COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)

Twenty-first session
Geneva, 14 to 18 May 2018

Submissions from entities in the United Nations system and elsewhere on their efforts in 2017 to implement the outcome of the WSIS

Submission by

United Nations Economic and Social Commission for Asia and the Pacific

This submission was prepared as an input to the report of the UN Secretary-General on "Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels" (to the 21st session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

UNITED NATIONS **NATIONS UNIES**

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IDD/IDS/WSIS 15 December 2017

Dear Dr. Kituyi,

I thank you for your letter dated 2 November 2017 inviting ESCAP to report on the activities undertaken for the implementation of the World Summit on the Information Society (WSIS) to the Commission on Science and Technology for Development (CSTD). As requested, please find attached the ESCAP submission.

After the 2030 Agenda for Sustainable Development was adopted, ESCAP was the first regional commission to adopt a resolution in 2016 which mandates the secretariat to undertake regional coordination for the WSIS action line implementation. Since then, a number of activities have been undertaken to align the WSIS implementation with the Sustainable Development Goals (SDG) and ESCAP's Regional Economic Cooperation and Integration (RECI) agenda.

One of the main initiatives ESCAP is supporting is the Asia-Pacific Information Superhighway (AP-IS) which aims to facilitate the development of seamless regional broadband connectivity. In view of the rapid development and uptake in emerging frontier technologies such as Artificial Intelligence in some countries, the need to bridge the digital divide has become even more urgent than before. The regional broadband networks will provide the necessary infrastructure for initiatives and activities designed for the achievement of SDGs, including trade and investment.

We hope that the attached submission will be a useful contribution to the CSTD process and will pave a way for our strengthened cooperation and collaboration in the future.

Yours sincerely,

Shamshad Akhtar
Under-Secretary-General of the United Nations
and Executive Secretary of ESCAP

Enclosures

Dr. Mukhisa Kituyi
Secretary-General
United Nations Conference on Trade and Development
Geneva

Part One: An executive summary (half a page) of activities undertaken by all stakeholders, progress made, and any obstacles encountered.

The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) is tasked with coordinating the World Summit on Information Society (WSIS) regional review, as mandated by ESCAP resolution 72/10 [1]. As a result, ESCAP held a regional review of the implementation of the Summit action lines during the first session of the Committee on Information and Communications Technology, Science, Technology and Innovation, (5-7 October 2016, Bangkok). In preparation for the review, ESCAP also convened the 13th session of the regional "Inter-Agency Working Group on ICT (IAWG)" on 4 October 2016 in Bangkok, Thailand [2] to facilitate coordination and cooperation with UN agencies at the regional level. This was followed up by the 13th session of the IAWG, held on 4 December 2017 in Bangkok. Representatives from the Asia-Pacific Telecommunity (APT), ITU and other UN organizations shared the work programme of each organization for the coming year, with a view to expanding collaboration in activities on ICT for sustainable development and in support of WSIS goals and action lines.

In addition, the International Telecommunication Union (ITU) as WSIS coordinator, and WSIS prize winners, attended the 8th session of the United Nations Special Programme for the Economies of Central Asia (SPECA) thematic working group meeting on Knowledge-based Development (co-hosted with the United Nations Economic Commission for Europe) in Almaty, Kazakhstan[3], in September 2016. In line with the WSIS goals, the meeting addressed the emerging requirements for enhanced ICT connectivity, as a basis for resilient business and economic development among the SPECA countries.

Part Two: A brief (1–2 pages) analytical overview of trends and experiences in implementation at the national, regional and international levels and by all stakeholders, highlighting achievements and obstacles since WSIS and taking into account the follow-up and review of the 2030 Agenda for Sustainable Development. This could include information on the facilitation process of implementation, monitoring and cooperation among stakeholders.

In addition to coordinating regional reviews of the WSIS implementation, ESCAP conducted analytical studies to inform government officials of ESCAP member countries and other stakeholders of challenges and opportunities in WSIS action line implementation. This section summarizes the key findings of ESCAP studies[4] and the policy recommendations that emerged for promoting an inclusive information society in the Asia-Pacific region.

Artificial Intelligence (AI) and Broadband Divide: AI, which merges digital technologies and machine intelligence, is increasingly transforming the way we live and work in the region and

[1] http://www.unescap.org/sites/default/files/E72_RES10E.pdf
[2] http://www.unescap.org/events/world-summit-information-society-wsis-and-inter-agency-working-group-ict-meeting
[3] http://www.unescap.org/events/eighth-session-speca-thematic-working-group-knowledge-based-development
[4] For a list of ESCAP studies, please refer to: http://www.unescap.org/our-work/ict-disaster-risk-reduction/asia-pacific-information-superhighway/resources

beyond. Faster and more versatile connectivity, together with an exponential increase in the availability, type and scale of data collected and analysed in real time, provide us with unprecedented opportunities—and challenges—that span a range of social, economic and environmental perspectives in Asia and the Pacific[5]. AI, and its digital technology components, have been developed and applied in various socioeconomic sectors, such as agriculture, transport, trade, health, education, among others. Supported by Big Data, such emerging capabilities will enable more accurate information and insights for more precise policy decision-making in support of the achievement of SDGs.

Six key challenges remain to be tackled.

One, the digital divide is widening: Consequently, the full potential of ICT and AI in the region is being held back by the limited availability, resilience and affordability of broadband Internet. In terms of bandwidth availability per user, the digital divide has increased significantly between 2009 and 2013, with bandwidth availability rising sharply in advanced economies and growing slowly in poorer economies. ESCAP's analysis[6] reveals that 18 economies in the region have a fixed broadband penetration of less than 2 per cent at prices that are unaffordable in many countries and this situation has not improved over the past decade. The main causes are a persistent lack of investment in resilient ICT infrastructure, and consequently limited availability of international bandwidth, ineffective Internet traffic and network management. Furthermore, a lack of conducive and enabling regulations for investment, suggests the need for an intensification in capacity-building and awareness raising programs for policymakers and regulators[7].

Two, financing mechanisms for ICT infrastructure roll-out remain underdeveloped and underutilized: Investment in ICT infrastructure helps achieve all the Sustainable Development Goals (SDGs), and in particular, SDG 9 targeting industry, innovation, infrastructure and ICT. However, access to affordable and resilient ICT connectivity varies significantly, not only in urban areas but also in remote and rural areas. In addressing this persistent challenge, universal access and service funds[8] (UASFs) have been adopted by some Asia-Pacific governments as a mechanism to expand ICT access in unserved and underserved areas. However, the results of UASF in delivering on its core objectives is mixed. Recognizing the importance of developing enabling financing mechanisms for broadband connectivity projects under the Asia-Pacific Information Superhighway initiative, an ESCAP study[9] examined selected country case studies in the region to identify the policy challenges and opportunities associated with the UASF. The results of the

[5] For further details, refer to ESCAP publication, http://www.unescap.org/resources/artificial-intelligence-and-broadband-divide-state-ict-connectivity-asia-and-pacific-2017

[6] Ibid.

[7] ESCAP, "State of ICT in Asia and the Pacific 2016: uncovering the widening broadband divide" (2016). Available from www.unescap.org/sites/default/files/State%20of%20ICT%20in%20Asia%20and%20 the%20Pacific%202016.pdf.

[8] UASFs normally collect funds from telecommunication operators and reallocate them to augment investments in ICT infrastructure development in such areas. The UASF, therefore, plays an important function in providing affordable and accessible telecommunication and broadband services for all.

[9] For further details, refer to ESCAP publication, http://www.unescap.org/resources/impact-universal-service-funds-fixed-broadband-deployment-and-internet-adoption-asia-and

analyses highlight that countries with UASFs targeting broadband/Internet expansion have not experienced better results in fixed-broadband and Internet growth than the countries without such a fund. The findings have important policy implications for governments and international organizations alike, in terms of fiscal planning and devising the most resource-efficient policies for broadband expansion. This suggests the need for an in-depth review of public-private-partnerships, and ESCAP plans to intensify its policy research in this area.

Third, Internet traffic management remains inefficient: An ESCAP study [10] examined ICT connectivity along countries of the China-Central Asia-West Asia Corridor of the Belt and Road Initiative in support of the Asia-Pacific Information Superhighway (AP-IS). The study found that China-Central Asia-West Asia needs more systematic support in the number and capacity of new ICT connectivity initiatives to bring Internet affordability to landlocked countries in particular. Countries along the Corridor require redundant fiber routes; more international bandwidth; and security in ICT infrastructure; affordable broadband pricing; and international cooperation. As a result, the study recommended that Almaty (Kazakhstan) and Urumqi (China) serve as core nodes for both intra- and inter-corridor connectivity to improve Internet traffic flow within the corridor, and regional cooperation, as envisaged under the AP-IS initiative was a key mechanism to address these challenges.

Fourth, drivers of broadband connectivity need to be prioritized in policy-setting agendas: ESCAP studies also examined specific drivers of broadband connectivity and ICT for development in the Pacific islands, ASEAN and North-and Northeast Asian countries. The study on the Pacific islands found that access to a range of services such as e-government; affordable energy as well as ICT devices (mobile and fixed telephony devices); emerging technologies[11]; education; and infrastructure financing were all factors that could drive growth in broadband connectivity and economic development. Based on the findings, the study recommended the need for a subregional governance structure for the effective coordination and cooperation on the development of ICT connectivity in the Pacific. It highlighted the need for enhancing resilient ICT infrastructure in the face of frequent and major natural disasters in the subregion; and recommended further technical studies on each of these specific challenges. It also recommended training in the development of contextualized online contents, and a more productive use of broadband connectivity.

Fifth, progress in ICT for Governance and Public Administration remains underutilized: In the 2030 Agenda, sustainable development "should be underpinned by effective, accountable and inclusive institutions, sound policies and good governance at all levels" (SDG 16). ICTs could play a crucial role in enabling governments to enhance public service delivery, promote transparency and accountability, and foster citizen engagement.

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[10] For further information, refer to ESCAP publication, http://www.unescap.org/resources/study-ict-connectivity-belt-and-road-initiative-bri-enhancing-collaboration-china-central

[11] Include (1) the Internet of Things (IoT); (2) fixed and mobile broadband; (3) cloud computing; and (4) Big Data. For more discussion on this issue, refer to ESCAP (2017), " Artificial Intelligence and Broadband Divide - State of ICT Connectivity in Asia and the Pacific 2017", accessed via <http://www.unescap.org/sites/default/files/publications/State%20of%20ICT2017_Final_6Nov17.pdf>

In Asia and the Pacific, notwithstanding the increased awareness among policymakers on the role of ICT for effective governance, and the rapid evolution from e-government to smart government services, in the advanced countries of the region, the levels of e-Government services are at a nascent stage in many other countries of the region. For example, Australia, Republic of Korea, Singapore, New Zealand and Japan are in the top global e-Government rankings, while countries such as Afghanistan, Cambodia, Pakistan, Papua New Guinea, and Timor-Leste are in the bottom forty countries. Countries such as India, Kyrgyzstan, Viet Nam, Mongolia, and Sri Lanka are in the middle range. Such disparities demonstrate a need for a broad range of capacity development support on promoting the use of ICT in governance and public administration.

Six, the use of ICT for Women's Economic Empowerment: While ICTs are universally acknowledged as enabling tools for social participation and economic empowerment, women entrepreneurs continue to face disadvantages resulting from their lack of access and capacity to use these technologies. Regional trends and available studies suggest that overall there is a gender divide that could be impacting women entrepreneurs' ability to fully take advantage of ICTs. Focusing on mobile technology and the mobile Internet, in East Asia and the Pacific, it is estimated that 54% of women remain unconnected[12].

Even where women have more access and ownership to mobile phone devices, they report less frequent and less intensive mobile phone usage, mainly with more sophisticated services, as is the case of mobile Internet. Other research shows that women are 12 percent less likely to be aware of emerging technologies[13].

In addition to access, lack of capacity to use ICT in business planning and management hampers development of women-owned MSMEs. Women entrepreneurs in developing countries face additional challenges compared to their male counterparts in the form of access to resources, information, skills and training. In a study by the Donor Committee for Enterprise Development (DCED), it has been noted that there were "very few efforts to support women entrepreneurs using ICTs"[14].

Part Three: A brief description (1–2 pages) of:

(a) Innovative policies, programmes and projects which have been undertaken by all stakeholders to implement the outcomes. Where specific targets or strategies have been set, progress in achieving those targets and strategies should be reported.

In May 2017, ESCAP member countries adopted ESCAP resolution 73/6 on the implementation of the AP-IS initiative through regional cooperation. The resolution requested ESCAP, including

[12] GSMA Connected Women. "Bridging the gender gap: Mobile access and usage in low- and middle-income countries". 2015.
[13] The Asia Foundation and Asia Pacific Economic Cooperation (APEC), (2013). *Access to Trade and Growth of Women's SMEs in APEC Developing Economies: Evaluating Business Environments in Malaysia – Philippines – Thailand.* San Francisco: Asia Foundation.
[14] DCED. 2012. *Scoping Study of Women's Entrepreneurship Development (WED) Interventions: Knowledge Gaps for Assessment of Project Performance*

regional and international partners to accord priority to the implementation of the Master Plan[15] for the AP-IS, including the support to members and associate members for their implementation; encourage the participation of various stakeholders in the implementation of activities of the Master Plan; continue to conduct research and analysis and capacity development to identify challenges and opportunities associated with the above-mentioned four pillars of the AP-IS initiative; and maximize opportunities for collaboration with subregional organizations/regional institutes.

As a follow up to the resolution, ESCAP in partnership with the Government of Bangladesh organized the first session of the Asia-Pacific Information Superhighway Steering Committee meeting, in Dhaka, Bangladesh, 1-2 November 2017. One of the objectives of the meeting was for ESCAP member countries to submit country submissions on ICT priority challenges as inputs to formulating subregional implementation plans and strategies for each ESCAP subregion. Partner organizations also submitted organization inputs on their respective work in different areas in the region towards promoting broadband connectivity.

ESCAP is in the process of consolidating country submissions for preparation of the subregional plans. Additionally, five areas of focus for the Pacific AP-IS subregional plan as follows: (1). Cyber Security; (2). Capacity Building on ICT; (3). Connectivity (affordability) and accessibility; (4). Infrastructure sharing policies; (5). An agreement to hold a AP-IS Pacific Subregional meeting in the Pacific in 2018, with support from PITA and USP. These country/organization submissions[16] will be the foundation for developing subregional plans for the implementation of the AP-IS Master Plan in 2018 and beyond. Furthermore, ESCAP attended the ASEAN TELSOM meeting in November to share and discuss updates to the AP-IS ASEAN pre-feasibility study. Based on the updates, the AP-IS subregional implementation will be planned for the coming years.

In addition, the Asian and Pacific Training Centre for Information and Communication Technologies for Development (APCICT) continues to strengthen the human and institutional capacities of ESCAP Member States on using ICT for socio-economic development.

The Centre's flagship programme for government officials and policymakers is the **Academy of ICT Essentials for Government Leaders**. Launched in 2008, the Academy is utilized in 35 countries in Asia and the Pacific, in cooperation with national partners from ICT ministries and agencies, civil service training institutes, civil society, and academia. It consists of an 11-module training curriculum covering basic and advanced topics on ICT for development. To impart knowledge on ICT for development to students and youth, the Centre also implements the **Primer Series on ICTD for Youth**, which aims to expand the coverage of ICTD education in university education. The Primer Series serve as learning resources on ICTD for use by colleges and universities in the region.

In June 2016, the Centre launched the **Women ICT Frontier Initiative (WIFI)**, an integrated ICT and entrepreneurship training programme for women entrepreneurs and policymakers. It aims

[15] http://www.unescap.org/sites/default/files/Master_Plan_for_APIS_English_0.pdf

[16] For further information on country/organization submissions, refer to http://www.unescap.org/events/first-session-asia-pacific-information-superhighway-ap-steering-committee

to strengthen the capacity of current and potential women entrepreneurs in the region on utilizing ICT in support of their businesses. It also aims to build the capacity of policymakers to create an enabling environment for ICT empowered women entrepreneurs. The Centre has begun to roll-out the programme in the region, beginning with Sri Lanka in September 2015, followed by Cambodia (December 2015), Kyrgyzstan (April 2017), Central Asia sub-regional (April 2017), Bangladesh (July 2017) and ASEAN sub-regional (August 2017).

(b) Future actions or initiatives to be taken, regionally and/or internationally, and by all stakeholders, to improve the facilitation and ensure full implementation in each of the action lines and themes, especially with regard to overcoming those obstacles identified in Part Two above. You are encouraged to indicate any new commitments made to further implement the outcomes.

The AP-IS Master Plan outlines seven strategic initiatives[17] to be implemented by ESCAP member countries and partners. The ESCAP secretariat, regional and international partners, and ESCAP member countries are to collaborate and implement these strategic initiatives. The progress on implementation will be reported to the second session of the Asia-Pacific Information Superhighway Steering Committee meeting, as well as the second session of the Committee on Information and Communication Technology, Science, Technology and Innovation, scheduled for August 2018.

[17] For further information on AP-IS Strategic Initiatives, refer to: http://www.unescap.org/our-work/ict-disaster-risk-reduction/asia-pacific-information-superhighway/master-plan-for-the-ap-is-and-ap-is-regional-cooperation-framework-document