COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)

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Submissions from entities in the United Nations system and elsewhere on their efforts in 2018 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 22nd 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.

[ESCAP draft input on WSIS related-activities in 2018]

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 mandated to coordinate the World Summit on Information Society (WSIS) regional review by ESCAP resolution 72/10 [1]. As a result, ESCAP held a regional review of the implementation of the Summit action lines during of the second session of the Asia-Pacific Information Superhighway Steering Committee and WSIS regional review, (27-28 August 2018, Bangkok).[2] Attended by over 120 ESCAP member countries, UN agencies, regional and international partners, the meeting was effective to strengthen the alignment between the strategic initiatives of the Asia-Pacific Information Superhighway (AP-IS) with WSIS action lines and create programmatic and operational synergies among government and partners.

The regional review meeting was informed of the persistent challenges in addressing the digital divide and the fact that the emerging technologies are in fact further widening the gap among countries and subregions. In response, the ESCAP member countries endorsed the AP-IS Master Plan 2019-2022 at the second session of the Committee on Information and Communications Technology, Science, Technology and Innovation (CICTSTI)[3]. The alignment between WSIS action lines and AP-IS targets was appreciated by member countries and partners alike, as it will enable coherent implementation of activities, systematic monitoring and reporting of the WSIS and AP-IS implementation across the region, while integrating WSIS in ESCAP's inter-governmental discussions and operational activities for the achievement of SDGs.

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 order to identify emerging trends, challenges and opportunities, ESCAP solicited data, information and views from member countries and partners as a basis for regional cooperation dialogue and implementation of the Asia-Pacific Information Superhighway (AP-IS). The first session of the AP-IS Steering Committee was held in Dhaka on 1 and 2 November 2017 and the consolidated list of challenges were presented as below:

[1] http://www.unescap.org/sites/default/files/E72_RES10E.pdf

[2] https://www.unescap.org/events/second-session-asia-pacific-information-superhighway-ap-steering-committee-and-wsis-regional

[3] https://www.unescap.org/intergovernmental-meetings/committee-information-and-communications-technology-science-technology-and-innovation-second

(a) Inadequate level of investment in ICT infrastructure partly due to the absence of evidence-based investment policies, including public-private partnerships, universal service obligations, and wholesale and retail pricing models;

(b) Lack of effective telecommunications regulations and ICT policies which address challenges and opportunities presented by emerging technologies;

(c) Limited capacity among ICT policymakers, decision makers, regulators and other stakeholders to address the digital divide with emerging technology solutions;

(d) Limited domestic and international fibre-optic network capacity (often due to old infrastructure) and routes (especially in rural areas) as well as redundancy, coupled with disruptions to connectivity due to natural disasters and the resulting damage to telecommunications facilities and cables;

(e) Limited availability of local content and content distribution networks and applications, which leads to limited demand for ICT access and services;

(f) Lack of policies, measures and capacity to ensure cybersecurity against the increasing risks of cyberattacks;

(g) Slow progress in expanding ICT literacy and education at secondary and tertiary education institutions, exacerbated by slow digital transformation in government and private sectors;

(h) Inefficient, or lack of, Internet traffic and network management policies, regulations, measures and capacity, including lack of open and neutral Internet exchange points;

(i) Limited uptake of various technologies for connectivity, such as satellite communications and other emerging technologies, and limited opportunities for co-deployment with transport and energy sectors.

In response and in support of the WSIS implementation, ESCAP conducted analytical studies on specific issues on ICT connectivity and digital technology for informed regional policy dialogue by ESCAP member States and other stakeholders. This section briefly summarizes relevant ESCAP studies[4] and key findings on emerging trends, challenges and opportunities of ICT connectivity and digital technology in the Asia-Pacific region. The studies are grouped under the respective four pillars of the AP-IS initiative: infrastructure connectivity; Internet traffic and network management; e-resilience; and affordable broadband for all.[5]

[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

[5] For further details, refer to https://www.unescap.org/our-work/ict-disaster-risk-reduction/asia-pacific-information-superhighway

Infrastructure connectivity: One of the major bottlenecks in achieving the goals and targets of WSIS action lines is limited broadband affordability, especially among the countries with special needs in Asia and the Pacific. Infrastructure sharing is recognized by ESCAP member States as one of the effective means to reduce fibre deployment costs and improve affordability. Infrastructure sharing includes co-deployment of fibre-optic broadband network along other utility infrastructures such as roads, railways, electricity grid, and gas/oil pipelines. According to an ESCAP report on costs and benefits of fibre-optic co-deployment along the Asian Highway[6], the co-deployment of fibre optical cables along highways (compared with separated deployment) in Myanmar is estimated to save at least US$ 7,379 per kilometer, or 57% of the total construction cost. Most of the cost saving in co-deployment is derived from eliminating overlapping civil works such as excavation, backfilling and reinstatement during highway construction.

Another ESCAP report[7] assessed the existing and planned co-deployment of fibre-optic cables along railways and highways in India and Bangladesh. The report found that a large portion of the fund secured for the rollout of nationwide fibre-optic cables network (BharatNet) in India is spent on digging trenches for laying the conduit of the cables. The report noted that cost-savings could have been achieved had optical fibre-optic cable conduits were incorporated into the design at the time of building these roads. In the case of Bangladesh, it planned to bring its entire network under an integrated telecommunication system by laying optical fibre line over forty-four sub-districts to build a secure train communication system. The major challenge facing co-deployment of fibre-optic cable in India and Bangladesh is the need for better coordination among government departments, implementing agencies and telecom operators.

***Internet traffic and network management*:** Efficient Internet traffic and network management is found to improve affordability but at the same time pose unintended consequences—the vulnerability of the network from cyberattacks. An ESCAP report[8] highlighted that with improved connectivity in certain Asia-Pacific countries, cyberattacks are intensifying as well. The report noted that Australia, New Zealand, India, Japan and China were the top 5 Asia-Pacific countries that reported the highest cyberattacks received between 2013 and 2017. The financial impact of cyberattacks on organisations and enterprises is estimated to have reached US$500 billion in 2015 and may quadruple to US$2.1 trillion by 2019. The report recommends that Asia-Pacific economies continue strengthening their cybersecurity legislations and institutional and individual capacity among other measures. Other recommendations include promoting regional cooperation and knowledge sharing to address the wide range of cyberthreats and risks.

[6] https://www.unescap.org/resources/study-cost-benefit-analysis-fibre-optic-co-deployment-asian-highway-connectivity

[7] https://www.unescap.org/resources/co-deployment-optical-fibre-cables-along-asian-highways-and-trans-asian-railways-e

[8] https://www.unescap.org/resources/enhancing-cybersecurity-industry-40-asia-and-pacific

***E-resilience*:** Natural disasters constrain government efforts in achieving the 2030 Agenda for Sustainable Development. The results of natural disasters are cataclysmic—from human loss and suffering to devastating economic repercussions. Between 2000 and 2017, Asia and the Pacific experienced the highest number of natural disaster occurrences compared to the Americas, Europe and Africa. In this context, the need for disaster preparedness and resilience for and with ICT, or e-resilience, has been gaining increasing regional and global attention. E-resilience refers to the use of ICT during all phases of disaster risk management —prevention, reduction, preparedness, response and recovery — towards reducing risk and impact and maintaining the gains made towards sustainable development. In providing prompt response and ensuring emergency communication services, ICT, including geospatial technology and space applications, is recognized to play an instrumental role. ESCAP's analysis[9] published in the 2018 United Nations E-government Survey highlights the need to strengthen e-resilience efforts as part of e-government initiative, taking into account emerging technologies, such as social media and artificial intelligence.

Another ESCAP study[10] focuses on China, Japan and the Republic of Korea as global leaders in developing broadband connectivity and digital technology. The study emphasizes that each country has developed distinctive ICT policies and strategies, thus forming an enabling national broadband ecosystem, with e-resilience as an integral element. It might have contributed to the broadband growth among the three countries and provided a solid foundation for the development of emerging technologies and applications, despite the multitude of natural disaster risks.

***Broadband for all*:** An ESCAP study[11] noted that the cost of fixed broadband subscription in two of nine Pacific island countries surveyed – Kiribati and Solomon Islands – represented over 50% of their respective monthly gross national income per capita.[12] Similarly, the costs of fixed-broadband subscriptions in the People's Democratic Republic of Lao and Myanmar were more than 15 per cent of their respective gross national income per capita, and more than 10 per cent in Cambodia and Indonesia. The report identified that lack of diversity in ICT network routes, limited competition and cost of access to global networks, including via submarine/terrestrial cables, may increase the cost that may be passed on to end users.

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

[9] United Nations, The United Nations E-Government Survey 2018: Gearing E-Government to Support Transformation towards sustainable and resilient societies, July 19 2018. Available from https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2018-Survey/E-Government%20Survey%202018_FINAL%20for%20web.pdf

[10] https://www.unescap.org/resources/e-resilience-review-national-broadband-policies-regulations-strategies-and-initiatives

[11] https://www.unescap.org/sites/default/files/ESCAP_CICTSTI_2018_3_broadband%20connectivity_English.pdf

[12] The Broadband Commission for Sustainable Development has set a target on affordable broadband by 2025 at less than 2% of monthly Gross National Income (GNI) per capita in developing countries. For further details, refer to: https://broadbandcommission.org/Documents/publications/wef2018.pdf

(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.

The ESCAP secretariat continues to support the Asia-Pacific countries on the WSIS action line implementation through the AP-IS as an innovative regional platform. The countries have identified several challenges on access to affordable and resilient broadband services including infrastructure connectivity, Internet-traffic management, e-resilience and affordable access for all. These key priorities helped identify the four pillars of the AP-IS and the subsequent development of the AP-IS Master Plan with seven strategic initiatives, focus areas, and action items for implementation.[13] The following section[14] reports on the progress made in achieving each of the action items prioritized for implementation by the Master Plan and WSIS action lines:[15]

Steering Committee to be established and operational (completed)

The AP-IS Steering Committee was established with two consecutive sessions held in 2017 and 2018 respectively, as per ESCAP resolution 73/6 on the 'Implementation of the Asia-Pacific Information Superhighway initiative through regional cooperation'. An updated Master Plan for 2019 until 2022 was endorsed by the second session of CICTSTI in August 2018. The AP-IS Master Plan 2019-2022 details the targets derived from the WSIS and SDG for the implementation by governments, regional and international partners and ESCAP secretariat.

Regional economic and social studies (ongoing)

In response to ESCAP member States requests, and to support regional policy dialogue on promoting broadband connectivity, the following technical studies (not exhaustive) were conducted and shared with ESCAP member States and other stakeholders through various AP-IS events and online:

a) Fibre-optic codeployment with the Asian Highway (2018);
b) Broadband connectivity in the Pacific island countries (2018);
c) ICT statistics for evidence-based policymaking in Pacific island countries (2018);
d) e-Resilience: A Review of National Broadband Policies, Regulations, Strategies and Initiatives of China, Japan and the Republic of Korea (2018);
e) Enhancing Cybersecurity for Industry 4.0 in Asia and the Pacific (2018).

Undertake policy initiatives for cross-border connectivity (ongoing)

[13] As outlined in the AP-IS Master Plan 2016-2018 (E/ESCAP/CICTSTI(1)/2).
[14] Technical studies/feasibility studies listed in this report are available from: https://www.unescap.org/our-work/ict-disaster-risk-reduction/asia-pacific-information-superhighway/resources
[15] Further details on the studies completed/ongoing were reported by ESCAP secretariat at the second session of the AP-IS Steering Committee, August 2018, available from: https://www.unescap.org/sites/default/files/Update%3B%20AP-IS%20initiative.pdf

The ESCAP secretariat has collaborated with several national/regional/international partners to co-host the AP-IS subregional meetings for North and Central Asia in October 2018 and the Pacific in November 2018. The respective subregional discussions have facilitated the consolidation of subregional ICT priorities and challenges for implementation through the AP-IS platform. The identified priorities include support to corridors, such as the Trans-Eurasian Information Super Highway (TASIM), Armenia's North-South Corridor, Kazakhstan-Kyrgyzstan and Mongolia in Central and East Asia and broadband connectivity, capacity development and cybersecurity in the Pacific.

Capacity development (Ongoing)

The ESCAP secretariat responded to a request from the Pacific island countries for capacity building training on bridging the digital divide through the use of ICT statistics for evidence-based policy making. The capacity training workshop for government officials from the Pacific was conducted in Fiji, November 2018, in partnership with ITU and the Pacific Islands Telecommunications Association (PITA).

The ESCAP secretariat through the Asian Pacific Training Centre for Information and Communication Technology for Development (APCICT) continued to provide ICT capacity building support for civil servants and women entrepreneurs in the region. It organized a national training on ICT and entrepreneurship for policymakers and women entrepreneurs in Andhra Pradesh, India on 19-22 February 2018. It conducted a training for senior government officials of Myanmar on ICT and the Sustainable Development Goals, e-Government and information security and privacy on 19-23 March 2018 (Lower Myanmar) and 2-5 July 2018 (Upper Myanmar). The Centre also developed a new training course for civil servants on the role of accurate, accessible, timely and reliable data in enhancing governance and public service delivery. A Regional Training of Trainers on Data-Driven Governance was held in Incheon on 5-7 December 2018 and was attended by 22 government officials and trainers from 19 countries.

Formulation of AP-IS funding mechanism platform (ongoing)

ESCAP continues to support member States and other relevant partners to establishing an AP-IS funding mechanism platform. In addition, UN partnership was strengthened through the organization of inter-agency working group meetings and joint production of report "Report of the Side Event of the Asia-Pacific Forum for Sustainable Development on ICT for Transformation and Resilience"[16], to create synergies and collaboration among UN agencies.

(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

[16] https://www.unescap.org/resources/report-side-event-asia-pacific-forum-sustainable-development-ict-transformation-and

Part Two above. You are encouraged to indicate any new commitments made to further implement the outcomes.

An updated AP-IS Master Plan for 2019 until 2022 has been endorsed by ESCAP member States in August 2018.[17] The updated Master Plan[18] maps the linkages between activities, responsible parties, strategic initiatives, SDG indicators, and WSIS action lines. By doing so, the updated Master Plan provides an effective tool for tracking progress of respective parties to the implementation of the Master Plan over time. Through the implementation of the AP-IS Master Plan 2019-2022, it is expected that WSIS action line implementation is synergized and coordinated and systematically integrated into ESCAP's intergovernmental platforms.

APCICT will continue to enhance its training curricula for civil servants on utilizing ICT for sustainable development and will further expand delivery of its capacity building activities in the region. Training courses in the areas of ICT for disaster risk management; ICT and climate change; and information security and privacy are being updated to reflect the changing ICT landscape, and which will then be rolled-out in the region in cooperation with sub-regional and national partners from ICT ministries and civil service organizations. The Centre is also supporting the implementation of the Asia-Pacific Information Superhighway and will develop a new training module for policymakers on building resilient and smart infrastructure through co-deployment of ICT. Additional training modules will also be developed in response to specific requests from ESCAP member States in 2019 and beyond.

[17] https://www.unescap.org/sites/default/files/CICTSTI_2018_9%20Report%20Eng.pdf
[18] https://www.unescap.org/sites/default/files/ESCAP_CICTSTI_2018_INF1.pdf