*Techno*logy *Link*age through Technology Sharing and Cooperation among Developing Countries (TECHNOLINK)

Africa, Asia and Latin America

April 2002 – March 2003

Submitted to:

Perez Guerrero Trust Fund (PGTF)
UNDP-New York & Philippine Offices

Submitted by:

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Background

Many developing countries' production system depends on importation. Their science and technology systems are unable to meet the technological requirements of production. One of the major weaknesses of developing countries is their subordination to foreign dominance, exploitation and control.

This is particularly true in the area of environmental protection. Most of the technologies, equipment and instruments used in environmental protection and management come from the developed or highly industrialized nations. There are very few instances when indigenous technologies were used for protecting the ecosystem. Environmental control and protection technologies are capital intensive, they require a huge drain in developing countries' resources.

Alternative strategies for scientific and technological development must be developed to address the problem of scientific and technological backwardness in developing countries to minimize the use of their resources and yet maximize production to hasten development.

Developed technologies should be shared and made available among developing countries. To facilitate technology sharing and cooperation, a technology network of organizations engaged in the development and transfer of environmentally sustainable technologies (EST) should be established.

In many cases, considerable time, human effort, and money have been invested in establishing appropriate tools and techniques that facilitate the effective mobilization of local human and natural resources. The practitioners who have spearheaded these ventures are anxious to share their experiences, learn from each other and consolidate their expertise.

Lately, the practitioners became more enthusiastic and determined to promote technology sharing and cooperation as inspired by the provisions of Agenda 21 of the United Nations Conference on Environment and Development (UNCED), Chapter 34, entitled *"Transfer of Environmentally Sound Technology, Cooperation and Capacity-Building"*.

Agenda 21 is being reviewed and discussed nowadays in preparation for Rio+10 which will be held in August and September 2002 in Johannesburg. Networking is explored in participating to the sessions in science and technology, enterprise, capacity-building, water and sanitation, renewable energy, information and communication technology, among others.

Project Objectives

The project aims to link developing countries in Africa, Asia and Latin America through technology sharing and cooperation.

Specifically, the project aims:

1. To establish a network linking the technology developers, innovators, research and development (R&D) institutions, and technology transfer agents in government, non-government organizations and private sector;
2. To organize an inter-regional workshop to discuss the most effective mechanism for the transfer of technologies and identify environmentally sustainable technologies to be exchanged between the transferring and receiving countries;
3. To implement the exchange of the identified technologies and evaluate the effectiveness of the technologies and of the transfer methodology; and,
4. To plan for the three-year follow-up activities of the technolink network for sustenance and expansion in the developing countries.

Project Outputs

a) Established TECHNOLINK network among technology developers, innovators, R&D institutions and technology enablers in government and non-government organizations as well as the private sector.
b) Defined roles/tasks of focal point organizations in Africa, Asia and Latin America in technology sharing and cooperation.
c) Defined Terms of Reference (TOR) and Memorandum of Agreement (MOA) among the focal point organizations, the transferring and receiving organizations, in the operationalization and sustainability of the network.
d) Agreed guidelines or criteria in the assessment and adoption of ESTs.
e) Defined indicators for ESTs.
f) 20 focal point organization representatives and project coordinators participation in an inter-regional workshop to define mechanism for the exchange of technologies and information among the focal point organizations based on their experience and expertise.
g) At least 6 technology exchange activities are facilitated among the focal point organizations in developing countries.
h) Formulate criteria to evaluate the effectiveness of the technologies transferred and the methodology employed.
i) Negotiated three-year plan of action to continue the network activities and reach out to other developing countries to complete the "global technology web".

Project Activities

(a) Inventory of the databases of the R&D institutions, the government, NGOs and the private sector with technologies and its experiences in technology exchange and information sharing.
(b) Identify the mode of existing communication systems of the government, NGOs and the private sector in technology dissemination and information sharing.
(c) Identify the existing network organizations and their areas of priority in technology sharing and information exchange.
(d) Define common grounds in technology sharing and cooperation among the technology actors involved and their levels of communication activities.
(e) Define mechanisms in technology sharing and cooperation.
(f) Group the R&D institutions, government, NGOs and the private sector with computers and modems and those with computers only.
(g) Establish the technolink network by providing support in hooking organizations up to the local host; establish an electronic with adequate databases on technologies to enable the local NGOs to access information.
(h) Initiate mailing information through electronic mail.
(i) Conduct workshop to assess the effectiveness and mechanisms of technology and information exchange or transfer.
(j) Conduct planning workshop to negotiate for the three-year plan of activities to ensure the sustainability and expansion of the network until the *"global technology web"* is achieved.

ObjectTechnolink Midterm reportive #1. *To establish a network linking the technology developers, innovators, research and development (R&D) institutions, and technology transfer agents in government, non-government organizations and private sector.*

In this particular objective, the following activities have been conducted.

(a) *Inventory of the databases of the R&D institutions, the government, NGOs and the private sector with technologies and its experiences in technology exchange and information sharing.*

From April to October 2001, a survey of regional organizations with environmental technology exchange component were listed and grouped as those with and without modem and internet facilities or electronic-mail connection. From the list, some strategic government (G0s) and non-government organizations (NGOs), private and business sector were identified as partner-implementing organizations.

The Technological Information Promotion System (TIPS), which implements projects in Albania, Bangladesh, China, Ecuador, Nepal, Philippines, Romania and Zimbabwe, has a database of inventors, entrepreneurs, including women entrepreneurs, business matching, technology sharing and information and is linked worldwide through DEVNET. Their project on "Women into the New Network for Entrepreneurial Reinforcement" or WINNER is supported by UNIFEM and is a partner in this project.

The Intercity Marketing and e-Shakthi in India involve community-based women entrepreneurs and community-based manufacturers. They are hooked to FOOD, one of the founders of CBRT, who also organized these urban women living in flats and condominiums. Intercity Marketing and e-Shakthi use both the off-line marketing system using CDs as well as mobile phones in their business transactions.

The participants to the TECHNOLINK Planning Workshop in November were selected from the short list of organizations and networks with modem and internet connection and liked to more than 5 organizations in the area or region. These organizations have extensive experience and pool of experts in information and communication technology (ICT) in their respective regions.

Representatives of network organizations in Africa, Asia and Latin America discuss the networking mechanism in information and technology exchange.

(b) *Identify the mode of existing communication systems of the government, NGOs and the private sector in technology dissemination and information sharing.*

Organizations without modem and internet or electronic mail facilities still use the courier or postal services, which is very slow, and telephone or facsimile transmission, which is expensive.

Organizations with modem and electronic facilities use e-mail and internet facilities for request and exchange of technologies. However, in the actual transfer of technology, the experts would generally suggest that the requesting and receiving organization provide for round trip air ticket, accommodation, food and travel allowance and other related expenses. The receiving organizations usually cannot afford to provide the amenities and pay the expenses of the experts so that the exchange is not often realized.

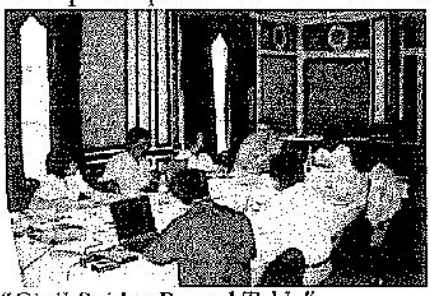
(c) *Identify the existing network organizations and their areas of priority in technology sharing and information exchange.*

The existing network organizations have so much knowledge, information and technologies to share with other organizations that need specific technologies but do not know who to turn to for assistance. There is no link between and among organizations and the lack of mechanism

to bring the information in the fastest and most convenient but friendly manner. The program staff of several development organizations lack the skill, training opportunities and access to ESTs to facilitate the exchange of information.

(d) *Define common grounds in technology sharing and cooperation among the technology actors involved and their levels of communication activities.*

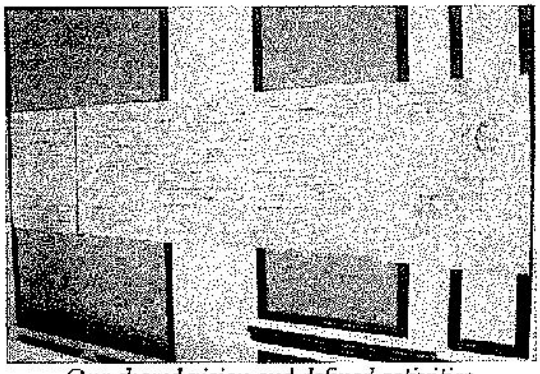
The participants to the workshop and the partner-implementing organizations of the network choose to communicate by e-mail and link with the other organizations through the inter-regional network organization. The participants then felt the necessity of forming the inter-regional network of organizations that they named the *"Civil Bridge Round Table".*



The following outputs have been accomplished for the activities conducted.

(a) *Established technolink network among technology developers, innovators, R&D institutions and technology enablers in government and non-government organizations as well as the private sector.*

As an initial activity, the Civil Bridge Round Table will initiate the linking of the government and non-government organizations, private and business institutions to facilitate the exchange of information and technologies.



Our shared vision and defined activities.

(b) *Defined roles/tasks of focal point organizations in Africa, Asia and Latin America in technology sharing and cooperation.*

The following organizations participated in the planning workshop in India and will function as the focal point organization in their respective region to facilitate involvement of other environmental organizations outside of their network but within their geographical location and the exchange of information and technologies.

- **Africa**
  - South Africa NGO Network (SANGONet), Johannesburg for South Africa
  - Makerere Institute of Social Research (MISR), Uganda for North Africa
- **Asia**
  - Southeast Asian Ministers of Education Organization (SEAMEO), Thailand for ASEAN countries
  - The Asian Alliance of Appropriate Technology Practitioners., Inc. (APPROTECH ASIA)
  - Foundation of Occupational Development (FOOD), India for South Asia
- **Latin America**
  - ChasquiNet Foundation, Ecuador for Latin America and the Caribbe

The network and organizations, which formed CBRT, will be responsible for membership expansion, resource mobilization, conduct of agreed activities and the realization of the goals and objectives of the network.

Several local and regional organizations have already signified their intention to join CBRT. Some activities have been lined up for implementation and resource mobilization.

SEAMEO is interested to work in partnership with Approtech Asia in education and training, agriculture and health, most especially in, but not limited to, the ASEAN countries where they have offices and contacts or on-going projects.

In India alone, 18 NGOs with modems are linked with FOOD and are willing to join CBRT.

Mr. Loyola Joseph, Executive Director of the Foundation of Occupational Development (FOOD) and host of the workshop presents the activities of the organization in line with ICT.

In Thailand, the biggest NGO, Population and community Development Association (PDA) with international program (PDI), has sent us an application letter to join CBRT.

Another network of ICT in Mexico is also interested to join CBRT and assist in mobilizing resources to implement some of the defined activities relevant to the goals of the organizations in their network in Latin America and the Caribbe.

Objective #2. *To organize an inter-regional workshop to discuss the most effective mechanism for the transfer of technologies and identify environmentally sustainable technologies to be exchanged between the transferring and receiving countries.*

In this objective, the following activity has been conducted.

Conduct planning workshop to assess the effectiveness and mechanisms of technology and information exchange and transfer on November 7-10, 2001 in Chennai, India.

The following output has been accomplished.

There were four (4) regional network organizations and 2 national organizations, but with international link, that participated in the inter-regional workshop to define mechanism and facilitate the exchange of technologies and information in Africa, Asia and Latin America based on their experience and expertise. The original plan was to invite 20 focal point organization

representatives and project coordinators during the meeting but because of low exchange rate and exorbitant increase in airfare, Approtech Asia limited the number of participants to network orgasnizations.

During the conduct of the inter-regional planning workshop in Chennai, India from November 7-10, the participants agreed to form an inter-regional network of organizations and named it ***"Civil Bridge Round Table" or CBRT***. (Please see attached brochure with the logo and proceedings)

Participants to the TECHNOLINK PLANNING WORKSHOP
pose with the organizers.
Left to right: Willi Pascual Jr., SEAMEO-Thailand, Santosh Narayanan, FOOD-India, Dr. Angelo O. Ramos, APPROTECH ASIA-Philippines, Somanath, FOOD-India, Klaus Stoll, Chasquinet-Ecuador, Feri G. Lumampao, APPROTECH ASIA-Philippines, Samuel Kayabwe, MISR-Zimbabwe, Ansuyah Maharaj, Women'sNet at SANGoNet-Johannesburg, Loyola Josph, FOOD-India.

Objective #3. *To implement the exchange of the identified technologies and evaluate the effectiveness of the technologies and of the transfer methodology.*

In this objective, the following activities has been conducted:

a) Transfer of technology on **Improved Cookstove (ICS) Pottery Skills Training** has been completed in February 2002 from the Asia Regional Cookstove Program (ARECOP), Yogyakarta, Indonesia to the Improved Cookstove Program (ICSP), Cagayan de Oro, Philippines. The technical expertise was shared by Mr. Aryanto Soedjarwo. The 16 participants represented government, non-government organizations, the academe and research institutions in the country.

b) Arrangement has been finalized in the transfer of **Hydroponics** and **Mushroom condominium** technologies and **Enterprise Development Training** in September 2002 for the poor communities in urban resettlement

projects of the government and private sector. The transferring organization is the Population and Community Development Association (PDA), Thailand while the receiving organization is the Ayala Foundation, Inc. (AFI) community partner in Cebu City, Philippines. The hands-on experience will be participated by other Asian representatives from South and Southeast Asia.

c) Four other technologies are being identified and arranged for Africa and Latin America and the Caribbe for the last 3rd and last quarter of 2003. Exchange of communication is on-going among network members.

The following output has been accomplished:

For activity (a) described above,

(1) Sixteen skilled potters joined the two-week skills training and five (5) of them are already commercializing ICS products in 5 different provinces in the country - Ilocos Sur and Norte, Pampanga, Pangasinan, Iloilo, and Cagayan de Oro.

For activity (b) described above,

(2) The resource person/expert, Mr. Krailert Taweekul, has agreed with the TOR, modules and teaching aids are being prepared, twenty participants have been identified and has confirmed participation, venue and demonstration materials are being prepared.

Others:

1. The Year 1999-2000 President of Women Inventors Association of the Philippines, Inc. (WIAPI) and woman scientist and food technologist, Dr. Lydia M. Marero, who together with Approtech Asia Executive Director Lilia O. Ramos, invented "*Budbod Sustansya*" or nutritious toppings. Dr. Marero worked with Palau Community College in food technology transfer, product development research and commercialization in 2001-2002.

2. The Year 2001-2002 President of WIAPI Ms. Dina B. Masa worked as consultant in the transfer of technology on coconut processing to Jamaica in 2002.

TECHNOLINK network includes the water supply and sanitation network of Approtech Asia in partnership with

1. STREAM of Knowledge - Alliance of Asian Resource centers (AARC)

AA is a member of AARC while AA member-organization, NGO Forum on Water Supply and Sanitation in Bangladesh is regional focal point of AARC.

AARC is associated with the Study on Resources and Management (STREAM) which is an on-going project of the Netherlands-based IRC International Water and Sanitation Centre. The STREAM project analyzes development processes and experiences for strengthening resource centers It operates in the Netherlands, Philippines, Kenya, Zimbabwe, Colombia, Switzerland, Finland and France.

AARC was organized as a strategic alliance to ensure collective efforts towards the realization of the Asian Vision 21. AARC members are bounded by the bases of their unity stated in the document Declaration of Principles which include adherence to the Code of Conduct for community-based water supplu and sanitation programs, and to the Asian Vision 21 Statement. IN ITS Declaration of principles, AARC members also agree to establish a support mechanism to enable them to be recognized as high performers. Member resource centers are located in India, Nepal, Thailand, Myanmar and the Philippines.

2. Water Supply & Sanitation Collaborative Council (WSSCC)

AA serves as South East Asia Secretariat of the WSSCC.

WSSCC is an international organization dedicated to enhancing collaboration in the water supply and sanitation sector. The Council's fundamental objective is to help provide safe and adequate water and sanitation services for poor people around the world. The Council helps sector professionals share their concerns, knowledge, and experience with one another. It provides opportunities for problem solving, access to combined expertise, and continuous dialogue on key issues. And it produces publications setting out guidelines, procedures, and codes of conduct developed by experts together over several years.

Exchange of regional experiences and best practices is encouraged among members from the different regions of the world.

Financial Report

(a) Country: Interregional
(b) Programme/Project Number: INT/98/K10/A/95/99
Programme/Project Title: *"Technology Linkage through Technology Sharing and Cooperation Among Developing countries (TECHNOLINK)"*
(c) For the period: 1 January 2001 to 31 March 2003
(d) Budget Revision: (e) Source of FundS: Perez Guerrero Trust Fund (PGTF)
(f) Budget Account Classification: 2000 D270 5103 1602 4MTG 7999
(g) Currency: US Dollars

Table A (in Currency Advanced)

(I) (II)	(III) Period Amount	(IV) Budget	(V) Year To Date Exp.	(VI) Available Budget
(j) Opening Balance:				
(k) Advance Received:	56,000			
(l) Available Funds:	56,000			
Expenditures by subline:				
1 WORKSHOPS/MEETINGS	16,000	16,000	16,000	-
1 1 Regional Reports & Planning Workshop				
1 2 Regional Workshop				
1 3 Midterm Project Evaluation				
1 4 Final Project Evaluation				
1 5 Impact Evaluation by electronic network				
2 RESEARCH & DOCUMENTATION				
2 1 Inventory of Databases				
2 2 Identify mode of existing communications in tech dissemination & info sharing				
2 3 Identify mode of existing communications and their areas of priority				
2 4 Define common grounds in tech sharing				
2 5 Define mechanism in tech sharing				
2 6 Groupin R& D institutions				
3 NETWORKING				
3 1 Establish technolink network				
3 2 Establish an electronic network				
3 3 Initiate electronic mailing				
3 4 Continuous sharing of tech by region				
4 PERSONNEL	24,000	12,000	24,000	(12,000)
5 TRAVEL	7,000	15,000	7,000	8,000
6 SUB CONTRACT	6,000	10,000	6,000	4,000
7 MISCELLANEOUS	3,000	3,000	3,000	-
(m) Total Expenditures	56,000	56,000	56,000	-
(n) Closing Balance	- 0 -			
(o) Outstanding Obligations	- 0 -			
(p) Planned Expenditures	44,000			
(q) Total Requirements	44,000			
Less: Closing Balance	- 0 -			
(s) Advance Requested	44,000			

Designated Institution Approval

LILIA O. RAMOS
Executive Director
Date: 8 May 2002

Country Office Approval:

EMMANUEL E. BUENDIA
Programme Manager
Date: _____