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**ASIAN AND PACIFIC CENTRE FOR TRANSFER OF TECHNOLOGY**

*Note by the secretariat*

**SUMMARY**

The report presents briefly the activities of the Asian and Pacific Centre for Transfer of Technology (APCTT) in 2005, which were directed towards technology capacity-building, the promotion and management of innovation, and subregional and regional networking focused on the following areas: technology transfer through regional and subregional networking, technology capacity-building, the promotion and management of innovation, and technology information services. The Centre's main target groups are small and medium-scale enterprises (SMEs) and intermediaries/SME support service providers.

APCTT is facilitating the establishment of networks of technology transfer intermediaries in the region to promote cross-border business cooperation among SMEs. The Centre has established the following networks: Technology Transfer Network for Small and Medium-scale Enterprises in the Asia-Pacific Region; Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET); Biotechnology Information Network for Asia (BINASIA); and International Network for Transfer of Environmentally Sound Technologies for Asia (INTET Asia). In its effort to promote and manage innovation, APCTT is implementing a project funded by the Government of India providing advisory services and organizing expert group meetings for senior policymakers and national workshops for key actors in the innovation system. APCTT uses its technical periodicals and publications to provide technology information services.

The major donors to the Centre currently are: the Government of the Republic of Korea, which is providing both institutional and programme support to the Centre, including support for the position of the Director; the Government of Germany, which is providing support for the project on promotion of the Technology Transfer Network for Small and Medium-scale Enterprises in the Asia-Pacific Region; and the Government of India, which is providing support for the project on promotion of a national innovation system in countries of the Asia-Pacific region.

The revised statute of APCTT was adopted by the Commission at its sixty-first session in resolution 61/4 of 18 May 2005.

With regard to personnel, the post of the Director is currently funded by the Government of the Republic of Korea. As part of the ESCAP initiative to strengthen the regional institutions, a regular-budget post of Senior Economic Affairs Officer at the P-5 level was incorporated in the proposed programme budget for the biennium 2006-2007. The services of an Associate Expert in the area of information and communication technology (ICT) were secured from United Nations Headquarters. At the General Service level, a restructuring of the staff was begun in January 2006 and is currently under way.

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## INTRODUCTION

1. The Asian and Pacific Centre for Transfer of Technology (APCTT) is a subsidiary body of the Economic and Social Commission for Asia and the Pacific established on 16 July 1977. It is located in New Delhi. The Host Country Agreement that accords the Centre the status of a United Nations institution with applicable immunities and privileges was signed by ESCAP and the Government of India on 7 April 1994.

2. The revised statute of APCTT was adopted by the Commission at its sixty-first session in resolution 61/4 of 18 May 2005. The revised statute stipulates, *inter alia*:

“The Centre shall have a Governing Council consisting of a representative designated by the Government of India and no fewer than eight representatives nominated by other members and associate members of ESCAP elected by the Commission. The members and associate members elected by the Commission shall be elected for a period of three years but shall be eligible for re-election.

...

“The Centre shall have a Technical Committee consisting of experts from members and associate members of ESCAP and from intergovernmental and non-governmental organizations. Members of the Technical Committee shall be appointed by the Director in consultation with the Executive Secretary [of ESCAP].

“The Technical Committee shall be responsible for advising the Director on the formulation of the programme of work and on other technical matters concerning Centre’s the operations”.

3. In May 2005, in accordance with paragraph 9 of the revised statute, the Commission elected the following countries, along with the host country India, to be members of the Governing Council of the Centre for the period 2005-2008: Bangladesh, China, Indonesia, Islamic Republic of Iran, Malaysia, Pakistan, Republic of Korea, Sri Lanka and Thailand.

### I. MAJOR DEVELOPMENTS AND RESULTS IN 2005

4. The activities of APCTT are directed towards technology capacity-building, the promotion and management of innovation, and subregional and regional networking to enable the countries of the Asian and Pacific region to respond to the challenges that have arisen as a result of integration with the new global knowledge-based economy. In 2005, the Centre focused on the following areas: technology transfer through regional and subregional networking, technology capacity-building, and the promotion and management of innovation and technology information services. The Centre’s main target groups were small and medium-sized enterprises (SMEs) and intermediaries/SME support service providers. The Centre’s technology information and transfer advisory services were provided

through: technology exchange services, technology information and transfer networks, and technical periodicals and publications. All the activities of APCTT are SME-oriented, information technology (IT)-powered, environmentally responsible and gender-conscious. Further details of the work of APCTT may be found in annex I.

5. APCTT is facilitating the establishment of networks of technology transfer intermediaries in the region to promote cross-border business cooperation among SMEs. The network members are assisted in developing partnerships with various stakeholders providing comprehensive technology transfer services. These networks and partnerships expand the geographical coverage of APCTT activities in the Asian and Pacific region and make it possible to provide a complete technology transfer service package to a much larger group of SMEs. The Centre has established the following networks:

- Technology Transfer Network for Small and Medium-scale Enterprises in the Asia-Pacific Region
- Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET)
- Biotechnology Information Network for Asia (BINASIA)
- International Network for Transfer of Environmentally Sound Technologies for Asia (INTET Asia)

6. APCTT is implementing the consolidation phase of the project on promotion of the Technology Transfer Network for Small and Medium-scale Enterprises in the Asia-Pacific Region, which is funded by the Government of Germany. The project is aimed at enhancing the capacity of institutions/intermediaries in member countries to deliver technology transfer services to contribute to the improvement of the competitiveness of SMEs. As part of this project, the Centre has modified and upgraded the website, [www.technology4sme.net](http://www.technology4sme.net), and developed another website, [www.business-asia.net](http://www.business-asia.net), with the overall objective of promoting technology-based cooperation in the Asian and Pacific region, with a particular focus on SMEs.

7. APCTT is implementing a project for the establishment of the Biotechnology Information Network for Asia (BINASIA) in response to the request from ESCAP members and associate members at the fifty-eighth session of the Commission. The Ministry of Science and Technology of the Republic of Korea is supporting the project, which has been developed in cooperation with the Korea Research Institute of Bioscience and Biotechnology (KRIBB). Thirteen member countries of APCTT, namely Bangladesh, China, India, Indonesia, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, the Republic of Korea, Sri Lanka, Thailand and Viet Nam, have joined the network and have designated national focal points for BINASIA.

8. The Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET) is a network, sponsored and initiated by APCTT and its member countries, for the development of

traditional medicine and the promotion of information dissemination and industrial/technical cooperation on traditional medicine in the Asian and Pacific region. This initiative was taken following a recommendation of the seventeenth meeting of the Technical Advisory Committee of APCTT in November 2001 in Shanghai, China, and subsequently endorsed by the Governing Board at its sixteenth session in November 2001. APCTT and its member countries have made great efforts to establish APTMNET and considerable progress has been achieved thus far. A network, [www.apctt-tm.net](http://www.apctt-tm.net), linking 14 countries of the region (Bangladesh, China, India, Indonesia, the Islamic Republic of Iran, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, the Republic of Korea, Sri Lanka, Thailand and Viet Nam) in the area of traditional and herbal medicine technology has been established. The network addresses issues relating to biodiversity, the protection of traditional knowledge, sustainable industrial utilization of natural resources, and the promotion of sound agronomical practices at the grassroots level.

9. The International Network for Transfer of Environmentally Sound Technologies for Asia (INTET Asia) was established by APCTT in 1994. The objective of the network is to facilitate the transfer of environmentally sound technologies for manufacturing and cleaning to SMEs. This network is beneficial for innovative enterprises and technology transfer intermediaries interested in identifying new technology/collaboration opportunities for themselves or their clients, with a particular focus on environmentally sound technologies.

10. APCTT receives funds from the Government of India to promote a National Innovation System (NIS) in its member countries. This project was designed to influence policymakers to appreciate the relevance and importance of NIS, develop policy frameworks that enable the key actors, namely, industries, research and development institutions and universities, to adopt and participate in such a system. As part of its implementation, APCTT provides advisory services and organizes expert group meetings for senior policymakers and national workshops for key actors in the innovation system. Networking and sharing of knowledge on NIS among member countries are facilitated through Internet-based mechanisms such as a website on NIS, the creation of communities and the provision of online information services.

11. The Centre endeavoured to keep SMEs and policymakers up to date on the latest technological developments and new and emerging issues associated with the development, transfer and acquisition of technologies through its periodicals and publications. The publications have also served as an important tool to bring together providers and seekers of technology.

## **II. FIRST SESSION OF THE GOVERNING COUNCIL AND FIRST MEETING OF THE TECHNICAL COMMITTEE**

12. The first session of the Governing Council of APCTT was held in Colombo on 8 and 9 February 2006.

13. The session was attended by the representatives of 10 member countries, namely Bangladesh, China, India, Indonesia, the Islamic Republic of Iran, Malaysia, Pakistan, the Republic of Korea, Sri Lanka and Thailand. Observers from Nepal, the Philippines, Viet Nam and the Colombo Plan Secretariat also participated.

14. The Council elected Mr. D. B. Jayantha Ranatunga (Sri Lanka) as Chairperson and Dr. Fatimah Mohd. Amin (Malaysia) Vice Chairperson.

15. The Council adopted the following agenda:

1. Opening of the session.
2. Election of officers.
3. Adoption of the agenda and rules of procedure.
4. Report on the activities of APCTT during the period from December 2004 to December 2005 and presentation of the programme of work.
5. Report of the Technical Committee on its first meeting.
6. Presentation and discussion on proposed future projects and programmes.
7. Other matters.
8. Adoption of the report.

16. The Council adopted the rules of procedure, which were in line with the revised statute.

17. The Council noted that the first meeting of the Technical Committee had been held in Colombo on 7 February 2006 and had been attended by representatives of 12 member countries, namely Bangladesh, China, India, Indonesia, the Islamic Republic of Iran, Nepal, Pakistan, the Philippines, the Republic of Korea, Sri Lanka, Thailand and Viet Nam. The Council also noted that a country paper from Malaysia had been circulated during the meeting.

### **III. ADMINISTRATION AND PROGRAMME OF WORK**

18. The Council received a report on the activities of the Centre for 2005 as summarized in the present report and described in annex I.

19. The Council approved the programme of activities for 2006, as contained in annex III to the present report.

20. Details of the APCTT programme of work for 2006 -2007 are provided in annex II.

### **IV. DECISIONS AND RECOMMENDATIONS**

21. The report of the Technical Committee on its first meeting was endorsed by the Governing Council at its first meeting. The Council made the following recommendations:

- To enhance the professional capacity of the Centre, the Council proposed that the host Government might consider providing the Centre with the services of a senior professional. The Council also proposed that other member countries might consider providing the Centre with the services of experts.
- To strengthen the financial base of the Centre, the Council advised that more countries should be encouraged to contribute to the Centre at the levels agreed on at the Governing Board in 1997. The Council also recommended that cost-sharing modalities be explored for technical cooperation projects.
- For long-term financial sustainability, the Council suggested that the possibility of developing a corpus fund (endowment fund) be explored.
- To meet the needs of member countries, the Council recommended that project concepts proposed by the Technical Committee be developed through partnership with interested countries and funds sought for implementation.

## **V. PLEDGES AND CONTRIBUTIONS**

22. The Government of Papua New Guinea contributed US\$ 21,839.50 towards the institutional support of the Centre for 2005. Other member States, namely China, the Islamic Republic of Iran, Malaysia, Nepal, Pakistan, the Philippines, the Republic of Korea, Thailand and Viet Nam, provided institutional support at various levels ranging from US\$ 1,000 to US\$ 20,000 and the Government of India contributed US\$ 202,950. The Council expressed its thanks to the member States and organizations that had supported the programme of work of APCTT for 2005 (see annex IV).

### *Annex I*

## **IMPLEMENTATION OF THE PROGRAMME OF WORK IN 2005**

**Expected accomplishment:** Improved application and promotion of information, communication and space technology by Governments and stakeholders in planning and implementing socio-economic development policies and programmes, towards the achievement of internationally agreed development goals, including those contained in the Millennium Declaration.

### **Overall summary of results:**

In 2005, the activities of APCTT were directed towards technology capacity-building, promotion and management of innovation, and subregional and regional networking to enable the countries of the Asian and Pacific region to respond to the challenges that have arisen as a result of integration with the new global knowledge-based economy. In 2005, the Centre focused on the following areas: technology transfer through regional and subregional networking, promotion and management of innovation and technology information services. The Centre's main target groups were SMEs and intermediaries/SME support service providers. The activities of the Centre are SME-oriented, IT-powered, environmentally responsible and gender-conscious. The Centre's technology information and transfer advisory services were provided through: technology exchange services, technology information and transfer networks, and technical periodicals and publications.

In 2005, the Centre worked on the development of the three networks it had established to enable the use and sharing of knowledge, namely the IT-powered Asia-Pacific Technology Transfer Network for SMEs (the [technology4sme.net](http://technology4sme.net) and [business-asia.net](http://business-asia.net) websites), the Biotechnology Information Network for Asia (BINASIA) and the Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET) led jointly by APCTT and China.

The Centre also undertook several activities to implement the project on promotion of national innovation systems in APCTT member countries. These activities included advisory services, an expert group meeting for senior policymakers and national workshops. In 2006, the Centre plans to organize national workshops in five more countries and continue to provide advisory services.

In 2005, the Centre also worked on the development of some new initiatives in cooperation with member countries. These proposals were for the promotion of grass-roots innovation in countries of the Asian and Pacific region, establishing a research and development network in the Asian and Pacific region, and enhanced access to information and communication technology (ICT) in rural and remote areas in the Asian and Pacific region.

Further developments relating to APCTT activities in 2005 are given below.

The activities and outcomes in 2005 were funded by four sources: contributions from the Government of India, the Government of the Republic of Korea, the Government of Germany (through GTZ) and joint contributions from member countries. The expenditures of APCTT in 2005 totalled US\$ 664,350.84. The funding sources of these expenditures are: US\$ 38,273.82 from the Government of India; US\$ 198,570.52 from the Government of the Republic of Korea; US\$ 162,777.78 from GTZ; and US\$ 264,728.72 from the Institutional Support Accounts (contribution from the host country and the pooled annual contributions from member countries).



## **Details of activities in 2005:**

### **Technology transfer through regional and subregional networking**

APCTT is facilitating the establishment of networks of technology transfer intermediaries in the region to promote cross-border business cooperation among SMEs. The network members are assisted in developing partnerships with various stakeholders providing comprehensive technology transfer services. These networks and partnerships will expand the geographical coverage of APCTT activities in the Asian and Pacific region and make it possible to provide a complete technology transfer service package to a much larger group of SMEs. The Centre has established the following networks:

- Technology Transfer Network for Small and Medium-scale Enterprises in the Asia-Pacific Region
- Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET)
- Biotechnology Information Network for Asia (BINASIA)
- International Network for Transfer of Environmentally Sound Technologies for Asia (INTET Asia)

#### **1. Technology Transfer Network for Small and Medium-scale Enterprises in the Asia-Pacific Region**

APCTT is implementing the consolidation phase of the project on promotion of the Technology Transfer Network for Small and Medium-scale Enterprises in the Asia-Pacific Region, which is funded by the Government of Germany. The project is aimed at enhancing the capacity of institutions/intermediaries in member countries to deliver technology transfer services to contribute to the improvement of the competitiveness of SMEs.

As part of this project, the Centre has modified and upgraded the website [www.technology4sme.net](http://www.technology4sme.net) and developed another website, [www.business-asia.net](http://www.business-asia.net), with the overall objective of promoting technology-based cooperation in the Asian and Pacific region, with a particular focus on SMEs.

The website **technology4sme** is being redeveloped by APCTT to facilitate online transfer of technology and with a view to establishing it as a regional “technology transfer marketplace” for Asia and the Pacific. The website will have several features, including a technology exchange service, a technology database, a terms and conditions of technology transfer service, member registration and basic and practical knowledge on technology transfer. The modified and upgraded website will provide more effective and user-friendly delivery of technology transfer services. The main target beneficiaries of the website are:

- Enterprises, especially SMEs
- Technology transfer intermediaries
- Technology/business infomediaries and promotional organizations
- Research and development (R and D) institutions/universities
- Consultants
- Venture capitalists, financial institutions and investors

It is expected that the website will facilitate horizontal and vertical technology transfers, technology capacity-building, and the promotion and management of innovation, as well as regional/subregional networking and technology trade community-building. It will focus on enhancing the competitiveness of SMEs by facilitating the adoption of best practices, including those related to the acquisition/adoption of environmentally sound technologies.

The **Business-Asia** website, when it is established, will be a one-stop platform for sourcing information on business start-ups, joint ventures and foreign direct investment (FDI) across borders in the Asian and Pacific region, as well as for providing information on new technologies and products. The website will help entrepreneurs obtain information for business start-up and operation in countries of the region, and seek business partners, and will facilitate technical cooperation among various key players in the Asian and Pacific region. The website will also provide business support information, including business and partnership opportunities in the region, with a particular focus on SMEs. Some of the features of the website will be: business support information for new entrepreneurs and SMEs; policies and regulations on joint ventures and FDI in each member country of APCTT; databases for business management-related information, e.g., institutions, industries, publications, events, news and job opportunities; country-specific workspaces with ad hoc information for business start-ups, joint ventures and FDI; and discussion boards.

APCTT provides a technology trade platform for seekers and providers of technologies and renders technology exchange and transfer services with a view to promoting technology cooperation and trade among organizations and enterprises of the Asian and Pacific region. APCTT receives technology offers from research institutions, universities and companies including large-scale companies and intermediaries, especially for SMEs. These websites are also being used to enhance the technology exchange service of the Centre as follows:

(a) **Technology providers (sellers).** Technology providers can submit their technology offers to APCTT using the web-based facility [www.technology4sme.net](http://www.technology4sme.net) or the website [www.apctt.org](http://www.apctt.org). Registration of the technology offers in the APCTT databank is free of charge. The technology offers can also be published in the APCTT periodical *Asia Pacific Tech Monitor*. APCTT offers “partner search” services to technology providers, for which the Centre approaches prospective technology buyers directly or through various established channels;

(b) **Technology seekers (buyers).** Technology buyers can submit their requests to APCTT using the Centre's previously mentioned website facilities. The registration of technology requests in the APCTT databank is also free of charge and technology requests can also be published in *Asia Pacific Tech Monitor*. APCTT offers partner search services to technology seekers, approaching prospective technology providers directly or through various established channels.

The following activities were organized in 2005:

(a) **Consultative meeting for Business-Asia.net.** The meeting was held at the Centre on 1 February 2005. It was organized to solicit the views of concerned and experienced persons on the proposed website, [www.business-asia.net](http://www.business-asia.net). The participants made several useful suggestions relating to different aspects of the website, which were taken into account while building up the website.

(b) **Road Mapping Workshop for Technology4sme.net and Business-Asia.net.** The purpose of this workshop, held at the Centre on 21 and 22 March 2005, was to share with selected participants from member countries the proposals of APCTT on the content and functions of the websites, [Technology4sme.net](http://Technology4sme.net) and [Business-Asia.net](http://Business-Asia.net), and to invite suggestions on the development of these websites. During the workshop, APCTT presented the prototype versions of the two websites and encouraged discussion on their proposed content, and functions and the opportunities to connect these websites to similar technology transfer portals in member countries. A total of 30 participants from China, India, the Islamic Republic of Iran, Malaysia, the Philippines, the Republic of Korea, Thailand and Viet Nam and from selected institutions in New Delhi participated in the workshop. The discussions during the two days of the workshop helped APCTT to further develop ideas on the content and functions of the two websites and decide on definite structures. As a result, the Centre was able to finalize the structure of the website [www.technology4sme.net](http://www.technology4sme.net) and to identify member country organizations maintaining similar technology transfer portals that might cooperate with APCTT. The Centre was also able to gather ideas on the proposed structure, content and functions of the website [www.business-asia.net](http://www.business-asia.net), including the country-specific content. APCTT used this workshop as an opportunity to identify institutions from the participating member countries that expressed interest in cooperating with APCTT on these websites. Cooperation on [technology4sme](http://Technology4sme.net) was necessary in order to facilitate access to databases of technology offers and requests of selected countries in the region by interconnecting the technology portals of those countries. Furthermore, cooperation would be particularly important in developing country-specific content that could eventually be hosted on the Centre's [business-asia.net](http://business-asia.net) website in order to create the above-mentioned Business Asia Network. The four substantive sessions dealt with two topics, "Technology transfer services" and "Promoting SMEs: programmes, policies and opportunities". During the sessions, APCTT staff members presented the prototype versions of the two websites, [www.technology4sme.net](http://www.technology4sme.net) and [www.business-asia.net](http://www.business-asia.net). At the concluding session, recommendations on the prototype versions of the two websites presented by APCTT were made and the future course

of action was agreed. The APCTT vision, however, goes much beyond the project involving these two websites. The dialogue that has been initiated with the member country institutions and their representatives through this workshop would be further strengthened by proactively engaging with them through several other initiatives in the future.

(c) **Progress meeting and training on Technology4sme.net and Business-Asia.net.**

Following the Road-mapping Workshop held in New Delhi in March 2005, a progress meeting-cum-training workshop was organized in Tehran on 9 and 10 August 2005 to review progress and to seek suggestions and recommendations from network partners and promotional organizations for further content development of the beta versions of the two portals, [www.technology4sme.net](http://www.technology4sme.net) and [www.business-asia.net](http://www.business-asia.net), before they were launched, as well as for formulation and delivery of web-based technology transfer and business information services through these portals. The meeting was attended by 30 participants from five member countries, India, the Islamic Republic of Iran, Malaysia, the Philippines and Viet Nam. During the two days of the event, the participants from network partner agencies and promotional organizations in member countries contributed to the proceedings and were trained on user and administrative aspects of the two portals. The participants were informed that, through technology4sme, comprehensive technology transfer services would be provided to users in member countries, including technology transfer transactions, and technology and market news. This website would enable information flow/communication between technology offerers and requesters. It would also provide customer workspaces for the introduction of new technologies and products. Once a well-designed, functional and informative technology transfer online network had been established by APCTT, it would need to be promoted to enable government-supported research institutions, universities, private companies and individuals to make technology deals. Through this network it would be possible to facilitate the buying and selling of technologies, the sourcing of new technologies and new products, and the development of joint ventures. Technology Market, or Tech Mart, on the technology4sme website would provide a very effective platform for entrepreneurs, business start-ups and SMEs in member countries. As previously mentioned, business-asia.net was designed as a one-stop source of information required by business people for rapid business development. It would go far beyond being a mere information service and would provide vital information to entrepreneurs and investors and help them to find business opportunities, new products, market news and information to upgrade management skills online. The website would also facilitate effective and focused communication and interaction among entrepreneurs, investors, technologists, business development experts and policymakers, and promote outward and inward investment among member countries. It would also provide information on legal and government policies for business start-ups, SMEs, joint ventures and FDI.

(d) **Meeting of Network Coordinators for Technology4sme.net and Business-Asia.net Websites.** This meeting, which was held in Shanghai, China, from 3 to 5 November 2005,

was organized to identify network partners for the technology4sme.net website and focal points for the business-asia.net website in APCTT member countries. Other purposes were to develop content for country-specific workspaces in the websites and to develop national technology transfer and business support and information websites in each member country. The meeting was attended by 30 participants from 10 member countries, namely, Bangladesh, China, India, the Islamic Republic of Iran, Nepal, Pakistan, the Philippines, the Republic of Korea, Sri Lanka and Thailand. The network partners for the technology4sme.net and focal points for the business-asia.net websites were identified. Discussions were held on the future course of action for the development of these websites. The participants were informed that APCTT would provide all the technical and consultancy support for the development of the national websites. APCTT would also provide financial assistance, on request, for developing national websites.

## **2. Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET)**

Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET) is a network sponsored and initiated by APCTT and its member countries for the development of traditional medicine and the promotion of information dissemination and industrial/technical cooperation on traditional medicine in the Asian and Pacific region. This initiative was taken following a recommendation of the seventeenth meeting of the Technical Advisory Committee of APCTT in November 2001 in Shanghai, China, and subsequently endorsed by the Governing Board at its sixteenth session in November 2001.

From mid-2002, APCTT and its member countries have made great efforts to establish APTMNET and considerable progress has been achieved thus far. The network [www.apctt-tm.net](http://www.apctt-tm.net) linking 14 countries of the region (Bangladesh, China, India, Indonesia, Islamic Republic of Iran, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, the Republic of Korea, Sri Lanka, Thailand and Viet Nam) in the area of traditional and herbal medicine technology has been established. The network addresses issues relating to biodiversity, the protection of traditional knowledge, sustainable industrial utilization of natural resources and the promotion of sound agronomical practices at the grass-roots level.

(a) **2005 Asia-Pacific Traditional Medicine Expo and Forum.** With the vigorous development of life sciences and the popularity of the concept of keeping fit and living healthily, there is a demand for natural medicine in the world market. More and more countries are paying close attention to traditional and natural medicines. In order to strengthen regional cooperation and accelerate the industrialization and modernization of traditional medicines in the Asian and Pacific region, the Asia-Pacific Traditional Medicine Expo and Forum was organized at the Wuhan Science and Technology Convention and Exhibition Centre by the Hubei Provincial People's Government of China from 20 to 22 October 2005. This event was organized with support from APCTT and the Ministry of Science and Technology of China. Its objective was to promote the development and

expansion of the market for traditional medicine. The event consisted of the following components: a forum, an exposition, a business promotion workshop and a field visit. The Director of APCTT delivered the inaugural address at the opening ceremony. Relevant leaders from the International Cooperation Department of the State Administration for Traditional Chinese Medicine also made speeches at the opening ceremony. Officials from the Ministry of Science and Technology, the Department of International Cooperation of the Ministry of Science and Technology, and the International Cooperation Department of the State Administration for Traditional Chinese Medicine attended the opening ceremony. The second meeting of the APTMNET Executive Council was held in conjunction with this event. During this meeting, a representative of India was elected Chairperson. Representatives of China and Malaysia were elected Vice-chairpersons for the period 2005-2006. Since China is hosting the APTMNET secretariat, China also holds the office of Member Secretary. The work plan for the biennium 2005-2006 was also drawn up.

### 3. Biotechnology Information Network for Asia (BINASIA)

Members and associate members of the Commission, at its fifty-eighth session, requested APCTT to implement a project for the establishment of the Biotechnology Information Network for Asia (BINASIA). The Ministry of Science and Technology of the Republic of Korea expressed support for the project and requested APCTT to develop the project in cooperation with the Korea Research Institute of Bioscience and Biotechnology (KRIBB). Consequently, APCTT and KRIBB agreed to a general framework of understanding and developed the BINASIA project. Thirteen member countries of APCTT, namely, Bangladesh, China, India, Indonesia, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, the Republic of Korea, Sri Lanka, Thailand and Viet Nam, have joined the network and have designated national focal points for BINASIA (see box below). The following activities were carried out under this project in 2005.

| <b>BINASIA national focal points</b> |  |
|--------------------------------------|--|
| <b>Bangladesh</b>                    | National Institute of Biotechnology                                    |
| <b>India</b>                         | Department of Biotechnology  |
| <b>Indonesia</b>                     | Research Centre for Chemistry, Indonesian Institute of Sciences (LIPI) |
| <b>Islamic Republic of Iran</b>      | National Institute for Genetic Engineering and Biotechnology           |
| <b>Malaysia</b>                      | National Directorate of Biotechnology (BIOTEK)                         |
| <b>Mongolia</b>                      | Center for Biotechnology, Institute of Biology                         |
| <b>Nepal</b>                         | Research Centre for Applied Science & Technology (RECAST)              |
| <b>Pakistan</b>                      | Centre for Applied Molecular Biology (CAMB)                            |
| <b>Philippines</b>                   | Biotechnology Information Centre (SEAMEO-SEARCA)                       |
| <b>Republic of Korea</b>             | Korea Research Institute of Bioscience and Biotechnology               |
| <b>Sri Lanka</b>                     | National Science Foundation  |
| <b>Thailand</b>                      | National Centre for Genetic Engineering and Biotechnology              |
| <b>Viet Nam</b>                      | National Institute of Agricultural Genetics and Biotechnology          |

(a) **BINASIA National Workshop (Viet Nam).** APCTT, in cooperation with KRIBB, the Ministry of Science, Technology and Environment of Viet Nam, and the National Institute of Agricultural Genetics and Biotechnology, organized the BINASIA National Workshop in Hanoi on 27 and 28 January 2005. The workshop was held to promote BINASIA and encourage the participation of national stakeholders in the development and use of BINASIA. Mr. Bui Ba Bong, Vice Minister, Ministry of Agriculture and Rural Development, delivered the keynote address. This was followed by presentations from experts under the following themes: role of government in the development and transfer of biotechnology; biotechnology development: opportunities and challenges; and technology transfer and innovation management. The workshop was attended by more than 60 participants from R and D institutes, key ministries dealing with biotechnology, such as those of agriculture, industry, science and technology, and educational institutions.

(b) **BINASIA National Workshop (Sri Lanka).** APCTT, in cooperation with the National Science Foundation and the National Engineering Research and Development Centre, supported by KRIBB, organized the BINASIA Sri Lanka National Workshop in Colombo on 6 and 7 April 2005. The workshop was attended by more than 70 participants, mainly from the R and D community. Tissa Vitarana, Minister for Science and Technology, delivered the keynote address. The Minister highlighted the importance and potential of biotechnology in a knowledge-based economy. He called upon the research community to develop biotechnologies that were suitable to Sri Lanka and to address various issues associated with their possible impact on the environment. During the first session, on the role of government in the development and transfer of biotechnology, experts from Sri Lanka presented the initiatives taken by the Government for the development and promotion of biotechnology and the national biosafety policy. Participants deliberated at length on the various aspects of bioethics. The second session included the presentation of country papers from China, India, the Republic of Korea, Sri Lanka and Thailand, followed by a panel discussion on "Biotechnology development: opportunities and challenges". KRIBB shared its experiences on its international cooperation and technology transfer. The third session covered various aspects of technology transfer and innovation management. Two successful technology transfer case studies of Sri Lanka were presented and discussions were held on the lessons learned. Intellectual property rights issues related to biotechnology were deliberated at length, followed by the presentation of the BINASIA website. While presenting that website, APCTT urged biotechnology stakeholders to participate actively in this Network and take advantage of it. An electronic version of the website content questionnaire was made available to the participants for them to provide their input for the website. The BINASIA national focal point confirmed that it would use the content questionnaire to develop content for the Sri Lankan section of the website.

(c) **BINASIA National Workshop (Indonesia).** Biotechnology, in the wide sense, has been known and practised for a long time in Indonesia, although most people did not understand the technological process, nor why it was called biotechnology. It was seen fit to adopt the European Federation of Biotechnology definition for explaining the current status of biotechnology in Indonesia, as this definition is applicable to both “traditional or old” (such as *tempe* – fermented soybean) and “new or modern” biotechnology (such as protein structure). The Indonesian Biotechnology Consortium (IBC), which was established in 1992, is an independent body on which the scientific, educational, research and industrial communities are represented. The aim of IBC is to actively engage in mastering, developing and making wise use of the benefits of biotechnology for the prosperity of mankind and environmental conservation. IBC activities are focused on facilitating and building: (i) cooperation among governmental and private institutions working in the field of biotechnology, (ii) fostering communication and synergistic cooperation with foreign institutions in the field of biotechnology and (iii) assisting the Government in developing specific biotechnological sectors of importance to Indonesia. Currently, more than 34 institutions belonging to the governmental and private sectors work in the field of biotechnology and are members of IBC. Indonesia, however, does not yet have a national biotechnology policy. The BINASIA-Indonesia National Workshop was organized by the Research Centre for Chemistry, IBC, KRIBB and APCTT to promote the active participation of biotechnology stakeholders in the BINASIA Network and international cooperation among participating countries. This workshop also discussed the status of biotechnological developments and the national priority areas of Indonesia.

(d) **BINASIA National Workshop (Islamic Republic of Iran).** This workshop was organized by the National Institute for Genetic Engineering and Biotechnology of the Islamic Republic of Iran, KRIBB and APCTT. Held in Tehran on 7 and 8 November 2005, the workshop was attended by more than 130 participants, mainly from the field of research and academia. Women constituted more than 50 per cent of the participants. Seventeen presentations were made at the workshop, covering developments in agricultural, industrial, environmental and marine biotechnologies in the Islamic Republic of Iran. The participants expressed appreciation of the role and relevance of BINASIA and agreed to actively participate in the Network. The Network, they felt, would enhance the flow of data concerning biotechnology, thus facilitating contact and cooperation among biotechnology stakeholders in the Islamic Republic of Iran and in the participating countries. The National Institute for Genetic Engineering and Biotechnology (NIGEB) requested APCTT to organize a workshop on technology transfer in the field of biotechnology in view of the new bio-incubator centre that it had recently established. The Institute was looking for advice on how best to manage the bio-incubator centre and provide industrial services.



#### **4. International Network for Transfer of Environmentally Sound Technologies for Asia**

The International Network for Transfer of Environmentally Sound Technologies for Asia (INTET Asia) was established by APCTT in 1994. The objective of the Network is to facilitate the transfer to SMEs of environmentally sound technologies for manufacturing and cleaning. This network is beneficial for innovative enterprises and technology transfer intermediaries interested in identifying new technology/collaboration opportunities for themselves or their clients with a particular focus on environmentally sound technologies. Members of INTET Asia enjoy membership benefits, including free periodicals, “matchmaking” services, subsidized participation in technology transfer events organized by the Centre, preference in obtaining consultancy contracts/subcontracts through the Network and free advertising space in APCTT periodicals. The INTET Asia Network has been strengthened through new membership. Advanced web-based networking and business exchange tools for INTET Asia members are under development.

#### **Technology capacity-building and promotion and management of innovation**

APCTT receives funds from the Government of India to promote the National Innovation System (NIS) in its member countries. This project was designed to enable policymakers to appreciate the relevance and importance of NIS, and develop policy frameworks that enable the key actors, namely, industries, R and D institutions and universities, to adopt and participate in such a system. As part of its implementation, APCTT will provide advisory services, organize expert group meetings for senior policymakers and national workshops for key actors in the system. Networking and sharing of knowledge on NIS among member countries would be facilitated through Internet-based mechanisms such as a website on NIS, the creation of communities and the provision of online information services. Under this project, the following activities were organized in 2005:

(a) **Asia-Pacific Forum on National Innovation Systems.** The Forum, which was held in New Delhi on 28 and 29 April 2005, was attended by representatives of the following countries: Bangladesh, China, India, Indonesia, the Islamic Republic of Iran, Nepal, Pakistan, the Philippines, the Republic of Korea, Sri Lanka, Thailand and Viet Nam. Six specialists in the area of national innovation systems participated as resource speakers. The deliberations and presentations made at the Forum highlighted the importance of a well-designed national innovation system framework, particularly in the context of globalization. The Forum provided the participants with a platform to discuss and share good practices with regard to developing a national innovation system. The proceedings of this Forum have been brought out as a publication entitled *National Innovation Systems (NIS) in the Asia Pacific Region*.

(b) **NIS – Thailand Summit 2005 – Mobilizing Value Creation in Bio-business.** A two-day NIS workshop was organized in conjunction with the InnovAsia 2005 conference held in Bangkok from 21 to 23 September. The workshop focused on two main themes: national innovation

systems for biotechnology, and value creation in bio-business. An expert from the Republic of Korea provided the global scenario and developments concerning these issues. Three experts from India presented biotechnology-specific strategies, schemes and practices to promote bio-innovation and biotechnology in India. The Director of APCTT made a presentation on “Innovation policy framework: concept, elements, development and implementation”. APCTT also made a presentation on BINASIA. Participants were encouraged to enhance country-specific content by online contributions and the sharing of information. The concluding session on the topic of mobilizing innovation in bio-business was conducted in the Thai language. Five national experts from Thailand discussed the future of bio-business, revitalizing bionetworks, business opportunities and issues associated with intellectual property rights. A common inaugural session and three parallel thematic workshops of the two events benefited the participants of the NIS workshop as there were presentations on various aspects of innovation and innovation management. The themes of the parallel workshops were: (i) capacity-building in innovation management: stimulating innovation in the ASEAN region; (ii) intellectual property rights; and (iii) innovation and entrepreneurship. The Director and UNESCO Representative, UNESCO office/Jakarta, Regional Science Bureau for Asia and the Pacific, in his opening remarks, traced the history of Science and technology policy, which was now focusing on innovation and innovation management, reflecting changing times and strategies in the era of globalization and intense competition. At the inaugural session, three keynote papers, “National competitiveness and innovation – the future for Thailand?”, “The future of innovation in Asia-Pacific”, and “Myths and realities in the global innovation ecosystem: implication for Asian innovation”, were presented by renowned international experts.

(c) **Workshop on National Innovation Systems.** At the workshop, held in Colombo on 4 and 5 October 2005, the Director of APCTT made a presentation on “Innovation policy framework: concept, elements, development and implementation”. Two resource speakers from the Republic of Korea and Thailand presented papers on the national innovation system. Two case studies were presented by national experts. During the session on policy framework development and programmes for Sri Lanka, four working groups were formed to develop some key recommendations for key actors of the national innovation system, namely, policymakers, academia, industries and R and D institutions. At the panel session, each working group presented its findings and recommendations, leading to the development of a consolidated set of recommendations for the Ministry of Science and Technology of Sri Lanka.

(d) **Ninth National Congress on Government, University and Industry Cooperation for Development.** This Congress, organized by the Iranian Research Organization for Science and Technology (IROST) in Tehran from 13 to 15 December 2005, was designed to: examine the current practices of government, university and industry cooperation; discuss more efficient models for such cooperation; disseminate successful experiences of the stakeholders; and develop strategies for

facilitating and enhancing this cooperation. APCTT facilitated the participation of three speakers in this congress to present papers on R and D outsourcing from developed countries; the role of spin-off and start-up companies in R and D commercialization; and technology outsourcing from developed countries and international technology transfer. The resource persons also conducted a one-day workshop on government, university and industry cooperation for development on 13 December 2005 as a participative science and technology formulation exercise. The congress was attended by about 150 participants and the workshop by 30 participants, including academic researchers, government officials and experts, and entrepreneurs.

### **Technology information services**

The Centre endeavoured to keep SMEs and policymakers up to date on the latest technological developments and on new and emerging issues associated with the development, transfer and acquisition of technologies through its periodicals and publications. The publications have also served as an important tool to bring together providers and seekers of technology.

*Asia Pacific Tech Monitor*, the Centre's prime periodical, with an annual circulation of nearly 6,000 copies in about 70 countries, is brought out on a bimonthly basis and serves as a guide to the new innovation-driven economy. Articles on technological trends, technology markets and technology transfer are mainly contributed by leading experts in the region. The special themes covered in 2005 were Hazardous waste management: trends and prospects in Asia and the Pacific; Start-up venture opportunities in Asia and the Pacific; Innovation management by SMEs in a knowledge-driven economy: strategies and tools; Research and development networks; Integration of traditional and modern technologies; and Advanced technologies: applications and technology transfer. To add value to the "Yellow Pages" business section of the *Asia Pacific Tech Monitor*, the Business Coach Section with how-to guides for innovative firms was included, covering topics such as start-up venture creation, venture financing, managing innovation, technology transfer and green productivity. The "Yellow Pages" also contain a section on technology opportunities, covering technology offers and requests, investment opportunities, strategic alliances and joint ventures. This section continues to be a major contributor in facilitating and promoting the technology transfer services of APCTT.

Under the **Value Added Technology Information Service (VATIS)**, the Centre brings out five bimonthly periodicals, namely, *Non-Conventional Energy*, *Waste Management* (formerly *Waste Technology*), *Biotechnology*, *Food Processing* and *Ozone Layer Protection*. The key feature of the VATIS periodicals is the packaging of information in capsule form and facilitating direct access to information sources, wherever possible. The technological information is sourced from the print media, relevant websites and through electronic mail services. Three of the VATIS periodicals are published with the support and cooperation of specialized institutions. The production of VATIS on the topic of ozone layer protection is financially supported by the Ozone Cell of the Ministry of

Environment and Forests, Government of India. Furthermore, the Biotechnology Consortium India Limited (BCIL) and GTZ-ASEM (Advisory Services in Environmental Management) are co-publishers of the VATIS on Biotechnology and Waste Management respectively.

The web-based version of the technology oriented periodicals produced by APCTT is available at [www.techmonitor.net](http://www.techmonitor.net). Started in January 2003, this website attracted more than one million “hits” and more than 75,000 specific visits in 2005. The information available in various APCTT publications, particularly periodicals, except the most recent ones, is provided free of cost on this website to cater to a wider audience.

*Annex II*

**PROGRAMME OF WORK, 2006-2007**

|                                 |   |
|---------------------------------|---|
| <b>Subprogramme objective:</b>  | To improve access to, and the development, transfer and application of, information, communication and space technology in order to maximize the benefits of globalization  |
| <b>Expected accomplishment:</b> | Enhanced national capacities to apply information, communication and space technology in planning and implementing socio-economic development programmes, including for the promotion of gender equality  |
| <b>Intermediate result:</b>     | SMEs in member countries are able to access and use technologies through APCTT networks.  |
| <b>Output:</b>                  | <p>Other substantive activities (regular budget/extrabudgetary):</p> <ul style="list-style-type: none"> <li>(i) Recurrent bimonthly publications: <ul style="list-style-type: none"> <li><i>Asia-Pacific Tech Monitor</i> (XB)</li> <li><i>VATIS on Waste Technology</i> (XB)</li> <li><i>VATIS on Non-conventional Energy</i> (XB)</li> <li><i>VATIS on Food Technology</i> (XB)</li> <li><i>VATIS on Biotechnology</i> (XB)</li> <li><i>VATIS on Ozone Layer Protection</i> (XB)</li> </ul> </li> <li>(ii) Technical material: <ul style="list-style-type: none"> <li>Training materials</li> <li>Technology transfer guidelines (XB)</li> <li>Special booklets (XB): National innovation systems</li> <li>S and T and R and D institutions in the Asia-Pacific region</li> <li>Guidebook on business start-up and operation in countries of the Asia-Pacific region (XB)</li> </ul> </li> <li>(iii) Audio-visual resources: <ul style="list-style-type: none"> <li>APCTT website (continuous, XB)</li> <li>Business e-Coach CD-ROM (XB)</li> </ul> </li> </ul> |
| <b>Output:</b>                  | <p>Technical cooperation (regular budget/extrabudgetary):</p> <ul style="list-style-type: none"> <li>(i) Advisory services on: technology transfer for SMEs and national innovation systems (XB)</li> <li>(ii) Training courses, seminars and workshops: <ul style="list-style-type: none"> <li>Regional seminars/workshops related to technology transfer (2 in 2006, 2 in 2007, 40 participants each) (XB);</li> </ul> </li> <li>(iii) Field projects: <ul style="list-style-type: none"> <li>National seminars on national innovation systems (2 in 2006, 2 in 2007) (XB).</li> </ul> </li> </ul>  |

*Annex III*

**PROGRAMME OF ACTIVITIES FOR 2006**

**Expected accomplishment of related ESCAP subprogramme**

Improved application and promotion of information, communication and space technology by Governments and stakeholders in planning and implementing socio-economic development policies and programmes, towards the achievement of internationally agreed development goals, including those contained in the Millennium Declaration.

**Intermediate result**

SMEs in member countries are able to access and use technologies through APCTT networks.

***Output A: Servicing of intergovernmental and expert bodies***

- (i) Economic and Social Commission for Asia and the Pacific:
  - a. Parliamentary documentation: report on activities of the Asian and Pacific Centre for Transfer of Technology (APCTT)
  - b. Assistance to representatives, rapporteurs: APCTT Governing Council and Technical Committee meetings

**Estimated cost:** US\$ 30,000

**Anticipated source of funds:** APCTT Joint Contribution Account

***Output B: Other substantive activities***

- (i) **Target group is able to provide enabling environment for technology innovation.**

| <b><u>Description of activity</u></b>  | <b><u>Cost</u></b> | <b><u>Anticipated sources of funds</u></b> |
|--|--------------------|--|
| Build capacity and share good practices in national policy formulation for NIS through meetings and training and an online resource network. | US\$ 100,000       | Government of India                        |
| Build capacity for development and dissemination of green grass-roots innovation in the Asia-Pacific region.                                 | US\$ 126,140       | Government of India                        |
| Promote venture entrepreneurship through establishing/ updating a Business-Asia portal.  | Euro 50,000        | GTZ  |

(ii) Target group is knowledgeable of and able to apply new and emerging technologies including environmentally sound technologies.

| <u>Description of activity</u>   | <u>Cost</u>                      | <u>Anticipated sources of funds</u> |
|--|----------------------------------|-------------------------------------|
| Streamline and expand the Technology4sme website.  | Euro 100,000                     | GTZ                                 |
| Expand and promote Biotechnology Information Network for Asia (BINASIA) and its portal.  | US\$ 30,000                      | Republic of Korea (KRIBB)           |
| Disseminate latest information through <i>Asia-Pacific Tech Monitor</i> , VATIS and other publications/periodicals using print and Internet media. | US\$ 10,000                      | Government of India Trust Fund/GTZ  |
| Establish a regional R and D network including national R and D programmes and projects.   | US\$ 50,000<br>(In the pipeline) | Republic of Korea                   |
| Enhance access to ICT in rural and remote areas in the Asia-Pacific region.  | US\$ 56,000                      | Republic of Korea                   |

(iii) Target group has improved skills in managing traditional technologies/industrial clusters.

| <u>Description of activity</u>  | <u>Cost</u>  | <u>Anticipated sources of funds</u>  |
|---|--------------|--------------------------------------|
| Strengthen Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET). | US\$ 250,000 | Government of China and other donors |

(iv) Other:

**APCTT administrative costs:**

**Estimated cost:** US\$ 300,000

**Anticipated source of funds:**

- Indian Government contribution
- APCTT Joint Contribution Account

*Annex IV*

**PLEDGES AND CONTRIBUTIONS, 2005**

*Regular annual contributions*

| <b>Country/organization</b> | <b>Contributions<br/>in 2005 (US\$)</b> |
|-----------------------------|---|
| China                       | 19 980.00                               |
| India*                      | 202 950.00                              |
| Iran (Islamic Republic of)  | 9 937.63                                |
| Malaysia                    | 15 000.00                               |
| Nepal                       | 3 000.00                                |
| Pakistan                    | 5 000.00                                |
| Papua New Guinea            | 21 839.50                               |
| Philippines                 | 1 147.00                                |
| Republic of Korea           | 20 000.00                               |
| Thailand                    | 15 000.00                               |
| Viet Nam                    | 4 000.00                                |
| <b>Total</b>                | <b>317 854.80</b>                       |

*Extrabudgetary contributions*

| <b>Country/organization</b> | <b>Project/activity</b>  | <b>Contribution (US\$)</b> |
|-----------------------------|--|----------------------------|
| Republic of Korea           | Strengthening of the Asian and Pacific<br>Centre for Transfer of Technology  | 198 570.52**               |
| Germany                     | Promotion of the Technology Transfer<br>Network for Small and Medium-scale<br>Enterprises in the Asia-Pacific Region | 162 777.78***              |
| India                       | Promotion of a National Innovation System<br>for APCTT Member Countries  | 38 273.82*                 |

\* Equivalent in local currency (Indian rupees).

\*\* The entire project amounts to US\$ 602,439 for two and a half years.

\*\*\* The entire project amounts to Euros 430,000 for two years.

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