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Item 3 (b) of the provisional agenda*

Review of issues pertinent to the subsidiary structure of the Commission, including the work of the regional institutions: trade and investment

Report of the Governing Council of the Asian and Pacific Centre for Transfer of Technology on its twelfth session

Summary

The twelfth session of the Governing Council of the Asian and Pacific Centre for Transfer of Technology was held in Islamabad from 19 to 21 December 2016. The session was hosted by the Ministry of Science and Technology of the Government of Pakistan.

The International Conference on Innovation Strategies for Sustainable Development constituted the high-level substantive segment of the twelfth session. It provided a platform for policymakers, experts, academia and business representatives to share best practices on the role of public policies in facilitating innovation for sustainable development, supporting innovative entrepreneurs, measuring innovation and the role of the public research institutes.

During the general segment of the twelfth session, the Governing Council reviewed the activities carried out and the results achieved by the Centre during the period from December 2015 to November 2016. Member countries made requests for the Centre's support and presented concrete proposals for joint activities for 2017. The Governing Council endorsed the Centre's proposed programme of work for 2017.

The Council took note of the request made by the Economic and Social Commission for Asia and the Pacific (ESCAP) in paragraph 4 (c) of its resolution 71/1, adopted at its seventy-first session, that the governing councils of each regional institution consider that the regional institution should be primarily funded by extrabudgetary resources. In addition, the Governing Council was also briefed by the secretariat on the successful steps taken by other regional institutions under ESCAP to considerably augment their extrabudgetary resources. In that regard, the Governing Council called upon member States to significantly enhance the financial support provided to the Centre to ensure that it had the minimum level of human and financial resources required to effectively implement its mandate of assisting member countries to achieve the Sustainable Development Goals through capacity-building activities.

* E/ESCAP/73/L.1.

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I. Organization of the session

1. The twelfth session of the Governing Council of the Asian and Pacific Centre for Transfer of Technology (APCTT) was held in Islamabad from 19 to 21 December 2016. The Centre is a subsidiary body of the Economic and Social Commission for Asia and the Pacific (ESCAP). The twelfth session was hosted by the Ministry of Science and Technology of the Government of Pakistan. The session was chaired by the Federal Minister of Science and Technology of the Government of Pakistan, Mr. Rana Tanveer Hussain.

2. The following Governing Council member countries were officially represented: China; Fiji; Indonesia; Malaysia; Pakistan; Philippines; Republic of Korea; Sri Lanka; Thailand; and Viet Nam. The session was attended by more than 100 policymakers from the Governing Council members, science, technology and innovation professionals, international experts, and representatives of the Trade, Investment and Innovation Division of ESCAP.

A. Opening of the session
(Agenda item 1)

3. In her opening keynote address, the Executive Secretary of ESCAP noted that the Asia-Pacific region was home to some of the most technologically advanced countries and technologically deprived countries in the world. The asymmetry of regional science, technology and innovation expertise among ESCAP member States, while of concern, offered large scope for diffusion and sharing of science, technology and innovation experience in the region through the Centre's platform. The Executive Secretary also emphasized that delivering on the 2030 Agenda for Sustainable Development, the Paris Agreement and the Addis Ababa Action Agenda of the Third International Conference on Financing for Development would require that the region worked towards catalysing sustainable and inclusive development by effectively harnessing science, technology and innovation, and trade and finance. Then, she highlighted the concrete ways in which the Centre had been serving the region: (a) tailor-made capacity-building activities on science and technology parks, technology innovation and transfer, and innovation for sustainable industrialization and development; (b) strengthening the cross-border technology transfer capacity of stakeholders in planning and managing projects in renewable energy and sustainable agriculture; and (c) knowledge-sharing products, including online periodicals such as the *Asia-Pacific Tech Monitor* within the Asia-Pacific region. She added that the Centre must turn its attention to:

- (a) New and emerging areas of innovation with strong developmental impacts;
- (b) New and more cost-efficient modes of delivering capacity-building activities to maximize impact, such as e-learning tools;
- (c) Strengthening its institutional capacity to effectively implement new initiatives.

4. The Executive Secretary reiterated that the member countries must collectively scale up the human and financial resources of the Centre's platform to support the implementation of the Sustainable Development Goals and to realize their collective science, technology and innovation aspirations.

5. Mr. Hussain, in his inaugural address, underscored the importance of the 2030 Agenda for Sustainable Development, in which science, technology and innovation played a vital role in grappling with the economic, social and environmental challenges to sustainable development. He further noted that the applications of science and technology, in building upon local knowledge, skills and materials, were central to achieving the Sustainable Development Goals. Mr. Hussain informed participants that the Government of Pakistan had given priority to the implementation of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals through various initiatives, including the National Research Agenda-2016, which aimed to align the national research and development and innovation activities with the Sustainable Development Goals. He also recognized that there was a need to

move beyond the actions of individual States towards global and regional partnerships and noted with appreciation the role of ESCAP in facilitating close cooperation among member States in sharing experiences and technologies. In that respect, he urged the participants of the International Conference on Innovation Strategies for Sustainable Development to deliberate upon the existing technology gap between the developed and developing countries and propose concrete legal and institutional measures to bridge that gap through the transfer of technology.

B. Election of officers

(Agenda item 2)

6. The Governing Council unanimously elected the following officers:

Chair: Mr. Fazal Abbas Maken (Pakistan)

Vice-Chair: Mr. Kolinio Takali (Fiji)

C. Adoption of the agenda

(Agenda item 3)

7. The Governing Council adopted the agenda:

1. Opening of the session.
2. Election of officers.
3. Adoption of the agenda.
4. High-level substantive segment (public event): International Conference on Innovation Strategies for Sustainable Development.
5. Matters arising from the ESCAP Commission resolution 71/1 “Restructuring the conference structure of the Commission to be fit for the evolving post-2015 development agenda”.
6. Report on the activities of the Centre during the period December 2015 to November 2016.
7. Report on administrative and financial status of APCTT including resource mobilization for upcoming projects/activities.
8. Main conclusions of the discussions of the high-level segment: International Conference on Innovation Strategies for Sustainable Development.
9. Proposed future projects and programme of work for 2017.
10. Date and venue of the thirteenth session of the Governing Council.
11. Other matters.
12. Adoption of the report.

D. High-level substantive segment (public event): International Conference on Innovation Strategies for Sustainable Development
(Agenda item 4)

8. The International Conference on Innovation Strategies for Sustainable Development, which was jointly organized by the Centre and the Ministry of Science and Technology of the Government of Pakistan, brought together more than 100 policymakers from the Governing Council member countries, science, technology and innovation professionals and international experts to discuss three core topics, namely:

- (a) The role of public policies in facilitating innovation for sustainable development;
- (b) Supporting innovative entrepreneurs;
- (c) Measuring innovation and the role of the innovation support institutions.

9. The summary of the discussion with main conclusions is set out in annex I to the present report.

E. Matters arising from the ESCAP Commission resolution 71/1 “Restructuring the conference structure of the Commission to be fit for the evolving post-2015 development agenda”
(Agenda item 5)

10. The Governing Council noted the resolutions adopted at Commission sessions:

(a) In paragraph 4 (c) of resolution 71/1, on restructuring the conference structure of the Commission to be fit for the evolving post-2015 development agenda, the Commission requested the Governing Council of each regional institution to consider that the regional institution should be primarily funded by extrabudgetary resources;

(b) In resolution 72/3, adopted at the seventy-second session, the Commission adopted the revised statute of the Centre and called upon members and associate members to consider enhancing support to enable the Centre to play a more effective role in assisting member countries to achieve the Sustainable Development Goals through capacity-building activities.

11. In addition, the Governing Council was also briefed by the secretariat on the successful steps taken by other regional institutions under ESCAP to significantly augment their extrabudgetary resources. In that regard, the Governing Council called upon member States to significantly enhance the financial support to the Centre to ensure that it had the minimum level of human and financial resources required to effectively implement its mandate of assisting member countries to achieve the Sustainable Development Goals through capacity-building activities.

F. Report on the activities of the Centre during the period December 2015 to November 2016
(Agenda item 6)

12. The Centre continued to assist member States to build their technological capacity through a series of programmes and activities undertaken in the areas of science, technology and innovation, technology transfer and technology intelligence. From December 2015 to November 2016, the Centre

delivered and/or actively contributed in demand-driven capacity-building activities in nine member countries (China, India, Indonesia, Malaysia, Myanmar, Pakistan, the Philippines, Singapore and Thailand) in close cooperation and partnership with 21 partner institutions. The activities included international/regional conferences, consultative forums and training workshops targeting policymakers and relevant science, technology and innovation stakeholders. The Centre's online periodicals, the *Asia-Pacific Tech Monitor* and the *Value Added Technology Information Service (VATIS) Update* on biotechnology, food processing, new and renewable energy, ozone layer protection and waste management, continued to deliver the latest technological information to stakeholders.

13. In addition, the Centre carried out normative and analytical studies of regional and national relevance to assess policy trends, identify and highlight good policies and best practices, develop policy strategies and guidelines and foster regional cooperation in the area of science, technology and innovation.

14. The Centre also contributed towards the 2030 Agenda for Sustainable Development by focusing on the capacity-building of member countries in areas relating to renewable energy and sustainable agriculture. Special emphasis was placed on the participation of least developed countries such as Cambodia, the Lao People's Democratic Republic and Nepal, which benefited from the Centre's activities.

15. While the Centre actively participated in a number of ESCAP activities by providing its expertise in science, technology and innovation, networking and cooperation with national, regional and international institutions were also strengthened during the reporting period in order to implement the Centre's policy advocacy and capacity-building activities (both South-South and North-South cooperation) more effectively.

16. The Governing Council noted with appreciation the accomplishments of the Centre in terms of the range and quality of work delivered that had benefited more than 20 countries during the reporting period.

17. The following suggestions and remarks were made by delegations for consideration:

(a) Indonesia suggested that the Centre should organize activities, such as mentoring and training, when the Centre participated in forums, expos and exhibitions in which a number of Governments, partner organizations, industrial associations and businesses participated; and that it should implement quantitative performance measurements to monitor and evaluate the Centre's activities (such as the number of business deals and offers made). It was also suggested that the Centre should focus more on emerging issues for normative and analytical work on policy advocacy and best practices and to facilitate knowledge exchange and information-sharing on science, technology and innovation policies among member States (such as baseline studies on policies and regulations, tax incentives and lessons learned). In that regard, the Chair suggested that the Centre provide links to the Governing Council members' public websites on policy practices as a cost-efficient service solution;

(b) Thailand suggested that the Centre should implement activities focusing on the areas in which the Centre had expertise, such as providing an ecosystem for technology development and technology transfer and facilitating the participation of experts from member countries in an open innovation system and technology commercialization;

(c) Pakistan informed the Governing Council that as an outcome of the second Forum on China-South Asia Technology Transfer and Collaborative Innovation, which had been held in Kunming, China, in June 2016, it had been decided that a centre for the transfer of technology between China and Pakistan should be established in the near future;

(d) The Philippines noted with appreciation the Centre's capacity-building programmes, such as the agriculture technology initiative, and suggested that such activities could focus more on training for trainers for business consultancy services to agro-enterprises, possibly through information-sharing of regional experience for effective capacity-building and public-private partnerships. The Centre could assemble a panel of experts and collaborate with them for its future capacity-building activities;

(e) It was suggested that the Centre could conduct joint research in the development of small and medium-sized enterprises relating to science, technology and innovation. The Governing Council was informed that the ESCAP Sustainable Business Network, which had a number of task forces, including agriculture and food, could provide the Centre with excellent network opportunities with the business community throughout the region.

G. Report on administrative and financial status of APCTT including resource mobilization for upcoming projects/activities

(Agenda item 7)

18. The Governing Council took note of the administrative and financial status of the Centre. The Governing Council noted that while institutional support resources had been provided by the Government of India and other member countries, the current levels of staffing and funding for activities of the Centre were insufficient for it to play a significant role in mainstreaming science, technology and innovation in the 2030 Agenda for Sustainable Development in the Asia-Pacific region. The Head of the Centre therefore requested the Governing Council member countries to provide the Centre with advice on ways to secure the services of additional professional staff members, perhaps including assignment or secondment of national experts and senior personnel. Also, in-kind contributions such as the hosting of a Governing Council meeting, which had been carried out by the Government of Pakistan during the reporting period, were encouraged. The Head of the Centre also reiterated the funding issues set out in Commission resolution 71/1.

19. The Philippines confirmed its annual contributions to the Centre and requested the secretariat to share the formal request documents in a timely manner so that the Government could ensure the timely disbursement of funds in the future.

H. Main conclusions of the discussions of the high-level segment: International Conference on Innovation Strategies for Sustainable Development

(Agenda item 8)

20. The high-level International Conference on Innovation Strategies for Sustainable Development constituted the substantive segment of the twelfth session of the Governing Council. It provided a platform for policymakers, experts and representatives from the private sector to share best practices on the role of public policies in facilitating innovation for sustainable development, supporting innovative entrepreneurs, measuring innovation and the role of the public research institutes. Recommendations and suggestions

made during the International Conference on that emerging area of work could be incorporated in designing and implementing the Centre's future work programme. The summary of the main conclusions of the discussions of the high-level International Conference is provided in annex I.

21. Throughout the International Conference, the importance of and need for further initiatives in the fields of quality education, access to financial schemes, the development of a science, technology and innovation ecosystem and collaboration with international initiatives, inter alia, were highlighted. In that connection, the Chair suggested the need to enhance private research and development activities in addition to public research and development activities. The Indonesian delegate also underlined the importance of government policy interventions to provide an enabling environment to entrepreneurs and new business entrants.

I. Proposed future projects and programme of work for 2017 (Agenda item 9)

22. The Head of the Centre proposed the programme of work for 2017, which was aligned with the subprogramme on trade, investment and innovation of ESCAP, to the Governing Council.

23. The Governing Council endorsed the Centre's proposed programme of work for 2017, including:

(a) Institutional support project on strengthening the national innovation system of ESCAP member States with a special focus on technology transfer and the deployment of technology innovations;

(b) "Feed the future" India programme on enhancing food security in selected least developed countries in Asia through the establishment of an agricultural innovation accelerator platform;

(c) South-South cooperation on science, technology and innovation policies in the Asia-Pacific region;

(d) Online technical periodicals: the *Asia-Pacific Tech Monitor* and the *Value Added Technology Information Service (VATIS) Update*.

24. The member country delegations highlighted their science, technology and innovation-related priorities and suggested that the Centre could consider implementing the following activities subject to their conformity with the mandate of the Centre and the availability of budgetary support. Recommendations made by the delegates are summarized below:

(a) Fiji addressed needs for efficient information and communications technology (ICT) infrastructure and tools for natural disaster risk reduction and technology for carbon footprint assessment, and asked for the Centre's assistance in those areas. In that regard, the Trade, Investment and Innovation Division of ESCAP indicated its willingness to provide research in the area of natural disaster risk reduction.

(b) Indonesia requested cooperation with the Centre for the development and implementation of an innovation platform for sustainable restoration and use of peatlands. The objectives of that programme were: (i) to share and compile proven social and technological innovation; and (ii) to encourage the development and adaptation of innovation in the management and sustainable use of peatlands by the local community, industry and key stakeholders. Indonesia also proposed a project entitled "Innovation-based business partnership forum: accelerate the internationalization

of start-ups in Asia and the Pacific”. The objectives of that programme were: (i) to highlight the high growth potential for startups in the region to potential business partners such as startups, established firms and investors; (ii) to enhance innovation-based business partnerships in the region; and (iii) to share the latest innovation knowledge and business practices on start-up development and management. The mode of operations of the forum would comprise business matching, investment forum/pitching, start-up mentoring, exhibitions and an Asia-Pacific start-ups conference. The Asia-Pacific innovation forum could be organized annually in major cities in member countries to be agreed upon at the Centre’s annual Governing Council meeting. For 2017, Indonesia had offered to host that forum.

(c) Malaysia suggested the development of a comprehensive networking/training platform for technology transfer between seekers and providers (for example, using online tools and/or human networks, or through matchmaking, technology evaluation and validation, data dissemination, incubation and the provision of a transfer technology readiness due diligence model). Malaysia also proposed that the Centre organize a small and medium-sized enterprise technology transfer development workshop as a satellite programme during the Malaysia Commercialization Year 2.0 summit, which would be held in Kuala Lumpur in October 2017. The summit would house several satellite programmes, including conferences, exhibitions, coaching and showcases of the results that had been achieved in technology transfer in small and medium-sized enterprises;

(d) The Secretary of the Ministry of Science and Technology of Pakistan, Mr. Fazal Abbas Maken, made the following suggestions for the consideration of the Centre:

(i) To conduct workshops to develop proposals and strategies for mechanisms for the transfer of technology at the three tiers required in an attempt to boost the economies of the member States: a. within countries from developers of technology to end users; b. within developing countries – networking for the transfer of technology through South-South cooperation; and c. from developed to developing countries – North-South cooperation;

(ii) To conduct workshops and training programmes to build capacities for conducting technological audit programmes for small and medium-sized enterprises with a view to enhancing productivity and environment friendliness (Pakistan would be willing to host such a workshop in coordination with the Centre);

(iii) To conduct workshops to build capacities to cope with both the supportive as well as disruptive impacts of rapidly advancing technologies in the global value chains;

(e) The Philippines suggested that the Centre could develop a cluster project for a nation as a pilot in cooperation with a group of countries from the Asia-Pacific region. Such a cluster project could select a key industrial sector based on capacity-building needs and ongoing science, technology and innovation legislation development;

(f) The Republic of Korea recommended that the Centre strengthen its cooperation in the area of innovation initiatives with existing international platforms such as the ESCAP Committee on Information and Communications Technology, Science, Technology and Innovation and the Asia-Pacific Economic Cooperation Center for Technology Foresight. That delegation also suggested a possible joint study on the science, technology and innovation role in the implementation of the Sustainable Development Goals;

(g) Sri Lanka requested that the Centre consider assisting in changing the mindset of research institutes that focus on academic publications to instead focus on the development and transfer of practical technology for commercialization;

(h) Thailand requested the Centre to jointly organize a workshop on an innovation strategy for sustainable development through a water-energy-food nexus at ESCAP in May or June 2017;

(i) Viet Nam requested the Centre's support in the organization of capacity-building activities for enhancing the capacity of researchers for quality research through learning experiences and best practices on business and science, technology and innovation services.

25. The Governing Council noted the existing networks and training activities of the Centre for the areas suggested by the member States, such as online networking services, nanotechnology, renewable energy and sustainable agriculture.

26. The Governing Council noted the constraints of the human and financial resources of the Centre, and therefore requested the ESCAP Trade, Investment and Innovation Division to support the Centre and deliver additional activities, particularly in the area of small and medium-sized enterprises development.

27. The participating member countries shared their challenges, strategies and action plans on national science, technology and innovation development and their experience in cooperation with various organizations with the Governing Council.

J. Assessment of APCTT periodicals

(Agenda item 9)

28. The Centre presented to the Governing Council the results of the impact assessment study on its two online periodicals: the *Asia-Pacific Tech Monitor* and the *Value Added Technology Information Service (VATIS) Update*.

29. The Governing Council decided that the publication of the *Asia-Pacific Tech Monitor* should continue with the same format. The *Value Added Technology Information Service (VATIS) Update* periodicals would continue to be published in two areas, such as biotechnology and new and renewable energy. The timing for the implementation of that decision would be decided in consultation with the Strategy and Programme Management Division of ESCAP. Further assessment was also recommended to evaluate their usefulness and cost efficiency.

K. Date and venue of the thirteenth session of the Governing Council

(Agenda item 10)

30. The Governing Council welcomed the tentative offers made by both Indonesia and the Philippines to host the thirteenth session of the Governing Council during November/December 2017. The Centre would further discuss the matter with the two countries and report back to the Governing Council in due course.

L. Other matters
(Agenda item 11)

31. The Governing Council noted with appreciation the institutional and programme support being provided by the Government of India to the Centre. The Governing Council also appreciated the annual voluntary contributions made to the Centre by other members and the support of the secretariat. The Governing Council expressed its appreciation to the Government of Pakistan, especially its Ministry of Science and Technology, for its generous support to host the twelfth session of the Governing Council and its excellent hospitality extended to all the participants in the session.

M. Adoption of the report
(Agenda item 12)

32. The Governing Council adopted the present report on 21 December 2016.

Annex I

Main conclusions of the discussions of the high-level segment: International Conference on Innovation Strategies for Sustainable Development

I. Introduction

1. The International Conference brought together more than 100 policymakers from the Centre's Governing Council member countries, science, technology and innovation professionals and international experts to discuss three core topics, namely:

- (a) The role of public policies in facilitating innovation for sustainable development;
- (b) Supporting innovative entrepreneurs;
- (c) Measuring innovation and the role of the innovation support institutions.

A. Role of public policies in facilitating innovation for sustainable development

2. The topics discussed were:

(a) The world had become more science, technology and innovation intensive and had developed global value chains with cross-border trade in value added services through technological advancement in information and communications technology (ICT), logistics and trade and investment liberalization;

(b) The importance of access to education (in particular the higher education sector at both the national and international levels) and its quality was reiterated in order to enhance the level of science, technology and innovation in a nation. Education could change people's mindsets to accept the advancement of science, technology and innovation. The importance of other levels of education (such as elementary and secondary) was also highlighted;

(c) National environments that could foster and retain young talented researchers were key to promoting the advancement of science, technology and innovation;

(d) Progress in the ICT and agriculture sectors played an important role in the advancement of science, technology and innovation;

(e) Specific technical sectors were highlighted for science, technology and innovation advancement, such as biotechnology, neuro-technology, robotics/artificial intelligence and new materials;

(f) The measurements of innovation and their typologies (such as inputs, outputs and international indexes) were presented and their specific issues were discussed. The definitions of innovation were also touched upon;

(g) Science, technology and innovation had been recognized as one of the measures needed to attain the Sustainable Development Goals, which required international cooperation among countries and United Nations agencies, inter alia;

(h) The importance of science, technology and innovation development policies was mentioned but no specific policies were discussed;

(i) The process of “catching up” in science, technology and innovation had been addressed by the Centre but each national Government needed to have its own tailor-made policy framework;

(j) Experiences of some more advanced countries, such as the Republic of Korea and Singapore, were useful for less developed countries for their science, technology and innovation advancement;

(k) Less funds were typically available at ministries of science and technology;

(l) Many points above indicated that strong public leadership and an effective science, technology and innovation policy framework were needed.

3. The following were the main conclusions of the session:

(a) The role of education and the need to invest more to enhance science, technology and innovation capacities in developing countries in Asia and Pacific were highlighted;

(b) Various financial sources, such as business revenues, venture capitals and initial public offerings, were necessary for science, technology and innovation development at the different stages of innovative business development;

(c) An enabling science, technology and innovation ecosystem, which effectively and efficiently connected various functions, resources and institutions, such as public authorities, the financial sector, educational institutions, industries, entrepreneurs, infrastructure and service providers and any other stakeholders at the national and subnational levels, was needed for accelerating science, technology and innovation development;

(d) The following measures were suggested by an expert for consideration:

(i) Strengthening regional/international cooperation, such as the ESCAP Committee on Information and Communications Technology, Science, Technology and Innovation; the network of science, technology and innovation agencies (e.g. the Association of Southeast Asian Nations network); and regional innovation platforms (e.g. the Asia-Pacific Economic Cooperation/the Association of Southeast Asian Nations);

(ii) Global cooperation for inclusive innovation (such as a global technology facilitation mechanism, South-South cooperation and Pacific Rim cooperation).

B. Supporting innovative entrepreneurs

4. The main topics discussed were:

(a) There were different kinds of enterprises in the market. More growth-oriented and value added enterprises as well as new entrants were needed for science, technology and innovation advancement. Those enterprises faced a number of obstacles and challenges, and must be provided with proper corporate governance and enabling business environments under the market-oriented economy system. An enabling ecosystem was needed to connect various resources and expertise for enterprise development;

(b) Corporate strategies have been directed to outsourcing and offshoring, and to fostering global value chains;

(c) Innovation must be linked with market demand to make it relevant; in that regard, an open innovation model was presented as one of the useful strategies for enterprises to bring more new ideas to the market;

(d) Various phases of business development were explained, highlighting the need to provide adequate funding, particularly at the beginning of the business startup;

(e) China's successful experience in entrepreneurship development was presented:

(i) An entrepreneurship development programme, attracting more young people to enter into business since the 1980s, presently with 4 million entrepreneurs;

(ii) The modernization of entrepreneurship;

(iii) A focus on science, technology and innovation-driven businesses;

(iv) The development of science parks, providing technical and business development service support and corporate finance and microfinance services;

(v) Appropriate policies, such as the development of technology-driven sectors (such as e-commerce and social media) and infrastructure development;

(vi) More research and development financed by retained earnings accumulated by successful entrepreneurs;

(vii) One useful strategy was to use the late mover advantage, learning from existing products and services, for example, through reverse engineering.

(f) Under several related laws, the Philippines had implemented a variety of programmes and funding schemes, which had experienced mixed results. The nation's focuses and present situations were:

(i) The Philippines was facilitating the smooth transfer of technology from research and development to commercialization and from its marketing in local markets to international markets. Technology transfer and upgrading, as well as entrepreneurship development, were other key policy areas;

(ii) The majority of clients owned micro, small and medium-sized enterprises, which faced various challenges;

(iii) Policies and programmes for micro, small and medium-sized enterprises development tended to be fragmented with inadequate funding. Coordination among line ministries and agencies was also an issue. Some initiatives included:

a. Business licensing;

b. Technology evaluation and validation;

c. Intellectual property protection and adequate and relevant intellectual property right laws;

d. Using education to enable students to become entrepreneurs;

e. Business incubation in the ICT sector.

(iv) The agriculture sector was also a target sector for innovation and productivity enhancement.

5. The following were the main conclusions of the session:

(a) Insufficient funding support and access to capital for micro, small and medium-sized enterprise were identified as the major obstacles for innovative business development. Government assistance and the role of the financial sector should be revisited;

(b) The Government's role was crucial. Policy coordination and prioritization and adequate funding to enhance science, technology and innovation were challenges for many developing countries;

(c) The important role microfinance played was highlighted, particularly in order to enhance innovation among young and women entrepreneurs.

C. Measuring innovation and the role of the innovation support institutions

6. The main topics discussed were:

(a) Gender mainstreaming in science, technology and innovation activities (Pakistan) required:

(i) Women's education for knowledge-driven development; more involvement of women in science, technology and innovation activities (such as female researchers in science, technology and innovation organizations);

(ii) More formal training for women (e.g. higher level degrees);

(iii) Women's involvement in science, technology and innovation activities relating to agriculture and rural development; health and reproduction; and intellectual property rights;

(iv) Coherent policymaking, evidence-based policymaking; monitoring and evaluation; and gender impact assessment;

(v) Increase the number of science teachers at girls' schools;

(vi) Facilitation measures such as flexible working hours and the provision of day cares to encourage women's participation in science, technology and innovation activities;

(b) Measuring innovation (China):

(i) The Government had made considerable investments in human resources for science, technology and innovation/research and development activities, delivering a large amount of science, technology and innovation outputs. While the Government provided financial support and research institutions provided technical support, enterprises played a major role (over 40 per cent of science, technology and innovation/research and development activities);

(ii) Top industries included automobiles, electronics and high technology, and transportation equipment;

(iii) There was a focus on original research and development and investment in the higher education sector;

(iv) Three key modalities were new technology development, technology upgrading and technology transfer;

- (v) Business incubators and support institutions provided both technical and financial support;
- (vi) The Government had initiated various development programmes to support science, technology and innovation activities such as the Belt and Road Initiative and the science, technology and innovation development plan, inter alia;
- (c) Science, technology and innovation policies and life-cycle assessment programmes (Thailand):
 - (i) Policy support mainly focused on tax incentives to encourage science, technology and innovation/research and development activities. It reduced tax collections in the short term; however, it would increase corporate profits and would thus be expected to increase future tax revenues;
 - (ii) Supporting the Sustainable Development Goals and the Paris Agreement through the development of the sustainability assessment tool and the comprehensive database for multiple purposes and users;
- (d) Measuring innovation (the United Nations Educational, Scientific and Cultural Organization (UNESCO));
 - (i) Introduced various UNESCO initiatives on science, technology and innovation throughout Asia and the Pacific: basic science for people, sustainable development, ICT, environment, hydrology, geoscience, pollution, disaster, heritage site preservation, education/training, entrepreneurship and rural development;
 - (ii) Established partnerships with governments, donors, the private sector and others on science, technology and innovation activities;
- (e) Clean technology innovation (the United Nations Industrial Development Organization);
 - (i) The global programme aimed to foster clean-technology businesses in over 20 countries;
 - (ii) Provided training and mentoring with financial support for select entrepreneurs through screening (less than 1 per cent accepted further support);
 - (iii) Conducted policy advocacy and provided capacity-building for the clean-technology industry;
 - (iv) Cooperated with local business associations and venture capitals and encouraged patent registration.

7. The main conclusions of the session were:

- (a) Strong political will was one of the driving forces for gender mainstreaming;
- (b) It was necessary to raise the position of science, technology and innovation in the national and international agendas;
- (c) Under the ever-growing science, technology and innovation-intensified world, the transfer of technology should be revisited, particularly for facilitating such transfers from developed countries to developing countries and among developing countries, where the Centre might play a key role.

Annex II

Programme of work of the Centre for 2017

1. The programme of work of the Centre is aligned with the subprogramme on trade, investment and innovation of ESCAP. The following projects and/or programmes were approved by the Governing Council at its twelfth session held in Islamabad from 19 to 21 December 2016.

2. **Institutional support project on strengthening the national innovation system of ESCAP member States, with a special focus on technology transfers and the deployment of technology innovations – funded by the institutional support provided to APCTT (multi-donors).** In consultation with the Strategy and Programme Management Division of ESCAP, the Centre has developed and is currently implementing its institutional project on strengthening the national innovation system of ESCAP member States with a special focus on technology transfers and the deployment of technology innovations funded by the institutional support provided to APCTT (multi-donors). This project will support the Centre's regular substantive activities to strengthen the capacity of policymakers and key stakeholders in ESCAP member States to harness science, technology and innovation through facilitating regional cooperation, improved access to knowledge and information on new technological innovations, enhanced skill and capability in policy and strategy development, technology transfer, promoting the adoption and use of new and emerging technologies, and encouraging technology-based entrepreneurship.

3. **“Feed the future India: enhancing food security in selected least developed countries in Asia through the establishment of an agricultural innovation accelerator platform” – expected funding support from the United States Agency for International Development, with a total funding of approximately \$1.5 million.** The Centre developed a project proposal entitled “Feed the future India: enhancing food security in selected least developed countries in Asia through the establishment of an agricultural innovation accelerator platform”. This project aims to enhance food security through the transfer of agricultural innovations from India to three least developed countries, namely, Bangladesh, Cambodia and Nepal. This project will be implemented from 2017 to 2021, subject to the outcome of resource mobilization efforts by the Centre, which are currently under way.

4. **South-South cooperation for science, technology and innovation policies in the Asia-Pacific region – expected funding from the United Nations Development Account 10th Tranche, in partnership with the Trade, Investment and Innovation Division of ESCAP.** The Centre jointly developed a project document on South-South cooperation for science, technology and innovation policies in the Asia-Pacific region, funded by the United Nations Development Account tenth tranche in partnership with the Trade, Investment and Innovation Division of ESCAP. The main objective of the project is to strengthen the capacity of selected countries of the Asia-Pacific region to formulate science, technology and innovation policies and strategies to strengthen their national innovations systems. This project is scheduled to be jointly implemented by the Trade, Investment and Innovation Division and the Centre during the period 2016-2019.

5. **The Asia-Pacific Tech Monitor and the Value Added Technology Information Service (VATIS) Update.** The Governing Council decided that the publication of the *Asia-Pacific Tech Monitor*, the flagship publication of the Centre, would continue with the same format. The *Value Added*

Technology Information Service (VATIS) Update periodicals would continue to be published in two areas, such as biotechnology and new and renewable energy. The timing for the implementation of this decision would be decided in consultation with the Strategy and Programme Management Division of ESCAP. These periodicals will also be disseminated widely through social media, such as Facebook and Twitter, to enhance the outreach.

Annex III**Financial statement of the Asian and Pacific Centre for Transfer of
Technology for the year ended 31 December 2016**

(United States dollars)

Income

Contributions	345 329
Gain/loss on exchange/contributions	-
Interest income	8 435
Total income	353 764
<i>Less: Expenditure</i>	220 599
Net income over expenditure	133 165
Fund balance as at 1 January	856 701
Refunds to donors/fund transfer	-
Fund balance as at 31 December 2016	989 866

Annex IV

**Financial statement of the Asian and Pacific Centre for Transfer of Technology for the year ended 31 December 2016,
by project component**
(United States dollars)

	<i>Joint contributions: capacity development project</i>	<i>Government of India: capacity development project</i>	<i>Government of India: technical cooperation project – national innovation system</i>	<i>Joint contributions: strengthening the national innovation system</i>	<i>Total</i>
<i>Income</i>					
Contributions	142 301	203 028	-	-	345 329
Gain on exchange/contributions	-	-	-	-	-
Interest income	5 675	2 456	214	90	8 435
Total income	147 976	205 483	214	90	353 764
<i>Less: Expenditure</i>					
Net income over expenditure	162 844	(1 145)	(2 270)	(26 264)	133 165
Fund balance as at 1 January 2016	581 519	257 414	17 768	-	856 701
Refunds to donors/fund transfer	(281 836)	-	-	281 836	-
Fund balance as at 31 December 2016	462 527	256 269	15 498	255 572	989 866

Annex V

Cash contributions to the Asian and Pacific Centre for Transfer of Technology for the year ended 31 December 2016 (United States dollars)

<i>Country/area</i>	<i>Year ended 31 December 2016</i>	<i>Year ended 31 December 2015</i>
1. Capacity development projects		
Bangladesh	-	
China	29 855	30 000
India	203 028	363 668
India – Ozone Cell, Ministry of Environment, Forest and Climate Change	-	10 425
Indonesia	10 000	10 000
Iran (Islamic Republic of)	9 865	-
Macao, China	5 000	5 000
Malaysia	15 000	15 000
Pakistan	7 500	7 379
Philippines	-	-
Republic of Korea	35 081	34 146
Sri Lanka	5 000	5 000
Thailand	15 000	15 000
Viet Nam	10 000	14 000
Subtotal	345 329	509 618
2. Technical cooperation projects		
India (for national innovation system)	-	100 000
Subtotal	-	100 000
Total	345 329	609 618