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

*Note by the secretariat*

**SUMMARY**

The present report briefly describes the activities of the Asian and Pacific Centre for Transfer of Technology (APCTT) in 2008. During that period, the Centre assisted the countries of the region in responding to the challenges of rapidly integrating into the new global economy by focusing on technology transfer support services for small and medium-sized enterprises (SMEs), the promotion of national innovation systems and green grass-roots innovation and the provision of information, networking and the sharing of experiences relating to technology. Under these thrust areas, the Centre undertook a range of activities of immediate relevance to the region.

APCTT promoted cross-border business cooperation among SMEs through its subregional and regional networks: the technology transfer network for SMEs in the Asian and Pacific region and the Asia-Pacific Traditional Medicine and Herbal Technology Network.

In January 2008, APCTT successfully concluded the project entitled "Promotion of the technology transfer network for SMEs in the Asian and Pacific region", which was funded by the Government of Germany and aimed to enhance the capacity of institutions and intermediaries in member countries to deliver technology transfer services in order to contribute to improving the competitiveness of SMEs and to accelerate the adoption of environmentally sound technologies (ESTs).

The Centre also successfully implemented a project funded by the Government of India to promote grass-roots innovations in the Asia-Pacific region. At the conclusion of this project in March 2008, about 380 experts and senior officials from various government departments and ministries, R&D institutions and technology transfer intermediaries, about 140 of whom were women, had been trained on the scouting, documentation and dissemination (SDD) of grass-roots innovations, and their capacity to develop programmes and activities to exploit grass-roots innovation for socio-economic development, including the promotion of gender equality, had been enhanced.

\* The late submission of the present document is related to the need for updating and verification of the financial statement.

Through its periodicals and publications, APCTT kept SMEs and key policymakers abreast of technology options and environmental and technological issues. These publications also served as a tool to bring together technology providers and seekers.

The Centre made great efforts to strengthen cooperation with the least developed countries, landlocked developing countries and Pacific island developing countries by providing advisory services and organizing training programmes of interest to them. Priority was given to normative and analytical work, with a regional perspective, to serve as a basis for operational activities.

In response to Commission resolution 64/3 of 30 April 2008 on promoting renewables for energy security and sustainable development in Asia and the Pacific, which requested the Executive Secretary to establish an institutional cooperation mechanism with the active engagement of APCTT and expert research institutions in the region, the Centre has prepared a comprehensive project and drawn up a programme of cooperation by identifying activities on development, demonstration and capacity-building pertaining to various renewable energy technologies. In 2009, APCTT will implement the initial activities to support the establishment of the institutional cooperation mechanism, in collaboration with the Ministry of New and Renewable Energy of the Government of India and other related ministries.

At its fourth session, the Governing Council reviewed the administration and financial status of the Centre and the implementation of its programme of work, and endorsed the programme of work for 2008-2009.

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## **Introduction**

1. The Asian and Pacific Centre for Transfer of Technology (APCTT), a subsidiary body of ESCAP, was established on 16 July 1977. The Centre is located in New Delhi with host facilities provided by the Government of India. The objectives of the Centre, as defined in article 4 of its revised statute, dated 18 May 2005, are: to assist the members and associate members of ESCAP by strengthening their capability to develop and manage national innovation systems; to develop, transfer, adapt and apply technology; to improve the terms of transfer of technology; and to identify and promote the development and transfer of technologies relevant to the region. In the three decades of its existence, APCTT has worked to strengthen the technology transfer capabilities of members and associate members of ESCAP, particularly the least developed countries, landlocked developing countries and small island developing States of the region.

### **I. MAJOR DEVELOPMENTS AND RESULTS IN 2008**

2. In 2008, the Centre assisted the countries of the region in responding to the challenges of integrating rapidly into the global economy by focusing on technology transfer support services for small and medium-sized enterprises (SMEs), the promotion of national innovation systems and green grass-roots innovation and the provision of information, networking and the sharing of experiences relating to technology transfer. Under these thrust areas, the Centre undertook a range of activities of immediate relevance to the region.

3. A major activity was the establishment of networks of technology transfer intermediaries in the region to promote cross-border business cooperation among SMEs. Under the project entitled “Promotion of the technology transfer network for SMEs in the Asian and Pacific region”, funded by the Government of Germany, technology transfer institutions in the region were linked to promote cross-border business cooperation and improve the competitiveness of SMEs. Two online regional portals—Technology4sme ([www.technology4sme.net](http://www.technology4sme.net)) and Business-Asia ([www.business-asia.net](http://www.business-asia.net))—were further developed for technology transfer and for sharing technology information and delivering business support information, with a focus on SMEs. The search engine APTITUDE, which stands for Asia-Pacific Technology Information Tracking and Unified Data Extraction and which was developed under this project, enables buyers and sellers of technology to reach the APCTT technology database and other related databases in member countries that are in the public domain. The websites and the search engine were promoted at various forums to create awareness of their usefulness for web-based technology transfer.

4. In view of the interest and importance of technologies for herbal medicine, APCTT and its member countries had previously established the Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET) to develop and promote industrial and technical cooperation on traditional medicine and to disseminate information. The network, which links 14 countries in the region, continued its activities.

5. Recognizing the importance of innovations in a knowledge economy, APCTT has further developed and updated its web-based resource centre to share good practices in national policy formulation for effective national innovation systems and to provide information on national innovation system trends and news. The resource centre is accessible on the APCTT website.

6. In 2007 and 2008, APCTT implemented a project, funded by the Government of India, to promote the scouting, documentation and dissemination (SDD) of grass-

roots innovation (GRI) in the Asia-Pacific Region. The “knowledge partner” was the Society for Research and Initiatives for Sustainable Technologies and Institutions, an internationally renowned organization based in India. Under this project, APCTT organized workshops to provide guidelines on how to initiate SDD of GRI. China, Indonesia, the Philippines and Sri Lanka volunteered to initiate an SDD programme and experts from these countries were specifically trained. National workshops were held in the four partner countries. The last of the national workshops was on GRI and was held in Tianjin, China, on 21 and 22 March 2008.

7. APCTT provided seekers and providers of technologies with a technology trade platform and offered technology exchange and transfer services with a view to promoting technology cooperation and trade among organizations and enterprises of the Asia-Pacific region. APCTT received offers of technology from research institutions, universities and companies, including large-scale companies and intermediaries, especially for SMEs. The websites of Technology4sme and Business-Asia and the APTITUDE search engine enhanced the technology transfer services of the Centre.

8. The periodicals of APCTT continued to play an essential role in the dissemination and promotion of technological information and the utilization of technology. Copies of the Centre’s periodicals, the *Asia Pacific Tech Monitor* and *Value Added Technology Information Services (VATIS)*, which covered the areas of ozone layer protection, waste technology, biotechnology, food processing and non-conventional energy, were distributed in 60 countries. The electronic versions of the Centre’s technology-oriented periodicals are available at [www.techmonitor.net](http://www.techmonitor.net).

9. The Centre made concerted efforts to strengthen cooperation with the least developed countries, landlocked developing countries and Pacific island developing countries through the provision of advisory services and the organization of training programmes of interest and relevance to those countries. In early 2008, APCTT helped the Human Resource Development Centre (HRDC) of the Council of Scientific and Industrial Research (CSIR) of the Government of India to design and deliver a three-day residential training programme for its senior research and development (R&D) managers and representatives from the Islamic Republic of Iran, Malaysia, Mongolia, Nepal, Sri Lanka and Thailand on the topic of the valorization of R&D as part of the overall effort to increase the level of commercialization of R&D in laboratories. A similar three-day programme was conducted in Ulaanbaatar from 6 to 8 October 2008 for researchers and research managers from the Mongolian Academy of Sciences (MAS).

10. To identify trends, highlight good practices and foster South-South cooperation, APCTT gave priority to normative and analytical work and focused on issues such as barriers to technology transfer and best practices for the utilization of R&D results by SMEs and the private sector.

11. In response to Commission resolution 64/3 of 30 April 2008 on promoting renewables for energy security and sustainable development in Asia and the Pacific, which requested the Executive Secretary to establish an institutional cooperation mechanism with the active engagement of APCTT and expert research institutions in the region, APCTT has prepared a comprehensive project and drawn up a programme of cooperation by identifying activities on development, demonstration and capacity-building pertaining to various renewable energy technologies. In 2009, APCTT will implement the initial activities to support the establishment of this institutional cooperation mechanism. APCTT will work with the Ministry of New and Renewable

Energy of the Government of India and other related ministries to implement the resolution.

12. The programme of work of APCTT for 2009 was considered at the fourth session of the Governing Council of APCTT on 26 November 2008.

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

13. The fourth session of the Governing Council of the Asian and Pacific Centre for Transfer of Technology was held in Bangkok on 26 November 2008. The session was attended by representatives of 11 members of the Governing Council, namely Bangladesh, China, Fiji, India, Indonesia, the Islamic Republic of Iran, Malaysia, Pakistan, Sri Lanka, Thailand and Viet Nam. Observers from Nepal, the Philippines, and the Republic of Korea also participated.

14. The Council unanimously elected Associate Professor Weerapong Pairsuwan (Thailand) as Chairperson and Mr. Mahmoud Molanejad (Islamic Republic of Iran) as Vice-Chairperson.

15. The Council adopted the following agenda:

1. Opening of the session.
2. Election of officers.
3. Adoption of the agenda.
4. Report on the activities of the Centre during the period from December 2007 to November 2008 and presentation of the programme of work for the biennium 2008-2009.
5. Report of the Technical Committee on its fourth meeting.
6. Proposed future projects and programme of work for the biennium 2008-2009.
7. Date and venue of the fifth session of the Governing Council.
8. Other matters.
9. Adoption of the report.

16. The fourth meeting of the Technical Committee was held in Bangkok on 24 and 25 November 2008 and was attended by 30 experts from 14 countries, namely Bangladesh, China, Fiji, India, Indonesia, the Islamic Republic of Iran, Malaysia, Nepal, Pakistan, the Philippines, the Republic of Korea, Sri Lanka, Thailand and Viet Nam.

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

17. The Governing Council of the Centre reviewed the administration and financial status of the Centre and the implementation of its programme of work, as summarized in the present report and described in annex I, and endorsed the programme of work for the period 2008-2009, as contained in annex II. Details of the expected accomplishments for 2008-2009 are provided in annex III.

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

18. The report of the Technical Committee on its fourth meeting was endorsed by the Governing Council at its fourth session. The Council advised the Centre to develop further the project concepts proposed by the Committee and to seek financial resources for their implementation.

19. The following observations and recommendations were made by the Governing Council:

(a) To enhance the professional capacity of the Centre, the Council proposed that member countries could consider providing expert services. To enable member countries to make proposals to their Governments on the financial implications of providing experts, the Centre was requested to provide information to member countries on salary scales of professional United Nations staff members and other requisite information;

(b) Considering the rising costs of operating the Centre and to strengthen the financial base of the Centre, the Council advised that countries should be encouraged to enhance their contributions to the Centre;

(c) The Council urged the secretariat to formally write to the seats of Government and concerned ministries, such as the ministries of science and technology, and agencies to seek enhanced contributions to APCTT. It also requested APCTT to follow up with the focal points in the concerned ministries;

(d) The Council urged APCTT to work closely with its focal points to implement activities recommended by the Technical Committee and to explore cost-sharing possibilities in the implementation of such activities;

(e) The Council advised that APCTT should, in consultation with the secretariat, explore non-traditional sources of funding for programme support. They could include foundations, trusts and other bodies that support capacity-building programmes at the regional level.

#### **V. CONTRIBUTIONS**

20. In 2008, the Centre received contributions from Bangladesh; China; Indonesia; the Islamic Republic of Iran; Malaysia; Macao, China; Pakistan; Papua New Guinea; the Philippines; the Republic of Korea; Sri Lanka; and Thailand in varying amounts ranging up to \$35,000. A total of \$209,480.35 for the year 2008 was received from the Government of India in late 2007 for institutional support of the Centre. The Council expressed its thanks to the member States and organizations that had supported the Centre's programme of work for 2008 (see annex IV).

## *Annex I*

### **IMPLEMENTATION OF THE PROGRAMME OF WORK IN 2008**

**Expected accomplishment:** Strengthened national capacity to nurture and promote national innovation systems to create an enabling environment for technology transfer so that countries of the region could meet developmental challenges in a globalized economy.

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

In 2008, the Centre focused its activities on regional and subregional networking, technology capacity-building and the promotion and management of innovation and technology information services. The target groups of users were small and medium-sized enterprises (SMEs) and intermediaries/SME support service providers.

The Centre strengthened the Technology Transfer Network for SMEs and promoted the twin online regional portals [www.technology4sme](http://www.technology4sme) and [www.business-asia.net](http://www.business-asia.net) and the search engine known as Asia-Pacific Technology Information Tracking and Unified Data Extraction (APTITUDE), which were developed for web-based technology transfer. Over the past three years, APCTT has conducted 3 consultative meetings and 15 training programmes on technology transfer and the use of the websites. More than 800 persons have been involved in these programmes; of these, 25 per cent have been women. Over 250 personnel from national technology transfer intermediaries, SME development agencies, SMEs, universities, and research and development (R&D) institutes in several of the member countries have been trained on the use of these two websites. As a result, these websites are now being used extensively in the region and countries have expressed an interest in linking their own technology transfer facilitation websites to the APCTT portal. Some member countries have even conducted national training programmes, in the local language, on the use of these websites, using local resource persons trained by APCTT.

Initiatives were taken to make the Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET), which links 14 countries of the region, a viable and productive network.

APCTT implemented a collaborative project entitled “Promotion of Grass-roots Innovation in Countries of the Asia-Pacific Region”, which was funded by the Government of India, and organized several activities to document and disseminate traditional knowledge, protect intellectual property rights and provide policy advocacy for expanding institutional space for grass-roots innovators and traditional knowledge holders.

Cooperation with the least developed countries, landlocked developing countries and small island developing States was strengthened through the provision of advisory services and the organization of training programmes of relevance to these countries, such as the valorization of R&D results.

The periodicals of APCTT, the *Asia Pacific Tech Monitor* and *Value Added Technology Information Services* (VATIS), which address the areas of ozone layer protection, waste technology, biotechnology, food processing and non-conventional energy, continued to play an essential role in the dissemination and promotion of technology information and utilization. The web versions of the Centre’s technology-oriented periodicals are available at [www.techmonitor.net](http://www.techmonitor.net).

APCTT gave priority to normative and analytical work and focused on issues related to technology transfer and best practices for the utilization of R&D results by SMEs and the private sector.

APCTT prepared a project profile for funding consideration under the Regular Programme of Technical Cooperation (RPTC) of ESCAP to undertake the initial activities in 2009 in support of the establishment of an institutional cooperation mechanism.

The activities and outcomes in 2008 were funded by contributions from the Government of India and the Government of Germany and by joint contributions from other member countries.

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

1. APCTT facilitated the establishment of networks of technology transfer intermediaries in the region to promote cross-border business cooperation among SMEs. These networks and partnerships helped to expand the geographical coverage of APCTT activities in the Asian and Pacific region and made it possible to provide a complete technology transfer service package to a much larger group of SMEs.

#### **1. Technology transfer network for small and medium-sized enterprises in the Asian and Pacific region**

2. In January 2008, APCTT concluded the project “Promotion of the technology transfer network for small and medium-sized enterprises in the Asian and Pacific region”, which was funded by the Government of Germany. The objective of the project was to enhance the capacity of institutions and intermediaries in member countries to deliver technology transfer services to contribute to the improvement of the competitiveness of SMEs and to accelerate the adoption of environmentally sound technologies (ESTs).

3. Under this project, APCTT, in consultation with its member countries, developed a comprehensive web-based tool called Technology4sme ([www.technology4sme.net](http://www.technology4sme.net)) to facilitate technology transfer in the Asia-Pacific region. The website contained a database of technology offers and requests and technology suppliers and seekers and functioned as an online technology market.

4. A companion website called Business-Asia ([www.business-asia.net](http://www.business-asia.net)) was also developed to supplement Technology4sme. This website was designed as a network to bring together ideas, information and resources concerning technology-based businesses, particularly for SMEs.

5. A search engine known as Asia-Pacific Technology Information Tracking and Unified Data Extraction (APTITUDE) was developed under this project to enable buyers and sellers of technology to reach not only the APCTT database but also related databases from member countries that are in the public domain. The APTITUDE search engine is different from other popular web-based search engines in terms of the specificity of the results it generates.

6. Over the past three years, APCTT conducted three consultative meetings and 15 training programmes on technology transfer and the use of the websites. More than 800 persons were involved in these programmes; of these, 25 per cent were women. Over 250 personnel from national technology transfer intermediaries, SME



development agencies, SMEs, universities and research and development institutes in several of the member countries were trained on the use of these two websites.

7. To facilitate the creation of a multiplier effect and to enable member countries to independently continue training local SMEs and technology intermediaries on the use of these two websites, APCTT produced two training manuals: *Technology Market* and *Business Asia*. These manuals not only showcase the website architecture but also provide simple explanations for users of the Technology4sme and Business-Asia websites as well as website administrators.

8. In addition to these two manuals, the Centre prepared three reports: one on strategic risks and valuation models for planning and implementing a technology transfer project; a second on the appraisal, assessment and management of risks by financial institutions funding technology transfer projects; and another on barriers faced by SMEs in technology transfer. A guidebook on technologies for disaster preparedness and mitigation was also prepared.

9. The following programmes were organized under this project:

(a) **Stakeholders' Meeting—Promotion of the Technology Transfer Network for Small and Medium-sized Enterprises in the Asia-Pacific Region: Achievements and Future Direction.** This stakeholders' meeting was organized as the concluding activity of the project in Faridabad, India, on 29 and 30 January 2008. The purpose was to review the achievements of the project, particularly with respect to the Technology4sme and Business-Asia websites, and to seek suggestions and recommendations from the member countries, network partners and promotional organizations for further content development of the two websites as well as for the sustainability of web-based technology transfer and business information services through these two websites. The meeting was attended by 21 participants from 13 countries, namely, Bangladesh, China, Fiji, India, Indonesia, Malaysia, Nepal, Pakistan, the Philippines, the Republic of Korea, Sri Lanka, Thailand and Viet Nam. Of the 21 participants, 7—from China, the Republic of Korea and Thailand—were self-sponsored.

(b) **Asia Conference on Technology Transfer (ACTT) 2008, Seoul, 22 and 23 May 2008.** The Officer-in-Charge of APCTT presented a paper at this conference entitled "Promoting knowledge networks to foster innovation: the role of ESCAP—Asian and Pacific Centre for Transfer of Technology". The conference was organized by the Korea Technology Transfer Centre and hosted by the Ministry of Knowledge Economy of the Government of the Republic of Korea. The theme of the conference was "The future of technology commercialization: radical innovation and open networking".

(c) **Training Programme on Web-based Technology Transfer Services ([www.technology4sme.net](http://www.technology4sme.net) and the APTITUDE search engine).** APCTT, in association with the Federation of Indian Export Organizations (FIEO) in New Delhi, organized an SME-oriented training programme on web-based technology transfer services on 10 April 2008 for member organizations of FIEO. The role of APCTT in facilitating technology transfer in the Asia-Pacific region and the Centre's technology transfer services, particularly the web-based services, were presented to the participants.

(d) **Training Programme on Information-technology-based, SME-oriented Technology Transfer Services.** On 24 June 2008, APCTT, in association with the Korea Business Development Center (KBDC) in New Delhi, held a training programme on the web-based SME-oriented technology transfer services offered by

APCTT for SMEs of the Republic of Korea operating from the premises of KBDC in New Delhi. Presentations were made by APCTT staff on the placement of technology offers on the Technology4sme website and on how SMEs of the Republic of Korea could use this website effectively to search for technology requests from prospective technology buyers in India and other countries in the Asia-Pacific region.

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

10. The Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET) was initiated by APCTT and its member countries to develop traditional medicine, disseminate information and promote industrial and technical cooperation on traditional medicine in the Asian and Pacific region. The network (see [www.apctt-tm.net](http://www.apctt-tm.net)) links 14 countries in 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. With the renewed interest in traditional medicine and natural remedies, every effort was made to establish APTMNET as a viable and productive network.

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

#### **1. Promotion of national innovation systems in countries of the Asian and Pacific region**

11. From April 2005 to April 2007, with funds received from the Government of India, APCTT implemented a project entitled "Promotion of national innovation systems in countries of the Asia-Pacific region". More than 1,150 participants from various ministries, industries, academia and R&D institutes were trained in the concept of a policy framework for national innovation systems and its linkages with the sectoral and subnational innovation systems.

#### **2. Promotion of grass-roots innovation in countries of the Asian and Pacific region**

12. In 2007, APCTT initiated a project to promote the scouting, documentation and dissemination (SDD) of grass-roots innovation (GRI) in the Asia-Pacific Region. This project was funded by the Government of India. The "knowledge partner" for this project was the Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), an internationally renowned organization based in India.

13. Under this project, APCTT organized a regional workshop for senior policymakers from 14 countries in Nanjing, China, to obtain insights and guidelines to initiate SDD of GRI in member countries. China, Indonesia, the Philippines and Sri Lanka volunteered to initiate an SDD programme in their countries. Experts from these countries were trained at a regional workshop in India. National workshops were then held in the four partner countries to impart SDD skills to a wider national base.

14. The last national workshop was on GRI and was held in Tianjin, China, on 21 and 22 March 2008. It was jointly organized by APCTT and the Tianjin University of Finance and Economics. A set of recommendations for SDD of GRI in China and the national initiatives to be taken at the country level in the Asia-Pacific region to promote GRI emerged from the national workshop.

15. At the conclusion of this project, about 380 experts and senior officials, of whom about 140 were women, from various government departments and ministries,

R&D institutions and technology transfer intermediaries had participated in both the regional and national workshops. These workshops on SDD of GRI enhanced the capacity of participants in developing programmes and activities in exploiting GRI for socio-economic development, including the promotion of gender equality.

### **3. Valorization of research and development (R&D)**

16. In early 2008, APCTT assisted the Human Resource Development Centre (HRDC) of the Council of Scientific and Industrial Research (CSIR) of the Government of India to design and deliver a three-day residential training programme for its senior R&D managers on the topic of the valorization of R&D as part of the overall effort to increase the level of commercialization of R&D. In addition to designing the programme, APCTT identified resource persons from Australia, India, the Republic of Korea and Thailand. The airfare and all costs of the overseas resource persons identified by APCTT were borne by HRDC.

17. Senior representatives from the Islamic Republic of Iran, Malaysia, Mongolia, Nepal, Sri Lanka and Thailand and 40 senior Indian R&D managers participated in this programme.

### **C. Technology transfer services**

18. APCTT provided seekers and providers of technologies with a technology trade platform and offered technology exchange and transfer services with a view to promoting technology cooperation and trade among organizations and enterprises of the Asia-Pacific region. APCTT received offers of technology from research institutions, universities and companies, including large-scale companies and intermediaries, especially for SMEs. The websites Technology4sme and Business-Asia and the search engine APTITUDE enhanced the technology transfer services of the Centre. The search engine has been of great benefit to the SMEs and entrepreneurs of the region by facilitating cross-border searches for appropriate technologies in different countries in the region.

#### **1. Technology providers (sellers) and technology seekers (buyers)**

19. Technology providers and seekers could submit their technology offers or requests to APCTT using the Technology4sme website. The registration of the offers and requests in the APCTT databank is free of charge. Offers and requests submitted to Technology4sme were published in the APCTT periodical *Asia Pacific Tech Monitor* and other publications. When approached, APCTT also offered partner search services to technology providers and seekers by approaching prospective technology buyers or sellers directly or through intermediaries and other channels.

20. APCTT received 243 technology offers and 187 technology requests from SMEs and entrepreneurs across the Asia-Pacific region during the period from December 2007 to August 2008. Technology4sme served as an active platform for information exchange between APCTT, SMEs and business firms in the Asia-Pacific region. This website had been extensively used by business firms in Europe, Latin America and the United States of America.

#### **2. Support to member countries for technology transfer**

21. APCTT assisted the Institute for Information Technology Advancement (IITA), under the Ministry of Knowledge Economy of the Republic of Korea, in organizing a technology transfer seminar and a business-to-business meeting in New

Delhi on 14 November 2008. IITA introduced 15 innovative technologies from the Republic of Korea at this seminar.

22. The Nanjing International Technology Transfer Center (NITTC), a public sector organization under the Nanjing Municipal Science & Technology Bureau, organized a business-to-business meeting to promote technology transfer in Nanjing, China, on 6 and 7 November 2008. APCTT facilitated the participation of Indian business firms interested in seeking technologies from China and/or forming joint ventures with Chinese firms.

#### **D. Technology information services**

23. APCTT had provided a platform for the provision of technology information services to SMEs in the Asia-Pacific region. APCTT publications—the *Asia Pacific Tech Monitor* and the *Value Added Technology Information Services (VATIS) Update*—disseminated a range of technological information on technology transfer and innovation management in areas such as environmentally sustainable growth, climate change, energy security, gender equality and inclusive development. As requested by the Technical Committee and the Governing Council in 2007, all APCTT publications were being made web-based and were accessible via [www.techmonitor.net](http://www.techmonitor.net).

24. The *Asia Pacific Tech Monitor*, a bimonthly periodical, monitors technology trends and developments, technology policies, new products and processes. It also lists selected technology offers and requests received from around the world. The themes covered by this periodical recently include: energy and sustainable development, and women's empowerment: technology and microfinance. The "yellow pages", the business section of the *Asia Pacific Tech Monitor*, contains a "business coach" section and how-to guides for innovative firms, covering such topics as start-up venture creation, venture financing, managing innovation, technology transfer and green productivity. The other sections of the *Asia Pacific Tech Monitor* are devoted to "technology market scan", "technology scan" and "technology events".

25. Under the *Value Added Technology Information Services Update*, 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 features of the *Value Added Technology Information Services Update* publications are the packaging of information in a capsule form and the facilitation of direct access to information sources. Three of the *Value Added Technology Information Services Update* periodicals are published with the support and cooperation of specialized institutions.

#### **E. Strengthening cooperation with the least developed countries, landlocked developing countries and Pacific island developing countries**

26. APCTT, in association with HRDC/CSIR of the Government of India, organized a three-day programme from 6 to 8 October 2008 in Ulaanbaatar for researchers and research managers from the Mongolian Academy of Sciences (MAS) on the valorization of R&D. MAS requested APCTT to fund the travel of resource persons for this programme and agreed to meet all local accommodation and hospitality costs. Under a South-South cooperation initiative, APCTT obtained the support of CSIR, which agreed to bear the travel costs of four senior Indian resource persons from CSIR. ESCAP funded the travel of two resource persons, namely, the Deputy Director of the National Science and Technology Development Agency of the Government of Thailand and the Officer-in-Charge of APCTT.

## **F. Normative and analytical work**

27. To review the socio-economic performance in the region and identify trends, highlight good practices and foster regional cooperation, APCTT has given priority to normative and analytical work with a regional perspective that could serve as a basis for operational activities.

## **G. Guest lectures presented by APCTT**

28. The Officer-in-Charge of APCTT, upon invitation from the National Science and Technology Commission (NASTEC) and the National Science Foundation (NSF) of the Government of Sri Lanka, delivered a keynote address and a plenary lecture on an overview of technology transfer and technology transfer models at the International Conference on South-South Cooperation for Technology Transfer and Development of Small and Medium-sized Enterprises in Negombo, Sri Lanka, from 18 to 22 August 2008. This conference was co-organized by NASTEC and NSF with the Centre for Science & Technology of Non-Aligned and Other Developing Countries. Representatives from over 15 countries of the "South" participated.

29. In response to other invitations by premier institutions in India, the Officer-in-Charge of APCTT delivered guest lectures related to the work of APCTT.

## **H. Participation in the United Nations Development Assistance Framework (UNDAF)**

30. APCTT is working closely with the United Nations in India on the United Nations Development Assistance Framework (UNDAF) 2008-2012, the strategic framework for the United Nations in India. The objective of India-UNDAF for 2008-2012 is "promoting social, economic and political inclusion for the most disadvantaged groups, especially women and children (see DP/FPA/DCP/IND/7)".

31. Besides participating in UNDAF, APCTT also participated in meetings of the Advocacy and Communication Officers and meetings of the United Nations Information Centre (UNIC) and the United Nations Millennium Campaign.

## **I. Joint programmes with ESCAP**

### **1. Community e-centres for rural development**

32. As part of the South Asia Subregional Economic Cooperation (SASEC) programme, the Asian Development Bank (ADB) and the Information and Communications Technology and Disaster Risk Reduction Division<sup>1</sup> of ESCAP have been implementing a project funded by the Japan Fund for Information and Communication Technology of ADB. The project aimed to establish at least 20 community e-centres (CeCs) in four SASEC countries (Bangladesh, Bhutan, India and Nepal), develop local content and applications and build the capacity of local administrations and community members. In India, the project was focused on the state of Tamil Nadu, with special attention paid to disaster management. APCTT worked with ESCAP to organize the following programme in New Delhi:

(a) **Sub-regional Workshop on Community e-Centres for Rural Development.** ESCAP, jointly with the ADB, held this workshop in New Delhi from 16 to 18 April 2008 under the project of the SASEC programme entitled

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<sup>1</sup> Formerly the Information and Communication Technology Applications Section of the Information, Communication and Space Technology Division.

“Empowering rural areas through community e-centres”. The workshop was attended by officials from the project implementation units of the Governments of Bangladesh, Bhutan, India and Nepal; national consultants from participating countries; resource speakers from several organizations (e-Choupal; MS Swaminathan Research Foundation; UNESCO, New Delhi; UNDP, New Delhi; and UNDP Regional Centre, Bangkok) who are involved in telecentre projects; and representatives from ADB, ESCAP and APCTT.

33. APCTT assisted the Environment and Development Division (EDD) of ESCAP in the preparation of the theme study entitled *Energy Security and Sustainable Development in Asia and the Pacific*<sup>2</sup> that was presented at the sixty-fourth session of the Commission, held in Bangkok in April 2008. APCTT provided specific inputs related to policies and institutions related to the transfer of energy technologies in the region. APCTT also provided selected examples of the transfer of renewable energy technologies.

34. APCTT worked with EDD to prepare the India National Report for the *ESCAP Regional Study on Policy Mechanisms to Foster the Development, Transfer and Adaptation of Publicly-funded and Globally Relevant Environmentally Sound Technologies (ESTs)*. This study was presented by the Officer-in-Charge of APCTT at the Third Policy Consultation Forum of the Seoul Initiative Network on Green Growth held in Cebu, Philippines, from 18 to 20 September 2008.

#### **J. Inter-agency collaboration**

35. APCTT is working closely with the United Nations Resident Coordinator's Office in India, the United Nations Department of Safety and Security in New Delhi and ESCAP on the Avian Human Influenza Pandemic Preparedness Plan of the United Nations country team.

36. In India, a joint United Nations response on HIV/AIDS in the United Nations workplace was started in December 2003 to address the key policy challenges of reform to improve human resources and management capacity, including access to health insurance and the elimination of stigma and discrimination. Two APCTT staff members were nominated as focal points for the advocacy of this project in the agency and training was made available to APCTT staff members and dependants.

## **II. PROGRAMME OF WORK**

### **A. Programme of work for the period 2008-2009**

37. The programme of work for the period 2008-2009 is contained in annex II.

### **B. New projects**

38. APCTT received an expression of interest from the Government of India to fund the second phase of the project entitled “Promotion of national innovation systems in countries of the Asia-Pacific region”. Implementation of the project would commence upon the signing of a trust fund agreement between the Government of India and ESCAP.

39. Some of the new projects that APCTT is focusing on include: strengthening innovation in R&D institutes in the Asia-Pacific region; promoting South-South cooperation in selected areas of technology; expanding APTMNET; technology

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<sup>2</sup> United Nations publication, Sales No. E.08.II.F.13.

transfer capacity-building in the Asia-Pacific region; and promoting capacity-building in the Asia-Pacific region to help member countries effectively utilize renewable energy technologies.

40. In its resolution 64/3 of 30 April 2008 on promoting renewables for energy security and sustainable development in Asia and the Pacific, the Commission requested the Executive Secretary of ESCAP to establish an institutional cooperation mechanism with the active engagement of the Asian and Pacific Centre for Transfer of Technology and expert research institutions in the region so as to draw up a programme of cooperation by identifying activities on development, demonstration and capacity-building pertaining to various renewable energy technologies. In accordance with this resolution, APCTT prepared a project profile for funding consideration under the Regular Programme of Technical Cooperation of ESCAP to undertake the initial activities in 2009 in support of the establishment of an institutional cooperation mechanism. APCTT would be working with the Ministry of New and Renewable Energy of the Government of India and other related ministries on the implementation of this resolution.

### **III. ADMINISTRATIVE AND FINANCIAL ISSUES**

#### **A. Personnel infrastructure**

41. APCTT continued to make efforts to strengthen its personnel infrastructure in view of its programme of work, its targets, the quality of services to be rendered and the timely action required. There is a great need for staff at the professional and managerial levels. Hence, APCTT seeks the support of member countries in placing non-reimbursable loan experts. Through ESCAP, APCTT has also sent requests to the United Nations in New York for the placement of associate experts at the Centre.

##### **1. APCTT core staff**

42. The Centre has one P-level staff member and nine General Service (GS) staff members. Increased financial resources are essential to fill the vacant GS posts so that the Centre is adequately staffed.

##### **2. Project personnel/experts/consultants**

43. APCTT availed itself of the services of consultants to meet specific project needs.

44. APCTT also availed itself of the ESCAP Internship Programme and has attracted interns from top universities in India and abroad. In 2008, two interns from Bocconi University in Milan, Italy, undertook internships at the Centre. The interns assisted in implementing APCTT technical cooperation projects as well as in supporting the Centre's normative and analytical work.

##### **3. Staff development and training**

45. *Procurement Training.* ESCAP held a one-week training programme on fundamentals of United Nations procurement from 10 to 14 March 2008. One staff member from APCTT attended this training.

46. Due to financial constraints, APCTT has not been able to avail itself of the staff development and training programmes available at ESCAP headquarters. Accordingly, it will seek avenues for staff development through locally available

training programmes provided either by commercial entities or by other United Nations agencies.

## CONCLUSION

47. In summary, the core competencies and future plans of APCTT were the following:

(a) Technology transfer capacity-building for SMEs and technology transfer intermediaries through the provision of a range of advisory and support services, including information-technology-powered transfer support mechanisms and networks;

(b) Promotion of innovation management capacity at the national, sectoral, firm and grass-roots levels by facilitating the exchange of experiences and the benchmarking of good practices;

(c) Dissemination of a range of technological information on technology transfer and innovation management that emphasizes the imperative of utilizing economically viable ESTs;

(d) Undertaking of normative and analytical studies in the areas of technology transfer and innovation management that can be used as a basis for policy dialogue and training.

48. APCTT is leveraging these core competencies to assist member countries in becoming knowledge-based economies by:

(a) Enabling member countries to continuously upgrade the technology transfer capacity of SMEs and technology intermediaries by enhancing technology transfer advisory and support services;

(b) Assisting member countries in refining their national innovation systems and promoting inclusive development and social entrepreneurship through the utilization of innovative activity not only in organized sectors but also at the grass-roots level;

(c) Promoting the development of networks among R&D institutes in the Asian and Pacific region to enhance collaboration, the sharing of experiences and the benchmarking of effective research and development management practices;

(d) Fostering South-South cooperation in technology transfer and innovation management with a view towards helping member countries to achieve the Millennium Development Goals quickly and more effectively.



*Annex II*

**PROGRAMME OF WORK FOR THE PERIOD 2008-2009**

**Expected accomplishment of related ESCAP subprogramme**

Members and associate members of ESCAP are able to take measures to improve the application of science and technology for socio-economic development and to provide an enabling environment for technology innovation and transfer through networking.

**Output A:** Policymakers, industries, universities and research and development (R&D) institutions (national innovation systems (NIS) key actors) take measures to formulate, implement and manage strategic policies and programmes promoting effective working linkages/partnerships to transform innovation into products or services and to strengthen key components of NIS.

Description of activity	Cost (In United States dollars)	Anticipated sources of funds
A.1. Build capacity at the national level to enable policymakers to understand the importance, key components and implementation strategy and management practices of NIS and their organic linkages with subnational and sectoral innovation systems.	\$350 000 total for all activities.	Government of India
A.2. Enhance contents of the web-based NIS Resource Centre with information on subnational and sectoral innovation systems to facilitate the sharing of best practices and promote linkages and partnerships.		Government of India
A.3. Bring out a guidebook on managing innovation in a knowledge economy.		Government of India

**Output B:** Capacity of R&D institutions, universities, industries and other stakeholders in the region strengthened to conduct research projects, collaborate and commercialize research results.

Description of activity	Cost (In United States dollars)	Anticipated sources of funds
B.1 Create a regional web-based R&D resource facility that contains information on nodal R&D institutions, a database of prominent researchers in member countries and details of research projects where collaboration is being sought.	\$470 000 total for all activities.	Project document submitted to ESCAP. A few donors have shown interest in funding this project.
B.2 Establish a regional network of national web portals to share R&D information that can be used to promote R&D collaboration.		Project document submitted to ESCAP. A few donors have shown interest in funding this project.
B.3 Conduct training programmes, in association with knowledge partners and leading R&D institutions in the region, to introduce best		Project document submitted to ESCAP. A few donors have

practices in critical areas, such as R&D proposal preparation, R&D project selection, R&D project monitoring, enhancing creativity of R&D human resources, R&D management information systems, commercialization of research results, and planning and implementing joint international research projects.

shown interest in funding this project.

**Output C:** National institutions such as SME support agencies, chambers of commerce and Government R&D institutions develop a critical mass of expertise to provide advisory and consultancy support to SMEs to plan and implement technology transfer projects.

Description of activity	Cost (In United States dollars)	Anticipated sources of funds
C.1 Develop a comprehensive training manual that covers all stages of the life cycle of an international technology transfer project.	\$400 000 total for all activities.	Project document prepared. Donor support being sought.
C.2 Conduct “training of trainers” programmes to develop national capacity to provide advisory and consultancy support to SMEs during all stages of the life cycle of the technology transfer project.		Project document prepared. Donor support being sought.
C.3 Provide support to member countries to enable the trained trainers to organize national training programmes to develop a critical mass of expertise in each country.		Project document prepared. Donor support being sought.
C.4 Develop a technology transfer training support website that will contain the training manual and other relevant materials and incorporate the same into the Technology4sme and Business-Asia websites.		Project document prepared. Donor support being sought.

**Output D:** SMEs are knowledgeable of and able to apply new and emerging technologies, including environmentally sound technologies (ESTs).

Description of activity	Cost (In United States dollars)	Anticipated sources of funds
D.1. Promote venture entrepreneurship through establishing/updating a Business-Asia portal.	\$20 000 total for activities D.1, D.2 and D.4 combined.	Funds for activities D.1, D.2 and D.4 will be obtained from the project developed for Output C.
D.2 Develop web-based technology transfer services and web-based technology transfer networks by streamlining and expanding the Technology4sme website.	\$20 000 total for activities D.1, D.2 and D.4 combined.	Funds for activities D.1, D.2 and D.4 will be obtained from the project developed for Output C.
D.3 Expand and promote Biotechnology Information Network for Asia (BINASIA) and its portal.	\$20 000	Funds for activity D.3 will be obtained from the project developed for Output B.

D.4 Bring out a guidebook on technologies for disaster preparedness and mitigation.	\$20 000 total for activities D.1, D.2 and D.4 combined.	Funds for activities D.1, D.2 and D.4 will be obtained from the project developed for Output C.
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**Output E:** Strengthen the Asia Pacific Traditional Medicine and Herbal Technology Network (APTMNET).

Description of activity	Cost (In United States dollars)	Anticipated sources of funds
E.1 Strengthen the Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET).	\$250 000	Project document prepared. Donor support being sought.
E.2 Build capacity for development and dissemination of green grass-roots innovations in the Asia-Pacific region.	\$275 000 total for E.2 and E.3 combined.	Project document prepared. Donor support being sought.
E.3 Bring out a directory on green grass-roots innovations and traditional knowledge.	\$275 000 total for E.2 and E.3 combined.	Project document prepared. Donor support being sought.

**Output F:** Information/knowledge on technology for SMEs collected and disseminated.

Description of activity	Cost (In United States dollars)	Anticipated sources of funds
F.1 Collect information on technologies, including incentives, regulations, markets and technologies, and disseminate through various channels (websites, workshops, seminars, APCTT periodicals, etc).	\$15 000	Funds for these activities will be obtained from the Joint Contribution Account.
F.2 Disseminate latest information through the <i>Asia Pacific Tech Monitor</i> , VATIS and other publications/periodicals using print and Internet media.	\$27 500	As decided on at the third session of the Governing Council, APCTT periodicals will become web-based.

**Other:**

**Centre's administrative costs**

**Estimated cost in United States dollars (2008):** \$411,320

**Anticipated sources of funds:**

- Government of India Institutional Support Contribution
- Asian and Pacific Centre for Transfer of Technology Joint Contribution Account

**Governing Council and Technical Committee Meetings**

**Estimated cost in United States dollars:** \$40,000

**Anticipated source of funds:**

- Asian and Pacific Centre for Transfer of Technology Joint Contribution Account

### *Annex III*

## **EXPECTED ACCOMPLISHMENT (D), 2008-2009**

### **Subprogramme objective**

To improve equitable access to, and use of, information, communication and space technology so as to ensure benefits are available to all, leading to the region's economic and social advancement and the achievement of the Millennium Development Goals.

### **Expected accomplishment (d)**

Strengthened national capacity to nurture and promote national innovation systems to create an enabling environment for development and transfer of technology in order for countries of the region to meet development challenges in the globalized knowledge economy.

### **Intermediate result d1**

Members and associate members of ESCAP are able to take measures to improve the application of science and technology for socio-economic development and to provide an enabling environment for technology innovation and transfer through networking and partnerships with international organizations and key stakeholders.

During the biennium 2008-2009, intermediate result (d) will be achieved through the delivery of the following outputs:

- (a) Servicing of intergovernmental and expert bodies (regular budget/extrabudgetary):
  - (i) Economic and Social Commission for Asia and the Pacific;
    - a. Parliamentary documentation: report on the activities of the Asian and Pacific Centre for Transfer of Technology (APCTT) (2) (2008, 2009);
  - (ii) Assistance to representatives: APCTT Governing Council (2) (2008, 2009).
- (b) Other substantive activities (extrabudgetary):
  - (i) Recurrent publications: *Asia Pacific Tech Monitor* (2 years) (6 issues in 2008, 6 issues in 2009); *Value Added Technology Information Services* (VATIS) (on waste technology, non-conventional energy, food technology, biotechnology and ozone layer protection) (2 years) (30 issues in 2008, 30 issues in 2009);
  - (ii) Booklets, fact sheets, wall charts and information kits: guidebook on technology transfer mechanisms (1) (2008-2009); special booklets: directory on green grass-roots innovation and traditional knowledge (1) (2008-2009); guidebook on managing innovation in a knowledge economy (1) (2008-2009); guidebook on technologies for disaster preparedness and mitigation (1) (2008-2009).

- (c) Technical cooperation (extrabudgetary):
- (i) Advisory services: advisory services on technology transfer mechanisms for SMEs, including networking and best practices of national innovation systems (4) (2008-2009);
  - (ii) Training courses, seminars and workshops: regional/subregional/national seminars/workshops (4 training courses in 2008; 4 training courses in 2009; 4-6 seminars/workshops in 2008; 4-6 seminars/workshops in 2009);
  - (iii) Field projects: national workshops on the promotion of national innovation systems (2 workshops in 2008 and 2 workshops in 2009); and national workshops for dissemination of green grass-roots innovations (2 workshops in 2008 and 2 workshops in 2009).

*Annex IV*

**CONTRIBUTIONS IN 2008**

**Table 1. Institutional support, India: funds received as of 31 December 2008**

(In United States dollars)

<b>Country/Area</b>	<b>2007</b>	<b>2008</b>
India	411 680.13	0.00
<b>Total</b>	<b>411 680.13</b>	<b>0.00</b>

*Note:* A contribution of \$209,480.35 for the year 2008 was received and recorded in November 2007.

**Table 2. Institutional support, other donors (joint contributions): funds received as of 31 December 2008**

(In United States dollars)

<b>Country/Area</b>	<b>2007</b>	<b>2008</b>
Bangladesh	0.00	10 000.00
China	20 000.00	20 000.00
Indonesia	35 000.00	35 000.00
Iran (Islamic Republic of)	17 373.72	10 060.37
Malaysia	14 985.00	14 985.00
Macao, China	5 000.00	5 000.00
Pakistan	0.00	12 500.00
Papua New Guinea	21 839.59	20 000.00
Philippines	7 205.23	1 478.24
Republic of Korea	10 000.00	10 000.00
Sri Lanka	4 975.00	4 975.00
Thailand	15 000.00	15 000.00
Viet Nam	4 000.00	0.00
<b>Total</b>	<b>155 378.54</b>	<b>158 998.61</b>

*Note:* The contribution of \$10,000 from Bangladesh, representing \$5,000 for 2007 and \$5,000 for 2008, was received and recorded in 2008.

*Annex V***STATEMENT OF ACCOUNTS****Table. Institutional support and technical cooperation projects,  
as of 31 December 2008**

(In United States dollars)

<b>Donor</b>	<b>Balance carried over 31 Dec 2007</b>	<b>Contributions (2008)</b>	<b>Expenditures (2008)</b>	<b>Interest earned (2008)</b>	<b>Account transfers (2008)</b>	<b>Balance as of 31 Dec 2008</b>
<b>Institutional support</b>						
Joint Contributions	311 394.54	158 998.61	162 085.35	11 912.31	0.00	320 220.11
Government of India	417 129.26	0.00	252 499.04	18 580.25	0.00	183 210.47
Subtotal	728 523.80	158 998.61	414 584.39	30 492.56	0.00	503 430.58
<b>Technical cooperation projects</b>						
Government of India	8 751.58	24 835.28	30 033.03	0.00	3 553.83	0.00
German Technical Cooperation (GTZ)	127 291.57	0.00	27 135.75	3 661.80	0.00	103 817.62
Subtotal	136 043.15	24 835.28	57 168.78	3 661.80	3 553.83	103 817.62
<b>Total</b>	<b>864 566.95</b>	<b>183 833.89</b>	<b>471 753.17</b>	<b>34 154.36</b>	<b>3 553.83</b>	<b>607 248.20</b>

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