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**TECHNONET ASIA
AN EVALUATION**

**Sponsored by the
International Development Research Centre (IDRC)
and
Canadian International Development Agency (CIDA)
Ottawa, Canada**

TECHNONET ASIA

AN EVALUATION

by

L.J. Jarmai, M.Sc.C.E; B.Sc.Econ.
Senior Consultant
Montreal, Canada

former Regional Co-ordinator for AP Region
and Chief Technical Adviser
Office for Projects Execution
United Nations Development Programme

and

S.S.B. Elwela, M.A.; B.A (Hons)
Consultant
Sri Lanka

Senior Management Consultant (Entrepreneur Development)
Merchant Bank of Sri Lanka Ltd.
Colombo, Sri Lanka

c/o IDRC Asia Regional Office
6th floor RELC Building
30, Orange Grove Road
Singapore 1025

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FOREWORD

To undertake the evaluation of an organization like TECHNUNET ASIA is a challenging, complex but most rewarding exercise and the authors of the present study feel honoured to have been selected to perform it.

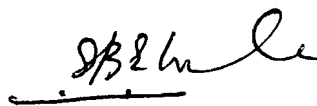
They will be the first to admit, however, that without the assistance, valuable time and information contributed by a large number of people, both in Canada and in Asia, their task could never have been accomplished.

They wish to avail themselves of the occasion to express their appreciation and thanks to all contributors. Special thanks are due to Dr Jingjai Hanchanlash and his staff at IDRC/ASRO whose ready assistance and the "home" they have provided for the duration of the study to the project staff were essential ingredients of the performance. The same applies to Dr Leon V Chico and his TECHNUNET staff, who have provided all information and materials at their disposal readily and without reservations. Mr Glen A Husack of MIM also deserves our thanks for performing the Canadian portion of the interviews. Our assistant and secretary, Mrs Vivien Chiam, did a "yeoman's" work, not only in typing our report but also in assisting us in the collection of much of the background materials from TECHNUNET's records she knew so well from her past experience with the organization.

Last but not least, the consultants wish to express their thanks to all PO heads and their staff for the organization of our field visits as well as their assistance and gracious hospitality extended to us during our visits in their country.



L J JARMAI



S S B ELWELA

17th December 1982

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EXECUTIVE SUMMARY

(Conclusions and Principal Recommendations)

1. Based on the materials at the evaluators' disposal, and the large majority of the interviews both at the Canadian end and in the Region, the conclusion can be drawn that the original objectives of TECHNONET ASIA have been basically accomplished. It also has to be noted, however, that these objectives are of a general nature and not expressed in quantifiable terms.
2. It can also be concluded that the activities of TA are worth continuing, as the basic needs for which the network was originally established still exist. Here, however, using more dynamic approaches, TECHNONET's program should be expanded and modified to reflect the expressed needs of the Participating Organizations involved in the SMI sector, responding to these needs and taking leadership in anticipating them, changing program priorities to suit the needs of the SMI sector in the eighties. This program should be a differentiated one reflecting the priorities of PO groupings with affinities instead of trying to produce programs for all POs at the same time. It should also be worked out in advance for a longer term (3 years) and coordinated with the POs.
3. On the question of funding, it is recommended that TECHNONET's proposal to CIDA be accepted. However, it is evident that TECHNONET Centre and its fund raising efforts would have to be more active and also strengthened to satisfy program needs, draw in new donors and service the program as its focal point.

(ii)

4. Reporting, monitoring and evaluation procedures should be tightened up both between POs and TCentre and between TCentre and Canada. Reports should contain hard statistical data and evaluation should be more frequent, performed on a lesser scope but on an annual basis to allow immediate corrective action where necessary.
5. POs and their Governments should realize that they are now part of TECHNUNET and contribute more to the organization's work both in material and "spiritual" resources. Provision of registers of expertise available within the PO and the country, contributions to the TECHNUNET Newsletter, project proposals applicable to a grouping of POs not only to themselves, would be good examples in this regard.
6. Although technical information and industrial extension should remain priority activities of TECHNUNET, CIDA's Industrial Cooperation Program should now be raised to equal priority considering the prominent role this program is now undertaking in funding TECHNUNET Centre and a considerable portion of TA's proposed program. The promises of this part of TA's program are yet to be fulfilled and TCentre as well as the POs should make every effort to realize them.
7. To secure continuity of TECHNUNET ASIA's operations without having to commercialize it, the evaluators would recommend as an alternative that IDRC (perhaps in cooperation with CIDA, this latter not to be restricted to the Industrial Cooperation Division) also consider an endowment type of funding with the purpose of developing TECHNUNET into a Centre of Excellence in the field of SMI development, such funding being provided annually but not necessarily attached to specific projects. Should this recommendation be accepted, specific

monitoring criteria would have to be established on the Canadian side, but this could be worked out and the survival of a very worthwhile Canadian initiative and effort in a vital area of development secured.

8. In final conclusion, the evaluators wish to go on record with their summary statement that TECHNOnet ASIA, in spite of some difficulties it has encountered in its operations and some - always constructive - criticism it has received during some of the personal interviews, is not only a worthwhile endeavour but also one that could be considered for replication in other regions where circumstances and IDRC/CIDA's general policies warrant it.

1. INTRODUCTION

1.1 TECHNONET ASIA at Present

TECHNONET ASIA (TA) - the Asian Network for Industrial Technology Information and Extension - is a non-stock, non-profit, and non-political cooperative grouping ("network") of 14 Participating Organizations (POs) from 11 Asian and Pacific countries, registered in the Republic of Singapore, which aims at improving the quality and efficiency of production in those countries' small and medium scale industrial enterprises. Particular emphasis is given to the application of knowledge concerning known processes, methods, techniques, equipment, modifications and approaches to existing operations, effected by the transfer of technical information, provision of industrial extension services, facilitation of technology sharing and its adaptation, and development of indigenous entrepreneurs and enterprises.

1.2 The Origins of TECHNONET ASIA in Brief

TA was born in 1972 as a result of an effort of the International Development Research Centre (IDRC) of Canada. In cooperation with a select group of institutions engaged in the promotion and development of small and medium scale industries (SMIs) in South East Asia, IDRC played a crucial role in originating the project by conducting it as an in-house, Centre-administered activity out of IDRC's Asia Regional Office (ASRO) in Singapore. Starting with eight Participating Organizations (POs) from six countries in 1972, the original stated objectives of TA were the collection

and dissemination of technical information to SMIs through industrial extension services to be developed for the POs by the network with IDRC's assistance. In these activities IDRC was relying heavily on the experiences and technological resources of the National Research Council (NRC) of Canada and its Technical Information Service (TIS).

1.3 The Three Phases of TECHNOnet ASIA

During the last ten years TA went through three successive phases of operations, the first two of which were funded by IDRC in their entirety, the third one by IDRC in cooperation with the Canadian International Development Agency (CIDA). While other donors, and the POs themselves, also contributed to TA's operations during the third phase (see details later), basically speaking TA was and still is an operation principally funded by Canadian donors. The funding provided by IDRC and CIDA during the first decade of TA's operations is, as follows:

<u>Phase I</u>	<u>Can \$</u>
22 Sep 1972 - 31 Mar 1976 : IDRC	1,180,000
Phase I Supplement:	
1 Apr 1976 - 30 Sep 1976 : IDRC	162,000
<u>Phase II</u>	
1 Nov 1976 - 31 Mar 1980 : IDRC	1,675,000
<u>Phase III</u>	
1 Apr 1980 - 31 Mar 1983 : IDRC 443,796	
: CIDA 973,833	1,417,629
	<hr/>
	4,434,629
	=====

1.4 Background to the Present Evaluation Study

During the first ten years of its operations, TA has gained an international reputation as a "success in cooperation". In spite of its numerous activities and accomplishments (see details later) the project, however, has never been formally evaluated. Since the beginning of Phase III, the need for such an independent, formal, evaluation has been repeatedly raised, not only by IDRC and CIDA, the principal sponsors of the network, but by the PO Heads themselves. Various proposals have been put forward regarding the scope, duration, manpower and contents of such an evaluation exercise, some of them recommending ambitious, comprehensive and (accordingly) costly and time-consuming exercises. By the fall of 1982, however, constraints of time and funds have reduced the evaluation study to its present duration and manpower, as follows:

One senior consultant (L J Jarmai)	- 45 man/days
One consultant (S S B Elwela)	- 45 man/days
One junior assistant/ secretary (Vivien Chiam)	- 60 man/days

In addition, Mr Glen A Husack, whose Manitoba Institute of Management (MIM) has contracted with the consultants on behalf of CIDA, has performed a number of interviews in Canada with IDRC, NRC and CIDA staff members selected by the consultants. Further assistance was provided on an ad hoc basis by personnel of TECHNONET Centre and POs (see details later).

The evaluation study, as a result, had to be reduced in its scope and depth accordingly. In the very limited time at their disposal, the consultants had to rely on the following:

1.41 Correspondence and documents at the ASRO and TECHNONET Centre offices in Singapore;

1.42 Short visits to 12 of the 14 POs, interviews with PO Heads (where possible) and staff members, as well as a limited number of visits to local SMIs*;

1.43 Interviews with ASRO, CIDA and TECHNONET staff members*;

1.44 Replies to questionnaires sent to the POs at the beginning of the evaluation exercise.

* See list of respondents under Annex I.

1.5 Terms of Reference

The terms of reference for the evaluation study, as contained in the contracts of the consultants with IDRC and MIM (the organization contracting on behalf of CIDA for technical reasons) are as follows:

- (a) To assess the achievement of TECHNONET ASIA's objectives in establishing links among Participating Organizations involved in the promotion and development of the small and medium industry sectors in the Asia and Pacific region and in promoting the exchange of resource information, expertise and experiences among them on a mutually beneficial basis;

- (b) To assess the contribution of the network in developing national organizations undertaking extension work;
- (c) To study the impact on the development of small and medium scale industrial sectors;
- (d) To study the role of the International Development Research Centre (IDRC) and the Canadian International Development Agency (CIDA) in the evolution of the activities mentioned above, guidelines for future support to TECHNINET ASIA and the lessons for its replication by IDRC, CIDA or other donor agencies in other developing regions; and
- (e) To recommend a future program of activities for TECHNINET ASIA.

1.6 Evaluation Approach and Influencing Factors Thereof

Considering the constraints of time and manpower at their disposal, the consultants had no choice but to rely on the materials as made available to them. While certain cross-checking of data provided to them has been made, both through interviews and comparisons, the lack of hard statistical data in many areas, especially those facilitating determination of impact, makes this study less complete than they would have desired. On the other hand, the consultants wish to avail themselves of this opportunity to express their thanks for the cooperation of all respondents, who - as the consultants are convinced - gave the information at their disposal freely and without reservations.

2. EVOLUTION OF TECHNONET ASIA

2.1 The Origins of TECHNONET ASIA

As mentioned before, TA was born as a result of an initiative of IDRC and NRC of Canada. Recognizing the growing importance of the SMI sector in the economy of developing countries all over the world, three senior officials of IDRC and NRC, John E Woolston, Lang Wong and G Kirouac, have selected the area of South East Asia as a promising site for a first effort and in early 1972 toured together five countries (Indonesia, Malaysia, Philippines, Singapore, Thailand), discussed needs and priorities with the local organizations concerned with SMIs and made visits to some typical factories. One of the original proposers (GK) also visited Hong Kong and was impressed by the extent to which that country has already developed its services to industry and the experiences that it could potentially contribute to a network operation.

The findings of the mission's participants were, as follows:

- Most of the support institutions they visited had a mandate to assist small- and medium-sized industries (SMIs).
- All had small budgets, and as a consequence, appeared unable to employ staff specialists in all the areas where need was evident.
- The technology and related technical information needs were, most often, very basic. For example, a ceramic manufacturer who experienced 50% to 100% breakage during production and

where the solution involved a process to slow the rate of drying, had not initially perceived the breakage as a problem.

- Many of the owner/managers of the SMIs revealed an inability to identify and articulate technical problems in a way that would enable them to request help from a support institution that was simply there to respond to requests for technical information.

The conclusions they drew from this were also very similar:

- The network created should include a mixture of developed and lesser developed participating organizations.
- They stressed the need to be highly interventionist, noting that many of the helping institutions tended to be passive in that they simply responded to requests for technical information. The description, "Know How - Show How", was used by one respondent to describe the appropriate mode for transmitting technical information and advice.
- There was a need to find technical people who could learn to relate well with owner/managers of SMIs and, therefore, be in a position to help solve technical questions. They saw such extension people as competent individuals (but not necessarily highly trained specialists) who could act as contacts with access to a network which could provide solutions to problems. It was this conclusion that motivated the early train-the-trainer approach that was conducted by NRC and supported by IDRC.

As a consequence of this mission and its findings, a draft project proposal for TECHNONET ASIA was prepared and submitted to a meeting convened at the IDRC office in Singapore in May 1972, where the foundations of the network to be created were laid together with the heads of extension services from the first six Asian countries to be initially involved. These founder-organizations were the following:

- Hong Kong : The Hong Kong Productivity Centre (HKPC)
- Indonesia : Institute for Industrial Research and Training (LPPI) (presently DP/BIPIK)
- Malaysia : Majlis Amanah Ra'ayat (MARA)
(Council of Trust for Indigenous People)
National Institute for Scientific and Industrial Research (NISIR) (presently SIRIM)
- Philippines : Institute for Small-Scale Industries (ISSI)
Economic Development Foundation (EDF)
- Singapore : Singapore Institute of Standards and Industrial Research (SISIR)
- Thailand : Industrial Service Institute (ISI)
(presently DIP)

As a result of this meeting, relying principally on NRC's experiences and capabilities in industrial information and extension work, IDRC proposed a project with an initial duration of five years to its Board of Governors for approval. The project was to be Centre-administered out of IDRC's ASRO in Singapore. The Board approved the proposal on September 22nd, 1972 and TECHNONET ASIA was born.

2.2 Original Program and Objectives

More than ten years and three project phases have passed since, bringing with them, naturally, some shifts of emphasis, but the original, principal development objectives of the project have been retained all along and were quoted verbatim in both subsequent project proposals accepted for Phases II and III, as formulated in the original project proposal of August 1972, as follows:

"Most developing countries are faced with problems of unemployment and of trade deficits. Many are seeking the establishment of industries that will be labour-intensive, that will produce substitutes for imports, or that will produce goods that will meet the quality standards of international trade and can compete in export markets. Present industries are often ineffective because of excessive costs (particularly through wastage of raw materials) or because their products are of poor quality. To overcome these problems and meet the objectives, industry needs technical and technological advice. Often the advice needed is at a very basic level - it is generally not a question of providing advanced technology, but of having an experienced engineer or technician take a look at a plant and make suggestions that will improve the processes or the product. For small industries, particularly labour-intensive industries, the situation is very similar to that which exists in agriculture,

and the industrial extension worker can approach those he is helping in much the same way that the good agricultural extension worker approaches the farmer.

"Industrial extension services in the S E Asian countries vary according to the level of development of each country and the types of organizations set up to provide these services. There is, however, a clearly expressed recognition of the need for providing technical and technological advice on equipment, methods and processes, production techniques and quality control and a determination to work towards a situation in which the industrial extension services will have the personnel and resources to provide this advice to production managers on the factory floor. The persons charged with responsibilities for industrial extension service also recognize that the needs are greatest in the small industrial enterprises.

"Because of wide differences in language, cultural background, types of industry and levels of industrial development, it is clear that the industrial extension services must be staffed by indigenous engineers or technicians, and be complementary to extension services in the fields of management, marketing and financing which are equally important. These should be organized nationally or perhaps even by provinces and cities. No service organized for the region as a whole could be expected to provide satisfactory service to the individual factories. But a regional service could

provide resources on which the various national extension services could draw; the regional service could also provide a focus that would facilitate cooperation and exchanges between the national extension services and their linking into a functioning network."

Considering the above continuity of objectives, the evaluators were bound to use these statements as their most important yardstick against which the achievements of TECHNONET ASIA are to be measured.

2.3 Summary of Phase I (Sept 1972 - Sept 1976)

The first phase of the project started with setting up operations in Singapore, putting together a project team, establishing the network itself and defining the basic tools and methodologies of operation.

Following the detailed objectives and components of the approved project proposals, the achievements of the project can be summarized as follows.

Objectives and Components

Achievements

1. Identify POs.

Eight POs were identified from six countries to form the original network.

<u>Objectives and Components</u>	<u>Achievements</u>
2. IDRC team in Singapore to consist of 4 technologists/ technicians and 2 clerical staff - mixture of Asian and expatriate staff (TECHNONET Centre)	<p>Administrator - Lang Wong (Canadian) Deputy/Acting Administrator - Bill Gall (Canadian) 3 Program Officers - Janardanan (Indian); Thiagarajan (Indian); H S Tey (Singaporean) 1 Personal Assistant to Administrator (Singaporean) 3 Secretaries (Singaporean)</p>
3. Consultative Committee (Transformed into TECHNONET Council, the supreme guiding body of the network)	<p>The first Consultative Committee Meeting was held in October 1974, comprising the first eight PO heads. Subsequently, Council Meetings were held on an annual basis.</p>
4. Training:	
- training of teachers who would study training methods used in Canada, Europe and other parts of the world	-
- training of extension workers by on-the-job experience in Canada	<p>Ad hoc training for one from SISIR and two from NISIR were organized at NRC/TIS in 1973. Subsequently a formal course for 14 participants from the POs was organized also at NRC/TIS, in 1975.</p>
- training of extension workers at courses within the region	<p>Regional INDEXTRACs:</p> <ul style="list-style-type: none"> - 1974 at SIET India (8) - 1975 at SIET India (18) - 1976 at UPISSI Philippines (15)

<u>Objectives and Components</u>	<u>Achievements</u>
5. Seminars to permit discussion of particular industrial problems of regional interest	<p>Participation by POs in UNIDO Seminar on "Industrial Information for Countries in the ECAFE Region", October 1974, Singapore and Bandung</p> <p>First Asian Industrial Extension Officers Conference (FAEIOC), November 1975, Manila</p> <p>SISIR-organized Seminar on "The Role of Industrial Technical Information and Extension Services in Technology Transfer", 4-5 October 1976, Singapore. POs participation supported by TECHNONET.</p>
6. Identification of the indigenous industries, their classification according to sector and levels of development, state-of-the-art (data bank)	<p>The initial work of the two technologists at TECHNONET Centre was mainly to prepare 'industrial process information sheets' on priority industries such as foundry, ceramics, etc.</p> <p>Grants were given to five POs to conduct national State-of-the-Art Reviews (STARs):</p> <ul style="list-style-type: none">- HKPC 3 STARs- UPISSI 10 STARs- DIP/ISI 2 STARs- SIRIM 1 STAR- IDB 1 STAR <p>POs' industrial sectoral priorities were compiled and presented at the First Council Meeting.</p>

Objectives and Components

Achievements

7. Information base, e.g.
libraries and documenta-
tion centres

As at end-1975 TECHNONET Centre was
subscribing to 123 periodicals for
scanning for useful information.

TECHNONET Centre also had a collec-
tion of approximately 650 technical
books.

The above were handed over to ASRO's
care in September 1975.

Grants were also given to POs to
enhance their libraries' collections:
UPISSI, EDP, DIP .

8. Information Service:
Current Awareness (CAS)

Arrangements were made for all POs
to be supplied with NRC/TIS TECH
BRIEFS in microfiche form on a
quarterly basis. To assist POs to
make full use of these TECH BRIEFS,
microfiche reader/printers were
provided from TECHNONET funds to:

- UP Library (sharing with UPISSI/EDF)
- DIP/ISI
- IDB
- HKPC (to service a branch office)

It was later recommended by the
TECHNONET Information Committee to
develop Asian TECH BRIEFS.

TECHNONET also provided funds to
avail POs of SISIR's current
awareness service.

<u>Objectives and Components</u>	<u>Achievements</u>
<p>9. Information Service: Technical Enquiry Service for Extension Workers.</p> <p>While Canada's help is available, the aim is to find answers to these enquiries from local resources</p>	<p>A technical information officer from NRC/TIS was seconded to TECHNINET Centre in July 1975, primarily to handle this area of technical enquiries. He was responsible for directing enquiries to NRC/TIS and other sources, and setting up an information "indexing" system in the Centre.</p> <p>The number of enquiries processed during 1973-1976 was 197 - the majority through NRC/TIS and among the POs themselves. "Direct networking" i.e. enquiries from PO to PO, but keeping T Centre informed, was encouraged.</p> <p>Linkages with other centres of expertise in the region was also initiated by T Centre, i.e. Asian Packaging Information Centre.</p>
<p>10. Mechanisms by which national services can exchange experiences:</p> <ul style="list-style-type: none">- Newsletter- PO personnel exchange/visits	<p>The first Newsletter was published in March 1974, with the Deputy Administrator as its Editor, and thereafter on a quarterly basis.</p> <p>Visits among POs by their personnel have been active from the beginning, and arranged wherever possible linking with a TECHNINET activity. (Actual figures not compiled at this early stage.)</p>

<u>Objectives and Components</u>	<u>Achievements</u>
11. Facilities for applied research, particularly problem-solving research, to meet needs identified by extension workers	T Centre has initiated links with such research institutions from the beginning, terming them "Associated Organizations", e.g. with: <ul style="list-style-type: none">- Tropical Products Institute (UK)- Central Leather Research Institute (Madras)- Council of Scientific and Industrial Research (New Delhi)- Asian Packaging Information Centre (Hong Kong)- Commonwealth Scientific and Industrial Research Organization (CSIRO) (Australia)
12. Facilities for translating material likely to have widespread use	TECHNONET supported translation of the NRC/TIS TECH BRIEFS into Thai by DIP/ISI.
13. Additional countries	During Phase I (in 1975) 3 new POs were added to the original 8: <ul style="list-style-type: none">- KORSTIC Korea- IDB Sri Lanka- BSCIC Bangladesh making it 11 POs in 9 Asian countries.

Summarizing the most important results of Phase I - although taking note of the fact that the project has not gone as far or as fast as it had been hoped it would - IDRC made the following statement in its recommendation to continue Phase 2 funding:

- (1) that we do now have a network of organizations that share the common goal of developing extension services for small and medium industries and that are prepared to help each other in doing so;

- (2) that we now have the nucleus of a group - at least fifty practitioners - who see industrial extension as a valid professional activity, and
- (3) that governments are increasingly accepting the need for this type of service and allocating resources for its development.

In addition, as a consequence of IDRC's deliberate efforts to Asianize the project, the first Asian Administrator of the project, in the person of Dr Leon V Chico (Philippines) has been appointed on April 1st, 1976.

2.4 Summary of Phase II (1 Oct 1976 - 31 Mar 1980)

During this phase three significant trends have developed within TA:

- (a) As part of a conscious effort to make both TA and the individual POs self-reliant in their activities, the information dissemination components of the original project have been gradually transferred to the individual POs themselves;
- (b) Preparations have been made to make TA an independent entity, to allow the attraction of other donors; and
- (c) At the request and insistence of some of the POs, certain new activities (e.g. entrepreneurship development) have been introduced into the original program of TA.

The following summary of objectives/components and achievements is reflecting these trends.

Objectives and Components

Achievements

DEVELOPMENT OF THE INFORMATION SERVICE

1. Publication of:

- Newsletter

Continued on a quarterly basis.

- Case Studies

Case studies sent in by POs were published in the Newsletter. Awards were given annually to outstanding case study writers among TECHNONET PO extension staff, the last award being in 1979.

- Pamphlets on industrial problems and recommended solutions

The "Industrial Process Information Sheets" which were initiated by the two technologists in Phase I, were discontinued.

A small booklet on "How to Start a Technical Information Service" was compiled and distributed by T Centre.

2. Responding to enquiries; an Asian equivalent of "TECH BRIEFS"

Technical enquiries handled through T Centre (under the monitoring of the Technical Information Officer) totalled 68 in 1977, and thereafter the number gradually decreased, perhaps with the encouragement of more "direct networking" among POs.

An "Asian Tech Briefs Workshop" was convened in Singapore in Jan 1977 to lay the foundation for Asian TECH BRIEFS. From this, the "TECHNONET Digest" was born, which initially was a monthly typewritten circular giving brief abstracts of technical articles contributed by POs and T Centre, and later became a Newsletter "pull-out" section.

Objectives and Components

Achievements

3. Survey of Information

Resources; Linkages

- identification of and cooperation with national focal points

A few POs (Korea, Philippines, Malaysia and Sri Lanka) have taken their own initiatives here, but not specially as a TECHNONET activity.

- linkages with specialized institutions within and outside region; support of visits by persons from these institutions to POs

These linkages continue to be maintained, mainly to serve as sources of technical information (as last reported in the end-1978 Administrator's report, some 29 established links worldwide had been made). A number of visits to TECHNONET Centre by persons from these institutions were made, on a self-initiated basis

4. Maintenance of a Small Library of Films and Documents

There have not been active acquisition of materials as such, but numerous slides/video tapes produced by POs in the course of their TECHNONET projects have been added to the collection.

The film on extension work "TOTAL APPROACH" produced by the NRC/TIS was acquired by T Centre and shared with the POs.

The ASRO Library continued to upkeep T Centre's minimal collection of books and periodicals. Out of the approximately 650 books accumulated in Phase I, about half were transferred to certain POs, leaving the balance in the ASRO Library.

Objectives and Components

Achievements

DEVELOPMENT OF INDUSTRIAL EXTENSION OFFICER

5. Training:

- | | |
|--|---|
| 1. On national level -
coordination, provision
of experts, visual and
other aids and nominal
share of costs by
TECHNONET | Local INDEXTRACs:
Bangladesh - 2 (total 28 participants)
Malaysia - 1 (" 25 ")
Sri Lanka - 2 (" 63 ")
Indonesia - 2 (" 48 ")
Thailand - 3 (" 66 ") |
| 2. On regional level - | Regional INDEXTRACs:
No. IV - UPISSI (23 participants)
No. VIII - UPISSI (18 ")
No. XIII - UPISSI (23 ")
No. XVIII - UPISSI (22 ") |
| 3. On problems of
particular industrial
sectors (STEWs) | 1978 - IDB (Fruit &
Vegetable Processing) - 23 participants
1979 - DIP (Furniture)- 22 " |
| 4. Trainers Training
(to conduct Local
INDEXTRACs);
Training Committee
to design the scope
and depth of these
trainers' courses | 1977 - Trainers Seminar, Singapore
(22 participants)
The Training Committee first met
in Manila in November 1975. A trainers'
training workshop was held in Chiang
Mai in February 1977, the output
of which was the course outline
for the above Trainers' Seminar. |
| 5. Extension and Training
Aids: organized by T
Centre but using PO staff
and facilities, including
extension officers manual,
training manual, publica-
tions on various practices
followed in transfer of
technology, audiovisuals,
etc. | EDF undertook to produce video-
taped documentation of industrial
extension cases, with TECHNONET
financial support. |

Objectives and Components

Achievements

6. The Asian Industrial
Extension Officers'
Forum (ASINDEX)

The Forum was formed at FAIEOC in Manila, November 1975 (later termed ASINDEX I). Two further ASINDEX meetings took place - ASINDEX II - HKPC, April 1977 ASINDEX III - DP, Jan 1979

The Executive Committee of the Forum was given a small grant to operate.

ASINDEX III recommended the forming of local chapters, continuation of the case writing project, and publication of a TECHNONET Manual of Industrial Extension.

So far, ASINDEX Local Chapters have been formed by:

IDB Sri Lanka

MARA and SIRIM Malaysia

UPISSI and EDF Philippines

BSCIC Bangladesh

DP Indonesia

TIESA (outstanding case studies) awards were given at the last two ASINDEX meetings, which comprised plaques of recognition and visits by the award winners to other POs.

7. Surveys of the Need for
Information; Consequences
for State-of-the-Art
Reviews (STARs)
- TECHNONET to help
implement recommendations
of completed STARs, and
also support new STARs

Support given to HKPC for setting up Plastics Technical Information Unit

Support given to IDB to purchase equipment to upgrade its foundry.

Objectives and Components

Achievements

DEVELOPMENT OF THE NETWORK

8. Seminars, Workshops
and Committee Meetings

Training:

- Trainers' Training Workshop,
Feb 1977, DIP/ISI Chiang Mai

Information:

- First Information Committee Meeting,
October 1976, Seoul
- Workshop to discuss evolution of
Asian TECH BRIEFS (ASTECH),
Jan 1977, Singapore
- Newsletter Correspondents' Workshop,
Jan 1978
- Second Information Committee
Meeting, May 1978, Pattaya
- Third Information Committee
Meeting, February 1979, Singapore

Information Officers Training
Courses (INFOTRACs)

- INFOTRAC I, Hong Kong, May 1978
- INFOTRAC II, Hong Kong, Sept 1979

9. Interchange of staff;
Provision of experts
or consultants

This area has been very active, as
can be seen from the following
statistics compiled for this period:

- No. of PO staff exchanges: 104
- No. of experts/resources provided
for TECHNONET activities: 118*
(*includes persons from outside
POs).

Some highlights are given below:

- IDB expert in coir and copra
processing to BSCIC for 2 weeks
in 1977;

Objectives and Components

Achievements

- IDB staff stationed in SISIR's Industrial Design Centre for 3 weeks in Sept 1977; then to DIP's ISI Chiang Mai for 2 weeks;
- Joint visits by staff from BSCIC, UPISSI, IDB and DIP to SISIR, HKPC and SIRIM in Aug 1978, primarily to develop their information systems;
- Secondment of SSB Elwela (IDB) and Ed Canela (UPISSI) to T Centre to assist in special projects;
- BSCIC officials toured India and Sri Lanka for 3 weeks to study development of small and cottage industries in those countries;
- SISIR Library Officer visited KORSTIC for 11 days to study its patents information service program;
- IDB TIESA award winner did a study tour of small-scale industry development in Indonesia, Singapore, Thailand, Jan 1979;
- Two DIP staff, also TIESA winners, undertook same study tour as above, but proceeded to Manila also;
- KORSTIC Director of Information Resources Division, visited SIRIM, MARA and DIP to advise on their information activities
- EDF Vice-President, Engineering and Industrial Research Services, visited SISIR re collaboration in transferring SISIR's know-how for techniques in casting, mould-making and plating of metals.
- Former Director SISIR's Standards and Extension Services Division assisted MARA's information program.

Objectives and Components

Achievements

10. Initial Financial
Support for Extension
and Information Staff

Could not identify any direct
activity under this.

11. Provision of Basic
Information and Extension
Equipment and
Materials

Microfiche reader/printer equipment
were provided to BSCIC, KORSTIC,
and MARA.

ENTREPRENEURSHIP DEVELOPMENT

- TECHNONET to complement and
attempt to coordinate
similar efforts made by
other agencies in the region,
particularly East-West Center
and Georgia Tech.

The first meeting on ED was held
in Kuala Lumpur (hosted by MARA),
May 1977 (ENTRETECH or EDP1).

EDP2 - EDP Trainers Mini-Workshop
was held in Manila, Jan 1978
(timed after INDEXTRAC VIII as
some of those participants were
involved in EDP).

EDP3 - Mini Workshop for Contributors/
Writers for the Trainers Manual and
Entrepreneurs Handbook, July 1979
in Manila.

TECHNONET COUNCIL MEETINGS

Four Council Meetings and one
Steering Committee Meeting were held
in Phase II.

The Steering Committee Meeting was
held in November 1978 in Singapore,
chaired by Dr Lee of SISIR, for the
purpose of spelling out the future
framework and directions of TECHNONET,
particularly to transform into a
legal entity.

2.5 Summary of Phase III (1 April 1980 - 31 March 1983)

The landmark event that influenced the operations of TA during its (still ongoing) third phase, i.e. the incorporation of TECHNONET ASIA as a non-stock, non-profit and non-political Singapore corporation, actually took place still during Phase II, on January 1st 1980. This important step towards self-reliance has brought about substantial changes in TA's funding, operations, activities emphasis and potential, all of which subjects will be dealt with later on.

In the present sub-chapter, only the summary of project objectives/ components and related achievements will be reflected, similar to sub-chapters 2.3 and 2.4, as follows:

Objectives and Components

Achievements

DEVELOPMENT of TECHNICAL INFORMATION SERVICES

1. Publications

- | | |
|--|---|
| - Newsletter to report principal developments in the project, and publish case histories | This is being continued on a quarterly basis. |
| - Digest to focus on new technological developments | Also being continued as an integral part of the Newsletter. |
| - Pamphlets or monographs on particular industrial problems and recommended solutions | "Report on Survey of Metalworking Industries" - Indonesia & Malaysia; Bangladesh and Sri Lanka; Thailand and Philippines. |
| | "Trainers Manual on Entrepreneurship Development" |
| | "Entrepreneurs Handbook" |

Objectives and Components

Achievements

2. Provision of technical handbooks and materials, including microfiches

- Support of KIET's Information Bulletins on Die-Making for local SMIs (in Korean)
- Support to KIET to produce Union List of Serials in PO Libraries
- Support to DIP for translation of technical articles into Thai for local industrialists
- Support to BSCIC for purchase of technical books

3. Specialized technical information 'packages' including audiovisuals

- Support given to SISIR to set up:
 - . plastics information program;
 - . patent information service;
 - . resource centre for heat and surface treatment of metals.
- Support given to UPISSI to set up:
 - . Appropriate Technology Desk from which AT information packages will be disseminated to SMIs
 - . Appropriate Technology Unit
- Support to EDF to carry out:
 - . design and manualization of an evaluation system for SMI extension services
 - . project to study approaches to making extension services self-liquidating;
 - . design of energy conservation program, outputs of which will be energy audit materials and packages on energy conservation.

Objectives and Components

Achievements

- Support to HKPC to carry out:
 - . study of profile of the real technology requirements of local industry in Hong Kong
 - . compilation of directory of environmental pollution control equipment suppliers in Hong Kong.
- 4. Provision of Current Awareness Service
 - Support to KIET to publish 4 serials of CAS publications for distribution to POs gratis.
- 5. Handling Technical Enquiries
 - In this phase, POs continue to be encouraged to approach each other directly for assistance in technical enquiries, with T Centre playing a low-key role.

INDUSTRIAL EXTENSION SERVICES

1. Regional and Local Training of Industrial Extension/Information Officers

INDEXTRACs

- Regional:
 - No. XVIII - UPISSI (22 participants)
 - No. XXIV - UPISSI (20 participants)
 - No. XXX - IDB (20 participants)
 - No. XXXIII - UPISSI (5 participants)
- Local:
 - Bangladesh - 2 (total 30 participants)
 - Malaysia - 1 (" 32 participants)
 - Sri Lanka - 1 (" 25 participants)
 - Indonesia - 2 (" 40 participants)
 - Thailand - 2 (" 46 participants)

INFOTRACs

- INFOTRAC III - Hong Kong, 1981 (18)
- IDB Local INFOTRAC - 1982

Objectives and Components

Achievements

OTHER TRAINING

Support to BSCIC for:

- . Seminar on Wooden Furniture Manufacturing
- . Training Course on Production Management and Quality Control
- . Training Course on Batik Industry

Support to FNTC (Fiji) for two staff to attend a 6-month industrial sewing machine mechanics course at the Vocational Indsutrail Training Board, Singapore.

2. Extension/Information and Training Aids for POs

Upgrading of IDB's auditorium for training and demonstration purposes including purchase of audio-visual aids and accessories

Upgrading of training unit of ISC Nepal with provision of photocopier and typewriters.

3. Support of Inter-PO Travel of Short-term Experts, Consultants and Resource Persons

This continues to be very active. Up to April 1982, a total of 38 experts/resource persons have been provided for TECHNUNET activities. Some highlights include:

- . Two consultants from UPISSI attached to DIP/ISI to assist in formulating course design for AMT;
- . Resource persons provided by POs for lecturing in several Regional and Local INDEXTRACs, STEWs and EDPs, e.g. from UPISSI, DP mainly;
- . Secondment of staff from DIP, BSCIC, and IDB to T Centre for specific projects;

Objectives and Components

Achievements

- . Assistance provided by T Centre staff to Malaysian Handicrafts Development Corporation (through MARA) to help revitalize the brassware industry;
- . Provision of IDB engineer to MHDC for same brassware project;
- . Provision of Malaysian expert as resource person to BSCIC's training course on batik industry.

TRANSFER AND SHARING OF
APPROPRIATE TECHNOLOGIES

1. STEWs

STEW III on Foundry Industry, held at DIP, 1981 (23 participants)
STEW IV on Heat Treatment of Steels, held in Singapore, 1982 (20)

Roving Seminars, in which resource persons travel from one country to another and conduct seminars involving both extension officers and entrepreneurs

These were carried out only in conjunction with the JICA metal-working industries survey, to disseminate and discuss the findings. Following from this, a Metalworking Industries Symposium was organized in Singapore in Nov. 1980, to discuss specific topics related to the survey.

2. Exchanges/Study Visits
of Technical Staff of POs

Some 25 staff exchanges/visits have been documented up to April 1982. Some highlights include:

- Two industrial engineers from IDB who were TIESA Award winners were sponsored by JICA to visit Tokyo for on-the-job training on heat treatment and casting.

Objectives and Components

Achievements

- BSCIC Asst. Manager was sponsored to attend the 7th Tanners' Get-together in Madras, 1982, on leather products techniques;
- BSCIC's Chairman visited the POs in Bangkok, Manila and Singapore in Nov. 1980 to study small and cottage industry information and extension programs;
- Development Officer of IDB had a 3-day familiarization visit to EDF to study techniques in feasibility study preparation, project formulation and financial analysis;
- Two MARA officers observed UPISSI's information systems with a view to adapting these to their own needs;
- An IDB officer visited Singapore's Jurong Industrial Estate to obtain a briefing on Singapore's Industrialization Program;
- Chief Engineer of IDB was sponsored to visit some small scale metal-working firms in Singapore;
- SISIR's Head of its NDT Section visited KIET and HKPC to observe the operations of resource centres for heat and surface treatment of metals, in conjunction with SISIR's project to set up its own;
- Three DIP staff members visited EDP projects in Malaysia and Indonesia;
- Training of 2 HKPC staff in USA and UK in On-line Retrieval Systems.

Objectives and Components

Achievements

3. Provision of Simple
Demonstration/Training
Equipment and Accessories

-

NETWORK MEETINGS/SEMINARS

1st Projects Committee Meeting (PCM);
1st Annual General Meeting (AGM);
7th Council Meeting
were held in Ottawa in June 1980.

2nd PCM was held in Singapore,
Nov. 1980.

3rd and 4th PCM; 2nd AGM; 8th
Council Meeting were held in
Pattaya, Sept 1981.

5th PCM was held in Manila, Dec 1981.

6th PCM was held in Baguio, July 1982.

3rd AGM; 9th Council Meeting were
held in Hong Kong, Sept 1982.

DEVELOPMENT OF INDIGENOUS
ENTREPRENEURS AND NEW INDUSTRIES

1. Support of EDPs including
Training of Trainers

The following POs conducted training
courses in EDP with TECHNINET funds:

- . MARA - 1 course in Sept-Oct 1981
- . ISC - 1 course in Sept 82-Jan 1983
- . DIP - 4 in 1981/82

Support was given to 3 PO staff to
attend an in-house Trainers' Course
on ED at UPISSI, Sept-Nov 1981.

Three DIP staff were supported on a
study visit to observe EDPs in
Malaysia and Indonesia.

Objectives and Components

Achievements

Support to UPISSI to compile an AMT Trainers' Guide for EDP.

Participation in CIDA's Industrial Cooperation Program by the appointment of one industrial development officer in each PO and a coordinator at T Centre.

T Centre acts as a "middleman to screen proposals for joint ventures with Canadian industrials, received from PO countries.

2. Study visits to Canada and other countries by selected groups of entrepreneurs (and extension officers)

The only visit to Canada so far was the visit by PO Council Members or their representatives during the 7th Council Meeting held in Ottawa, June 1980. They were shown around various Canadian industries to get an overview of the situation.

The Industrial Development Officer from T Centre made a familiarization visit to Canada (CIDA) in Sept/Oct 1982.

3. Sharing Entrepreneurial Experiences

Five regional workshops/seminars have taken place for those interested POs to discuss and share their experiences in the field of EDPs.

In addition, a project involving 6 POs called "Validation of Selection Schemes for Entrepreneurs (VASE)" was launched to establish the validity of current selection schemes for ED and examine the appropriateness of existing AMT schemes within the Asian context.

Notes to the above summary of achievements:

1. Some activities embarked upon by TECHNONET Centre (and POs), which do not fall within the above project scope and components, are listed below. These are "contracted" projects, and may sometimes be income-generating activities.
 - (a) Providing secretarial/logistical services for seminars/studies organized by international bodies, e.g.:
 - Training course organized by the Commonwealth Regional Renewal Energy Resources Information System (CRRERIS);
 - Seminars organized by the Foundation for International Training (FIT), Canada:
 - . Seminar on Joint Venture Negotiations in Manila and Jakarta, August 1982
 - . Seminar on Licensing of Technology, Bangkok and Singapore, October 1982
 - . Fifth Annual Meeting of the Asian-African Network of Cooperating Organizations of the National Technical Information Service (NTIS), USA, Singapore, Nov 1982
 - (b) Acting as Secretariat for APPROTECH ASIA, a network of appropriate technology practitioners, including administering their small grants program.
 - (c) Participating in a UN/ILO research project on "Improving Working Conditions through Technological Choices in Small and Medium Sized Enterprises in Developing Countries in Asia", in July 1980, involving Bangladesh, India, Indonesia, Malaysia, the Philippines, Singapore, Sri Lanka and Thailand.
 - (d) Co-sponsored by MARA, a seminar on Planning and Management of Development Projects was held in Kuala Lumpur, with technical inputs from Unido Sri Lanka, UNDP KL, among others. This attracted fee-paying participants.
 - (e) TECHNONET also contracted to provide industrial extension coaches to IDB, under a World Bank grant to Sri Lanka.

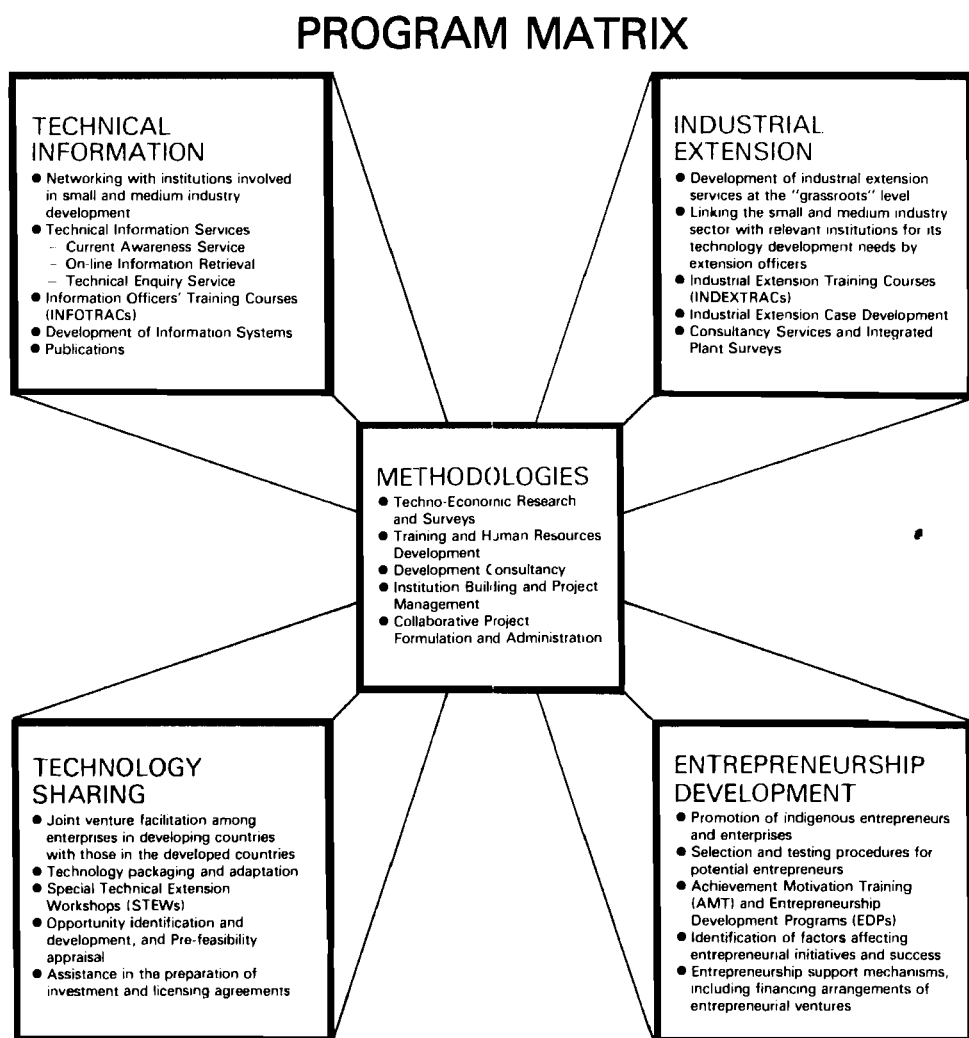
2. Joint research projects with JICA have not been described in detail in the foregoing. These projects are:

- (1) Survey of the Metalworking Industries in Indonesia, Malaysia, Bangladesh, Sri Lanka, Philippines and Thailand (March 1979 - March 1981).
- (2) Research of the Wood Furniture and Joinery Industries in the Philippines, Thailand, Malaysia and Indonesia (Phase I) (ongoing).
- (3) TECHNONET/JICA/ASEAN-COIME Project on Sharing of Technology among ASEAN Members and the Transfer of Technology from Developed Countries (ongoing).

3. The summary of achievements for Phase III has been prepared up to November 1982.

2.6 TECHNONET ASIA's Present Program Matrix

From the original program of 1972, which only dealt with technical information and industrial extension, TA's present program matrix has grown substantially as shown herebelow:



2.7 Membership of POs

From the original 8 POs, representing 6 countries, TA's membership presently consists of 14 POs representing 11 countries. As there will be a complete separate chapter about these POs (see Chapter at this place only their names, countries and dates of becoming members of TA will be mentioned, as follows:

<u>PO</u>	<u>Country</u>	<u>Year Joined</u>
HKPC	Hong Kong	1973
DP/BIPIK (LPPI)	Indonesia	1973
SIRIM (NISIR)	Malaysia	1973
MARA	Malaysia	1973
UP ISSI	Philippines	1973
EDF	Philippines	1973
SISIR	Singapore	1973
DIP	Thailand	1973
KIET (KORSTIC)	Korea	1975
BSCIC	Bangladesh	1975
IDB	Sri Lanka	1975
FNTC	Fiji	1980
SMIPC	Korea	1980
ISC	Nepal	1981

2.8 TECHNONET ASIA and Other International Organizations

Over the years, TA has developed active cooperation with many international organizations. Apart from IDRC its parent, and CIDA its other principal donor, TA has now cooperation with more than sixty international bodies. This cooperation ranges from simple information - and personnel exchanges - to elaborate joint venture projects.

Some of the more important of these organizations and some highlights of TA's cooperation with them are the following:

NRC/TIS Canada	Provision of technical information service to TECHNONET; training of TECHNONET extension officers in the early days.
JICA (Japan International Cooperation Agency)	Provision of funds and experts for joint research projects (metalworking, wood furniture and joinery industries, sharing of technology); provision of experts and resource persons for STEWs.
UNIDO	Collaboration in seminars and training: <ul style="list-style-type: none">- Seminar on Industrial Information - Singapore and Bandung, December 1974- STEW II - provision of 4 lecturers- UNIDO/INTIB mission to TECHNONET countries
UNDP/KL	Provided speaker for Seminar on Planning and Management of Development Projects, Kuala Lumpur, June 1982
UNDP/Colombo	Provided speaker for Seminar on Planning and Management of Development Projects, Kuala Lumpur, June 1982
UN/ILO	Joint research project on "Improving Working Conditions through Technological Choices in Small and Medium Sized Enterprises in Developing Countries in Asia, July 1980
TPI/UK (Tropical Products Institute)	Provision of resource persons for STEW I
FIT Canada (Foundation for International Training)	TECHNONET was involved in organization of their Seminars on Joint Venture Negotiations, (Manila and Jakarta) and Licensing of Technology (Bangkok and Singapore), 1982.

ATI USA (A T International)	TECHNONET acted as secretariat for the network of appropriate technology practitioners funded by ATI called APPROTECH ASIA, including administering its mini-grants program. TA was also a full member of APPROTECH ASIA.
RVB Netherlands (Research Institute for Management Science)	Possible future collaboration in the area of special extension consultancy and training program for small entrepreneurs in Indonesia.
CDG Germany (Carl Duisberg Gesellschaft)	Possible future collaboration in training courses in special techniques - e.g. STEWs.
World Bank	Collaboration in the provision of five industrial extension coaches to IDB Sri Lanka
International Data Banks	<p>TECHNONET is registered as a "consultancy group" with the following international data banks:</p> <ul style="list-style-type: none">. World Bank/Asia. Asian Development Bank. UNDP. UN/ILO. UNIDO. Commission of the European Communities. Abu Dhabi Fund for Arab Economic Development. Arab Bank for Economic Development in Africa

2.9 Summary of TECHNONET Training Activities

A summary of the TECHNONET-sponsored training activities is given in the following pages, broken down to PO and cost.

SUMMARY OF TECHNONET TRAINING COURSES AND FUNDING

Table 1

TECHNONET FUNDING					Total	TYPE OF COURSE	BSCIC	HKPC	KIET	SMIPC	SIRIM	MARA	EDF	UP ISSI	SISIR	IDB	DIP	DP/BIPIK	ISC	FNTC	Others	TOTAL No. TRAINED
IDB V XIV XVII XXVIII	DIP VI XI XV XXIII XXXII	DP/BIPIK VII XII XIX XX	MARA/SIRIM IX XX XXVII	BSCIC X XVI XXV XXXI	US\$100,289	LOCAL INDEXTRAC	58	-	-	-	57	-	-	-	-	113	112	208	-	-	-	548
I II III IV VIII	(SIET) (SIET) (UPISSI) (UPISSI) (UPISSI)	XIII XVIII XXIV XXX XXXIII	(UPISSI) (UPISSI) (UPISSI) (IDB) (UPISSI)		US\$350,212	REGIONAL INDEXTRAC	14	2	11	4	17	17	-	20	7	27	20	27	5	2	1	174
STEW I STEW II STEW III STEW IV	Sri Lanka Thailand Thailand Singapore				US\$103,583	SPECIAL TECHNICAL EXTENSION WORKSHOP (STEWs)	8	1	4	1	7	4	2	7	11	14	12	11	5	1	-	88
INFOTRAC I INFOTRAC II INFOTRAC III	Hong Kong Hong Kong Hong Kong				US\$ 78,155	INFOTRACs	5	9	4	1	5	4	-	7	2	4	5	5	1	1	3	56
Local EDP6 EDP7 EDP8 EDP9	- DIP - DIP - DIP - DIP				US\$ 15,515	EDPs	-	-	-	-	-	-	-	-	-	-	112	-	-	-	-	112
NRC/TIS Training					full costs not available	OTHER	-	1	2	-	4	1	1	2	3	1	2	-	-	-	-	17
TOTAL							85	13	21	6	33 116	26	3	36	23	159	263	251	11	4	4	995

Table 2

LOCAL INDEX TRACS										
Course No.	Country	BANGLADESH	MALAYSIA	SRI LANKA	INDONESIA	THAILAND	Total No. Trained	TECHNONET Contribution	PO Contribution	TOTAL
V - 1977				33			33	US\$ 4,400	US\$ 4,400	US\$ 8,800
VI - 1977						20	20	8,800	9,840	18,640
VII - 1977					22		22	7,299	37,600	44,899
IX - 1978			25				25	8,640	8,628	17,268
X - 1978	14						14	RPs	not known	-
XI - 1978/79						21	21	8,800	10,400	19,200
XII - 1979					26		26	5,080	21,120	26,200
XIV - 1979				30			30	1,860	1,860	3,720
XV - 1979						25	25	6,880	11,760	18,640
XVI - 1979	14						14	RPs	not known	-
XVII - 1980				25			25	2,000	2,000	4,000
XIX - 1979					30		30]	no		
XX - 1979					30		30]	financial support given	not known	-
XXI - 1979					30		30]			
XXII - 1980					30		30]			
XXIII - 1981						26	26	3,600	14,800	18,400
XXV - 1980/81	15						15	RPs + 880	440	1,320
XXVI - 1981					20		20]			
XXVII - 1981					20		20]	20,000	75,200	95,200
XXVIII - 1981				25			25	4,720	6,000	10,720
XXIX - 1981			32				32	8,100	13,506	21,606
XXXI - 1981/82	15						15	5,230	2,025	7,255
XXXII - 1982						20	20	4,000	14,880	18,880
Total - 22 Courses		58	57	113	208	112	548	US\$100,289	US\$234,459	US\$334,748

Note: Total cost figures exclude those individual costs that are indicated as "not known".
"RPs" refers to resource persons provided by TECHNONET funds.

Table 3

REGIONAL INDEX TRACS			
Details Course	Total No. Trained	Total Cost To TECHNET	Average Cost per Participant
I - 1974 SIET	8	US\$12,330	US\$1,541
II - 1975 SIET	18	47,780	2,654
III - 1976 UPISSI	15	45,000	3,000
IV - 1977 UPISSI	23	51,691	2,247
VIII - 1978 UPISSI	18	36,000	2,000
XIII - 1979 UPISSI	23	40,000	1,739
XVIII - 1980 UPISSI	22	13,600	618
XXIV - 1981 UPISSI	20	51,197	2,559
XXX - 1982 IDB	20	38,500	1,925
XXXIII - 1982 UPISSI	5	14,114	2,822
Total	174	US\$350,212	US\$2,012

Table 4

(a)

Course Details	SPECIAL TECHNICAL EXTENSION WORKSHOPS (STEWs)				
	I - 1978 Sri Lanka Fruit & Veg Prod.	II - 1979 Thailand Furniture	III - 1981 Thailand Foundry	IV - 1982 Singapore Heat Treatment	Total
Total No. Trained	23	22	23	20	88
Total Cost	US\$ 9,000 *	US\$28,000	US\$42,507	US\$24,076	US\$103,583
TECHNET Contribution	a11	a11	a11	a11	a11
Average Cost per Participant	US\$ 391	US\$ 1,272	US\$ 1,848	US\$ 1,203	US\$ 1,177

(b)

Course Details	EDP LOCAL TRAINING COURSES				
	EDP6	EDP7	EDP8	EDP9	Total
Total No. Trained	27	25	30	30	112
Total Cost	US\$20,044	not known	US\$22,322	US\$23,560	
TECHNET Contribution	US\$ 5,295	US\$ 3,921	US\$ 3,037	US\$ 3,262	US\$15,515

(c)

Course Details	INFORMATION TRAINING COURSES (INFOTRACs)			
	I - 1978 Hong Kong	II - 1979 Hong Kong	III - 1981 Hong Kong	Total
Total No. Trained	18	20	18	56
Total Cost	US\$18,043	US\$35,000	US\$25,112	US\$78,155
TECHNET Contribution	a11	a11	a11	a11
Average Cost per Participant	US\$1,002	US\$1,750	US\$1,395	US\$1,395

* does not include funds provided by co-sponsors

3. PARTICIPATING ORGANIZATIONS (POs) of TECHNONET ASIA

3.1 Bangladesh Small and Cottage Industries Corporation (BSCIC)

BSCIC secured TECHNONET membership in 1975 along with IDB Sri Lanka, and remains an active PO in the network. It is the country's premier organization for promoting the development of small and cottage industries, and was established by an Act of Parliament in 1957.

Presently the organization is comprised of five major divisions each headed by a Director; Cottage Industry and Marketing; Planning and Development; Promotion and Extension; Special Projects; Design and Handicrafts; and Finance. Additionally, there are four Regional Offices and 20 Industrial Estates under its charge.

BSCIC's main objective is to provide the necessary infrastructure for the growth of small and cottage industries - financial and technical advice, develop plots and common service facilities and marketing of cottage industry products.

Since becoming a PO of TA, BSCIC has been able to upgrade its industrial extension capability through the industrial extension and information training courses. The organization's current program priorities are basically industrial extension; technical information; methodologies of developing SMIs, entrepreneurial development and technology sharing. In the field of technical information, it operates a CAS with a membership of about 800, and a technical enquiry service. It publishes a journal "BISIB" which has a readership of about 500-600.

TECHNONET has assisted in the upgrading of its TIS with a microfiche reader/printer, photocopier, technical publications and an overhead projector. Additionally, five officers have participated in the TECHNONET-sponsored INFOTRACs.

Industrial Extension is considered the key activity of BSCIC - with a total of 400 extension officers, 174 at the head office and 226 in the regional and provincial officers. Of these nearly 75% are

senior extension officers. Sixty-three have been trained in locally conducted INDEXTRACs whilst 22 have attended TECHNONET-sponsored Regional INDEXTRACs and STEWs, with a commitment of about 40% of the total work program to Industrial Extension activity. BSCIC is planning to conduct two local INDEXTRACs in the years 1983/84 to train at least another 60 extension officers. The organization is presently capable of development of course material, organization of courses and trainers' training, etc. in conducting Local INDEXTRACs, while securing of resource personnel, training equipment and funds are still the major constraints, and for which they will depend on TECHNONET or other external assistance.

EDP is tied with extension activity and BSCIC's commitment to it is in the region of 20%. In the conducting of EDPs, the organization still requires external assistance.

Following is a summary of grants/special assistance which BSCIC has availed of TECHNONET ASIA and the projects proposed for assistance during the next two years.

Completed/Ongoing

1. Purchase of books and periodicals (C\$2,950), 1981/82
2. Seminar on Wooden Furniture Manufacturing (C\$2,250), 1981/82
3. Training Course on Production Management and Quality Control (US\$2,910), 1982
4. Training Course on Batik Industry (US\$4,655), 1982

Proposed

1. Training Course on Cotton and Silk (US\$5,650), 1982
2. Training Course on Shellcraft Manufacture (US\$5,500), 1982
3. Training Course on Leather Handicrafts Manufacturing (US\$4,200), 1983
4. Training Course on Brass and Bell Metalwares (US\$4,230) 1983
5. Training Course on Fruits Processing and Preservation (US\$4,610), 1983
6. Group training in fruit and vegetable processing in Malaysia, Philippines, Thailand (4-5 entrepreneurs) (US\$10,000), 1983

7. Entrepreneurship Development Training Course (US\$3,950), 1983
8. Proposal for an Expatriate Pearl Culture Technician to Train Locals (amount not specified)
9. Training Course on Rattan Furniture Manufacturing (US\$6,330), 1983

In terms of priority industry sectors for development, the following have been identified:

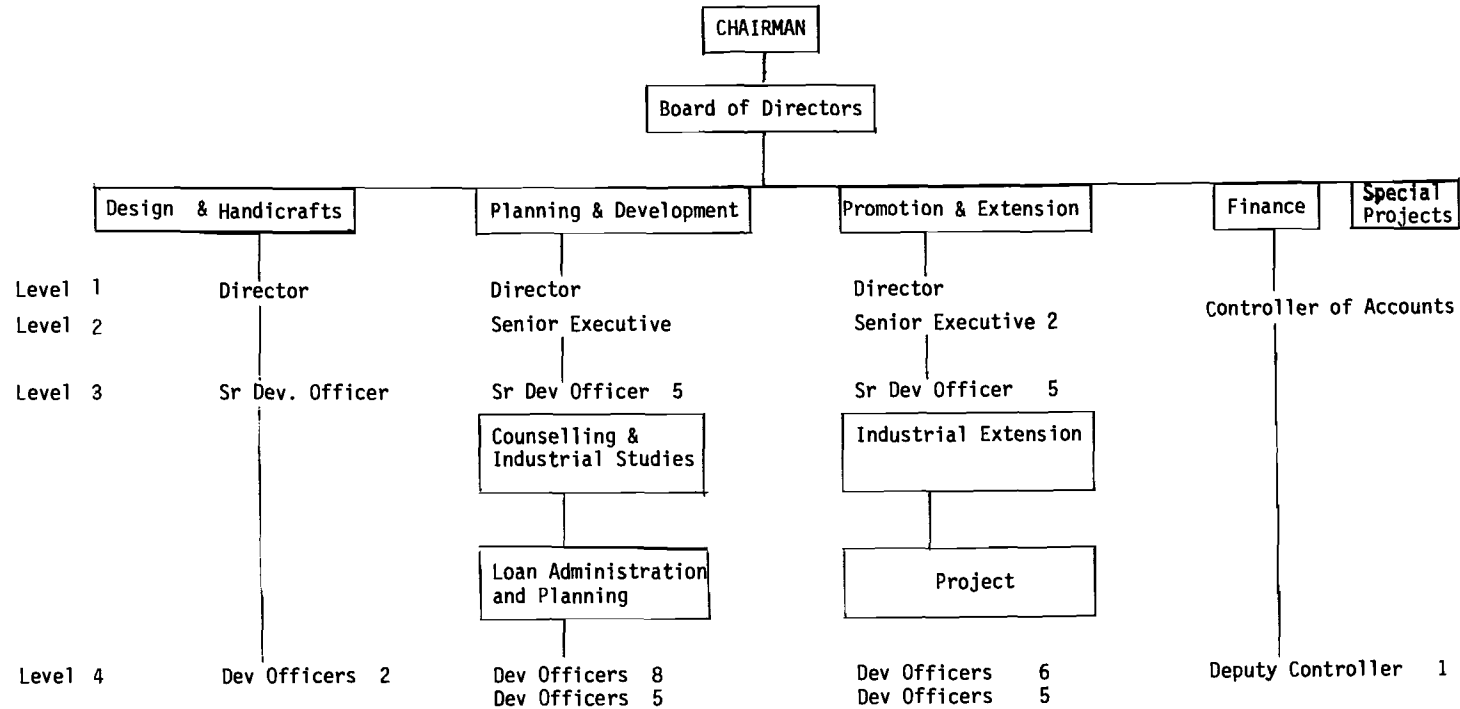
1. Agro industries
2. Engineering (light engineering)
3. Textiles
4. Chemicals (small scale)
5. Leather products
6. Paper

BSCIC is also linked with the following international organizations from which it is receiving assistance in many ways in developing the SMI sector: UNDP, ILIO, IDA, USAID, NORAD, DANIDA, ADB, UNCDF and CFTC.

With nearly 30,000 small and cottage industries distributed throughout the country which generate employment for about 400,000 persons, it is BSCIC's desire to strengthen its extension service capabilities. Its immediate plans are therefore to train 100 extension officers, 70 instructors and 120 master craftsmen, and a set of women entrepreneurs, in order to complete a priority program set to develop small and cottage industries in the country before June 1983.

All of the 21 officers trained in TECHNONET courses remain in the services of BSCIC.

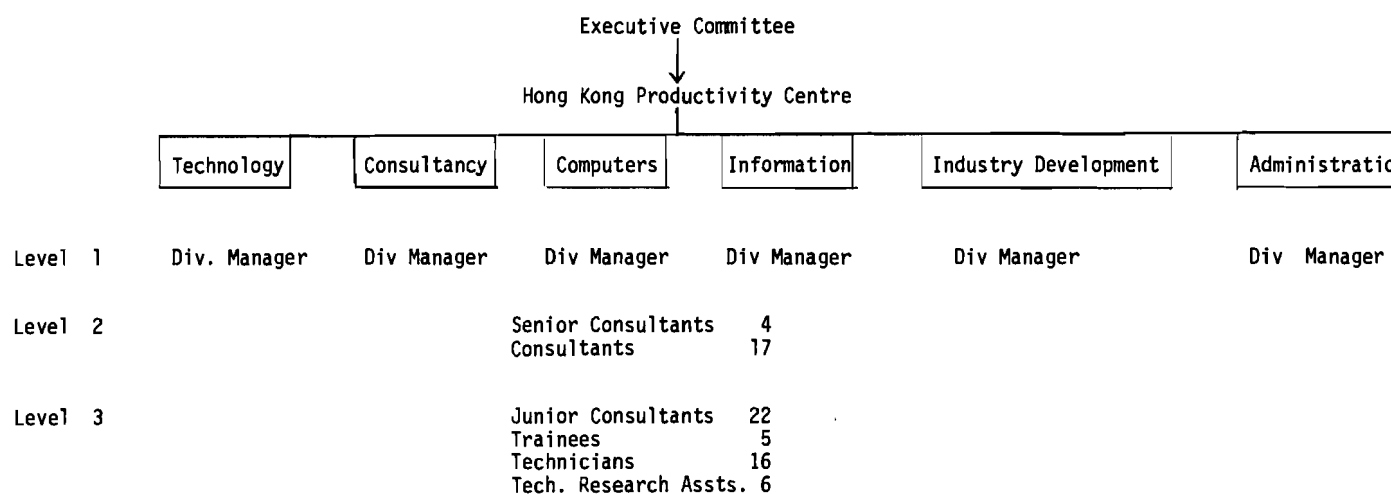
BSCIC BANGLADESH



Sr Coordinating Officers
Asst Controllers of Accounts
Junior Officers
Coordinating Officers

3.2 The Hong Kong Productivity Centre (HKPC), Hong Kong

HKPC is a statutory organization whose objectives are to promote the increased productivity of industry and encourage more efficient utilization of resources. Its mandate is also to maintain the Centre as an advisory council to consider matters affecting Hong Kong industry.



As the organization chart represents, it is comprised of 6 main divisions - Technology, Consultancy, Computers, Information, Industry Development and Administration. Currently, the organization is shifting its emphasis towards technology services to provide expanded support services for individual sectors of industry. Of particular interest to TA and its network is its Technical Information Service which is quite actively pursued to provide an adequate support base for all sectors of industry. The information service operates on two levels: a broad-based CAS covering the whole spectrum of local industry including technical enquiries, literature search services both manually and online retrieval, and secondly, more specialized indepth services are provided to certain sectors through the publication of quarterly information bulletins, providing technical enquiry and extension/consultancy service and backup library facilities. TA assisted HKPC in establishing a Plastics Technology Information Unit in 1979.

Three bulletins pertaining to industrial information are published - namely, "HKPC Electronics Bulletin", "HKPC Metals Bulletin" and "HKPC News". Eight officers have attended INFOTRACs, all of which were conducted at HKPC.

As the records reveal there are altogether 40,000 SMI establishments in the country, 90% of which are in the manufacturing sector, the employment generation of this sector is approximately 450,000 (50% of the manufacturing population). Electronics, Metals and Environmental Control have been identified as priority sectors for development, and the organization is currently setting up a small and medium industry extension advisory service to offer specialized assistance in a few important areas such as environmental control, energy conservation and waste recycling. One officer has undergone Regional INDEXTRAC training while two others have attended STEWs sponsored by TA. HKPC also concentrates on numerous training programs and consultancy projects.

HKPC's major involvement in TECHNONET networking is its share of technical information expertise to most of the other POs. It has undertaken the compilation of STARs on Plastic Mould-Making and Electroplating, Plastic Toys and Electronics, funded by TA.

A summary of grants/special assistance to HKPC is given below.

Completed/Ongoing

1. STARs on Plastic Mould-Making and Electroplating (C\$5,500), 1973-74
2. STAR on Plastic Toys (C\$6,000), 1975-76
3. STAR on Electronics Industry (C\$4,000), 1976-77
4. Plastics Technical Information Unit (C\$20,000), 1976-79
5. Training of 2 HKPC staff in USA and UK in Advanced User and Online Retrieval Systems (C\$3,400), 1980-81
6. Study of Profile of the Real Technology Requirements of Local Industry in Hong Kong (US\$10,500), 1981-82
7. Directory of Environmental Pollution Control Equipment Suppliers in Hong Kong (US\$2,000), 1981-82

Proposed

1. Development of Training Materials for Seminar on Productivity Management and Improvement at Plant Level (US\$40,000)
2. Project on Energy Conservation Technology for Small and Medium Size Factories in Bleaching and Dyeing Industry (US\$7,700)

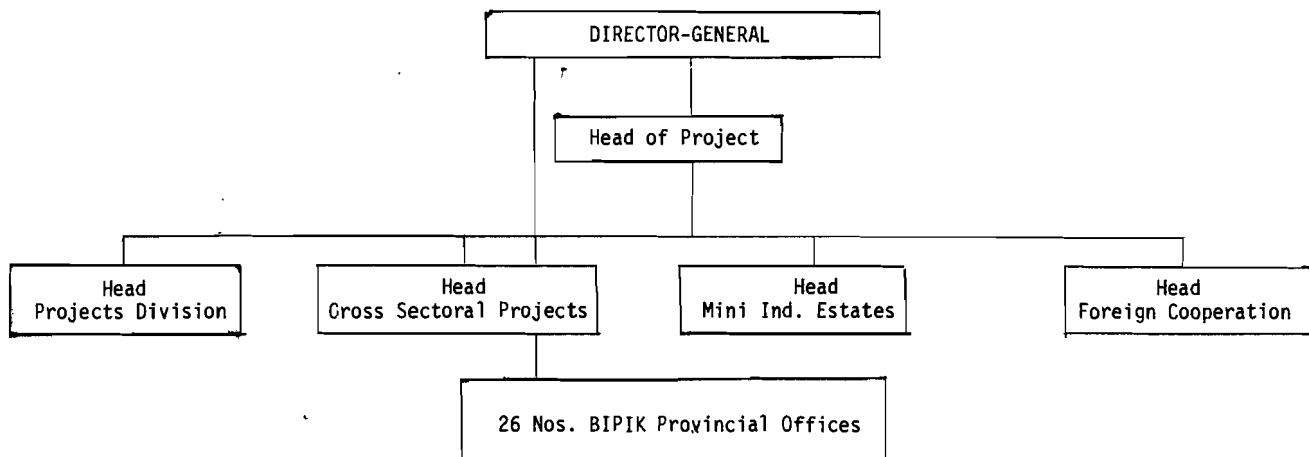
Out of the 11 TECHNONET-trained staff of HKPC, only four remain in their services.

3.3 Departemen Perindustrian (DP) - Ministry of Industry, Indonesia

DP is the national PO of TECHNONET from Indonesia which joined the network in 1973. As of todate, the institution that represents DP is designated the Directorate-General of Small Industries, popularly known as "BIPIK".

BIPIK - which is the Guidance and Development Project for Small Industry - was created as a "Special Project" in 1979 under the Department of Industry to accelerate development of small and cottage industries on a priority basis. As per the records, there are over 2.5 million small and cottage industries in Indonesia of which at least 95% would be of the cottage type. The geographic distribution of these in the metropolis, provinces and islands has made approaching them difficult and requires enormous manpower and budgetary resources to undertake development work.

The organizational set up of BIPIK is as follows.



BIPIK's main thrust is therefore to train adequate numbers of persons to service this vast field during the next few years. Currently the organization's primary focus is on Industrial Extension, Entrepreneur Development and Technical Information.

Industrial Extension is considered the key requirement in servicing the small and cottage industries and action has been taken to train vast numbers in this field. BIPIK was able to intensify training of

extension officers with the assistance provided by TECHNONET - resource persons and partial funding for conducting local training. While 6 officers have attended Regional INDEXTRACs, 6 others were trained in STEWs . BIPK has taken the lead in conducting Local INDEXTRACs since 1979 - 1,800 enterprises and extension officers have attended these training courses. Plans are underway to conduct 20 Local INDEXTRACs in 17 provinces next year (1983), which would add 600 more trained extension officers to the cadre. Assistance in resource inputs and trainers' training is considered essential to strengthen the Local INDEXTRAC program of BIPK.

In addition to Extension, BIPK gives high priority to Entrepreneur Development. Sixty percent of the organization's present thrust is on ED programs, and training of officers as well as entrepreneurs is underway. BIPK seeks to reinforce this activity on an intensified scale with assistance from TECHNONET and the World Bank.

In the field of Technical Information, much assistance has been availed of from TA - three officers have attended INFOTRACs and a microfiche reader/printer has been provided for information search. TECHNONET has also assisted DP and MARA to jointly translate and exchange appropriate technology information for small scale industry. Two publications are issued pertaining to small industry information: "Gema Industry Kecil" (Voice of Industry) and Small Industry Profiles. Roughly 6,000 of the former is issued, consisting of small industry information.

The priority areas selected for development in the small and cottage industry sector include Food and Beverage, Textile, Leather, Oils and Chemicals, Metal, Building Materials and Handicrafts. BIPK is also concentrating its efforts to setting up a large number of mini industrial estates to provide infrastructure and common service facilities to small industries. It is committed to service a large number of cottage industry clusters distributed throughout the country. Therefore it is actively promoting its industrial extension training and entrepreneur development programs to sufficiently service their needs.

A summary of the grants and special assistance availed from TA is given below.

Completed/Ongoing

1. DP/MARA joint project to translate and exchange appropriate technology information for small-scale industries (C\$3,000), 1977-1979

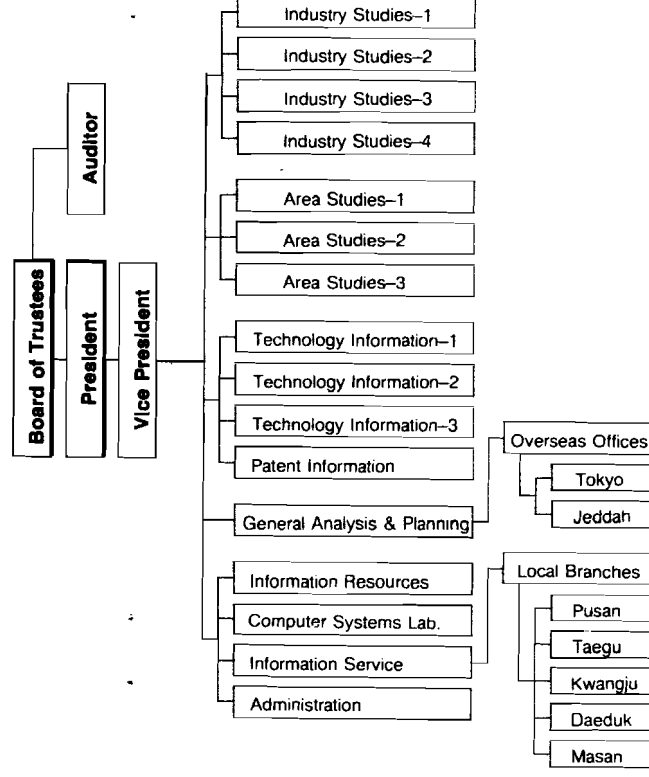
Proposed

1. Education and Training of Local Trainers for Industrial Extension/Consultancy (US\$3,800)
2. Training of Trainers in AMT/Entrepreneur Managerial Development (US\$7,000).

According to records, a total of 37 officers have been sponsored for TECHNOnET training courses, out of which 21 still remain in BIPIK's services. The fifteen trained in the early days did not belong to BIPIK.

3.4 Korea Institute for Industrial Economics and Technology (KIET)

KIET is one of the two national POs of TA in Korea. It succeeded KORSTIC which was the original PO to join the network in 1975. Established in 1982, it is a merger of two research organizations, the Korea International Economic Institute (KIEI) and the Korea Scientific and Technological Information Center (KORSTIC). It is an autonomous non-profit research organization set up to develop Korean industry and trade.



As the organization chart illustrates, KIET's main functions are:

- to conduct research on industry for the purpose of determining development strategies
- to contribute to expansion of international trade
- to provide technical information, business consultation and advice to industry
- to analyse information on industry and operate a data bank.

KIET's key activity in developing industry is its information services. It has access to more than 7,750 titles of periodicals and journals and provides computer-based information retrieval service, using foreign data bases. It also provides technical consultation to industries and other users on new techniques,

new products and introduction of foreign technology. In strengthening this service, KIET provides field liaison service by which field officers visit industries to help them identify their information requirements and solve them. To those who face technological problems, it also provides a union catalogue of foreign scientific journals.

With financial assistance from TA, KIET has been publishing and disseminating technical information bulletins for 1,250 domestic SMIs, and it also provides four series of its Current Awareness publications to 220 organizations in TECHNONET PO countries. It receives TECH BRIEFS and other publications of TA regularly in upgrading its Technical Information activity. Four officers have been trained in INFOTRACs. It publishes an array of periodicals on science and technology which contain technical information by type of industry, technical guides for SMIs and information on new products and technology which are all SMI development-oriented.

KIET's involvement in Industrial Extension and Entrepreneur Development is about 25% of its total work program. Its total strength of extension staff is 70, and the majority of them are located at the head office. Eleven officers have been trained in INDEXTRACs and four in STEWs. Of the total 19 TECHNONET-trained personnel, 13 remain in KIET.

In the area of Entrepreneur Development, the organization's basic involvement is in the identification/selection of entrepreneurs and providing them the financial and other support services to establish their enterprises. Since KIET's experience in EDP is rather recent, it hopes to enhance the training of ED officers and their exposure to outside programs through external assistance.

There are presently a total of about 32,450 SMIs in the country generating employment for more than 1,041,000 persons. The priority sectors identified for national development include all types of metalworking processes, electronic components manufacture, synthetic resin dyeing, and finishing of leather.

Completed/Ongoing TECHNONET-assisted projects

1. Publication of Technical Information Bulletins for Korean SMIs on Die-making (US\$15,000), 1982-83
2. Extension of KIET's Technical Services to TECHNONET countries- publication of 4 series of CAS bulletins (US\$10,764), 1982-83

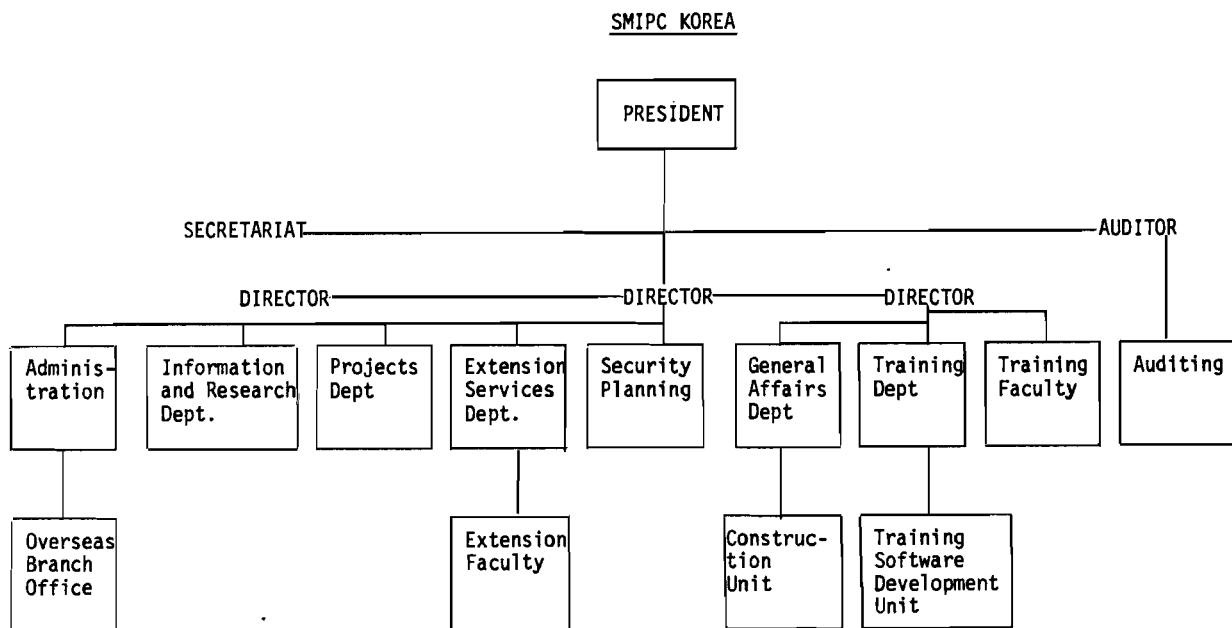
Proposed - none submitted.

3.5 Small and Medium Industry Promotion Corporation (SMIPC), Korea

SMIPC is one of the two national POs from Korea which joined the TECHNONET network in 1980. The organization itself is newly established - in 1979 - as a statutory agency to implement the various national policies for the development of SMIs, with special emphasis on:

- operation and management of the SMI Promotion Fund;
- supporting modernization of cooperative development programs;
- management and technical extension services and training activities;
- data processing, dissemination, research and development activities.

In line with the above laid down objectives, SMIPC's organizational arrangement is illustrated below.



The organization's present work program, in the development of the SMI sector, considers Entrepreneurship Development, Industrial Extension and Technical Information as priority activities. Facility modernization in SMIs, together with managerial rationalization and technical problems are certain key areas of extension work that SMIPC currently

concentrates on. Under this program the services offered are in the field of problem diagnostics, sectoral diagnosis, services by foreign specialists and field trips abroad for factory managers and technical specialists. SMIPC has a total of 58 extension officers: four have attended Regional INDEXTRACs while one has attended a STEW under TECHNINET sponsorship. Plans are underway to conduct Local INDEXTRACs for nearly 530 enterprises in 1983, and SMIPC requires external assistance in organizing these.

In the Technical Information activity, SMIPC collects and disseminates various data and information required by SMIs. For this purpose it operates a Data Room - for collection of small business related data and publications. One officer has attended INFOTRAC training and active measures are being taken to organize SMIPC's technical information activity. The following publications are currently issued by them:

- Major statistics of SMIs (annual)
- Journal of SMI Promotion (bi-monthly)
- SMI Technical Information Review (monthly)
- SMI Management Information Review (monthly)

Translation of technical material into the local language is also being undertaken as a priority activity by SMIPC.

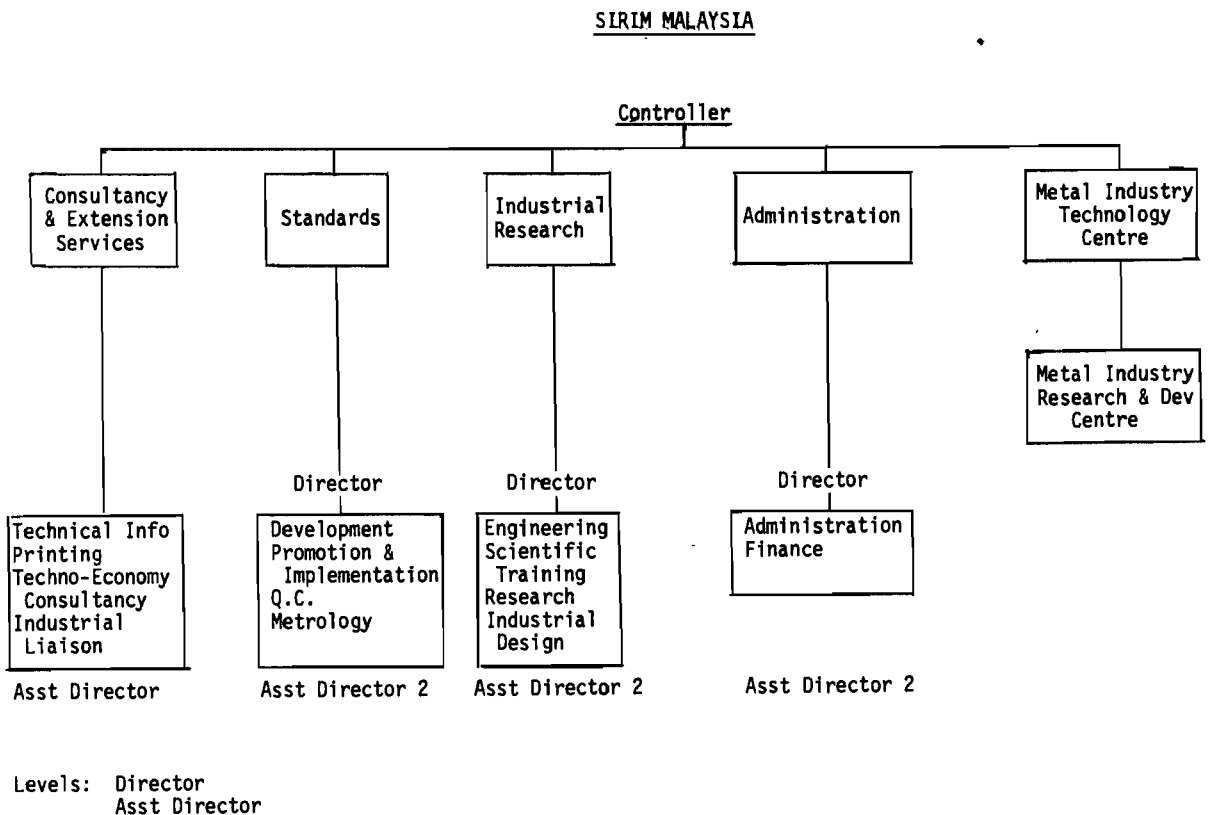
With a total of 31,466 SMIs generating almost 50% of the employment in the country, SMIPC has a key role to play in developing those ventures which are designated priority industrial subsectors by the Government. Aside from Industrial Extension and Information services, SMIPC also sponsors cooperative projects and equipment leasing projects in the development of the SMIs.

It is also linked up with the Small Business Promotion Corporation (Japan), International Small Business Congress, and World Assembly of Small and Medium Enterprises in obtaining numerous facilities for SMI development. Action has already been initiated to establish a "Small Business Training Institute" for management training, scheduled to be in full operation in early 1984. Plans are also underway to merge the Korean Production Technology Corporation, which is a Government financed corporation, as part of SMIPC in the near future, to enhance its SMI related activities.

SMIPC has not availed of any grants/special assistance from TA so far. All six officers who have received TECHNINET training are still there.

3.6 Standards and Industrial Research Institute of Malaysia (SIRIM)

SIRIM, which was termed NISIR originally, was one of the first batch of participants who joined TECHNONET ASIA in 1973. SIRIM's organizational chart as represented here consists of four main divisions: consultancy and extension services; standards; industrial research; in addition to a metal industry technology centre. Basically a standards and industrial research institute, SIRIM has been quite active in the development of small and medium industry through its laboratories, equipment and extension services. Industrial extension, technical information and methodologies are considered high priority program activities, and SIRIM recognizes TECHNONET's assistance as useful in upgrading its extension and technical information services.



SIRIM's Technical Information activity is active and strongly-based. It publishes 8 journals including current awareness bulletins. Currently there are 240 subscribing members who receive the above publications. A total of 2,634 technical enquiries is recorded to have been handled during the year, of which 70% has been handled locally (10% with assistance from other POs and 5% through TECHNONET

Centre). TECHNONET has also assisted SIRIM with technical journals and publications in the early stages of setting up its TIS. Five officers have attended INFOTRACs.

In the field of Industrial Extension, the number directly involved in extension work is 15, but the entire graduate staff of SIRIM totalling 175, are in one way or another destined to provide support services to industrial extension. Thirteen extension officers have availed of TECHNONET-sponsored regional INDEXTRACs and plans are underway to conduct a local and a regional INDEXTRAC during the next two years to train at least 60 officers. TECHNONET assistance is expected in the obtaining of resource persons and finance. Out of the 31 officers trained in TECHNONET courses, 27 remain in SIRIM's services.

With approximately 250,000 units of SMIs in the country generating employment for more than 548,000 persons, the following fields in the SMI sector are identified as priority development areas in Malaysia:

1. Metalworking and Light Engineering
2. Building Materials
3. Ceramics and Glass
4. Plastics

In the development of the above sub-sectors, SIRIM has introduced technology demonstration and selective information dissemination as key instruments, in addition to industrial extension. SIRIM's Metal Industry Technology Centre (MITEC) is an example of the type of facility that it could offer to the metalworking units throughout the country through the medium of demonstration and attachment training.

A summary of the special grants/assistance received by SIRIM from TA is given hereunder. It has also proposed the purchase of hardware equipment for information storage, for which a decision is still pending.

Completed

1. Strengthening of Industrial Extension and Liaison Unit
(C\$3,000), 1973-75

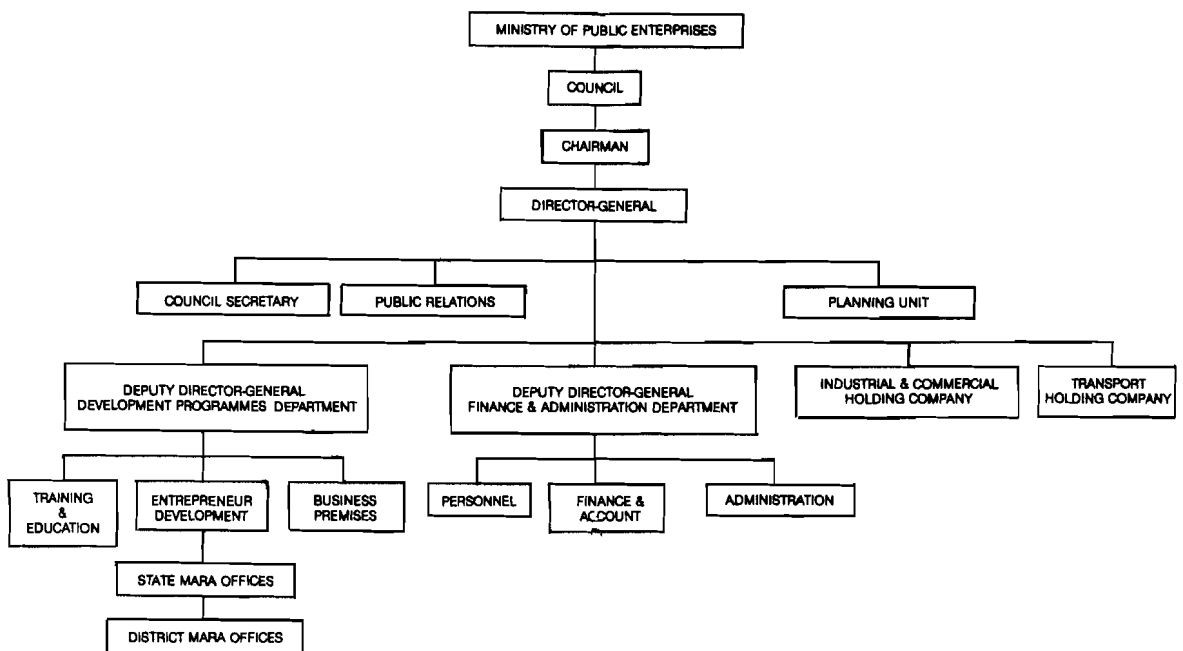
Proposed

1. Purchase of hardware equipment for MINISIS System (excluding costs of MINISIS software provided by IDRC) (US\$120,000).

3.7 Majlis Amanah Rakyat (MARA) -
Council of Trust for Indigenous People, Malaysia

MARA joined TECHNONET in 1973 and continues to be an active PO in the network. It is a statutory body vested with the objective of developing entrepreneurship among the "Bumiputras" (indigenous people) so as to effectively contribute towards the creation of a strong and viable business community among them. It is also responsible for establishing policies, plans and programs consistent with national objectives.

MARA is organized into two departments: Development Programs Department and Finance and Administration Department. The former, headed by a Deputy Director-General, carries out programs related to Training and Education, Entrepreneur Development, Business Premises Development and Investments. MARA has 13 regional offices, one in each state, headed by a State MARA Officer.



In terms of program activities, MARA emphasizes Entrepreneur Development and Industrial Extension as the priority areas in carrying out its formidable task of creating, developing and upgrading Bumiputra entrepreneurs to becoming a viable business community. Under this program small and medium size businesses are identified for development -

providing advisory and extension services and finance until they are found feasible and commercially viable. MARA also provides special courses for existing and potential entrepreneurs in the management aspects of their enterprises, followed up with extension services to ensure that the advice is gainfully utilized. Provision of factory/workshop and common services facility centres are certain other instruments employed to develop SMIs scattered in the country.

MARA publishes two pamphlets - "MARANIAGA" and Business Profiles and an Information Guide Booklet, providing technical information to industry. The number of local enquiries handled this year was as high as 5,600. TECHNONET has made available a microfiche reader to MARA in 1976 and funded the translation of technical bulletins from SISIR to the Malay language. Four officers have been trained in INFOTRACs.

In the sphere of Industrial Extension, MARA's current strength is approximately 332 officers. Of these approximately 81 have been trained at local INDEXTRACs and 20 at regional INDEXTRACs and STEWs. In order to effectively carry out its Industrial Extension activity which is 40% of the organization's total work program, MARA plans to conduct nearly 500 local training courses for small scale entrepreneurs during the years 1983/84. In the conducting of these courses MARA's requirement is for resource persons, local case study development and potential financial assistance. It is self-supporting in other aspects. Out of 25 TECHNONET-trained officers, 21 are still in MARA's services.

In consideration of the thrust placed on Entrepreneurship Development, MARA has developed and launched as many as 106 programs since 1979 and trained 2,631 trainers. The rating of success in the creation of new entrepreneurs and developing and upgrading existing ones is in the order of 31% and 17% respectively.

Summary of TECHNONET special assistance:

Completed/Ongoing

1. MARA/DP project to translate and exchange appropriate technology information for small-scale industries (C\$3,000), 1977-79

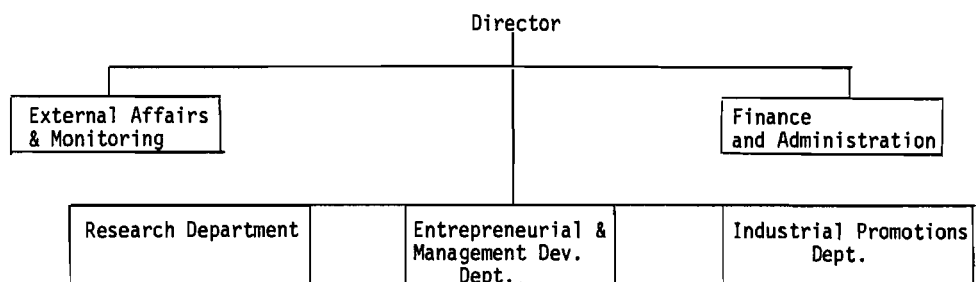
2. Training Entrepreneurs Program for Industrial Extension Officers (M\$33,825), 1981
3. Training Program for Marketing Officers (US\$7,000), 1982

Proposed

1. Training of EDP Trainers Program (US\$7,000)
2. Training of Extension Officers Program (US\$7,000)

3.8 Institute for Small-Scale Industries,
University of the Philippines (UPISSI), Philippines

UPISSI was established in 1966 consequent to a joint agreement between the Philippines and Netherlands Governments - and it represents one of the POs of TA in the Philippines. Its major effort in developing the SMIs is through manpower training. Presently it is recognized as the national training institute for SMI development within the country and among the developing countries. As the organization chart illustrates, its several training specialists design and develop training courses in the field of small and medium industry development, particularly in the areas of Industrial Extension, Entrepreneur Development and Management of Business Enterprises.



Level 1	Specialist level	- Training Specialists	11
		- Management Specialists	5
	Associate level	- Training Associates	4
		- Research Associates	6
2	Senior Assistants	- Sr Research Assistants	6
		- Sr Training Assistants	3
3	Assistants	- Training Assistants	7
		- Research Assistants	15
		- Research Aides	3
		- Librarian	1

Aside from ISSI's institutional work program of developing SMIs, it has assisted TA to a considerable degree in conducting several regional training courses on industrial extension. Prior to ISSI's involvement, these courses were conducted by the SIET Institute, Hyderabad, for TA. Since 1976 ISSI has conducted 7 Regional INDEXTRACs in Manila (one each year), attended by a total of 150 extension officers from the 14 POs. Additionally, ISSI has also supplied many resource persons to PO countries in the conducting of INDEXTRACs (Regional and Local), ED training, trainers' training, INFOTRACs and technical workshops.

The Institute's current work program reflects Entrepreneur Development and Methodologies of Developing SMIs as the key priorities. It has conducted 25 ED programs attended by 500 entrepreneurs during the period 1973-79 and 30% of the Institute's thrust is said to be devoted to this activity. ISSI has contributed its resources in the editing of the TECHNUNET-sponsored Entrepreneurs' Handbook and Trainers' Manual for the use of POs.

ISSI runs a CAS and Enquiry Service as part of its Technical Information activity and publishes a Small Industry Journal and Small Business Guide series for use of SMIs. In the upgrading of this activity, 6 persons have received INFOTRAC training, and TECHNUNET has provided for the purchase of technical books and periodicals. Compilation and publishing a Directory of National Sources of Information on Small-Scale Industry was also undertaken with TECHNUNET assistance.

Industrial extension, although less than 20% of the Institute's overall commitment at present, is carried out by 7 extension officers. Fifteen officers have been trained in Regional INDEXTRACs and five in STEWs. Of the total 29 officers trained in all TECHNUNET regional courses, 17 remain in ISSI's services.

ISSI is linked with UNDP, ILO, SIDA, RVB and ADIPA in obtaining assistance for the promotion of SMIs, to train Institute personnel and offering fellowships to other POs to attend ISSI-sponsored training.

Completed/Ongoing Grants/Special Assistance

1. STARS on shoemaking, wood furniture, foundry, garment, sheet-metal, electroplating, food processing, ceramics, coir processing, plastics (C\$6,000), 1973-78
2. Audiovisual equipment for training (C\$1,000), 1975
3. Purchase of technical books and periodicals (C\$1,500)
4. Compile and publish Directory of National Sources of Information on Small-Scale Industries (C\$7,250), 1977-79
5. Setting up Appropriate Technology Desk (C\$28,450), 1981-82
6. Establishing Appropriate Technology Unit (US\$17,000), 1982-83

Proposed

1. Develop and publish textbook on entrepreneurship for Filipino High School students (US\$25,000), 12 months

3.9 Economic Development Foundation (EDF), Philippines

EDF is one of the two national POs of TECHNONET from the Philippines. It joined TA in 1973 along with UPISSI and is the only non-government organization in the entire network. Its status is a private, non-stock corporation basically to provide management consultancy, economic research, training and related professional services to industry and business ventures. EDF's role in the promotion and development of SMIs is basically to compliment and supplement the national program and pioneer those activities where policies, systems and procedures will contribute to the overall efficiency and effectiveness of various programs.

EDF has carried out a number of TIES (technical information and extension service) projects which have been documented for the use of the other POs, and "manuals" for validation according to regional requirements. A notable achievement in this connection is the "Manual on Industrial Extension (the Philippine Experience)" - a handbook for extension workers of the Asia-Pacific.

Elaborating on the organization's current work program, EDF's priority activities are in the order of Methodology Adaptations, Transfer of Technology, Industrial Extension and Technical Information. In undertaking extension work for the promotion and development of small industry, EDF feels that alternative approaches to the conventional thinking should be encouraged. The thrust of its extension and information related activities are to train Small Business Advisory Center (SBAC) officers, technology transfer with TECHNONET POs, and publication of "Trends in Technology" directing to certain specific industry needs, possible commercialization of a limited number of technologies of adaptation and assistance.

EDF's involvement in information dissemination is directed towards technology demonstration and transfer. Two officers have attended INFOTRACs, and the Foundation publishes two bulletins - "Trends in Technology" and "EDF Notebook" (bimonthly) as a management digest for the business investor.

The number of extension officers in EDF amounts to 80, of which approximately 50% have more than five years experience. EDF has not availed of INDEXTRAC training since 1976 (I had attended a course at SIET) as all officers are considered professionally qualified for undertaking consultancy assignments.

"EDF's present work program and thrust include project development, rural institutional development, technology transfer, energy and environmental research and engineering, and export trade development" - quoted from "EDF Notebook", No. 3 - 1982.

A summary of grants/special assistance provided to EDF is given below.

Completed/Ongoing

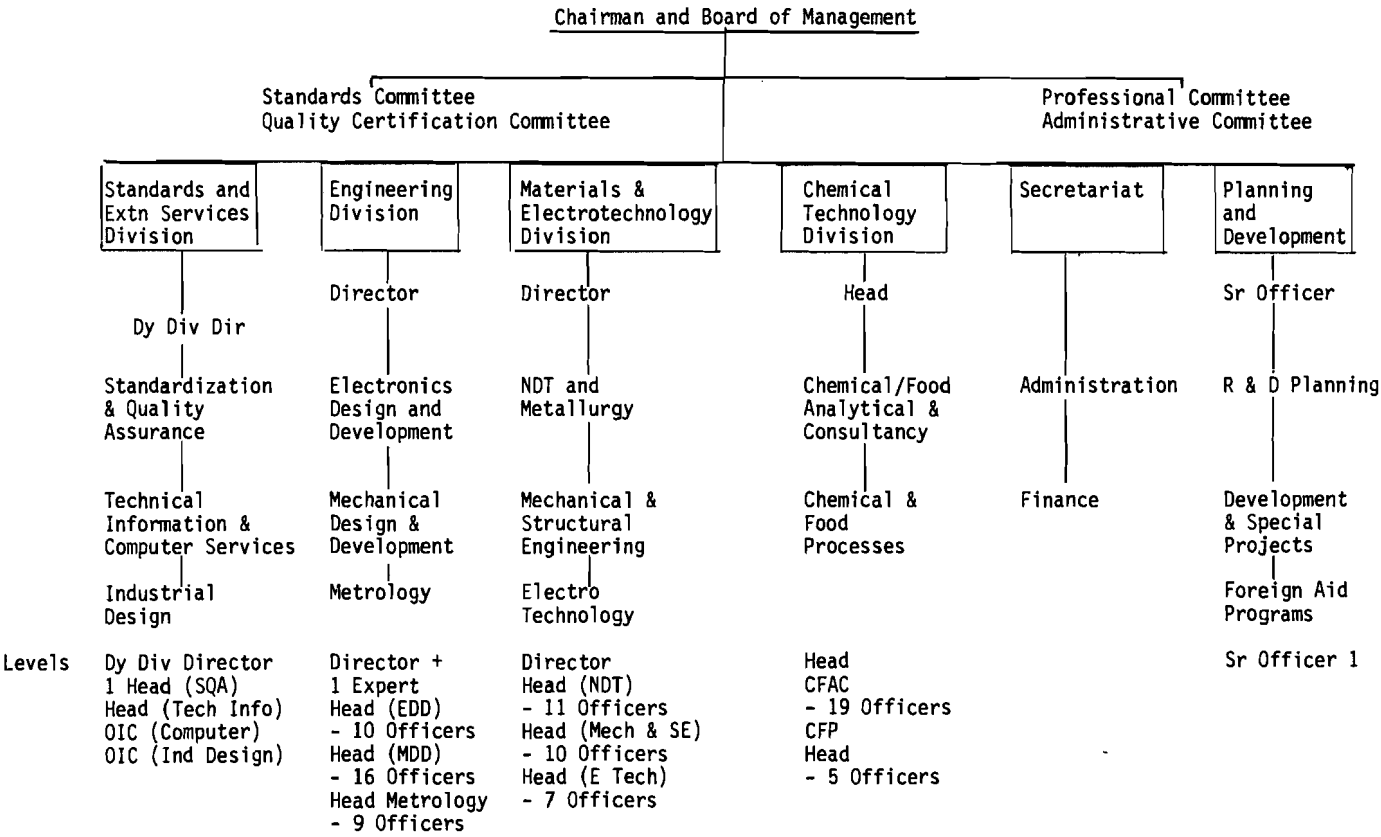
1. Support of its Technical Information and Extension Service (TIES), (C\$10,000), 1975-76
2. Purchase technical books (C\$1,000), 1976-77
3. Further develop TIES in 2 provinces (C\$20,000), 1976-78
4. Set up Technical Information Service for Small Entrepreneurs (C\$10,000), 1977-79
5. Produce Videotaped Documentation of Industrial Extension Cases (C\$4,000), 1978
6. Sharing of Technology with SISIR (C\$24,300), 1979-80
7. Design and Manualization of an Evaluation System for SMI Extension Services - the Philippine Context (C\$29,300), 1980-81
8. Study Approaches to making Extension Services Self-Liquidating (US\$19,600), 1981-82
9. Design of Energy Conservation Program for Small Industries (US\$8,000), 1982

Proposed

1. Survey of the Filipino Manager: his performance and the characteristics or factors that affect such performance (US\$24,100)

3.10 Singapore Institute of Standards and Industrial Research (SISIR)

SISIR, the national PO from Singapore, was one of those who pioneered the establishment of TECHNONET in the early days. SISIR's current role is to continuously promote the skill-intensive and higher technology industries and the upgrading of standardization, quality assurance, information services to meet Singapore's industry needs. As illustrated in the organization chart, the operations of the Institute are undertaken by six Divisions for the following programs: Industrial Standards, Quality Assurance, Metrology, Industrial Services, Industrial Research and Development, Training, and Technical Information. Of these, Industrial Services, Training and Technical Information activities are TECHNONET-related, and which are also considered high priority areas of the Institute.



SISIR is actively involved in technical information as it is the Institute's plan to provide up-to-date technological information and state-of-the-art searches. It has also installed an on-line

terminal for fast retrieval of information from overseas data bases, with special assistance from TECHNONET. Additionally, SISIR is also active in its CAS, Enquiry Service, Library and Document Procurement Service. Many POs are in receipt of SISIR's technical information services on a regular basis. The Division has handled a total of 104 technical enquiries this year and 2 persons have attended INFOTRACs.

Although SISIR's key role is on standards, industrial extension remains the priority concern of the entire institution. It has 128 extension officers, 50% of whom are at senior level; 7 have attended Regional INDEXTRACs while 3 have attended STEWs on Foundry and Heat Treatment of Metals. With a total of about 2,625 SMIs in the country, SISIR's emphasis is now on industrial R & D, product and process design and development.

Of the 12 officers who have received TECHNONET-sponsored regional training, 6 are still with SISIR.

A summary of the grants/special assistance provided to SISIR is as follows.

Completed/Ongoing

1. Computerization of Information System and Provide Computer Facilities to POs (C\$34,000), 1974-77
2. Expand SISIR's CAS to Working Level and Develop Union List of Scientific & Technical Periodicals (C\$16,000), 1976-78
3. Upgrading TIS with Online Information Retrieval System and Audiovisual Presentations (C\$23,800) 1980-81
4. Sharing of Technology with EDF (C\$3,890), 1979-80
5. Develop Plastics Information Program (C\$11,300), 1980-81
6. Develop Patent Information Service (C\$5,600), 1980-81
7. Set up Resource Centre for Heat and Surface Treatment of Metals (S\$30,000), 1981-83

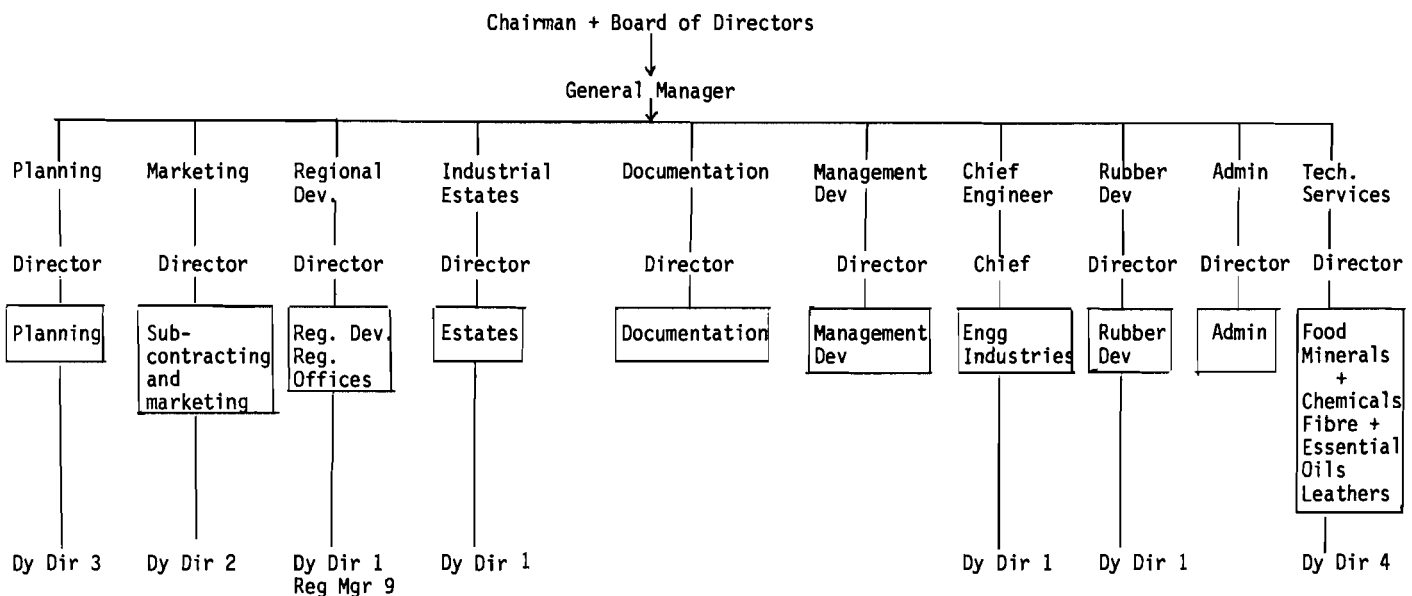
Proposed

1. Develop Centre for Investment Castings Technology for SMIs in Singapore (US\$14,000)
2. Upgrading Concrete Technology and QC Practice in Singapore Building Construction Industry (US\$16,000)

3.11 Industrial Development Board of Sri Lanka (IDB)

IDB, which is a statutory body set up under the Ministry of Industry and Scientific Affairs for the promotion and development of SMIs, joined TECHNONET in 1975.

As the organization chart reveals, its current status is to carry out through various instruments and fields of activity, the promotion and development of SMIs in the country.



- Level 1 - Directors/Chief Engineer
2 - Deputy Directors/Engineers/Regional Managers/Statistician
3 - Industrial Extn Officers/Development Officers

The principal focus of IDB's activity reflected in the organization chart above is on Industrial Extension, Entrepreneur Development and Methodologies of Developing SMIs. The constitution of the organization's main Divisions is to help achieve these objectives both from its Head Office and through the Regional Extension Officers. The Divisions that are actively involved in the Industrial Extension and Entrepreneur Development connected activities are Management Development, Technical Services, Regional Development and Engineering Services. The Documentation Division supplies technical information to industry whilst the Planning and Marketing Divisions are involved in policy framework and marketing intelligence functions respectively.

Industry support services are provided through the Industrial Estates Division and the Rubber Products Development Division. The latter undertakes special studies and projects and provides common services to rubber products manufacturers from a technical standpoint.

IDB considers Industrial Extension as an important instrument in developing the SMIs. Its current strength of extension staff is 134, half of whom are attached to the Regional offices of IDB. It has conducted 5 Local INDEXTRACs attended by 113 officers, one Regional INDEXTRAC and one STEW. A total of 34 officers have attended the Regional INDEXTRACs and STEWs. Plans are underway to conduct 3 more INDEXTRACs during the next two years; two locally and one Regional, earmarking the training of 60 more officers. TECHNONET assistance by way of funds and resource persons have been availed of in conducting these training courses.

Entrepreneurship Development is also focussed as an important activity arising from the Industrial Extension function. IDB is actively involved in identification and formulation of projects for entrepreneurs and providing such other services necessary to set up these ventures. Assistance from TA and POs who possess ED capabilities is expected to further develop IDB's ED programs.

The Technical Information activity of IDB is carried out by the Documentation Division which, besides providing a technical enquiry service, publishes the following literature:

- Current Awareness Service (membership of 500)
- Documentation Bulletins
- Subject Bibliographies
- Reading Lists
- KARMANTHA (Journal of IDB)
- Information Packages.

Five officers have received INFOTRAC training, and TECHNONET has assisted IDB with the provision of a photocopier, microfiche reader/printer and funds to conduct a training program for local information officers in enhancing the Technical Information activity.

With a total of about 40,000 (listed) SMIs in the country which generate employment for over 200,000 persons, IDB's involvement in this sector assumes many forms. Aside from the extension activity, it is also involved in tariff policy formulation for protection of SMIs, preparation of district industry profiles, conducting of industry tracking surveys and promotion of sub-contracting opportunities to the SMI sector.

IDB is also linked up with UNIDO, UNICEF, APO, RVB (Netherlands), German Foundation of International Development, JICA and IDA for their assistance in developing SMIs in the country.

A summary of grants/special assistance IDB has availed of from TECHNUNET is given below:

Completed/Ongoing

1. Purchase of equipment to upgrade foundry (C\$15,000), 1977-78
2. Purchase of audiovisual aids to upgrade auditorium for training and demonstration purposes (US\$10,600), 1982
3. Training Program for Industrial Information Officers - "Mechanism of Transfer of Information to Industry" (US\$2,000), 1982

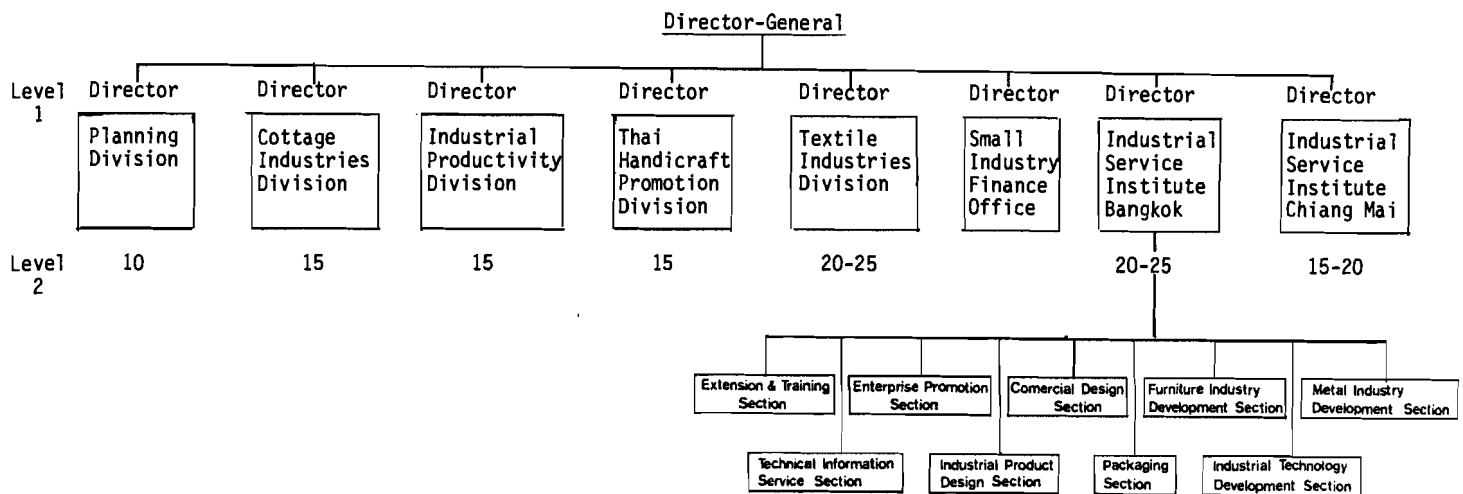
Proposed

1. Workshop on "How to Manage a Small Industry" (US\$10,500), 21 days
2. Workshop on "Process Techniques in the Manufacture of Rubber Products" (US\$1,360), 6 days
3. Survey of Investment Opportunities in Selected Industrial Sectors in Sri Lanka (US\$6,650), 6 months
4. Establish joint export marketing groups to facilitate enquiries of SMIs in Sri Lanka (US\$100,000), 12 months

Out of a total of 39 officers trained under TECHNUNET sponsorship, 26 remain in IDB's services.

3.12 Department of Industrial Promotion (DIP), Thailand

DIP, which is under the jurisdiction of the Ministry of Industry, Thailand joined TECHNONET in 1973. It promotes and assists the development of industries, and also promotes industry in the rural areas. DIP consists of several Divisions, each headed by a Director. The Divisions most actively and directly dealing with the development of small and medium industry are the Industrial Service Institutes of Bangkok and Chiang Mai which are directly linked up with TECHNONET activities.



DIP places its major thrust and involvement in the development of SMIs on Industrial Extension, Technical Information and Entrepreneur Development activities. Industrial extension occupies 60% of its total work program, and currently a total of 200 extension officers are attached to the ISIs of Bangkok and Chiang Mai. Continuous efforts are being made to train and upgrade the capabilities of the extension officers through INDEXTRACs jointly sponsored by DIP and TECHNONET. A total of 140 officers have been trained in 6 Local INDEXTRACs while the numbers who attended Regional INDEXTRACs and STEWs are 18 and 10 respectively. DIP has also been the venue for two STEWs on Foundry and Wood Furniture. DIP has developed its own resource capabilities in conducting training in the local language.

In the field of technical information, TECHNONET has assisted DIP in setting up a CAS, purchase of journals and books, translation of technical information to the local language and purchase of hardware. Additionally, 5 officers have attended INFOTRACs. There are 3 publications that furnishes technical information to industry, namely "CAS" (monthly), "Industry Extension Journal"(bimonthly) and Technical Information Booklets. DIP receives technical information from HKPC, IDB, ISSI, KIET, SISIR and SIRIM, but its own publications are of limited use to the other POs, being in the local language.

DIP has conducted four EDPs since 1980 in the provinces; nearly 180 have been trained in these. Since 10% of DIP's involvement is in EDPs, it seeks to upgrade its training activity with the assistance of other POs' resources.

SMIs occupy a very high priority for development in Thailand. A total of 60,000 SMIs are recorded to be in existence and a substantial number of these (6,000) avail of DIP's extension services. The priority sectors identified for development are the agro-based and engineering (metalworking) industries. DIP receives assistance from APO, JICA, UNIDO and ZALAS for its numerous projects in the development of SMIs.

TECHNONET has trained a total of 39 DIP officers in its regionally-organized courses, and all remain in DIP's services with the exception of two.

A summary of grants/special assistance from TECHNONET is given below.

Completed/Ongoing

1. Initial support to strengthen extension activities for SMIs (C\$6,400), 1973-75
2. Purchase technical books and periodicals (C\$500), 1976-78
3. Start up of Technical Information Service (C\$300), 1976-77
4. Study visit of EDP staff to Malaysia/Indonesia (US\$3,530), 1982
5. Translation of technical articles (US\$2,000), 1982-83

Proposed

1. Conduct two Local EDP Training Courses (US\$7,200), 50 man-days
2. Conduct three local STEWs on Foundry, Ceramics, Heat Treatment of Steel (US\$8,000), 9 weeks
3. Establishment of an Information Centre on Metalworking Industries (US\$4,000), 5 years

3.13 Summary

An attempt has been made in the following tables to summarize the highlights of TECHNONET program features and activities, as extracted from the questionnaires responded to by the POs.

These program features and activities are:

- PO Program Priorities;
- Technical Information Activities of the POs, as catered for by the TECHNONET program;
- Industrial Extension and Entrepreneurship Development programs of the POs;
- Ranking of usefulness of some main TECHNONET activities;
- Current status of the SMI sector in each PO country.

A summary of the financial assistance given to POs to undertake special projects, in the form of grants, is also shown on page 76. This type of assistance is separate from the regular training program sponsorships.

With the foregoing short write-ups on the individual POs, and the tables in the following pages, it is hoped to provide a picture of the POs of TECHNONET - their organizational structures and main activities as related to TECHNONET.

It is to be noted that in this evaluation, FNTC Fiji and ISC Nepal have not been included, considering that they only joined TECHNONET very recently and an evaluation at this time seemed premature.

TECHNONET ACTIVITY SUMMARY BY POs

Table 5

A C T I V I T Y		BSCIC	HKPC	DP/BIPIK	KIET	SMIPC	SIRIM	MARA	UPISSI	EDF	SISIR	IDB	DIP
<u>PROGRAM PRIORITIES</u>													
TIS - Technical Information Service	1	IES	M	IES	TIS	EDP	IES	EDP	EDP	M	IES	IES	IES
IES - Industrial Extension Service	2	TIS	TSH	EDP	M	IES	TIS	IES	M	TSH	M	EDP	TIS
EDP - Entrepreneurship Development Program	3	M	TIS	TIS	IES	TIS	M	M	TIS	IES	TIS	M	EDP
TSH - Technology Sharing	4	EDP	IES	TSH	TSH	TSH	EDP	TIS	IES	TIS	TSH	TIS	TSH
M - Methodologies	5	TSH	EDP	M	EDP	M	TSH	TSH	-	EDP	EDP	TSH	M
<u>TECHNICAL INFORMATION</u> (X = PO availed of activity from TECHNONET)													
- Networking		X	X	X	X	-	-	X	X	X	-	X	X
- Current Awareness Service		X	X	X	-	-	X	X	X	-	X	X	X
- On-line Information Retrieval		X	X	-	-	-	-	-	-	-	X	-	-
- Technical Enquiry Service		X	X	X	-	-	X	X	X	-	X	X	X
- INFOTRACs		X	X	X	X	X	X	X	X	X	X	X	X
- Development of Information System		X	X	X	X	X	-	X	-	-	X	-	X
- Publications		-	X	X	X	X	X	X	X	-	-	-	X
<u>INDUSTRIAL EXTENSION</u> - % of total work program		<40%	<20%	<20%	<20%	<20%	20%	<40%	<20%	<80%	100%	100%	<60%
<u>ENTREPRENEURSHIP DEVELOPMENT</u> - % of total work program		20%	0	60%	5%	18.5%	0	60%	3%	10%	0	100%	10%
- Strength of Extension Staff: total		400	-	1758	70	58	15	332	9	80	128	134	205
- Senior (5 years and more)		305	-	261	20	2	5	40	6	30	60	37	82
- Less than 5 years		95	-	1497	50	56	10	292	3	50	68	97	123

TECHNONET ACTIVITY SUMMARY BY POS

Table 5 (cont'd)

A C T I V I T Y	BSCIC	HKPC	DP/BIPIK	KIET	SMIPC	SIRIM	MARA	UPISSI	EDF	SISIR	IDB	DIP
INDEXTRACs planned:												
- 1983 - Local	1	-	20	-	530*	1	250*	-	-	-	2	-
- Regional	-	-	-	-	-	-	-	-	-	-	-	-
- No. of Trainees	30	-	600	-	530*	35	8,000	-	-	-	40	-
- 1984 - Local	1	-	-	-	-	-	260*	-	-	-	-	2
- Regional	-	-	-	-	-	1	-	-	-	-	1	-
- No. of Trainees	30	-	-	-	-	25	8,500	-	-	-	20	50
*refers to No. of enterprises for training												
TECHNONET ACTIVITIES - RANKING OF USEFULNESS by POS												
- Technical Information Activities	2	-	6	1	2	3	11	3	-	1	3	1
- Training of Industrial Extension Officers	1	-	1	7	1	1	2	-	-	3	1	7
- EDP Workshops	3	-	2	10	6	-	1	2	-	-	-	2
- Networking Arrangements	6	-	10	6	5	2	10	1	4	4	8	9
- Provision of Equipment/Materials	4	-	9	4	-	-	9	-	-	5	2	6
- Po Personnel Exchange	8	X	5	8	-	-	4	4	3	-	7	4
- Joint Research Surveys/Programs	9	-	3	5	-	-	3	-	-	-	4	10
- Funds to set up Services	5	X	4	2	-	-	8	6	1	2	-	3
- Council Meetings/AGMs	10	X	11	11	3	-	7	5	2	-	6	8
- Newsletter/Digest	7	-	7	3	4	5	6	-	-	-	8	11
- TECHNONET Centre as administrative arm for exchange/interchange of PO requirements	11	X	8	9	7	4	5	7	-	-	5	5

CURRENT STATUS OF SMI SECTOR IN PO COUNTRIES*

Table 6

Country	No. of SMIs	Employment Generated	SMI Priority Sectors Identified for Development
BANGLADESH	30,000 (small industries only)	400,000	Agro industries; Engineering (Light); Textiles manufacture; Chemical industries; Leather products
HONG KONG	40,000	450,000 50% of mfg. pop.	Electronics; Metals; Environmental Control
INDONESIA	2.5 m (only cottage & small ind.)	almost 70%	Local raw material-based ind.; Labour intensive industries; Export-oriented industries; Potential for subcontracting
KOREA	32,459	1,041,000 or 49.4%	Metal working processes; Electrical components mfg.; Synthetic resin; Dyeing; Leather Finishing
MALAYSIA	250,000 (33,000 Bumiputra)	548,000	Metalworking and Light Engineering; Building Materials; Ceramics and Glass; Plastics
PHILIPPINES	Details	not	available
SINGAPORE	2,625	141,667	Supporting Industries
SRI LANKA	30,000	238,698	Consumer products mfg; Rubber-based industries; Building materials; Light Engineering Ind.
THAILAND	60,000	-	Agro-based industries Engineering (metalworking)

*based on information provided by POs

SUMMARY OF TECHNOnET GRANTS/SPECIAL ASSISTANCE TO POs

Table 7

Country	PO	TIS US\$	IE & Skills Training US\$	Other US\$	Total US\$
Bhutan	BSCIC	2,360	9,365	-	11,725
Hong Kong	HKPC	43,620	-	-	43,620
Indonesia	DP/BIPIK	2,400	-	-	2,400
Korea	KIET	25,764	-	-	25,764
	SMIPC	-	-	-	
Malaysia	SIRIM	-	2,400	-	28,712
	MARA	2,400	23,912	-	
Philippines	UPISSI	11,800	800	39,760	158,640
	EDF	32,800	46,040	27,440	
Singapore	SISIR	87,650	-	3,112	90,672
Sri Lanka	IDB	2,000	10,600	12,000	24,600
Thailand	DIP	2,640	8,650	-	11,290
Nepal	ISC	-	19,120	-	19,120
Fiji	FNTC	-	11,323	-	11,323
TOTAL US\$		213,434	132,210	82,312	427,866

Note: Above figures do not include assistance given under regular training programs.

Please refer to individual PO write-ups under Chapter 3 for details of each grant/special assistance.

4. COMMENTS AND RECOMMENDATIONS

The majority of the respondents during interviews both in Canada and in the Region itself gave positive comments as far as the activities, achievements and impacts of TECHNOnet ASIA are concerned. Yet, there were a number of remarks and suggestions which, added to certain observations of the evaluators themselves, deserve recording in order to improve the effectiveness of TA's future operations.

These items that are worthy of recording in the opinion of the evaluators are the following:

- 4.1 TA provides a valuable Forum for member organizations dealing with SMI development in the Region. Yet, this Forum could be utilized more to devise strategies for both SMI development in general and TA's activities in this regard in particular.
TCentre should take a more active role in strategy formulation and monitoring its later implementation.
- 4.2 In most of the member countries, the POs of TA are not the only organizations dealing with SMI development. TA should - through its POs, or through direct contacts with Governments - make an effort to coordinate its own activities with those of other SMI-oriented organizations.
- 4.3 The POs of TA are a highly diverse group of organizations. These diversities demonstrate themselves in program priorities, levels of development, even ideology. The work program of TCentre should be developed as a compromise without highlighting these diversities, catering, perhaps with different program elements for PO groups with certain affinities.

- 4.4 During earlier stages of the project high emphasis was placed on the professionalization of the extension discipline. This emphasis has lately drifted away from TCentre and the POs, who were to take over the task, have yet to do so, with, perhaps a few exceptions. This emphasis should be re-activated through TCentre. One effective way of doing this could be through a project, developing curricula for diploma courses in extension work for the universities in those countries where such programs do not exist yet. This way, extension officers would be trained in much higher numbers, the cost of their training would be much lower, the acknowledgement they would receive would be much higher, giving them better rewards and incentives to stay on the job.
- 4.5 It is an obvious fact that TCentre, as the administrative focal point of TA is still as crucial for the operations of the entire network, as it was from the very beginning. Virtually all activities, contacts among POs are taking place through the Centre, which is essential for the operation of the network. This fact, which has been inherited from the early days of the network when TA was the primary foreign influence in the SMI sector, should be used to give directions, set standards, if necessary using expertise from Canada, underlining Canada's contributions by consolidating the achievements of the past, now that the POs are also attracted by other, larger, donors.
- 4.6 At the same time, the POs, who still look at TA as just another donor agency, disregarding the fact that they themselves are now part of it, should be more conscious of this fact and besides being more alert to costs-benefits, they should also contribute more to the efforts of the network. TCentre should make a determined effort in this direction.

- 4.7 One of the difficulties found by the evaluators during their work was the lack of definitions for the individual activities of TA, even for the various bodies acting on behalf of the organization. An acronym like "Regional INDEXTRAC" is not sufficient, it should be precisely defined what it means, what pre-qualifications candidates would have to satisfy to be admitted, etc. TCentre and TCouncil should take action to streamline these activities, establish definitions, set standards, making later monitoring easier (and in some cases possible).
- 4.8 The fact that almost the entire information function has been passed from TCentre to the POs seems to the evaluators as of questionable merit. In many POs there is still need for inputs in this field and NRC's contributions are still considered highly desirable. The regular microfiche supplies should be maintained for those POs who request it and TCentre should be strengthened by a qualified information expert, possibly from Canada, to handle technical enquiries, as this capability is presently missing from TCentre.
- 4.9 The long-term planning and projections/commitments of the POs should be coordinated with those of TCentre (if possible, for 3 years ahead). POs should also inform TCentre about government priorities in their SMI sector, policy papers, country programs, etc. Through these means models could be developed and tried using integrated approaches in several POs, where priorities and similarities of circumstance warrant it. TCentre could act as a catalyst in these matters.
- 4.10 One of the principal attractions of TA for its POs is the fact that it is easier for them to deal with TCentre direct, avoiding a considerable amount of bureaucratic channeling within their own govern-

mental hierarchy. This advantage of TA could be - and should be - better utilized both by TCentre and the POs.

- 4.11 The question of self-reliance has been a recurring problem of TA since its early years. It may sound controversial but in order to become self-reliant, TCentre has to be strengthened and further developed, using additional core-funding to the amount presently requested. It needs a senior person (perhaps as deputy to the Executive Director) to deal with fund-raising, packaging the product, writing program and project proposals and - with active cooperation from the POs - prepare and regularly update a register of marketable experience/expertise within the network. In Donor-Centre contacts it will be the efficiency and responsiveness of the Centre that will be judged first and TCentre has to be strong enough to satisfy expectations.
- 4.12 Fund raising should be principally program-oriented. There are many potential donors who would be pleased to fund TECHNONET projects if they are substantive enough and if presented properly, even in grant format. Selected projects should go beyond the traditional approaches of information and training. Use of demonstration plants in selected priority industries would be a logical step to follow and would be of substantial interest to many POs. These activities, if properly prepared and aggressively monitored, could lead later to widespread commercialization in the selected SMI sector.
- 4.13 Regular project monitoring is a necessity in all activities of TA and it would be also recommended for all POs. Without regular monitoring and periodic evaluation it is impossible to take corrective action when and where necessary, allowing many potentially valuable activities

to be wasted or be less effective than otherwise possible. This kind of monitoring would also ensure the proper use of industrial information provided by TA and its POs, where applicable.

- 4.14 TA and its Canadian sponsors would do well to realize that in many PO countries TA and its efforts are not promoted, neither as TECHNONET activities nor as Canadian-sponsored ones. At the same time, the "competition" (like Japan, USA, etc) creates a major promotional effort around every contribution they make. TECHNONET-sponsored activities should be promoted more aggressively, not only as TA-originated efforts but also for their Canadian character. They could be brought to the notice of the various Planning Ministries, registered with the individual External Resources Agencies as Canadian programs. These promotional efforts could be monitored by the CIDA representatives in the various countries.
- 4.15 One of the great achievements of TECHNONET is the large number of personal contacts it established among those officers of the POs who have travelled outside their countries to widen their experiences in the framework of the various TA-organized activities. These people have now personal, close working relationships, making themselves and their organizations household words in the other POs and PO countries. These contacts could be utilized by TA to promote its own objectives in the countries concerned, if and when needed. After ten years of operations many of these officers have risen through the ranks to higher positions in their POs, government or private business, and available as contact points for TA and each other.
- 4.16 TA should take a differential approach to the needs of its POs, emphasizing at the same time affinities when and wherever possible.

It is highly unlikely that any one TA project could be of interest to all the POs at the same time. Affinities of language, standards, technologies should be utilized to generate projects which are of interest to 2-3 or more POs at the same time to keep the networking spirit alive.

- 4.17 Training course contents should be constantly reviewed and modified, based on interest. Skills could also be developed in the private sector itself through direct participation of promising entrepreneurs, who would introduce the improved techniques learned in their own enterprises thus becoming new focal points of dissemination. These entrepreneurs in turn would have to commit themselves to undertake resource person assignments from TA in the future, in exchange for the training received.
- 4.18 TA should strive to develop itself into a Centre of Excellence in the SMI field providing guidance example and materials for other organizations in the field. This would make fund raising efforts also much easier.

5. CIDA INDUSTRIAL COOPERATION PROGRAM (CIDA/INC) in relation to
TECHNONET ASIA.

Considering that at the present stage the CIDA/INC program looks like one of the principal sponsors of TA's activities during the next three years, especially those of TECHNONET Centre, the evaluators put special emphasis on the potential of this program and TA's role in its promotion.

Their comments and recommendations are as follows:

Based on the experiences of the last three years, certain changes of approach and mechanism are necessary at both the Canadian and the Asian ends to make identification of promising potential partners possible, considering that the experiences of the past three years' experiment in this field were less than successful.

At the Canadian end, processing of joint venture proposals has to be speeded up. In this regard the registers of interested Canadian companies which will be compiled by CIDA with the help of the Canadian Chamber of Commerce, the Canadian Manufacturers' Association and the Canadian Export Association would probably go a long way in this direction and, hopefully, solve much of the problem at that end. Should, however, the register itself not provide a suitable answer immediately, CIDA could hire in promising cases a Canadian consultant with the suitable intimate knowledge of the sector concerned to locate the proper potential partner, using a personal approach aggressively and speedily, if available.

At the Asian end the screening of applications should be organized and speeded up. A more elaborate check-list than the present one

should be worked out, and a first screening could be, perhaps performed together by the IDO at the PO concerned and the CIDA officer located in the country itself, before passing on the proposal for further processing to Canada.

Among other parameters, the question of size should be given proper attention. It is recommended that in most countries the higher range medium size industries be considered as priority targets. Another possibility would be the grouping of several SMIs into either a cluster-type cooperative arrangement or a parent-daughters relationship between one larger company and a number of smaller ones on the basis of subcontracting. Finally, in some of the more developed PO countries sectors should be favoured where Canadian industry and expertise can favourably compare and compete with, say, American or Japanese competitors.

The POs should also be advised to cooperate with their own Chambers of Commerce and Manufacturers' Associations in their efforts to locate matching partners. In the opinion of the evaluators, it should also be made clear, both at the PO level and to the interested parties themselves, that this type of program is different from the usual aid-grant arrangements. The fact that assistance is given (also in financial terms) during the preparatory phases by CIDA/INC should not disguise in anybody's mind that - in the final analysis - the joint venture itself will have to be established between two independent enterprises on the basis of mutual agreement and the feasibility of the joint venture itself.

TA, with its long established contacts in the Region can do a lot to assist in this matter and according to the experiences of the evaluators there is also readiness at the PO level to contribute to the effort. In this regard, the person of the IDO is very important. He should be a senior officer with ample experience and contacts of his own, who can command the attention and respect of the entrepreneurs themselves and - as facilitator - of higher officials of his own Government and banking community.

There is no question, however, that the leadership in this field should come from the Canadian side. It is very likely that almost any Canadian enterprise willing to venture abroad could find a suitable partner in the TA Region. It would be also easier to locate partners here for Canadian companies who already have declared interest for joint venture type of cooperation than the other way around. This kind of an approach would also eliminate many of the disappointments of the last three years when - by casting the net wide in the TA Region without being properly equipped to process "the fish caught" - not only have no joint ventures materialized, but even replies were not forthcoming. A reply can be "no" without hurting Canada, or the program of CIDA/INC, but no reply at all creates a bad taste towards the program and the country which should be avoided at all costs.

One more thought should be added to the above: there is considerable competition from other developed nations in the joint venture field. Canada, as a relative newcomer should work aggressively, using its own field officers, the POs of TA and all and any means at its disposal, if she wishes to compete with well-established and sometimes lavishly funded competitors.

6. ASSESSMENTS AS PER TERMS OF REFERENCE

The task of the evaluators - similarly to that of TA - has been a highly complex one. During the decade of TA's operations many changes have taken place, within TA itself, its POs and the regional and global environment. Certain priorities of the early seventies have become less predominant in the eighties, certain objectives have become looked upon as towards further means within some POs, remained crucial needs for others. As a result, the following observations have to take on a certain general character, where - hopefully - all the bodies concerned will find answers to their concerns about the organization.

In their deliberations the evaluators followed the terms of reference of their contracts. Their assessments of the individual subjects they were study are as follows.

ad. a

As regards IDRC's original objectives formulated together with the founding POs, these have been generally achieved. Most of the respondents were complimentary and expressed satisfaction over both the achievements of TA and the initiatives taken by IDRC and NRC on the subject. The fact that there are today many other organizations in the field of SMI development, some of them with substantially larger budgets than TA, should not take away anything from the value of IDRC's contributions both in the spiritual and in the material sense.

- a.1 TECHNONET ASIA, as a network of participating organizations involved in SMI development has been functioning successfully

for more than ten years now. Through TECHNUNET Council it has provided a high-level forum for the needs of these organizations to get together regularly, exchange views, establish links and personal contacts, though actual networking seems to be on the decline.

- a.2 Information, resource persons to assist in each other's efforts, consultants, etc. have been exchanged in large numbers.
- a.3 TECHNUNET Centre in its role as coordinator has provided the focal point for all activities and linkages and the network's contributions to POs are still, almost without exception, channeled through the Centre which, in this role is indispensable for the functioning of the network.

It has to be mentioned at this point, however, that from among the 12 POs that have been visited two PO heads have made negative comments about the Centre's achievements, complaining about stale programs, lack of dynamics and a decline in the efficiency and effectiveness of the Centre's activities. Another two POs have also given less than satisfactory marks to the Centre's role and effectiveness as focal point of the network.

These criticisms - although made in a positive tone, indicating a "wait-and-see" attitude that TCentre will be adequately strengthened to satisfy the requirements of its role as focal point for the network - should not be ignored as the Centre should be able to cater for the needs of all of TA's member organizations.

- a.4 Through regular contacts among PO personnel and through the visits of TCentre personnel to POs, linkages and close contacts

have been developed on the personal level. These personal contacts facilitate the implementation of TA's various programs and objectives in the Region. Through their meetings in seminars, workshops, training exercises, research projects and surveys, the personnel involved not only learn about each other's problems and achievements in their own country and field of specialization, but also develop personal relationships which facilitate their reliance on each other through correspondence should the need arise, helping them to solve each other's tasks on the basis of friendship and cooperation.

ad. b

TA's activities and contributions have strengthened the individual organizations in their efforts to develop their own capabilities in undertaking extension work. It is evident that the nature of these contributions has varied from PO to PO according to their needs, length of membership and the time frame of TA's operations, but the general assessment can be made that all POs have benefited from their being associated with TA and the contributions of the network have assisted all of them in their extension work in the SMI sector.

These general statements are supported by the following facts:

- b.1 There are at present over 3,000 industrial extension officers operating in TA's POs. Almost 1,000 of these officers have been trained in the frame work of TA-sponsored courses (see tables on pages 39 - 42).
- b.2 There are at present 56 trained information officers operating in TA's POs, who have been trained in the framework of TA-sponsored courses (see table on page 42).

b.3 In addition, substantial project-assistance has been provided by TA to most of the POs in the total amount of US\$427,866 (see details with each individual PO under Chapter 3 and Summary on page 76).

ad.c - Impacts

The impacts of TECHNONET on SMI development in the Region can only be approached in an indirect way according to the findings of the evaluators. There are no hard statistics available neither at TECHNONET Centre nor at the POs in this regard, and even if there were, they could be misleading. TECHNONET is not the only organization involved in SMI development in the Region, neither are the POs alone in their respective countries involved in these types of activities.

TECHNONET's principal contribution and impact in the SMI development area can be - and in the opinion of the evaluators should be - assessed in a positive fashion because of its pioneering nature. For most of the POs it was TECHNONET that initiated regular and organized information and extension activities in the SMI area. With few exceptions, without TECHNONET's contributions, grants, training programs, etc. these activities would have started much later, if at all. Today, when many organizations are involved, some of which can muster much larger budgets, it is easy to downplay the important role TECHNONET played in this field, by "starting the ball rolling". Evidently the extent and nature of TECHNONET's involvement was different in every country and every PO, considering the variety of circumstances, but the basic fact of being the initiator remains there, in the case of most POs.

In addition to the above general assessment, the following more concrete statements can be made:

- c.1 There are at present about 3,000 industrial officers operating in the POs alone, about 30% of whom have been trained through TA-sponsored programs. While there are no statistics available for the effectiveness of their work, the field visits have shown some examples of improved productivity, increased production, better marketing and many other indicators showing the impact of their efforts.
- c.2 Through the efforts of TECHNINET Council, priority industries have been established where, through seminars, STEWs (Special Technical Extension Workshops) and special research projects the state-of-the-art of that specific industry and the skills of the participants are updated. These priority industries, as determined by TECHNINET Council are the following:
 - Metals, Food Processing, Wood-based Industries, Plastics, Packaging, Electrical Appliances and Products, Agricultural Waste Utilization, Ceramics, Rubber Products, Footwear, Leather and Construction and Building Materials.
- c.3 In several PO countries industrial estates have been developed for SMIs where, usually, SMIs of similar activities are being clustered, making assistance in extension work, marketing, etc. easier for the POs. Good examples in this regard are Indonesia, Sri Lanka, Thailand and Bangladesh.
- c.4 As a further activity, entrepreneurship development has taken an ever increasing role in several POs and there are strong ED programs established in several of them, some meeting

substantial success, exercising strong impact on the SMI sector of these countries. TA has also contributed to this effort by its own ED program and training courses, workshops and seminars, sponsored by TCentre. Malaysia, Indonesia, the Philippines, Sri Lanka and Thailand can be mentioned as leaders in this field, with substantial efforts devoted to their EDPs. In Sri Lanka, IDB considers industrial extension and entrepreneurship development as simultaneous activities, going hand in hand.

- c.5 A relatively new activity, but with ever increasing potential, is the sharing, or transfer of technology, from one PO country to another, or from Canada to a PO country using CIDA's Industrial Cooperation Program. This activity, if developed to its full potential, could give a dynamic new dimension to TA and could have substantial impact on the SMI sectors of the countries participating.

ad._d

It is evident from the material at the evaluators' disposal that IDRC's role was crucial and indispensable in the evolution of the activities mentioned above. IDRC was initiator of TA as a project and during the project's first two phases its only funding agency. TA was during these seven years an IDRC-administered project and without the funds, expertise and the administrative support provided by the Centre, TA could not have been born, operated and few of its achievements would have materialized. The fact that TECHNONET ASIA was an IDRC Centre-administered project made the network's establishment and operations - in the evaluators' opinion - more economical than it would have been by any other means.

CIDA's role started much later, only with the beginning of Phase III, but from that point onwards it took on the role of principal funding agency of the independent TA. Funds provided by CIDA (in their proportion about 2:1 to those of IDRC during this period) were essential in keeping the network alive and without them TA could hardly have made it through its third Phase as it did.

As regards guidelines for future support to TA, the evaluators are of the opinion that this support should continue. However, there are certain lessons that should be observed, both in the eventual fourth phase of TA and in any new similar effort in any other developing region, whether funded by IDRC, CIDA or by any other donor agency. These lessons are the following:

- d.1 Project objectives and components should be more concrete, well-defined and tailored to the specific needs of the region in question in advance.
- d.2 Project monitoring and evaluation should much more frequent and reporting should include concrete statistical data both from the Centre and the POs. (In several instances, the evaluators' work was made difficult by receiving different data for the same function from TCentre and some of the POs.) Many of the present problems of TA could have been avoided, had the present evaluation exercise taken place, say, five years ago followed by short, but annual monitoring, allowing corrective action when and where necessary.
- d.3 The priorities of the donor agency(ies) should be reconciled with the tasks to be undertaken by the project and the mandates and capabilities of the participating organizations.

- d.4 The manpower of the project-core should be designed to be commensurate with the task it is to handle. This applies especially to the question of fund raising, should the original principal donors wish - at a later stage - to pass on some or all of the burden of funding the core of a valuable organization that has been created by them earlier.
- d.5 On the other hand, it must be recognized that a dynamic, active core is an essential ingredient of any networking. Therefore core funding should be maintained both for TA's fourth phase and for any new similar network contemplated in any new region. Without a central focal point and appropriate core funding to allow the Centre to operate as a dynamic hub of the network, the network itself would fall apart. It is the core's responsibility to cater to the network's needs in such a way that all member POs find it worth their while not only to maintain their membership but to actively participate in and contribute to network activities. The core, therefore, has to be provided with resources which would allow it to function properly, not only in terms of finances but also programs, human resources, etc.
- d.6 The example of TA shows that core funding is not easy to find once outside agencies have gotten used to the fact that it is already provided (in TA's case by IDRC and CIDA), therefore it is taken for granted. As a result, in any similar organization planned, provisions should be made right at the outset that other donors and the POs themselves carry their appropriate share of core funding.

ad. e

The evaluators' visits to the POs and the analysis of the answers to the questionnaires sent in show that the priorities of many POs have changed since their original entry to membership of TA. As a result, TA's future program should reflect these changing trends, at the same time maintaining the original objectives of information and extension for which there is still a well established valid need in the Region.

Specifically TA's future program should go beyond information and extension, should change its nature from a major training effort (although some training activities should be maintained) towards more commercial activities, and aiming towards consultancies, pilot plants in selected industries and dissemination of successful technologies on a commercial scale. Much of the funds could be made available for this purpose through program funding by the strengthening of the fund raising efforts of TCentre.

TA also should put strong emphasis on CIDA's Industrial Cooperation Program and its objectives in the Region.

In order that the original objectives of TA not be lost, considering that in most PO countries they are just as valid today as they were ten years ago, perhaps more so, an endowment-type of support from Canada (IDRC, CIDA or both) should be considered.

Persons Interviewed in connection with
the Evaluation Study

(by country and organization)

1. CANADA

1.1 IDRC

- J E Woolston
- M Brandreth
- J Hardie

1.2 CIDA

- M Faguy
- M Landry
- R Hamilton

1.3 NRC

- G Kirouac

2. SINGAPORE

2.1 IDRC/ASRO

- Jingjai Hanchanlash
- Shahid Akhtar

2.2 TECHNONET Centre

- L V Chico
- Ernest Tan
- M Thenabadu
- Sum Wai Ping

2.3 SISIR

- Lee Kum Tatt
- Chiang Shao Soong
- Tan See Song
- Lim Hong Tan

2.4 Canadian High Commission

- J J Ganderton

2.5 JICA Singapore Representative Office

- T Mizobuchi

3. THAILAND

3.1 DIP

- Pisal Khongsamran
- Damri Sukhotanang
- Surasith
- Somsak Ratonakul
- Wisuth
- Nuanwan Thirawat

4. SRI LANKA

4.1 IDB

- Naufel Abdul Rahman
- N Senanayake
- W A J Anton Fernando
- T B Weerasekera
- Ira Unamboowe
- H C S Peiris
- Nanayekera
- Sumanawira
- ASO Karunaratne
- Nirmalee Senewiratne

5. HONG KONG

5.1 HKPC

- S K Chan
- D Taylor
- C T Leung

5.2 Hong Kong Standards & Testing Centre (HKSTC)

- R K Y Liu
- K W H Wong

5.3 Hong Kong Government Trade Industry & Customs Dept.

- C G Bernard

5.4 UNIDO/SIDFA

- W R Millager (based in Bangkok)

6. KOREA

6.1 KIET

- Sung-Sang Park
- Hee-Yhon Song
- Han-Chol Kang
- Chang-Kyo Lee
- Yu-il Kim

6.2 SMIPC

- Byeng-ku Kwak
- Sung-Kee Kim
- Sung-Jin Kim
- Ki-Chung Yoon
- Yoo-Young Bok

7. BANGLADESH

7.1 BSCIC

- Muhammad Sirajuddin
- Emdadul Haque
- Hafizur Rahman
- Hedayat Hussein
- Shamsul Haque

8. MALAYSIA

8.1 MARA

- Mohd Ridzuan bin Abdul Halim
- Mohammad Abdul Ghani
- M Bakar
- Hamsa
- Ismail
- Aziz
- Ayub
- Zulkifli

8.2 SIRIM

- Abdullah bin Mohd Yusuf
- Mohamed bin Anas
- Shazali Othman
- Jayamalar Savarimuttu
- Faisal Ismail

9. INDONESIA

9.1 DP/BIPIK

- Director-General
- D Suryana
- S Sjarief
- Mahdi Ichsani
- Seha Suprptono
- Agus
- Tony Suprpto
- Suwito
- Napitupulu

10. PHILIPPINES

10.1 UPISSI

- E Taylor
- S T Aquino
- T Bravo
- L Cubillas

10.2 EDF

- C Sarino

11. OTHERS

- Glen A Husack (MIM)
 - Santi Grachangnetara (ASEAN Food Handling Centre)
 - J McDivitt (UNESCO Jakarta)
-

TECHNONET Centre -
The Administrative Arm of the Network

Staffing

1972 - 1974	1 Administrator	(Canadian)
	1 Deputy/Acting Administrator	(Canadian)
	1 Program Officer (1974)	(Local)
	1 Program Officer (Mar '74 - '75)	(Indian)
	1 Program Officer (Mar '74 - '75)	(Indian)
	1 Personal Asst to Administrator	(Local)
	3 Secretarial staff + 1 driver	(Local)
1975 - 1979	1 Administrator (appointed Apr '76)	(Filipino)
	1 Deputy/Acting Administrator (Mar '74 - Dec '78)	(Canadian)
	1 Technical Information Officer (July '75 - June '78)	(Canadian)
	1 Program Officer (Aug '75 - Aug '79)	(Thai)
	(Jan '79 - Aug '79 as Dty. Administrator)	
	1 Program Officer (appointed Mar 1979)	(Local)
	1 Executive Assistant	(Local)
	2 Secretarial staff + 1 driver	(Local)
1980 - present	1 Executive Director	(Filipino)
	1 Program Coordinator/Industrial Development Officer	(Local)
	1 Program Officer (Contract Staff)	(Thai)
	1 Program Officer (Contract Staff)	(Bangladesh)
	1 Finance Officer & Program Officer	(Sri Lankan)
	1 Executive Asst/Admin Officer	(Local)
	1 Program Assistant	(Local)
	2 Secretarial staff + 1 driver	(Local)

Key to Some Abbreviations/Acronyms

AMT	Achievement Motivation Training
ASEAN-COIME	ASEAN Committee of Industry, Minerals and Energy
ASINDEX Forum	Asian Industrial Extension Officers Forum
AT	Appropriate Technology
BSCIC	Bangladesh Small and Cottage Industries Corporation
BIPIK	Directorate-General of Small Industries, Indonesia
CAS	Current Awareness Service
CIDA/INC	Canadian International Development Agency Industrial Cooperation Program
DP	Departemen Perindustrian (Ministry of Industry), Indonesia
DIP	Department of Industrial Promotion, Thailand
EDF	Economic Development Foundation, Philippines
EDP	Entrepreneurship Development Program
FNTC	Fiji National Training Council
HKPC	Hong Kong Productivity Centre
IDB	Industrial Development Board of Sri Lanka
IDO	Industrial Development Officer
IDRC/ASRO	International Development Research Centre Asia Regional Office
IE or IES	Industrial Extension Service
INDEXTRAC	Industrial Extension Training Course
INFOTRAC	Industrial Information Training Course
ISC	Industrial Services Centre, Nepal
ISI	Industrial Services Institute, Thailand
JICA	Japan International Cooperation Agency
KIET	Korea Institute for Industrial Economics and Technology

(2)

MARA	Majlis Amanah Rakyat (Council of Trust for the Indigenous People), Malaysia
NRC/TIS	National Research Council of Canada Technical Information Service
PCM	Projects Committee Meeting
PO	Participating Organization
RP	Resource Person
SIET	Small Industry Extension Training Institute, India
SIRIM	Standards and Industrial Research Institute of Malaysia
SISIR	Singapore Institute of Standards and Industrial Research
SMIPC	Small and Medium Industry Promotion Corporation, Korea
STEW	Special Technical Extension Workshop
TA	TECHNONET ASIA
TIESA	TECHNONET Industrial Extension Service Award
TIS	Technical Information Service
VASE	Validation and Selection of Entrepreneurs

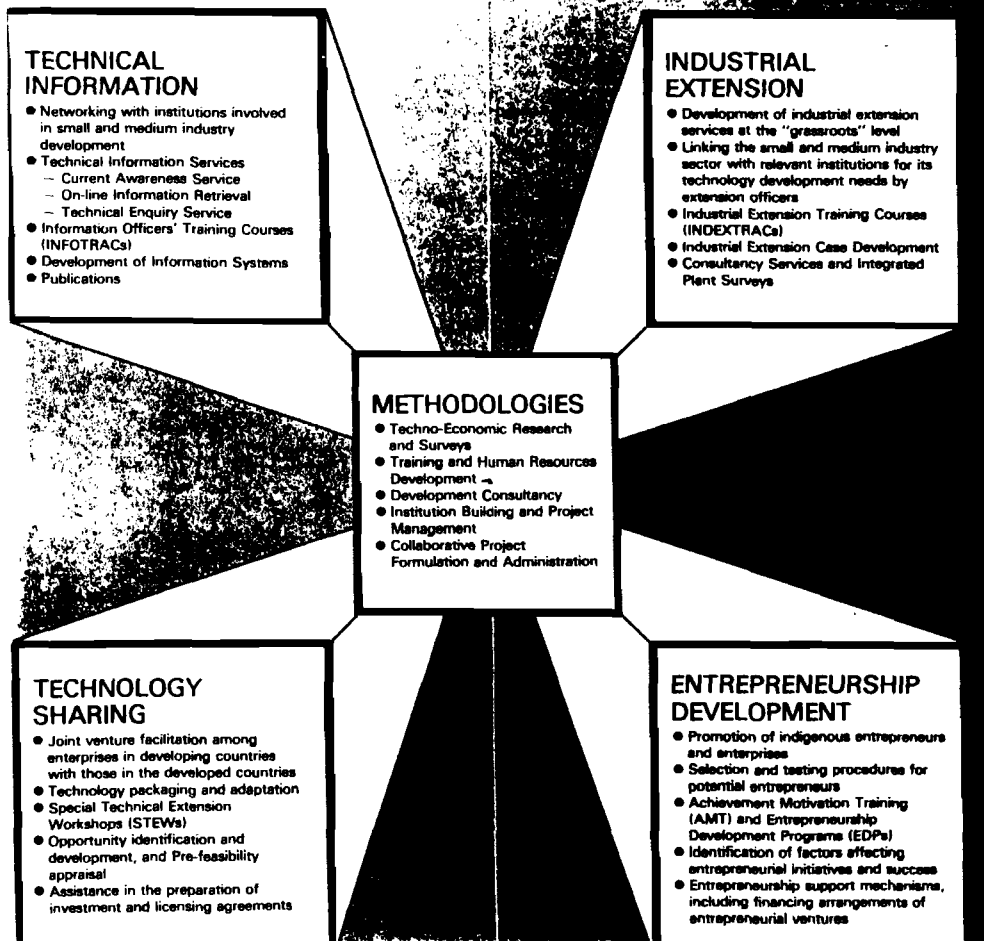
IDRC/CIDA Evaluation of TECHNONET ASIA

QUESTIONNAIRE

Introduction

As you are already aware, the evaluation of TECHNONET's program activities, aside from looking back into the past decade of its performance, is expected to recommend future directions and actions. The questionnaire is therefore based on the matrix of TECHNONET ASIA's current program activities as illustrated below, which you are familiar with:

PROGRAM MATRIX



1. PROGRAM PRIORITIES

1.1 Of the five activities listed in the matrix, please indicate the order of priority that you would place them reflecting your organization's current work program:

- 1.
- 2.
- 3.
- 4.
- 5.

1.2 Do you anticipate a need to change the above priorities in the next 2-3 years? If so, please indicate:

- 1.
- 2.
- 3.
- 4.
- 5.

1.3 Which of the activities listed in the matrix were you able to introduce as a result of becoming a member of TECHNONET?

- 1.
- 2.
- 3.
- 4.
- 5.

2. TECHNICAL INFORMATION

2.1 What kind of activity from among those listed below do you avail yourself of TECHNONET:

2.1.1 Networking with institutions involved in SMI development [] ¹ Please tick ✓

Technical Information Services:

2.1.2 - Current Awareness Service [] ²

2.1.3 - On-line Information Retrieval [] ³

2.1.4 - Technical Enquiry Service [] ⁴

2.1.5 Information Officers' Training Courses (INFOTRACs) [] ⁵

2.1.6 Development of Information Systems [] ⁶

2.1.7 Publications (on technical information) [] ⁷

Please indicate under

¹ List the institutions and TECHNONET's involvement

² Current membership and TECHNONET's assistance, if any

³ When installed and TECHNONET's share if any

⁴ Number of technical enquiries handled this year _____

(a) handled locally _____

(b) with assistance from other POs _____

(c) with assistance from TECHNONET Centre _____

(d) other _____

⁵ Number of persons who have attended INFOTRACs _____

⁶ (a) Assistance received from TECHNONET

(b) Any future programs planned

⁷ (a) List your publications pertaining to industrial information

⁷ (b) Have you availed yourself of any TECHNONET assistance in (a) above? If so, please indicate.

⁷ (c) Have there been any enquiries re the TECHNONET Newsletter/Digest information from the SMIs of your country? If so, please indicate.

⁷ (d) What is the responsiveness to TECHNONET Digest articles from:

(i) within the country (number of enquiries)

(ii) outside (number of enquiries)

3. INDUSTRIAL EXTENSION

3.1 Indicate the strength of your present extension service staff:

3.1.1 Senior extension officers (5 yrs or more) _____

3.1.2 Extension officers (less than 5 yrs) _____

3.1.3 Extension staff at head office _____

3.1.4 Extension staff at regional/provincial offices _____

A list of the Local and Regional INDEXTRACs (including STEWs) is given in the following. Please fill in the information requested.

3.2.2 LOCAL INDEXTRACS

INDEXTRAC Course No.	No. of Participants	COSTS		No. of Foreign Resource Persons
		P0	TECHNET	
TECHNET involvement and assistance				
Program preparation				
Search for resource persons				
Providing funds				
Providing equipment				
Participating in lectures				
Course material development				
Conducting evaluation				
Others (specify)				

3.3 REGIONAL INDEXTRACs and STEWs

[illegible]

3.4 List 5-10 extension cases undertaken by your extension staff consequent to training received under A/B above:

	<u>Case</u>	<u>Extension Officer</u>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

3.5 In consideration of your organization's total work program, indicate the % allotted to industrial extension activity.

Please tick:

less than 20%	less than 40%	less than 60%	less than 80%	Full time
[]	[]	[]	[]	[]

3.6 Indicate your plans for conducting industrial extension courses in:

	<u>Local</u>	<u>Regional</u>	<u>No. of Trainees</u>
1983			
1984			

3.7 In consideration of the number of trained 'core' extension officers in the organization, indicate your strengths and weaknesses in the conducting of future Local INDEXTRACS.

	<u>External Assistance</u>	
	<u>Required</u>	<u>Not Required</u>
	Please tick ✓	
Development of course material	[]	[]
Organization of courses	[]	[]
Resources persons	[]	[]
Training equipment	[]	[]
Financial assistance	[]	[]
Trainers' training to conduct Local INDEXTRACS	[]	[]

4. TECHNOLOGY SHARING

4.1 Indicate from amongst the following, the activities that you are or contemplate undertaking for the development of SMIs in the country (list your priorities).

<u>Category</u>	<u>Priority</u>
4.1.1 Promotion of joint ventures	[]
4.1.2 Opportunity identification and development and pre-feasibility appraisal	[]
4.1.3 Promotion of investment and licensing agreements	[]
4.1.4 Providing consultancy to SMIs	[]
4.1.5 Conduct techno-economic research and surveys	[]
4.1.6 Conduct Special Technical Extension Workshops	[]
4.1.7 Technology adaptation and packages	[]

4.2 If you are seeking TECHNONET's involvement in the promotion of the above, state specific assistance required.

<u>Category</u>	<u>Assistance Required</u>
-----------------	----------------------------

4.3 List any POs who, in your opinion, possess the capability/experience of providing one or more of the above activities.

<u>Category</u>	<u>PO</u>
-----------------	-----------

4.4 In terms of "networking" presently in operation amongst the POs, what percentage of your technological problems are shared with the network, including TECHNONET Centre?

_____ %

§. ENTREPRENEURSHIP DEVELOPMENT

5.1 Indicate from the listing below your basic involvement/s in ED Programs:

Please tick ✓

- 5.1.1. Identification/selection of entrepreneurs []
- 5.1.2 Provide training programs (including AMT) []
- 5.1.3 Obtain financial and other support services necessary to entrepreneurs []
- 5.1.4 Conduct follow up/monitor ED programs []
- 5.1.5 Other services (specify) []

§.2 What is the past experience of your organization in carrying out ED Programs (e.g. number of years)

5.3 What percentage of the organization's present total work program is devoted to entrepreneurship development activity

_____ %

5.4 What external assistance that you feel is required to enhance the ED capabilities of your organization?

Please tick ✓

- 5.4.1 Training of ED officers []
- 5.4.2 Development of training materials []
- 5.4.3 Development of selection and testing procedures []
- 5.4.4 Obtaining foreign resource personnel []
- 5.4.5 Translation of resource/course material to local language []
- 5.4.6 Identification methodologies of SMI projects []
- 5.4.7 Exposure to ED programs outside []

5.5 In terms of the above, do you consider any TECHNONET POs being capable of special assistance to you?

5.6 List other methodologies/suggestions, if any, that you consider would be important in furthering ED programs amongst the TECHNONET POs.

6. GENERAL

6.1. In the context of SMI development in your country, which of the following TECHNONET program activities/services have been particularly useful? (Please indicate in order of preference)

- | | |
|--|-----|
| 6.1.1 Technical Information activities | [] |
| 6.1.2 Training of Industrial Extension Officers | [] |
| 6.1.3 Conducting of Entrepreneurship Development Workshops | [] |
| 6.1.4 Networking arrangements amongst POs | [] |
| 6.1.5 Provision of equipment and materials for training and other services | [] |
| 6.1.6 Facility of exchange of PO personnel (with TECHNONET funding) | [] |
| 6.1.7 TECHNONET joint research program/surveys | [] |
| 6.1.8 Provision of funds to set up certain services in the POs (TIS, etc) | [] |
| 6.1.9 TECHNONET Council Meetings/AGMs which provide a forum to exchange ideas | [] |
| 6.1.10 TECHNONET Newsletter and Digest | [] |
| 6.1.11 TECHNONET Centre as an administration arm for exchange/interchange of PO requirements | [] |

6.2 What in your opinion are the other strategic roles the "network" should perform/embark on in the development of the SMIs in the region, and what are your expectations? Please specify.

6.3 As an organization primarily involved in developing the SMI sector, how would you assess the network's contribution to your organization as possible impacts and effects in undertaking extension work? (The following indicators may be used.)

- | | |
|---|-------|
| 1. No. of SMIs in the country | _____ |
| 2. No. of SMIs that your organization was instrumental in promoting | _____ |
| 3. No. of SMIs which availed of your extension services | _____ |
| 4. The total productivity of the SMI sector | _____ |
| 5. The employment generated/potential in the SMI sector | _____ |
| 6. Ranking of SMI sector in the country's industrial pattern | _____ |
| 7. Priority sectors identified for development under SMI sector | _____ |

8. Instruments other than industrial extension that your organization has introduced in servicing the SMI sector

9. Other international/regional agencies that you are linked up with in assisting the SMI sector

6.4 Any other comments

Name of Participating Organization

Signed by:

Name

Designation

Date: