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Economic and Social Commission for Asia and the Pacific Committee on Information and Communications Technology

Fourth session

Bangkok, 14-16 October 2014 Items 2 and 3 of the provisional agenda*

Asian Information Superhighway: seamless connectivity for sustainable development in Asia and the Pacific

Harnessing cross-sectoral infrastructure synergies

Note verbale dated 14 October 2014 from the Embassy of the Republic of the Philippines addressed to the secretariat of the Economic and Social Commission for Asia and the Pacific

The Embassy of the Republic of the Philippines presents its compliments to the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and, with reference to the fourth session of the Committee on Information and Communications Technology, has the honour to transmit in advance the text of the outcome statement of the Expert Consultation on the Asia Information Superhighway and Regional Connectivity, held in Manila on 24 and 25 September 2013.

The Embassy also has the honour to request that the outcome statement be brought to the attention of the Committee during its consideration of items 2 and 3 of the provisional agenda.

The Embassy of the Republic of the Philippines avails itself of this opportunity to renew to ESCAP the assurance of its highest consideration.



Annex to the note verbale, dated 14 October 2014 from the Embassy of the Republic of the Philippines, addressed to the secretariat of the Economic and Social Commission for Asia and the Pacific^{*}

Expert Consultation on the Asian Information Superhighway and Regional Connectivity Conclusions and Recommendations 24-25 September 2013 Manila, Philippines

Conclusions:

1. The experts highlighted that international Internet bandwidth capacity varies greatly across Asia and the Pacific, and in the Association of Southeast Asian Nations (ASEAN) sub-region in particular. International Internet bandwidth per capita in Singapore, for example, is more than 900 times that found in Myanmar. In general, low international bandwidth and weak international infrastructure is a major obstacle to economic and human development in the region, leading to economic inefficiencies and restrained growth, as well as limited access to critical social tools including telemedicine, distance learning, and e-government.

2. The analysis of broadband markets and infrastructure in ASEAN reveal that low-cost, high-speed and high-quality broadband services are concentrated in commercially-viable urban and coastal markets, while rural and inland markets are often neglected or left underserved. A review of the sub-region shows that international bandwidth capacity in Singapore is very strong, with Malaysia and the Philippines also demonstrating relatively strong bandwidth infrastructure. The international bandwidth infrastructure in Thailand and Viet Nam are both improving, while Indonesia and Myanmar demonstrate overall weaknesses. Cambodia and the Lao People's Democratic Republic, meanwhile, demonstrate very weak international bandwidth infrastructure with no direct interregional connectivity.

3. The experts noted that weak international bandwidth infrastructure impacts consumer pricing, with affordability varying greatly across the ASEAN sub-region. For example, in Myanmar an annual subscription of 1 Mbps broadband connection costs approximately 132.80 per cent of per capita GDP, while the same annual subscription would cost less than 1 per cent of per capita GDP in Singapore and Thailand. Generally, higher international bandwidth capacity and infrastructure yield lower consumer broadband prices in the ASEAN sub-region.

4. The existing terrestrial networks in the ASEAN sub-region contain several weaknesses that contribute to low international bandwidth capacity, including limited geographic scope due to point-to-point bilateral links, little or no network redundancy, low transmission capacity, lack of open access mesh networks, and prohibitive pricing in many markets. Currently, intercontinental traffic is aggregated in hubs, such as Singapore and Hong Kong, China, over subsea links, with terrestrial links operated for the benefit of incumbent operators. In these scenarios, other operators are unable to costeffectively access the networks, leading to reduced international bandwidth capacity and higher overall broadband prices.

Annex has been issued without formal editing.

5. The experts also acknowledged that since the majority of IP traffic in the sub-region is destined for North America and Europe, terrestrial networks should not be evaluated on the merit of bilateral demand alone. Trans-border terrestrial links should be viewed holistically, as a means of accessing and supplementing interregional fiber networks, providing redundancy to submarine cable choke points, and ultimately, reducing international bandwidth prices. The following terrestrial fiber links, in particular, would yield significant benefits in terms of enhancing efficiency and providing redundancy: Lao People's Democratic Republic to Yunnan Province of China; Indonesia to/from Malaysia (island of Borneo); Cambodia to Thailand; Lao People's Democratic Republic to Cambodia; Lao People's Democratic Republic to Myanmar; Myanmar to Thailand; Myanmar to Yunnan, China; and Viet Nam to Yunnan, China.

6. The experts highlighted the benefits of terrestrial networks that are fully integrated and coherent, with uniformity across borders, and noted that a viable pan-Asian network would enhance terrestrial expansion to Europe, while also ensuring integration with regional and trans-oceanic submarine cables across Asia and throughout the world. This is particularly important in light of undersea cable choke points affecting the region, including the Luzon Strait, Strait of Malacca, Strait of Hormuz, Strait of Sicily, and Suez Canal-Red Sea. These choke points have the potential to disrupt international connectivity of entire countries and operators, and have become increasingly vulnerable to earthquakes, ship anchorage, and sabotage, among others. As a result, the experts noted that the global telecommunications industry is seeking a cost-effective solution that would alleviate undersea choke points.

7. The experts observed that the current makeup of terrestrial networks in the ASEAN sub-region represent a patchwork of bilateral links, with limited efforts undertaken to develop a cohesive arrangement amongst the incumbent telecom operators. The experts also noted that the lack of costoriented non-discriminatory access for all is one of the reasons behind the high cost of international bandwidth. The experts recommended, therefore, that open access should be a fundamental principle for any pan-Asian terrestrial fiber network. It was also underlined that operators should, to the extent possible, adopt mesh topologies for their networks in order to reduce risks of network failure and increase redundancy.

8. The experts supported the synchronized construction of fiber optic and transport infrastructure, and underlined the cost effectiveness of this method of fiber deployment. It was estimated that the synchronized deployment of fiber optic with roadways and other transport infrastructure is up to ten times cheaper, as was presented for the case study in the Republic of Korea, than the deployment of standalone fiber, and also increases maintenance efficiency and cost-effectiveness. The application of Intelligent Transport Systems (ITS) would further enhance efficiencies between fiber optic and transport infrastructure, providing a key incentive for countries to adopt a model of synchronized infrastructure construction.

9. The experts noted that intervention by government and international organizations is necessary in order to overcome the region's vast broadband inequality and ensure that the region receives broadband services on par with more developed markets in Asia, notably the Republic of Korea, as well as North America and Europe. It was also noted that government and international organizations could also play a key role in balancing the commercial objectives of the private sector with socio-economic policy goals, and stimulate future private and public investment through market development and maturation.

10. The experts welcomed the ESCAP-ITU map of the Asian Information Superhighway and noted that it was the first time that integrated information was being provided across the region. It could also provide a means of identifying missing cross-border links, choke points and black spots. The maps were also noted for their high-level of detail and functionality, especially in terms of identifying opportunities to leverage the existing pathways of the Asian Highway and Trans-Asian Railway, and it was agreed that ESCAP and ITU would continue to update the map and validate the data in close coordination with the relevant stakeholders.

11. The Trans-Eurasian Information Superhighway (TASIM) was noted as a key regional example of trans-border terrestrial connectivity that would not only create a direct land-link between Europe and Asia, but also form a key part of the Asian Information Superhighway initiative. ESCAP and the TASIM Secretariat expressed mutual support for both projects, and will continue to work together to build a seamless information and communication space across Asia and the Pacific. The experts also expressed general support for resolution 67/298 on developing cooperation for better connectivity and telecommunications transit routes in the Trans-Eurasian region (Eurasian Connectivity Alliance (EuraCA)), adopted by the United Nations General Assembly on 4 September 2013.

12. The Trans-Eurasia Information Network (TEIN) was noted as a key regional initiative for enhancing cooperation and research exchange between Asia and Europe, and it was recommended that existing R&D networks in the region be integrated into a pan-Asian terrestrial network. Key success factors of TEIN that could be incorporated into the Asian Information Superhighway project include ensuring network scalability and financial sustainability, setting detailed requirements through dialogue with all stakeholders, and focusing on effective management of the initiative by building on initial achievements.

13. The experts reinforced the critical role of ICT during disasters, especially when physical transportation systems have been degraded or destroyed. It was noted that storing information in the cloud, hardening infrastructure and ensuring redundancy will all contribute to enhanced e-resilience. It was also noted that ICT tools can play a key role during the rebuilding phase following disasters, including crowd-sourcing and other online tools to facilitate fundraising and other aid efforts.

14. The experts concluded that a pan-Asian terrestrial network could offer a complementary solution to existing trans-border and submarine cable networks to increase broadband reliability and access as well as, under the adequate regulatory conditions, stimulate competition across routes and, hence, reduce international bandwidth prices, while providing added redundancy and lower latency.

Recommendations:

15. The experts recommended that ESCAP promote the concept of the Asian Information Superhighway among member States and other stakeholders. The experts further recommended that ESCAP promote the integration of existing and new bilateral terrestrial and undersea cable segments into regional networks.

16. The experts also acknowledged that the Asian Information Superhighway initiative requires further study, including a detailed costbenefit analysis. In this regard, the experts requested the Secretariat to initiate the second phase of the Asian Information Superhighway project by undertaking the following activities: a. Expand the analytical study to Central Asia, South Asia and East Asia;

b. Obtain detailed information about the physical capacity of existing fiber networks, including the international bandwidth capacity, length of networks, and main standards for transmission;

c. Enhance the map of the Asian Information Superhighway to include information, to the extent feasible, on the following;

- i. IP transit tariffs
- ii. Transmission capacity
- iii. Volume and direction of IP traffic
- iv. Projected demand capacity
- v. Content by language

d. Conduct a cost-benefit analysis of the future deployment of fiber optic networks;

e. Develop the analytical base for an intergovernmental agreement that sets out common principles and norms for future network development.

17. Experts were of the view that ESCAP was ideally positioned to take this initiative forward. It was the sole intergovernmental forum that spanned the entire Asian region, it was dedicated to the public good of equitable access for all, and it embodied neutrality on the political, technological and industrial fronts. In this regard, the experts requested the secretariat, through the Chair of the Committee on ICT, to set up a working group on seamless regional connectivity. The role of the working group would be first to bring together government experts on ICT infrastructure and regulators, with the objective of drafting an intergovernmental framework agreement on principles and norms for future development of a pan-Asian terrestrial fiberoptic network. The working group would also work with United Nations system partners, notably ITU, and it would tap into expert analysis provided by research companies and regional institutions such as LIRNEasia that had similar objectives. Subsequently, the working group would also tap into existing regional transport and infrastructure initiatives where possible. Representation of the private sector was strongly recommended in a sequential manner.

18. The World Bank expressed interest in joining the working group on seamless regional connectivity, and also offered to share its experience implementing fiber ontic cable projects in Asia and the Pacific

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