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(CSTD)**

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**Submissions from entities in the United Nations system, international
organizations and other stakeholders on their efforts in 2020 to
implement the outcomes of the WSIS**

Submission by

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 24th 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.

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**United Nations Economic and Social Commission for Asia and the Pacific
Reporting on implementation of the World Summit on the Information Society, 2020**

Your input should be brief (2–4 pages single-spaced) and focus specifically on the status of implementation in the action line(s) and/or main theme(s) of WSIS outcomes that your organization is facilitating, implementing or coordinating. It should contain the following three parts:

***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 regional review of the World Summit on Information Society (WSIS) by ESCAP resolution 72/10¹. ESCAP co-hosted with the International Telecommunications Union (ITU) a virtual regional review session on the implementation of the Summit action lines during the fourth session of the Asia-Pacific Information Superhighway Steering Committee and WSIS regional review, (August 2020, Bangkok).² Attended by over 100 participants including government representatives from 26 ESCAP member States, UN agencies, regional and international partners, the meeting expressed the appreciation on the various innovative projects of Asia and the Pacific to the WSIS Forum award for 2020 and provided a good opportunity to deepen regional cooperation and policy dialogue for strengthening the alignment between the strategic initiatives of the Asia-Pacific Information Superhighway (AP-IS) with WSIS action lines for building back better.

In addition, ESCAP hosted a virtual WSIS UN Regional Commissions Meeting Round Table during the WSIS Forum 2020 on 9 September 2020. This roundtable session facilitated reporting by UN Regional Commissions on their respective programmes and activities in each region in aligned with promoting the implementation of the WSIS action lines. It also promoted the sharing of regional experiences and perspectives on the role of digital technology in response to COVID-19. The meeting was attended by all five Regional Commissions. ITU also reported on its respective regional initiatives and recognized the important role of Regional Commissions on coordinating regional implementation and review of WSIS action lines in complementing global WSIS processes.

***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 support of the regional WSIS action-lines implementation, ESCAP conducted analytical studies on specific issues on ICT connectivity and digital technology and shared findings with ESCAP member States and other stakeholders through organization of regional policy dialogues. The below summary illustrates relevant ESCAP studies³ and key findings on emerging trends, challenges and opportunities of ICT connectivity and digital technology in the Asia-Pacific region in the below.

Strengthening efficient Internet traffic management for improved speed and latency

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

² <https://www.unescap.org/events/fourth-session-asia-pacific-information-superhighway-ap-steering-committee-and-wsis-regional>

³ For a list of ESCAP studies, please refer to: <http://www.unescap.org/our-work/ict-disaster-risk-reduction/asia-pacific-information-superhighway/resources>

The key roles of Internet exchange points are to promote Internet speed, reduce the transit costs of Internet traffic regionally and internationally, improve the quality of domestic users' access and direct connections to local and cached content, and lower the Internet traffic tromboning effect through coordinating and linking locally all Internet traffic exchange points within a country or a sub-region. It drastically improves the efficiency of Internet traffic flows by eliminating the need for Internet traffic to flow through expensive and long-distance traffic routes lying outside the country of origin. However, establishing an Internet exchange point is complex, especially when multiple countries are involved. Many country based Internet exchange points are already established for non-commercial public service, however the linking of Internet exchange points requires the collaboration of all Internet service providers in the country.

- *South-East Asia*

The majority of the international Internet traffic routes among Cambodia, the Lao People's Democratic Republic, Myanmar and Viet Nam are exchanged on routes outside the region (through North America or Europe). The tromboning index for the Internet traffic among the Lao People's Democratic Republic and Myanmar is inefficient, as is the index for the traffic on the Lao People's Democratic Republic to Cambodia and the Cambodia to Viet Nam routes. A study by ESCAP and the Republic of Korea have recommended that a carrier-neutral Internet exchange point be established to facilitate the efficient exchange of Internet traffic between these four countries in South-East Asia.⁴

- *Pacific*

Internet latency in the Pacific varies significantly but is generally affected by such factors as inefficient Internet network and traffic management, and the long distances that fibre-optic cables have to cover. A recent study found that the combined average national latency of major telecommunications operators for selected Pacific island countries connected to New Zealand varies significantly from Solomon Islands (344), Federated States of Micronesia (308), to Fiji (91) and Vanuatu (76).⁵

The secretariat collaborated with the Internet Society and conducted a feasibility study on establishing a subregional Internet exchange point to better coordinate Internet traffic within the Pacific region. The preliminary findings are expected to contribute to significant improvement in Internet latency between selected Pacific island countries and New Zealand. The average national latency of the seven Pacific island countries without a subregional Internet exchange point was 187 milliseconds. However, if Internet exchange points in Fiji, New Zealand and Samoa were connected to coordinate the traffic using the shortest route, it could drastically reduce average latency by up to 94 per cent, to 6 milliseconds.

The following study in developing an operational model for a Pacific Internet exchange point proposal recommended the corporate structure, infrastructure requirement, physical location of Internet exchange, topology design, governance structure, and costing.⁶ Key outcomes from the second study were presented as the subregion's input to the Asia Pacific Information Superhighway Steering Committee at its fourth session, and the Committee on Information and Communications Technology, Science, Technology and Innovation, which were held in August 2020. The ESCAP secretariat collaborated with partners and conducted national consultations with various domestic stakeholders in Fiji, Samoa and New Zealand on the proposal with the view drafting a memorandum of agreement outlining the establishment of a Pacific Internet exchange point for selected countries to review and adopt.

Improving the efficiency of fibre-optic cable infrastructure development through infrastructure sharing and co-deployment (Information and communication infrastructure)

⁴ ESCAP, Feasibility Study on Inter-Country IXP for Efficient and Effective Internet Traffic Management in CLMV (forthcoming).

⁵ Layer 10 Telecommunications Strategy and Design, Pacific-IX Desktop Feasibility Study: Feasibility Study into Subsea Cable Transmission and Establishment of a Pacific Islands Internet Exchange (December 2019).

⁶ Edgeconnect Pty Ltd, A Study on the Costing, Operational Principles and Modalities of a Proposed South Pacific Internet Exchange, New South Wales (August 2020). Available here: <https://www.unescap.org/resources/study-costing-operational-principles-and-modalities-proposed-south-pacific-internet>

Co-deployment of fibre-optic cables along other utility infrastructure including roads, railways and energy power grids is a good model of reducing investment costs and supporting the expansion of broadband connectivity. Co-deployment is also cost-effective of bringing connectivity to the unconnected, as a single excavation can serve multiple functions. Approximately 80 to 90 per cent of fibre-optic cable deployment costs are related to excavation work and obtaining right of way. Some project for co-deployment of fibre-optic cables along utility infrastructure has been implemented successfully in several countries of Asia, including Bangladesh, Bhutan, China, India, Myanmar, the Republic of Korea, the Russian Federation, Thailand and Turkey, among others. Some of key challenges to promote co-deployment of ICT with other utility infrastructures are regulatory and institutional issues.

- *North and Central Asia and East and North-East Asia*

The secretariat conducted studies on fibre-optic cable infrastructure development through infrastructure sharing and co-deployment in three pilot countries, namely Kazakhstan, Kyrgyzstan and Mongolia. The studies show that a lack of enabling domestic policies and coordination among ministries hinders ICT infrastructure co-deployment prospects. While some domestic policies provide opportunities for co-deployment, rules and procedures for granting access to road transport infrastructure are yet to be developed, as do methods for determining fees related to infrastructure access and maintenance. The study revealed that the coordination and cooperation on co-deployment between government agencies and private companies are also lacking.⁷

The main obstacles affecting ICT infrastructure co-deployment were the absence of transparent regulatory mechanisms and the lack of awareness about the associated benefits. Other factors affecting co-deployment along road infrastructure included the lack of approved standards for the construction and operation of fibre-optic links; difficulties in land acquisition for the construction of fibre-optic lines; and, in some cases, a refusal of permission by road transport owners for the construction of fibre-optic lines in certain zones of highways.

Investment in fibre-optic cable infrastructure (including co-deployment with other infrastructures) encountered challenges including the lack of right of way, relevant standards or coordination between relevant stakeholders and the unavailability of funds for investment.⁸ The lack of institutional or regulatory mechanisms often makes it difficult for stakeholders to share vital information with one another, such as the cost of civil works. In addition, some of the countries lack a uniformed regulatory mechanism or standardization policy governing fibre-optic cable deployment.

- *South and South-West Asia*

The challenges for ICT infrastructure co-deployment in South and South-West Asia include difficulties in acquiring land or obtaining permission for land use from land authorities and private landowners, which create uncertainty and delays in the roll-out of planned ICT infrastructure. The lack of uniform and transparent pricing policies governing co-deployment license fees has the same effect. The lack of fibre-optic cable deployment standards and of ICT infrastructure co-deployment coordination poses another challenge.⁹ The secretariat and the Asian Institute of Transport Development conducted a study on the co-deployment of fibre-optic cables including in selected countries, in South Asia, namely Bangladesh, Bhutan and India.¹⁰ According to the study, in a majority (77 per cent) of the countries surveyed fibre-optic cables are codeployed along the right of way of roads. The findings highlighted the importance of establishing a single government agency to coordinate and enforce directives on co-deployment and of encouraging stronger and transparent policies on right of way, leasing and sharing rates.

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

(a) Innovative policies, programs and projects which have been undertaken by all stakeholders to

⁷ ESCAP, “An in-depth national study on ICT infrastructure deployment with road transport and energy infrastructure in Kazakhstan: part I”, Asia-Pacific Information Superhighway (AP-IS) Working Paper Series (Bangkok, 2020).

⁸ ESCAP, “Research report on ICT infrastructure co-deployment with transport and energy infrastructures in Mongolia”, Asia-Pacific Information Superhighway (AP-IS) Working Paper Series (Bangkok, 2020).

⁹ ESCAP, Co-deployment of Fibre Optic Cables along Transport Infrastructure for SDGs Including Cross Border (Bangkok, 2018).

¹⁰ ESCAP, Co-deployment of Fibre Optic Cables along Transport Infrastructure for SDGs Including Cross Border (Bangkok, 2018).

implement the outcomes. Where specific targets or strategies have been set, progress in achieving those targets and strategies should be reported.

Asia-Pacific countries reviewed the progress and priority focus areas in implementing the AP-IS Master Plan 2019-2022 at the subregional levels, discussed future direction of its implementation, and reviewed the implementation of WSIS action lines at the fourth session of the AP-IS Steering Committee in August 2020. The Steering Committee highlighted¹¹ the importance of continued contribution of AP-IS initiative to the WSIS action lines, the critical roles of international organizations and financial institutions in strengthening regional cooperation and implementing ICT projects at national level in fighting the COVID-19 pandemic. The Secretariat conducted the feasibility studies focusing on how to strengthen efficient Internet traffic management at the regional levels, in particular about CLMV countries such as Cambodia, the Lao People's Democratic Republic, Myanmar and Viet Nam, and about the Pacific island countries such as Fiji, New Zealand and Samoa. The secretariat also conducted analytical research on the efficiency of fibre-optic cable infrastructure development through co-deployment of infrastructure in the East and North-East Asia, North and Central Asia and South and South-West Asia subregions.

(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 third session of the Committee on Information and Communications Technology, Science, Technology and Innovation in August 2020 provided useful guidance on the priority focus areas of work for the next 12 months. Based on guidance and recommendations, the secretariat will enhance regional cooperation in promoting expansion of investments in next-generation infrastructure networks to curb widening digital divide in the region. Secondly, the secretariat will accelerate analytical research on the issue of co-deployment of fibre-optic cables along other infrastructure networks which includes methodology for calculating cost-effectiveness. Thirdly, the secretariat will establish a drafting group to develop an action plan for the next phase of the AP-IS initiative 2022-2026. Lastly, the United Nations Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT) of ESCAP will also continue to enhance its training curricula for civil servants on utilizing ICT for sustainable development and further expand delivery of its capacity building activities in the region.

Furthermore, the ESCAP secretariat will continue its efforts in developing and advocating tools and methodologies, aiming at facilitating collaboration in practical implementation of co-deployment of ICT infrastructure with transport and energy infrastructures through simulation of future smart transport corridors, and assessing and monitoring the e-resilience of ESCAP Member-states in line with national priorities and needs. For that purpose, the following specific three activities will be implemented under the project on promotion of the Regional Economic Cooperation and Integration (RECI):

- the cross-sectoral infrastructure partnership portal**, aimed to strengthen the collaboration of ICT, Energy and/or Transport sector stakeholders through a multi-stakeholder web portal with automation modules on determining compatibility, economic efficiency and identification of infrastructure projects that lend themselves to ICT co-deployment for future smart transport corridors.
- the development of a toolkit** for determining the most promising and economically feasible model of the new transport corridors' by implementation of methodology and modelling of cost-benefit analysis of corridors.
- develop a dashboard for monitoring e-resilience**, which will encompass ICT, DRR and other relevant indicators and shape them into comprehensive interactive web panel. It will enable member States to assess digital performance across the region and verify the levels of safe, affordable and reliable digital connectivity for addressing future crises.

¹¹ <https://www.unescap.org/events/fourth-session-asia-pacific-information-superhighway-ap-steering-committee-and-wsis-regional>