

III. ASIAN AND PACIFIC CENTRE FOR TRANSFER OF TECHNOLOGY (APCTT)

1. PREAMBLE

Matters pertaining to the APCTT under UN-ESCAP are dealt with in the cooperation with the Ministry of Commerce and Industry and the Ministry of External Affairs. DSIR also plays an active role in APCTT's functioning, particularly relating to its programmes and policies.

India, being the host country for APCTT, has been providing institutional support. During the period under report, institutional support of US\$ 200,000 in Indian Rupees was provided to APCTT for meeting local costs. In addition, funding for building repairs, renovation work, and municipal taxes was also provided. DSIR has extended programme support towards the APCTT project entitled, "Promotion of National Innovation Systems (NIS) in Countries of the Asia-Pacific Region – Phase II". Among other government support received by APCTT, the Ministry of New and Renewable Energy Sources has funded another APCTT project entitled, "Establishing an Institutional Cooperation Mechanism to Promote Renewable Energy" in Asia and the Pacific.

The revised Statute of the APCTT, adopted by the Commission at its Sixty-first session in May 2005, through its resolution 61/4, stipulates, among other things, that the Centre shall have a Technical Committee consisting of experts from members and associate members of ESCAP and from inter-governmental and non-governmental organizations. Members of the Technical Committee shall be appointed by the Head of APCTT in consultation with the Executive Secretary of ESCAP. The Technical Committee

shall be responsible for advising on the formulation of the programme of work and on technical matters concerning the operations of APCTT. The 7th technical committee of APCTT held at China during the year was attended by departmental representative. 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 members of APCTT's Governing Council for the period 2011 – 2014 are Bangladesh, China, Fiji, India, Indonesia, Islamic Republic of Iran, Malaysia, Nepal, Pakistan, Philippines, Samoa, Sri Lanka, Thailand, and Viet Nam. The 7th governing council of APCTT held at Bangkok during the year was attended by departmental representative who was elected as the co-chairman of the governing council.

Coordination with other UN Organisations

The DSIR also maintains effective coordination and cooperation with other various international organizations such as UNCTAD, WIPO, UNIDO, UNESCAP and UNESCO at different levels and in association with other concerned Ministries on various issues related to Technology development and technology transfer.

2. ACTIVITIES OF APCTT

During the period under report, APCTT's activities were directed towards technology capacity-building,

promotion and management of innovation as well as sub-regional and regional networking to enable the countries of the region to respond to the challenges posed by the new global economy while simultaneously striving to achieve the MDGs. The Centre endeavored to assist the countries of the region in responding to the challenges of integrating into the global economy by focusing on technology transfer support services for SMEs, the promotion of national innovation systems and green grassroots innovation, promotion of renewable energy technologies and the provision of information, networking and sharing of experiences relating to the management of technology. Under these thrust areas, the Centre undertook a range of programmes of immediate relevance to the region.

Technology Transfer Network for SMEs

APCTT continued to strengthen its well established and regionally accepted web-based networks such as the www.technology4sme.net and www.business-asia.net and its Asia-Pacific Technology Information Tracking and Unified Data Extraction search engine (APTITUDE) to enable the use and sharing of knowledge relevant to technology transfer. These networks and partnerships have enabled APCTT to expand the geographical coverage of its activities in the Asian and Pacific region. These websites and the search engine continued to provide effective and user-friendly delivery of technology transfer services and played a useful role in facilitating national and international technology transfers, and promotion of new and emerging technologies in member countries. As of 2011, the www.technology4sme.net database had 823 technology offers and 697 technology requests (including joint venture and partnership requests). The APTITUDE search engine which when created in 2008 searched only 5 databases and currently searches 15.

Through its networks of technology transfer intermediaries as well as its technology transfer portal (www.technology4sme.net) serviced queries related to 212 technology offers and 238 technology requests from SMEs and entrepreneurs across the Asia-Pacific region during the period

from September 2010 to September 2011. Some specific examples of APCTT interventions to promote technology transfer partnerships include the following:

- (a) Facilitated contacts between an Indian company and a Chinese business intermediary for technology transfer related to automatic rear and side view mirror positioning system.
- (b) Facilitated contacts between an Indian company and a Thailand based business firm for technology transfer related to sodium silicate and activated carbon from rice husk and rice husk ash.
- (c) Helped a United Kingdom company to establish contacts with technology suppliers in India and China for the transfer of technology related to effectively remove/extract proteins and/or polyphenols from dried plant materials.
- (d) Established contacts between a Thai business firm and business firms in Sri Lanka for technology transfer related to the preservation of sweet lime juice.
- (e) Facilitated contacts between a technology provider from the Republic of Korea and a Bangladesh based business firm on technology transfer related to tissue culture based production of potatoes.
- (f) Helped a Taiwan-based firm to establish contacts with technology transfer intermediaries in China and India.
- (g) Facilitated contacts between a business firm in the United Kingdom and an Indian business firm for the transfer of technology related to the processing of "amla" (Indian gooseberry) and tomatoes.

Technology Transfer Capacity-building Activities

Some examples of APCTT's technology transfer capacity-building activities are the following:

- (a) APCTT completed the preparation of its "Training of Trainers" manual on "Planning and Implementing Technology Transfer Projects" and carried out the first round of training in Manila, in November 2011, in partnership with the Technology Application and Promotion Institute (TAPI) of the Department of Science and Technology (DOST) of the Government of the Philippines. Nearly 36 trainers joined this programme.
- (b) APCTT provided assistance to the Engineering Exports Promotion Council (EEPC), India in facilitating the participation of technology suppliers and buyers from India and other countries in the Indo-South Asian Reverse Buyer Seller Meet held from 2 – 4 March, 2011 in New Delhi, India. This event was organized to provide a platform for participants from the above countries to have business meetings with Indian manufacturers and exporters of engineering goods and technologies on a one-to-one basis in areas of their specific business interest.

Promotion of National Innovation Systems in the Asia-Pacific Region

Under the DSIR funded project entitled, "Promotion of National Innovation Systems (NIS) in Countries of the Asia-Pacific Region - Phase II" the following activities were organized in 2011.

- (a) In 2011 field missions to Cambodia, Myanmar, and Lao PDR were undertaken to study the existing strengths and weaknesses of the institutional framework and establish linkages with the concerned ministries of Government and national institutions, so that planned activities of the project could be implemented in cooperation with the relevant partner.
- (b) During the mission to Lao PDR, the National Science and Technology Authority (NAST) of Lao PDR requested APCTT to assist them in conceptualizing and designing the innovation component, with emphasis on policy aspects, for inclusion in its next five year "National Strategy on Science,

Technology and Innovation (STI)" that is currently under preparation. In providing the requested assistance, APCTT partnered with the Science and Technology Policy Institute (STEPI) of the Republic of Korea in carrying out a pilot study in Lao PDR during May-June 2011.

- (c) To provide access to the information that has been compiled during the implementation of various activities of the NIS project, APCTT has developed a web-based resource centre namely, the Asia-Pacific NIS online Resource Centre www.nis.apctt.org. This resource centre continues to be a valuable resource for member countries and was upgraded in 2011 with details of the activities completed.
- (d) At the request of the Centre for Innovation, Indonesian Institute of Sciences (LIPI) of the Government of Indonesia, a workshop on "Technology Business Incubator Management" was conducted in November, 2011 in cooperation with the National Development Planning Agency of Indonesia and the Association of Indonesian Business Incubator. International participants from Bangladesh, Malaysia, Maldives, and Pakistan were invited for the programme by LIPI with support extended by the Islamic Development Bank (IDB). The participants were senior management staff of technology incubators with experience in managing TBIs or have recently started operation of their TBIs and decision makers from R&D institutions, universities, polytechnics, private companies, and foundations that have plans to establish TBIs.

Promotion of Emerging Technologies

In 2011, APCTT developed a project on "Promotion of a Regional Network among R&D Institutes in the Asia-Pacific to Strengthen Capacity of R&D Management and Innovation in New and Emerging Areas of Technology" with special focus on the nanotechnology sector. Preliminary funding for this project has been provided by UNESCAP.

This project aims at facilitating regional networking and training in R&D management for promoting collaboration in the area of nanotechnology R&D among developing countries and LDCs of the Asia-Pacific region. The focus would be on application of nanotechnologies for the development of value-added products to enhance competitiveness of enterprises. The project would provide training on best practices, technical support, information exchange and R&D collaboration opportunities for researchers and R&D managers of participating countries in the Asia-Pacific region. It would, in collaboration with prominent nanotechnology R&D institutes and resource partners from the Asia-Pacific region, establish a web-based portal to promote regional networking.

Under this project, the Centre organized an Expert Group Meeting (EGM) on 7 and 8 December, 2011 in Bangkok, Thailand to discuss and deliberate upon various critical aspects and suggestions on key activities to be undertaken under the envisaged project. National experts from leading nanotechnology R&D institutions from China, India, Indonesia, Islamic Republic of Iran, Pakistan, Philippines, Sri Lanka, and Thailand presented country papers, discussed and deliberated upon various aspects of the envisaged project, and provided suggestions on key activities that could be undertaken.

Renewable Energy Cooperation Network for Asia and the Pacific

APCTT initiated a project in 2009, with preliminary funding support from UNESCAP, entitled "Supporting the development of an institutional cooperation mechanism to promote renewable energy in Asia and the Pacific". This project focused on laying the groundwork for establishing an institutional cooperation mechanism for strengthening the capacity of member countries to adopt multiple approaches for promoting the utilization of renewable energy resources to meet their energy needs and foster sustainable development.

In July 2010, APCTT was able to obtain funding of US\$250,000 from the Ministry of New and

Renewable Energy (MNRE) of the Government of India, for the period July 2010 – June 2012, to consolidate the progress made in 2009, and develop an institutional cooperation mechanism. This follow-up project is entitled, "Establishing an Institutional Cooperation Mechanism to Promote Renewable Energy". Under this project the following activities were organized in 2011:

- (a) In September 2011, APCTT organized a Business-to-Business Forum (B2B) with a specific focus on "Fostering Business Partnerships to Promote the Adoption and Utilization of Renewable Energy Technologies" in Colombo, Sri Lanka in collaboration with National Engineering, Research and Development Centre (NERDC), the National Cleaner Production Centre of Sri Lanka (NCPCSL), and the Ceylon Chamber of Commerce. This B2B Forum brought together experts and business representatives of renewable energy firms, R&D institutions, and consultants from Sri Lanka, India, Mongolia, Nepal, and Thailand to deliberate on specific measures and strategic interventions needed to facilitate cross-border business cooperation among small and medium enterprises in the region. The B2B Forum also provided guidance on possible modalities for enhancing regional cooperation in renewable energy adoption and utilization.
- (b) In December 2011, the Centre organized a Regional Consultative Forum for research managers on "Promoting Research and Development (R&D) Collaboration in the Development of Renewable Energy Micro-utility Systems for Rural Applications" in Guangzhou, China. This regional forum brought together experts and researchers from RECAP member countries to deliberate on opportunities to foster regional cooperation through collaborative R&D to develop and commercialize renewable energy micro-utility systems for rural applications.
- (c) APCTT also completed the development of a prototype of the Renewable Energy

Cooperation-Network for the Asia-Pacific (RECAP). The website can be accessed at <http://recap.apctt.org>. This website has been designed to act as a comprehensive source of information on renewable energy development, adoption and utilization in the Asia-Pacific region. Besides, a discussion forum named as RECAP On-line Solution Centre has also been designed by APCTT as a value addition to the RECAP website. The RECAP Solution Centre is envisaged as an on-line discussion forum for renewable energy practitioners to get instant advice on various technical issues related to renewable energy technology development, adoption and utilization.

- (d) To supplement the outputs of this MNRE funded project, APCTT obtained funds from UNESCAP to prepare a publication entitled, "Effective Management of Technology Transfer, in Particular of Clean and Renewable Technologies, for Enhancing the Competitiveness of Small and Medium Sized Enterprises (SMEs) including its Gender Dimension". This publication can be accessed from the RECAP website.

Technology Information Services

The Centre's publications, namely, the Tech Monitor and the Value Added Technology Information Services (VATIS) updates play an essential role in keeping SMEs and policy makers abreast of technology options and environmental and technological issues and provide SMEs and national policy analysts with the latest information on technology trends in the region and a direction for substantive work. As mandated by APCTT's Governing Council, these publications are now completely web-based and can be accessed and downloaded at no cost from www.techmonitor.net

In 2011, APCTT brought out a CD ROM entitled "Technology transfer in the Asia-Pacific: Challenges and opportunities". The interactive and user-friendly CD presents in a systematic and organized format over 100 articles related to technology transfer that were published in Asia-Pacific Tech Monitor during the period 1984-2010.

Normative and Analytical Work

To foster cooperation between its members in the promotion of economic and social development in the Asian and Pacific region, ESCAP undertakes a combination of normative, analytical and technical cooperation work. Regional-level analysis included review of the socio-economic performance in the region to identify trends, highlight good practices and foster regional cooperation. To assist ESCAP in this endeavour, APCTT had given priority to normative and analytical work with a regional perspective that would serve as a basis for operational activities.

In accordance with its programme of work approved by its Technical Committee and Governing Council, APCTT has focused on the following areas for its normative and analytical work:

- ◆ Effective management of technology transfer, in particular of clean and renewable technologies, for enhancing the competitiveness of SMEs, including its gender dimension;
- ◆ Best practices for the utilization of research and development results by SMEs and the private sector;
- ◆ Facilitating entrepreneurship by prioritizing the commercialization of R&D outputs, in particular of clean and renewable technologies.
- ◆ Of these (a) has been completed. Work is continuing on the other two areas.

The Head of APCTT was invited by the Asian Development Bank Institute (ADBI), Japan, to prepare a research report entitled, "Eco-innovation and International Transfer." This paper was presented at a "Climate Change and Green Asia" Technical Workshop organized by the Asian Development Bank (ADB) and ADBI in New Delhi, India in September 2011.

In 2011, APCTT completed the development of the first draft of a training manual on "Planning and Implementing Technology Transfer Projects" that can be used to train trainers in member states so that a critical mass of skills can be created in member countries to support and guide the

technology transfer efforts of small and medium enterprises (SMEs) in the Asia-Pacific region.

APCTT Technical Committee and Governing Council Meetings

The Seventh meeting of the Technical Committee (TC) of the Asian and Pacific Centre for Transfer of Technology (APCTT) was held on 28 and 29 November, 2011 in Guangzhou, China. The Seventh session of the Governing Council (GC) of APCTT was held on 9 December 2011 in Bangkok, Thailand.

Foreign Deputations in APCTT activities from DSIR and Its Organisations

Senior Officers of DSIR and its organisations were deputed as resource persons/participants to various events as below:

- ◆ Seventh meeting of the Technical Committee (TC) of the Asian and Pacific

Centre for Transfer of Technology (APCTT), 28-29 November 2011, Guangzhou, China.

- ◆ Seventh session of the Governing Council of the Asian and Pacific Centre for Transfer of Technology (APCTT), 9 December 2011, Bangkok, Thailand.
- ◆ Consultative forum for research managers on "Promoting R&D collaboration in the development of renewable energy micro-systems for rural applications" during 30 November to 1 December 2011 at Guangzhou, China.
- ◆ Expert Group Meeting on "Networking of R&D institutions in the Asia-Pacific to strengthen capacity of R&D management and innovation in the field of Nanotechnology" during 07-08 December, 2011 at Bangkok, Thailand.