



**ASIAN & PACIFIC CENTRE
FOR
TRANSFER OF TECHNOLOGY (APCTT).**



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1. INTRODUCTION

1. The 2030 Agenda for Sustainable Development, unanimously adopted in 2015 calls upon the member States of the United Nations to strive for a more secure and sustainable world by 2030. Science, technology and innovation have been identified as key catalysts to achieve the Sustainable Development Goals that are an integral part of the Agenda 2030.

(i) APCTT assists member countries to strengthen their capabilities to develop and manage national innovation systems; develop, transfer, adapt and apply technology; improve the terms of transfer of technology; and identify and promote the development and transfer of technologies relevant to the region. The Centre's activities directly support the Sustainable Development Goal 9 (Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation), and 17 (Strengthen the means of implementation and revitalize the global partnership for sustainable development), among other goals.

(ii) APCTT's primary focus in the reporting period were as follows:

(a) Strengthening and promoting sound national innovation systems;

(b) Capacity Building support to develop, transfer, commercialize and adopt new and emerging technologies that have the transformative potential to achieve the Sustainable Development Goals;

(c) Dissemination of information related to science, technology and innovation policy, technological innovations, technology transfer and commercialization, intellectual property management, market developments and events; Production of publications and knowledge products on science, technology and innovation policy, technology transfer and commercialization, intellectual property management, new and emerging technologies and other related areas; and Facilitation of regional cooperation and networking in science, technology and innovation, cross-border trade and technology transfer.

(iii) In 2019, APCTT delivered and/or actively contributed to 10 demand-driven capacity building activities organized in 6 member countries (Bhutan, China, India, Malaysia, Thailand and Uzbekistan) in close collaboration with 11 partner institutions (Annex I). The activities include international



workshops and conferences, regional consultations, training workshops, and study missions. The Centre reached out to about 550 target participants such as science, technology and innovation policy makers, and representatives from small and medium enterprises, academia, research and development institutions, technology promotion agencies and technology transfer intermediaries.

- (iv) APCTT benefited from expert participants from Asia-Pacific member countries namely Bangladesh, Bhutan, Cambodia, China, Fiji Islands, India, Indonesia, Islamic Republic of Iran, Israel, Iraq, Japan, Kazakhstan, Lao People's Democratic Republic, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Republic of Korea, Samoa, Sri Lanka, Thailand, Timor Leste, Uzbekistan and Viet Nam, who shared their domain knowledge, experiences and best practices with other target participants. The Centre's activities were benefited by experts from Finland and United Nations Economic Commission for Europe. Through an inter-regional training programme organized by the Government of India, the Centre contributed to capacity building of stakeholders from several African countries, namely Botswana, Ethiopia, Egypt, Mali, Morocco, Niger, Nigeria, Senegal, South Africa, South Sudan, Tanzania, and Zimbabwe.

- (v) APCTT's online periodical *Asia-Pacific Tech Monitor* delivered latest information on technology trends and developments; science, technology and innovation policies; technology market; innovation management; and technology transfer.
- (vi) During this period, APCTT extended its capacity-building activities on technology transfer and commercialization to Central Asian countries such as Kazakhstan, and Uzbekistan.
- (vii) During this period, the Centre strengthened capabilities of stakeholders from least developed countries such as Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic, Myanmar and Nepal which benefited from the Centre's activities.

2. MAJOR RESULTS IN CAPACITY-BUILDING ACTIVITIES IN 2019

A. Strengthening of National Innovation Systems (NIS)

APCTT provided capacity building support to foster technology innovation, technology-based entrepreneurship and competitiveness of small and medium enterprises. Following are the key activities carried out and/or contributed by the Centre:

- (a) **Workshop on policies to support Grassroots Innovation, 27 January 2019 Ahmedabad, India:** The Centre supported this event organized by the Trade Investment and Innovation Division



of ESCAP in collaboration with Indian Institute of Management Ahmedabad, Society for Research and Initiatives for Sustainable Technologies and Institutions, and Grassroots Innovation Augmentation Network, India. The Centre delivered technical presentations to showcase its online mechanisms and technology transfer platforms and how the Centre can support the diffusion of grassroots innovations in member States. The Centre contributed to the group discussions focusing on needs and opportunities for promoting grassroots innovations in countries in the Asia Pacific region. The workshop contributed to the increased knowledge and understanding of 42 participants including experts and policymakers from Bangladesh, Cambodia, India, Indonesia, Malaysia, Mali, Myanmar, Nepal, Philippines, Samoa, Sri Lanka, Timor Leste and the United Kingdom.

- (b) **International Workshop on Intellectual Property Management and Technology Licensing, 18-20 June 2019, Bangkok, Thailand:** The Centre jointly organized this international workshop with Ministry of Higher Education, Science, Research and Innovation, Thailand and Thailand Institute of Scientific and Technological Research. The workshop deliberated on enabling policy frameworks

and tools for intellectual property management for inclusive and sustainable development; intellectual property planning and portfolio management; business-focused intellectual property management; and technology licensing and transfer in universities and research and development institutes. Case studies and best practices were also shared by the speakers. The workshop enhanced knowledge, understanding and skill of 44 participants including policymakers and experts from Bangladesh, Bhutan, Cambodia, India, Islamic Republic of Iran, Lao People's Democratic Republic, Myanmar, Republic of Korea, Thailand and Viet Nam. The experts shared their perspectives and experiences related to intellectual property management and technology licensing. Group exercises were conducted on Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis on intellectual property alignment with business goals, and drafting technology licensing clauses. A field visit was organized to the Technology Licensing Office of National Science and Technology Development Agency, located at Thailand Science Park in Pathum Thani, Thailand.

- (c) **Training workshop on Skill, Technology and Future of Work, 8-12 July 2019, Noida, India:** The Centre supported



this event organized by the V.V. Giri National Labour Institute, Ministry of Labour, Government of India. The training programme strengthened the skill and capabilities of about 20 officials and managers from the industrial sectors of India. The training covered topics such as web-based platforms and tools for technology transfer and market linkages, cross border technology transfer facilitation mechanisms, knowledge networks for innovation and technology transfer.

- (d) **International Training Programme on Skill Development and Employment Generation, 20 September 2019, Noida, India:** The Centre contributed to this training programme organized by V.V. Giri National Labour Institute, Ministry of Labour, Government of India. The programme was supported by the Ministry of External Affairs of Government of India under the Indian Technical and Economic Cooperation / Special Commonwealth Assistance for Africa Programme. The training programme contributed to strengthening the knowledge and skill of 25 Government officers, policy makers, and faculties from universities from Botswana, Ethiopia, Egypt, Morocco, Niger, Nigeria, Philippines, Senegal, South Africa, South Sudan,

Thailand, Sri Lanka, Iraq, Tanzania, Uzbekistan, and Zimbabwe participated in this programme. The Centre shared regional and international experience on web-based platforms and tools for technology transfer and market linkages, technology transfer facilitation mechanisms, knowledge networks for innovation and technology transfer, university-industry partnerships, and technology-based entrepreneurship and start-ups.

- (e) **Regional Workshop on Innovation and Technology Transfer: Role of Intellectual Property, 30-31 October 2019, Tashkent, Uzbekistan:** The Centre jointly organized this regional workshop with Ministry of Innovative Development, Republic of Uzbekistan. The workshop is part of the ongoing technical cooperation project "South-South Cooperation for Science, Technology and Innovation Policies in the Asia-Pacific Region" financed by the United Nations Development Fund. The workshop will bring together policymakers and experts from India, Israel, Kazakhstan, Philippines, Malaysia, Uzbekistan, and the United Nations Economic Commission for Europe to deliberate on: Socially responsible technology transfer and intellectual property policies



and strategies; intellectual property management and technology transfer - business models and best practices; and Promoting industry linkages, technology transfer, and regional cooperation. The workshop contributed to enhancing the knowledge, skill and capabilities of about 80 participants including experts, policymakers, and representatives from private sector technology licensing/transfer offices, technology-based enterprises, Universities, research and development institutions, academia and innovators.

B. Promoting new and emerging technologies

International Conference on Emerging Technologies for Achieving Sustainable Development Goals, 5 November 2019, Kuala Lumpur, Malaysia:

The international conference will be jointly organized with Ministry of Energy, Science, Technology, Environment and Climate Change, Malaysia. The conference aimed to facilitate awareness on new and emerging technologies such as fourth industrial revolution and renewable energy technologies for sustainable development. The conference provided a platform to foster collaboration among policymakers in Asia and the Pacific, representatives from public and private sector organizations, academia, non-governmental organizations and experts involved in various aspects

related to emerging technologies. The conference enhanced the knowledge and understanding of 118 participants including senior Government officials and experts from Bangladesh, China, India, Indonesia, Islamic Republic of Iran, Japan, Malaysia, Pakistan, the Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, USA and Uzbekistan.

C. Support technology transfer capacity building

During the reporting period, the Centre organized the following capacity building activities:

- (a) **Study Mission to Bhutan for developing a blue print structure of national technology transfer database, 9-10 April 2019, Thimphu, Bhutan:** The Centre conducted a mission to support the Department of Cottage and Small industry of Bhutan in developing a blue print structure and receive consensus from the Department of Cottage and Small industry on the contents of the national technology transfer database. During the mission, the Centre held discussions with 17 senior officials of key Government departments and private sector stakeholders from Bhutan regarding development of a blueprint for national technology transfer database for Bhutan. The stakeholders met include Department of Cottage and Small Industry of Ministry of Economic Affairs; Department



of Intellectual Property of Ministry of Economic Affairs; Royal Monetary Authority of Bhutan; Bhutan Chamber of Commerce and Industry; Department of Trade, Ministry of Economic Affairs, Bhutan; and Information and Communication Technology division of Ministry of Economic Affairs of Bhutan. The Centre delivered a technical presentation on the Centre's online technology transfer database structure and contents and discussed ideas for developing a blueprint for national technology transfer database for the Department of Cottage and Small industry Bhutan. During discussions with stakeholders, it was agreed to first develop a "Technology Request Database" to compile information on the machinery and equipment requirements of Bhutan's cottage and small industry and startups which would be helpful for finding potential suppliers. The Centre's consistent efforts and engagements with the Royal Government of Bhutan resulted in the inclusion of developing a technology database for CSIs in the Cottage and Small Industry Policy of Bhutan (i.e. section 6.5.2) published in July 2019 launched during Bhutan Economic forum for Innovative Transformation 2019. Towards this objective, the blueprint for national technology transfer database for Bhutan developed by the Centre was discussed

among stakeholders and adopted by the Department of Cottage and Small Industry.

- (b) **South and Southeast Asia Technology Transfer Matchmaking Conference, 13-14 June 2019, Kunming, China:** The Centre supported this event organized by the Ministry of Science and Technology of China and the People's Government of Yunnan Province of China. The conference aimed at strengthening regional cooperation in technology transfer and commercialization. It organized one-on-one business matchmakings, facilitating concrete technology transfers among participating institutes and enterprises. The conference contributed to enhancing the knowledge of 67 participants from government departments, science and technology authorities, technology transfer agencies, industrial associations, businesses, academia, and institutions in China and Southeast Asian countries.
- (c) **Regional Workshop on New Paradigm in Technology Transfer and Commercialization, 8-10 July 2019, Ghaziabad, India:** The Centre jointly organized this regional workshop with Human Resource Development Centre of Council of Scientific & Industrial Research, Government of India. The workshop enhanced the



knowledge and capability of 45 participants including scientists and business development managers of prominent public research institutes of India. The workshop facilitated dialogue among policy makers, research and development institutions, and related stakeholders; and experience sharing on technology transfer and commercialization, technology-based entrepreneurship and startups, intellectual property management and licensing. Experts and resource persons from Finland, India, Indonesia, and Sri Lanka participated and shared their knowledge, experience and best practices in this workshop.

- (d) **Regional Workshop on Planning and Managing Technology Transfer for Inclusive Development, 16-18 July 2019, Thimphu, Bhutan:** The Centre jointly organized this regional workshop in conjunction with Bhutan Economic Forum for Economic Transformation Bhutan Economic forum for Innovative Transformation 2019 organized by the Royal Monetary Authority of Bhutan. The workshop was jointly organized with Department of Cottage and Small Industries, Ministry of Economic Affairs, and Royal Government of Bhutan. The workshop contributed to strengthening the knowledge and skill of 83 participants including experts from Bhutan, India, Nepal

and Thailand who deliberated on strategies to accelerate cross-border cooperation on technology transfer for strengthening cottage and small industries in Bhutan. The participants from Bhutan included officials from the Ministry of Economic Affairs, District Governors, Colleges from the Royal University of Bhutan, industries, business development organizations, startups and entrepreneurs involved in the promotion of cottage and small industries in Bhutan. The resource persons, experts and member country participants shared international and national perspectives as well as experiences related to technology transfer for promoting the cottage and small industries. Case studies and best practices were also shared by the speakers. This workshop reviewed and discussed the blueprint developed by the Centre to build a National Technology Request Database to cater to the technology and machinery related needs of cottage and small industries in Bhutan.

- (e) **Visit of industry delegations from China, 8 December 2018 and 25 September 2019:** Two industry delegations comprising of 13 members from China visited the Centre to learn about the Centre's technology database and capacity building activities on technology transfer



and commercialization. The delegates included representatives from Yunan High Tech Enterprises, and Chongqing Renewable Energy Society in China. The Centre enhanced their knowledge on its programme of work related to technology transfer, online tools and platforms for facilitating cross-border partnerships and various knowledge networks that have been established by the Centre.

D. Providing technology intelligence through publications

The Centre has been disseminating information on recent technological trends and developments through its technology intelligence programme to help policy makers, institutions, and technology transfer intermediaries to address the challenges of business and technology cooperation in the region. The online periodical (www.techmonitor.net) Asia-Pacific Tech Monitor features articles on the latest technology trends and developments, technology policies, technology market, innovation management, technology transfer and new products and processes. The Annex II provides a list of the Centre's publications during the reporting period.

- The Centre published 5 issues of Tech Monitor focusing on special themes such as: Biotechnology commercialization and transfer in Asia and the Pacific (Oct - Dec 2018); Technologies for inclusiveness and equality (Jan-

March 2019) in support to the theme of the 75th ESCAP Commission Session held in May 2019; Fourth Industrial Revolution technologies for inclusive and sustainable development (April-June 2019); Promoting green technologies - Innovative mechanisms and partnerships in the Asia-Pacific (July- Sep 2019); and Promotion of technology-based startups in the Asia-Pacific (Oct-Dec 2019). The Tech Monitor issues featured 18 articles contributed by 26 authors/experts from Austria, Bangladesh, Cambodia, India, Malaysia, Nepal, Philippines, and the Republic of Korea. The articles presented data and analysis with respect to critical issues related to the special themes and included case studies and best practices from the region and outside. The periodical also disseminated short articles on useful guides, best practices for startups and small and medium enterprises, 39 selected technology offers, 20 technology requests from countries such as China, France, Germany, Hungary, India, Philippines, Peru, Poland, Sri Lanka, Thailand, and the United Kingdom.

- The Centre shared its online Asia-Pacific Tech Monitor with readers from member countries and outside the region as well. During this period, the web-version of Tech Monitor was distributed among 1,587 key stakeholders and e-subscribers from the member countries. In addition, the online Tech Monitor periodical had 2935 visitors during



December 2018 to September 2019. Countries with most viewership were China, India, Japan, Malaysia, Philippines, Republic of Korea, Thailand, United States, and Viet Nam, and among others. The Centre also disseminated the e-periodicals through social media platforms such as Facebook and twitter. Printed copies of Tech monitor were also distributed among participants in the capacity building workshops and conferences.

- The Centre is developing a publication and training manuals (power point presentations) on intellectual property management and technology licensing under the 10th Tranche of the United Nations Development Account project entitled, "South-South Cooperation for Science, Technology and Innovation Policies in the Asia-Pacific Region". The publication and the training manual would cover chapters on: Enabling policy frameworks and tools for intellectual property management and technology licensing for inclusive and sustainable development; Intellectual property assets and the knowledge economy; Intellectual property portfolio management; Intellectual property planning; Business-focused Intellectual property management; Intellectual property management tools; Technology transfer and licenses; and Litigation Strategy and Dispute resolution methods. The target users of the publication and the training manual are policy

makers, managers of technology licensing/transfer offices, and the private sector enterprises.

E. Cooperation with ESCAP programmes and divisions

Seventy Fifth Commission Session of ESCAP, 27-31 May 2019, Bangkok, Thailand:

The Centre made a report on the fourteenth session of the Governing Council, held in Bangkok to the Commission. The following are the outcomes of the 75th Commission session on the Centre's work programme:

- (a) The Commission endorsed the report of the Governing Council of the Asian and Pacific Centre for Transfer of Technology on its fourteenth session (ESCAP/75/19) (Decision 75/6).
- (b) The Commission took note of the report on the evaluation of the Asian and Pacific Centre for Transfer of Technology (ESCAP/75/29) and the evaluation of the Asian and Pacific Centre for Transfer of Technology (ESCAP/75/INF/3) (Decision 75/14)
- (c) The Commission took note of the note by the secretariat on the overview of partnerships, extrabudgetary contributions and capacity development (ESCAP/75/28) and expressed its appreciation for the following contributions to the Centre pledged by members and associate members for 2019 (Decision 75/13). They are: China (\$30000), India



(\$400000), Indonesia (10000), Macao, China (\$5000), and Thailand (\$15000).

(d) The Commission reaffirmed that the Economic and Social Commission for Asia and the Pacific is one of the most suitable regional forums in the United Nations system for E/2019/39 ESCAP/75/35 12 B19-00586 encouraging dialogue and cooperation among member States on science, technology and innovation policies, in particular through its Committee on Information and Communications Technology, Science, Technology and Innovation, in Asia and the Pacific (Resolution 75/8).

(e) The Commission encouraged member States to enhance North-South, South-South and triangular, regional and international cooperation to advance science, technology and innovation, including knowledge-sharing on voluntary and mutually agreed terms (Resolution 75/8).

(f) The Commission invited member States to consider the development and adoption of national science, technology and innovation road maps, policies and strategies for the achievement of the Sustainable Development Goals, as appropriate (Resolution 75/8).

(g) The Centre organized

and managed a booth to disseminate information about its activities and achievements at the exhibition held during 75th Commission session from 27-31 May at UNCC, ESCAP, Bangkok, Thailand.

F. Cooperation with UN organizations, international organizations and other partners

During this reporting period, the Centre jointly delivered activities/ closely worked with United Nations agencies and international organizations including United Nations Development Programme Bhutan, United Nations Economic Commission for Europe, Trade Investment and Innovation Division of ESCAP while implementing capacity-building activities in the Member States.

G. Resource mobilization activities

APCTT made the following resource mobilization efforts during the reporting period:

(a) **Host country contribution:** The Centre held active discussions with Strategy and Programme Management Division of ESCAP in cooperation with the Office of Executive Secretary, and the Department of Scientific and Industrial Research, Ministry of Science and Technology, Ministry of Commerce and Industry, and Ministry of External Affairs, Government of India for enhancement of institutional support to the Centre. As a



result, the Government of India graciously announced enhancement of host country contribution to the Centre to US\$ 400,000 at the 75th session of the ESCAP Commission in May 2019.

- (b) **Contribution from other member States:** During the period of January to December 2019, total amount of US\$182,496 was received from the following countries: Bangladesh, China, Indonesia, Macao, China, Malaysia, Pakistan, the Philippines, Republic of Korea, Sri Lanka, Uzbekistan and Viet Nam. As a result of active engagements and discussions with high level officials, the Republic of Uzbekistan started joining the activities of the Centre with annual contributions.
- (c) **In-kind contribution from member States:** The Centre successfully secured in-kind support and contributions from member States (namely Bhutan, China, India, Malaysia, Uzbekistan and Thailand) equivalent of approx. US\$50,000 for organizing programme activities in their countries during the reporting period.

- (d) **Resource Mobilization Strategy of the Centre:** The Centre developed the resource mobilization strategy paper in consultation with the Strategy and Programme Management Division of ESCAP. The strategy paper was developed as a result of deliberations on the key aspects of the Centre's resource mobilization: Outlining of the vision, Identifying the strategic priorities; Defining resource mobilization objectives; Expanding resource mobilization base; and Reviewing resource mobilization systems and identifying strategic actions.

H. Digital Outreach

The Centre continued to extend its outreach to stakeholders, policy makers and institutions through digital tools including twitter (twitter.com/UNAPCTT), Facebook (facebook.com/UNAPCTT) and LinkedIn (RE Mapping in Asia and the Pacific). The Centre also coordinated with Strategic Communications & Advocacy Section of ESCAP for disseminating information about its activities and programme outputs through ESCAP newsletters and twitter updates.

