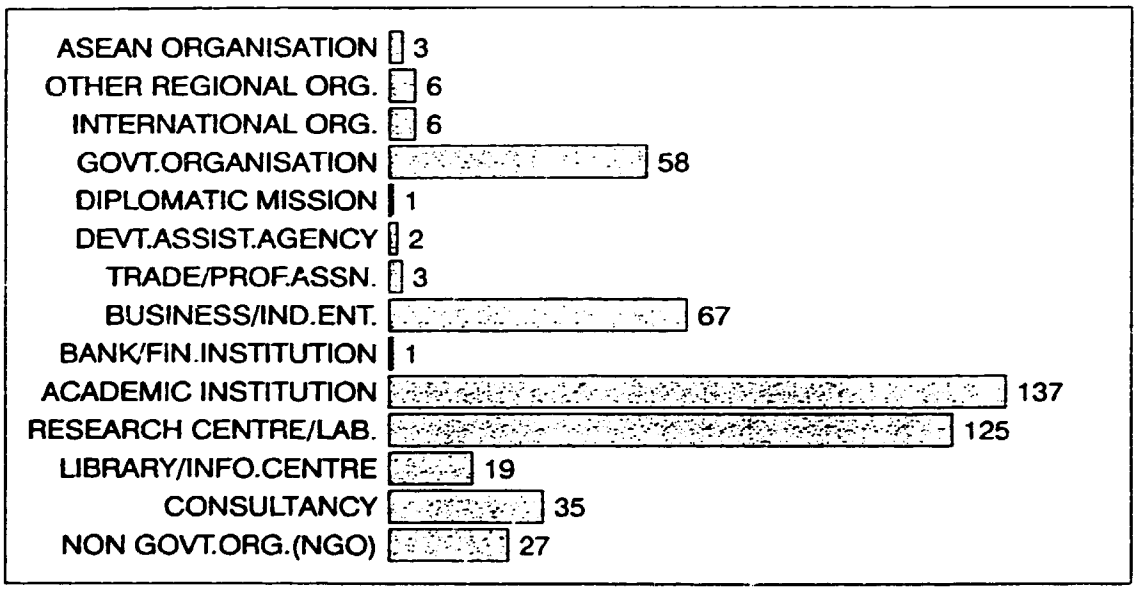
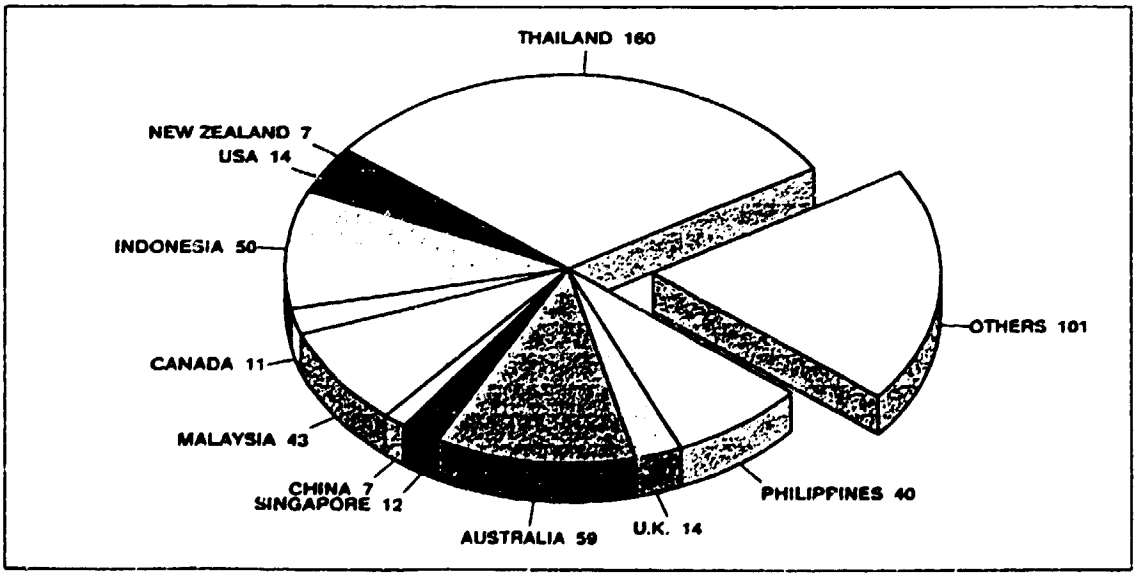
AUG94
OCT94
DEC94
FEB95
APR95
JUN95
AUG95
OCT95

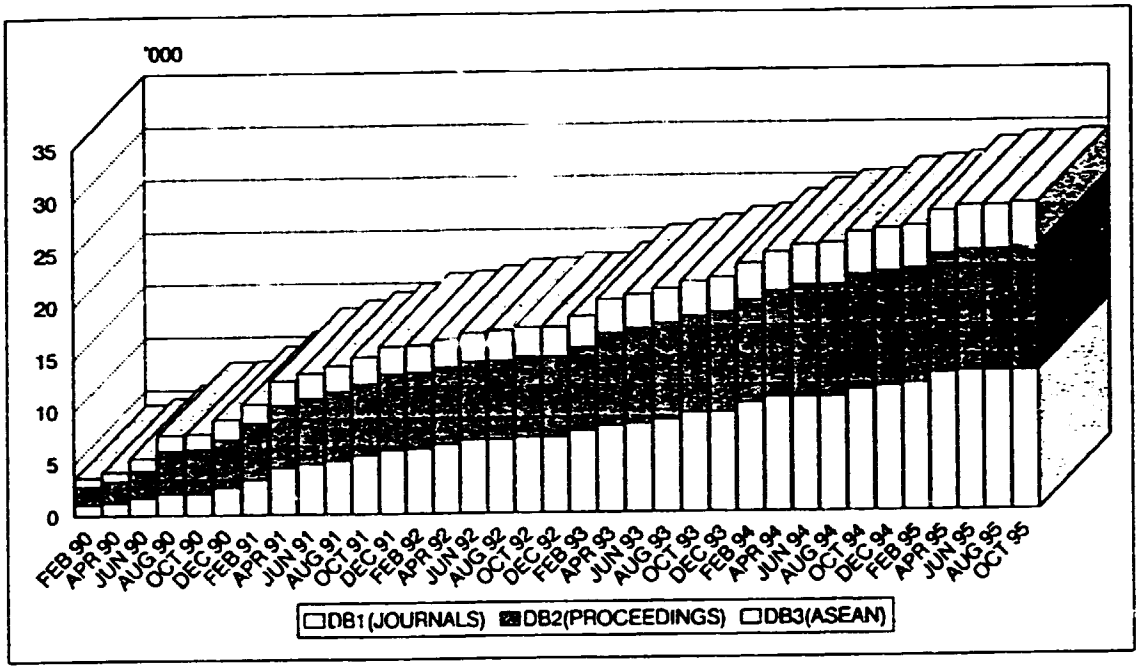

ASEAN ORGANISATION 3
OTHER REGIONAL ORG. 6
INTERNATIONAL ORG. 6
GOVT.ORGANISATION 58
DIPLOMATIC MISSION 1
DEVT.ASSIST.AGENCY 2
TRADE/PROF.ASSN. 3
BUSINESS/IND.ENT. 67
BANK/FIN.INSTITUTION 1
ACADEMIC INSTITUTION 137
RESEARCH CENTRE/LAB. 125
LIBRARY/INFO.CENTRE 19
CONSULTANCY 35
NON GOVT.ORG.(NGO) 27


THAILAND 160
NEW ZEALAND 7
USA 14
INDONESIA 50
CANADA 11
MALAYSIA 43
CHINA 7
SINGAPORE 12
AUSTRALIA 59
U.K. 14
PHILIPPINES 40
OTHERS 101

TIS Distribution of Documents

In the two month period since the last report in June, TIS distributed 1,259 articles, making a total of 65,511 articles provided to subscribers since the inception of the service in April 1990.

The three major databases now hold 29,169 records. The growth of each database is illustrated by the following chart. The attachment also shows the total number of records by subject.



Other Matters

Advice has been received from the ASEAN-SCNCER that modest funding support will continue for TIS and Newsletter activities. TIS is currently seeking advice from New Zealand and the EC on the extent of their support. During the year TIS has distributed a number of Newsletters on behalf of the COGEN program.

Volume 1, Numbers 1 and 2 of the Solar, Combustion, Energy Consevation and Biomass Abstracts have been distributed to subscribers. Number 3 is being printed, while Number 4 is under preparation. For the AAECP Phase II final reports, Numbers A08 and A11 have been published, while the remainder are under preparation.

Distribution :

Dr. Suwarto Martosudirjo
Mr. Peter Cole
Mr. Michael Pennington
Dr. Solot Suwanyuen
Dr. Krissanapong Kirtikara
Dr. Sakarindr Bhumiratana
Dr. Suvit Tia
TIS Correspondence File

NO.	CODE	DESCRIPTION	DB-1	DB-2	DB-3	TOTAL
1.	A00	ENERGY-GENERAL ISSUES	123	69	174	366
2.	A10	POLICY & ANALYSIS	98	44	185	327
3.	A20	MANAGEMENT	95	26	99	220
4.	A30	ENVIRONMENTAL ASPECTS	205	63	165	433
5.	A40	EQUIPMENT & SOFTWARE	79	33	65	177
6.	A50	STANDARDS & TESTING	64	22	84	170
7.	A60	EDUCATION/EXTENSION	16	5	49	70
8.	B00	ENERGY CONSERVATION-GENERAL	211	40	86	337
9.	B10	IN BUILDINGS	292	80	222	594
10.	B20	IN INDUSTRY	135	47	241	423
11.	B30	IN AGRICULTURE	80	39	153	272
12.	B40	IN TRANSPORTATION	120	43	118	281
13.	C00	BIOMASS-GENERAL	100	28	94	222
14.	C10	ALCOHOL	75	21	74	170
15.	C20	AGRICULTURAL WASTES	81	12	249	342
16.	C30	BIOGAS	85	9	119	213
17.	C40	CHARCOAL & FUELWOODS	89	13	158	260
18.	C50	COMBUSTION/COGENERATION/GASIFICATION	261	106	291	658
19.	D00	COAL-GENERAL	141	45	84	270
20.	E00	HYDROGEN ENERGY-GENERAL	132	13	5	150
21.	F00	GEOTHERMAL ENERGY-GENERAL	82	31	84	197
22.	G00	WIND ENERGY-GENERAL	93	21	54	168
23.	H00	MINI/MICRO HYDRO-GENERAL	88	24	44	156
24.	I00	SOLAR ENERGY-GENERAL	179	83	136	397
25.	J10	SOLAR THERMAL ENERGY	186	43	209	438
26.	J20	SOLAR RADIATION	87	9	48	144
27.	J30	SOLAR COLLECTOR (PV)	193	73	128	394
28.	J00	OCEAN ENERGY-GENERAL	27	17	7	51
29.	J10	THERMAL ENERGY CONVERSION	3	5	1	9
30.	J20	WAVE/TIDAL ENERGY	45	41	5	91
31.	K00	APPLICATIONS-GENERAL	66	18	55	139
32.	K10	DRYING	122	15	224	361
33.	K20	PUMPING	34	10	66	110
34.	K30	GENERATION	97	37	175	309
35.	K40	HEATING & COOLING	196	47	149	392
36.	K50	APPROPRIATE TECHNOLOGY	99	42	89	230
		***** TOTAL AMOUNT *****	4,079	1,529	4,183	9,591

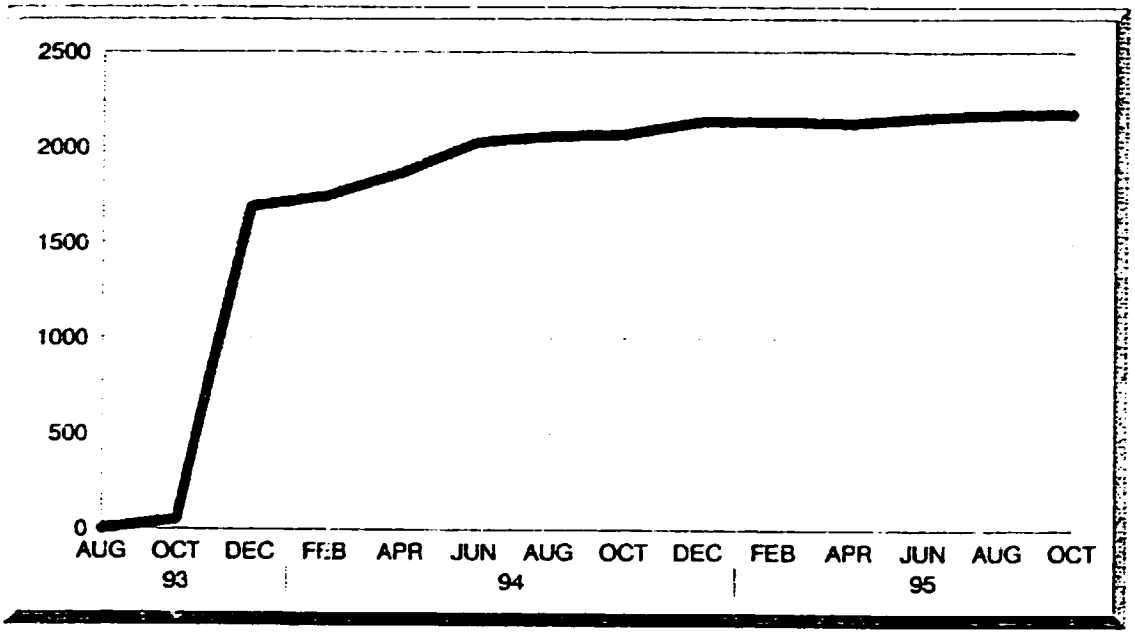
REPORT ON ENVIRONMENT TIS AS AT END OCTOBER 1995

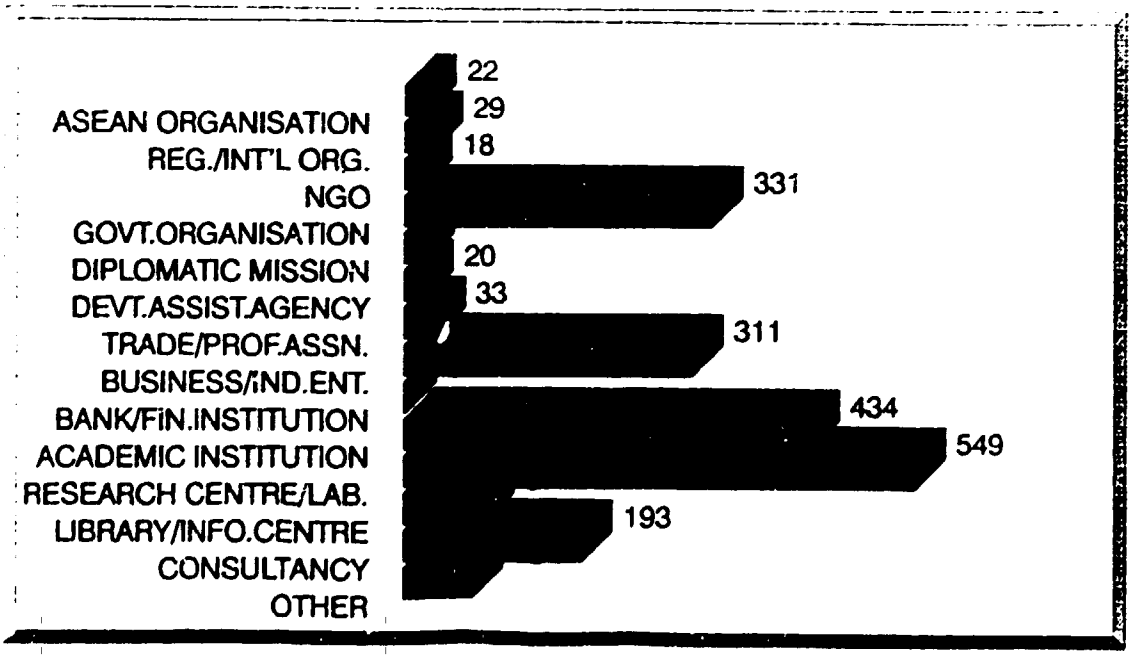
This is the thirteenth report of the Environment TIS covering the period 1 September to 31 October 1995.

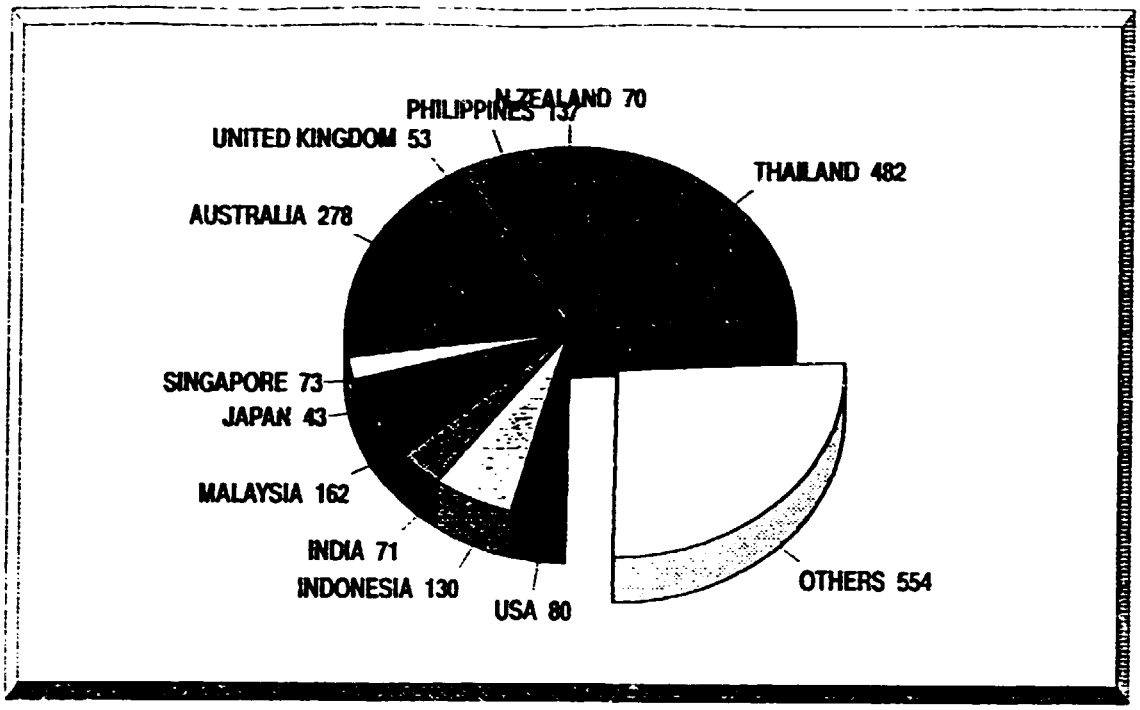
Funds have yet to be secured to support this activity.

Mailing List

The Mailing List now stands at 2,180 entries, covering 131 countries. The following graphs show the Mailing List growth, organisations and the major countries covered :





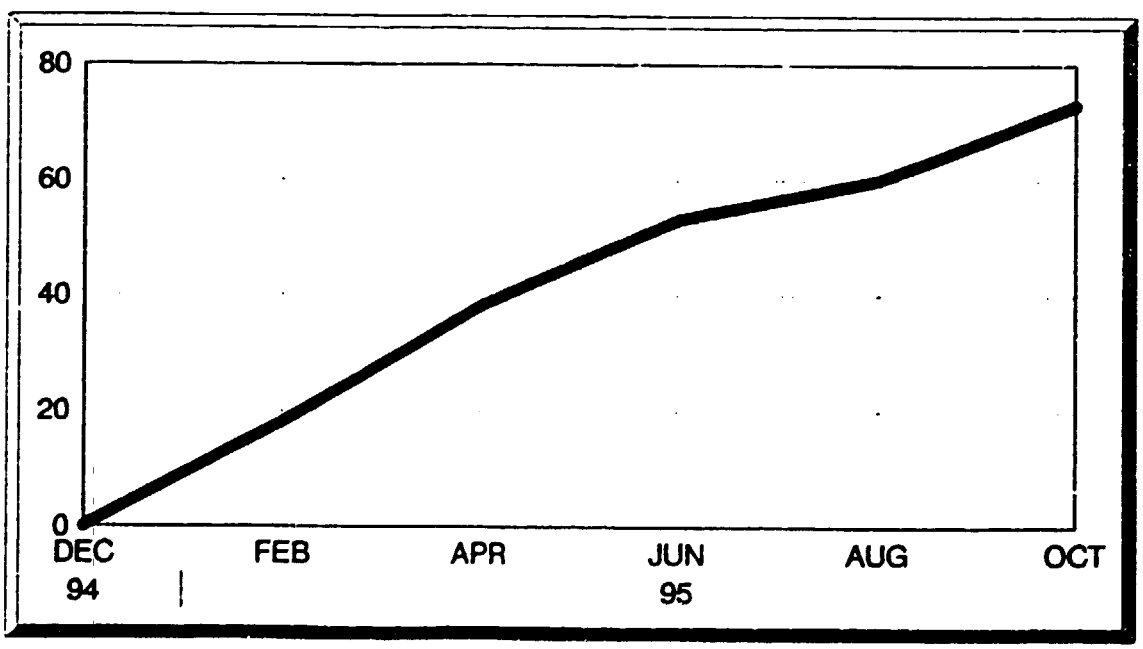


TIS Subscriptions

Response to brochures mailed remains slow, as does response to mailed invoices, and there continues to be clear resistance to having to pay for an unknown service.

TIS Registration

73 subscribers from 18 countries have been registered with TIS. The following graph shows the growth in subscribers.

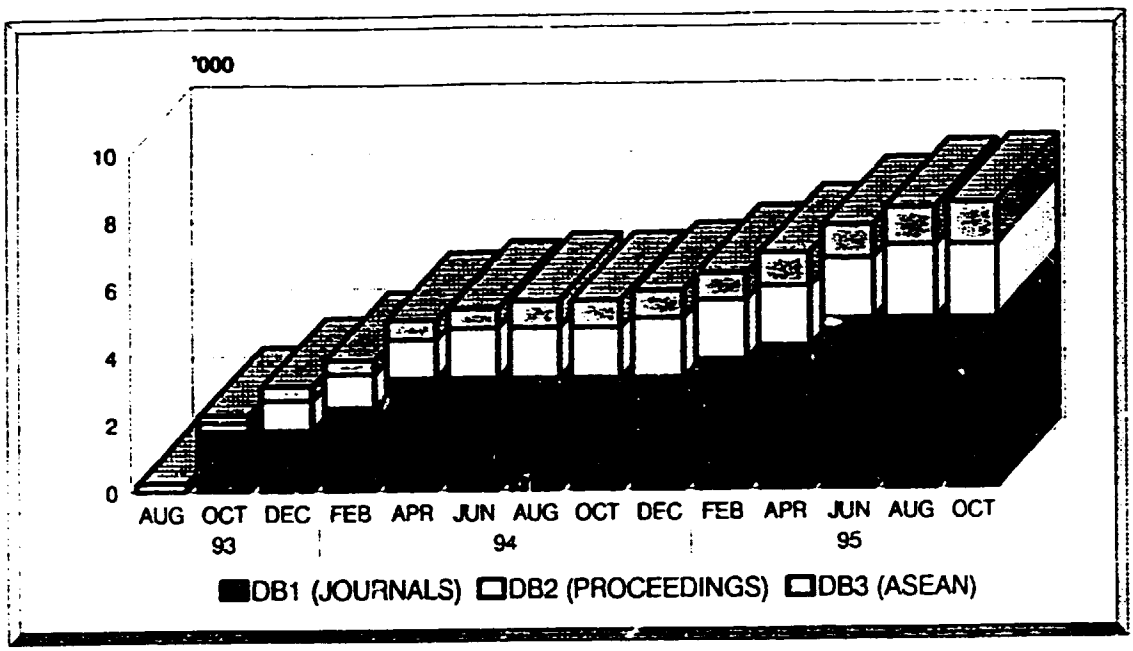


TIS Distribution of Documents

770 documents have been distributed in the past six months.

TIS Database

The three major databases currently hold 8,413 records as illustrated by the following chart and the attachment.



Publications

Volume 1, Numbers 1 and 2 of the Environment Abstract Journal have been completed and published, Volume 1, Numbers 3 and 4 are under preparation.

Distribution :

Dr. Morakot Tanticharoen
Dr. Sirintornthep Towprayoon
Dr. Solot Suwanayuen
Dr. Krissanapong Kirtikara
Dr. Sakarindr Bhumiratana
Dr. Suvit Tia
TIS Correspondence File

NO.	CODE	DESCRIPTION	DB-1	DB-2	DB-3	TOTAL
1.	A00	GENERAL ISSUES	161	89	69	319
2.	A10	Policy & Analysis	149	66	28	243
3.	A20	Laws, Regulations & Taxes	104	40	10	154
4.	A30	Equipment & Software	64	33	5	102
5.	A40	Assessment & Impact Studies	147	62	35	244
6.	A50	Ecosystems & Tourism	185	54	71	310
7.	A60	Modelling & Standards	143	70	20	233
8.	B00	ACID RAIN	82	78	10	170
9.	B10	Deforestation	144	17	61	222
10.	C00	CLIMATE CHANGE	177	70	20	267
11.	C10	Greenhouse Gases	141	54	21	216
12.	D00	AIR POLLUTION	154	100	23	277
13.	D10	Industrial Emissions	132	77	40	249
14.	D20	Transport Emissions	99	39	22	160
15.	D30	Indoor	89	40	11	140
16.	D40	Refrigerants	64	64	8	136
17.	E00	WASTES:MANAGEMENT & MINIMISATION	100	87	47	234
18.	E10	Municipal Wastewater	157	45	39	241
19.	E20	Industrial Wastewater	185	96	97	378
20.	E30	Solid Wastes & Landfill	143	55	34	232
21.	E40	Hazardous & Radioactive	217	107	44	368
22.	E50	Chemicals & PCBs	155	65	21	241
23.	E60	Mining,Soils & Erosion	196	32	25	253
24.	E70	Sludge	109	31	20	160
25.	F00	WATER	169	71	58	298
26.	F10	Biological Treatment	336	128	97	561
27.	F20	Oceans,Seas & Coastal	267	61	101	429
28.	F30	Physical Treatment	141	43	22	206
29.	F40	Community Supply/Groundwater	126	27	22	175
30.	F50	Rivers,Lakes & Dams	165	37	49	251
31.	G00	NOISE	12	35	6	53
32.	H00	ENGINEERING	62	39	5	106
33.	H10	Particulate Removal	92	55	13	160
34.	H20	Alternative Energy	85	41	31	157
35.	H30	Combustion	150	104	33	287
36.	H40	Recycling & Composting	127	34	20	181
		***** TOTAL AMOUNT *****	5,029	2,146	1,238	8,413