



August 2021

# Asia-Pacific Regional Community Networks Summit 2021

Innovating Policymaking to Connect the Unconnected

## Summary Report

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## Introduction

In 2019, the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the Internet Society jointly held the [Asia-Pacific Regional Community Networks Summit 2019](#). This year, in the midst of the COVID-19 pandemic and with the heavy reliance on digital technologies in all sectors, ESCAP and the Internet Society reconvened online on 18 August to organise the [2021 edition](#) in support of the implementation of Pillar 1 (Connectivity) of the [Asia-Pacific Information Superhighway](#) (AP-IS) initiative.

The event reflected on the progress since the 2019 Summit in improving connectivity, and the use of [Community Networks](#) (CN) as a complementary access solution in the Asia-Pacific region. COVID-19 has made this work especially pressing. During the pandemic, as work, education and social services move online, those without access to the Internet - that is, almost half of Asia-Pacific's population - risk being left behind. In light of the urgency to connect the unconnected, the CN Summit 2021 explored the roles that policymakers can play and the innovative policies that can be rolled out to accelerate the deployment of CN and other complementary access solutions in underserved and unserved areas.

The event brought together about 50 participants that included high-level government officials from Asia and the Pacific, and a multidisciplinary group of experts on CN, civil society groups, industry representatives, and academics and researchers.

The CN Summit 2021 began with an inaugural session presided over by Mr. Tae Hyung Kim, Chief of the Information and Communications Technology (ICT) and Development Section at ESCAP; Mr. Rajnesh D. Singh, Regional Vice President for Asia-Pacific at the Internet Society; and H.E. Mr. Mohamed Shareef, Minister of State at the Ministry of Environment, Climate Change and Technology in the Maldives.

The speakers emphasized the importance of the Internet in accessing services and opportunities, such as employment, knowledge, networks, market information and public services, especially during the pandemic with the rapid digitalization of the economy and society. During the pandemic, the Internet has remained resilient and stable as operators and technical communities adapt to the new reality. This has been possible because of the

openness and interoperability of Internet technologies, and the way in which they have evolved using the Internet multistakeholder model.

At the same time, the pandemic has clearly exposed the wide and growing gaps in Internet access. There have been innovative technologies to bridge the digital divide, but policies must also be innovative and proactive in enabling multiple types of connectivity and access options, as well as collaboration across multiple stakeholders. CN have proven successful as a complementary solution in bridging rural connectivity gaps in the Asia-Pacific region and ensure no one is left behind.

H.E. Mr. Mohamed Shareef shared a brief history of CN deployment in the Maldives that initially did not take off when it was first trialed in the mid-2000s. However in 2009, when the Ministry of Environment, Climate Change and Technology opened the opportunity to provide retail Internet at island level to all island communities and local businesses, the initiative resulted in the growth of some of these local companies, operating digital networks in multiple islands. Today, one of the biggest Internet service providers in the Maldives provides Internet services with this business model where local networks are established and managed by island entrepreneurs.

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*“Community Networks in the Maldives take the form of local network entrepreneurs rather than direct community participation. We need to explore beyond the norms of yesterday and work across the spectrum from pure community-driven initiatives to entrepreneurship and digital economy-based models for Community Networks of the future.”*

*~ H.E. Mr. Mohamed Shareef, Minister of State, Ministry of Environment, Climate Change and Technology, Maldives*

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Mr. Rajnesh D. Singh echoed H.E. Mr. Mohamed Shareef in the need to explore beyond the norms of yesterday since no one technology or form of access will address all the challenges. We need a collaborative effort to bring people online, using whatever means and access types that are available.

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*“A couple of years ago at another ESCAP event, I suggested that we needed “the 3C’s” to make things work: **Collaboration** between players and actors, **Coordination** between them,*

*and Cooperation to reach our objective of connectivity for everyone. Today I'd like to suggest a 4th "C" – Common Understanding – so that we all know what it is we need to do together."*

*~ Mr. Rajnesh D Singh, Regional Vice President for Asia-Pacific, Internet Society*

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Mr. Tae Hyung Kim also stressed the importance of multistakeholder partnership among governments, the private sector and other relevant stakeholders, and the AP-IS initiative, endorsed by ESCAP member States, is a regional cooperation platform for multistakeholder partnerships to bridge the digital divide. The deliberations at this CN Summit 2021 will contribute towards the development of the upcoming Action Plan for Implementation of the AP-IS (2022-2026) that will serve as a regional blueprint for cooperative actions towards promoting digital connectivity and transformation.

The CN Summit 2021 featured three sessions that focus on the following:

- **Session 1: Digital Connectivity in the Asia-Pacific - State of Play.** This session reflected on the past two years since the 2019 Summit, discussed new and emerging digital divides, and identified the key connectivity challenges faced by the region in light of the pandemic.
- **Session 2: Sharing Success - Case Studies of How CN Have Helped Connect the Unconnected.** This session showcased CN in India, Kyrgyzstan and Thailand, and discussed the role of member States in facilitating the deployment of CN as a complementary access solutions.
- **Session 3: How Innovative Policymaking Can Accelerate Connectivity Deployment.** This was a high-level roundtable that considered the policy and regulatory gaps, and explored how innovative policymaking can accelerate connectivity deployment to underserved and unserved communities.

Each session had a diverse panel of speakers and a moderator, and included presentations and dialogue with active interactions between the speakers, moderator and participants. The next sections provide highlights and key messages from each session. The programme with the list of moderators and speakers is provided in the annex.

## 1. Digital Connectivity in the Asia-Pacific – State of Play

The first session was moderated by Ms. Cristina Bernal Aparicio at ESCAP, and the panel of speakers included Ms. Amrita Choudhry, Vice-Chair of the Asia Pacific Regional Internet Governance Forum and Multistakeholder Advisory Group Member of the Internet Governance Forum; Mr. Siope Vakataki 'Ofa at ESCAP; and Mr. Thomas E. Abell, Chief of Digital Technology for Development at the Asian Development Bank (ADB).

Ms. Amrita Choudhry presented an overview of digital connectivity in the Asia-Pacific region. The region is extremely diverse in terms of geography, demographics, size, development of economies, language and culture. The region's level of connectivity is also very diverse.

Generally, many Asia-Pacific countries have worked to improve connectivity coverage and broadband speed. The ICT sector has successfully laid an extensive network infrastructure, produced more affordable devices and offered a wide range of innovative services. Countries have revised policies and regulations to promote increased connectivity and access to the Internet. India has promoted infrastructure sharing to accelerate digital connectivity at lower cost, for example. As a result, the region has experienced growth in digital access and use in absolute numbers.

However, progress has been uneven between and within countries, with lower-income and geographically remote areas remaining the most disconnected and benefiting the least from dynamic growth in the ICT sector. The rural-urban and gender gaps in Internet access and use remain substantial, particularly in low- and middle-income countries. Marginalised groups are often excluded not only because of inadequate infrastructure, but also because of the lack of affordability of devices and data plans, and the lack of incentives and skills to use digital technologies. Although the costs of devices and data plans have fallen in recent years, they remain too high for many. Political factors, such as Internet shutdowns and the banning of websites, apps and platforms by governments, are also deepening existing digital divides and preventing people from accessing essential services.

With video streaming accounting for the majority of Internet traffic, and with increasing demand for video calls and data-intensive applications, the speed, bandwidth and quality of connectivity

matter. Studies have revealed that Internet connectivity quality has an impact on business productivity. The capabilities of the devices and the language used also matter as they determine the kinds of applications and content that can be accessed and used.

Moving forward, Ms. Amrita Choudhry recommended that digital policies and programmes should holistically address these multiple aspects - lack of infrastructure, the minimum threshold for speed, device and data needs and their affordability, limited digital skills, and lack of incentives to use digital technologies due to sociocultural norms, low awareness and understanding of the technologies, and insufficient relevant local content. Policies should be guided by feedback from the community, including from marginalised groups, and should be informed by evidence-based research and best practices in the region.

Next, Mr. Siope Vakataki 'Ofa provided an overview of the AP-IS initiative that is currently guided by the [Master Plan 2019-2022](#) with four pillars: (1) strengthening the regional broadband infrastructure; (2) establishing regional Internet traffic and network management systems and policies; (3) enhancing digital infrastructure resilience; and (4) providing inclusive access to broadband Internet.

Over the past few years, the AP-IS initiative has focused on promoting the establishment of Internet exchange points in Pacific Island developing countries and South-East Asia; co-deployment of ICT, transport and energy infrastructures in selected North and Central Asian countries; and policy experimentation of frontier technologies in North and Central Asia and South and South-West Asia.

Member States at the third session of the Committee on ICT, Science, Technology and Innovation in August 2020 requested the ESCAP secretariat to establish a drafting group to develop an Action Plan for Implementation of the AP-IS (2022-2026). The First Meeting of the Drafting Group for Developing the AP-IS Action Plan 2022-2026 was held on 25 May 2021, and the second meeting will be held on 29-30 September to review and finalise the action plan.

The draft action plan proposes three pillars to scale up the framework and scope of the AP-IS, with the objective to bridge the digital divide and accelerate digital transformation in light of rapidly changing environments, including the recovery efforts from the COVID-19 pandemic. The three pillars are: (1) connectivity for all; (2) digital transformation in different sectors for sustainable development; and (3) digital data, which includes data sharing, integration of data, framework for data protection and trust, and data literacy.

The final draft action plan will be reported to the 5th AP-IS Steering Committee in 2021 and the Committee on ICT, Science, Technology and Innovation in 2022 for consideration and adoption.

Mr. Thomas E. Abell proceeded to provide an overview of ADB's activities in bridging the digital divide. He reported the ADB provides about USD32 billion of financing per year, traditionally for transport, energy and water infrastructures, but more recently, ADB is investing more in the digital infrastructure. About 20% of ADB's projects have a digital component. The pandemic has shifted ADB's priorities, and now, bridging the digital divide, digital security and digital privacy are among the top five priorities of ADB.

The private sector is investing about USD200 billion annually on the digital infrastructure compared to about USD1 billion at ADB. However, since the private sector has less incentive to provide connectivity in low-density, low-income areas, ADB tries to fill those gaps with financing and policy advice. ADB has directly financed infrastructure such as submarine cables, broadband networks and satellites, and has encouraged co-deployment of the digital infrastructure when building roads, energy and water systems. ADB's USD100 million programme over 10 years to build submarine cables in the Pacific has been instrumental in connecting remote islands. ADB also invested in broadband satellite in many areas in the Pacific to provide broadband coverage.

In addition, ADB provides policy advice, working with governments to develop national broadband plans, and recently, published a [paper](#) that explores the potential of low Earth orbit satellites to enhance global digital connectivity and benefit developing Asia, particularly its more remote areas. ADB is also partnering with the International Telecommunication Union to look at



innovative connectivity solutions like CN, use of artificial intelligence, and the RelianceJio model in India (although RelianceJio's monopoly is a concern to many).

## 2. Sharing Success – Case Studies of How CN Have Helped Connect the Unconnected

The second session was moderated by Mr. Naveed Haq, Regional Infrastructure and Connectivity Director of the Internet Society. The panel of speakers included Mr. Osama Manzar, Founder and Director of Digital Empowerment Foundation (DEF); Prof. Kanchana Kanchanasut, Vice Chair of THNIC Foundation; and Talant Sultanov, Chair of the Internet Society Kyrgyzstan Chapter. These CN champions shared their experience in deploying CN in India, Thailand and Kyrgyzstan, respectively. They identified the key challenges, as well as provided recommendations for the way forward in light of the ongoing pandemic.

[Mr. Osama Manzar](#) shared his decade of experience deploying over 100 CN in India. It started when the Internet Society and DEF joined forces in 2010 to implement the [Wireless for Communities](#) initiative to establish CN in India. He shared five key insights.

Firstly, the lockdown measures imposed to contain the virus during the pandemic has resulted in the exclusion of those unconnected, and finding creative solutions to help people access the Internet has become more important than ever. Secondly, health has been a top priority for many in the communities, and video-based remote consultations with doctors are critical when local health centres are not operational. Thirdly, 280 million children in India have been affected by school closures. They are mostly in rural areas where connectivity is unreliable and many do not have access to appropriate devices for learning. The 850 community-based digital resource centres established by local entrepreneurs have worked hard to address this gap by putting in place safety precautions in order to allow children to learn online. Fourthly, access to online financial services is in high demand and the local entrepreneurs have worked to fill this gap. Fifthly, achieving real and sustained progress in bridging the digital divide requires digital skills development and effective training. In 2020, DEF trained 5,000 women in weaving communities, allowing them to sell their products online on various platforms. Skills development and training in wireless engineering is also important, enabling communities to

install and maintain their own CN. DEF has trained and nurtured a network of community wireless engineers to not only sustain and grow their own CN, but also help those in other communities establish new CN.

Mr. Osama Manzar shared a story of establishing connectivity in the [Lambada Tribal Community](#) of Tamil Nadu. During the pandemic, a community-based organisation called the Tribal Health Initiative approached DEF to help establish digital connectivity in the community. With support from the Internet Society and a [community wireless engineer](#), the CN established enabled the local hospital to provide services during the pandemic, the craft centre and farmers to sell their products online, and remote education for children in the community. A year after the establishment of the CN, the community has been able to sustain, manage and maintain it with no further support needed. It is important to show that anyone can set up CN if there is a will to do so.

[Prof. Kanchana Kanchanasut](#) shared her experience of establishing CN in Thailand with her research team at [intERLab](#), through support from THNIC Foundation. In 2013, the first CN called [TakNet](#) connected 14 households in the village of [Samakee](#) in Tak province enabling their access to the Internet for the first time. An OLSR wireless mesh network was established using 16 mobile routers with a total storage capacity of about 250GB in which educational content was initially uploaded to allow fast local access. However, due to intellectual property issues, the initiative turned to the provision of Internet access instead, and registered TakNet as a social enterprise called [Net2Home](#) in 2016 to manage the CN. Net2home provides the infrastructure and connectivity while community users agree to be part of the network and pay a monthly fee for technical support and maintenance. Each village has one or more local technicians trained by intERLab and are able to earn an income from installation fees and commissions if they get more members.

Prof. Kanchana Kanchanasut reflected that the success of the CN has been due to the collaboration of three parties - intERLab, Net2Home and the local community, allowing the CN to expand. She also expressed the importance of maintaining constant communication with regulators and commercial operators. As of July 2021, there were 44 active communities and over 400 households connected by Net2Home. Forthcoming CN include a hilltribe community in

Chiangdao, six communities in Suphanburi, several communities in Khlongtoei area in Bangkok, and a network in Lamphoon for remote education.

intERLab has been working closely with the communities to develop relevant applications such as video conferencing and distributed digital ledger for trading in villages. Another important success factor is the use of simple technology that can be installed and maintained by local technicians with minimal support from Net2Home and intERLab. The initiative recognises the importance of providing relevant content in local languages but have been constrained by intellectual property issues. Policy interventions are needed to bring educational content to the grassroots free of charge.

Mr. Talant Sultanov of the Internet Society [Kyrgyzstan Chapter](#) shared his experience of [establishing CN](#) in Kyrgyzstan. It started when the Ministry of Education announced that 20 schools have no Internet access. He decided to try to connect the most challenging village that has no roads and no electricity to demonstrate that it is possible for a small non-governmental organisation with limited resources to connect a village. The technique and technology were shared with a company that has replicated this model in other communities and is competing with the incumbent in providing connectivity.

### 3. How Innovative Policymaking Can Accelerate Connectivity Deployment

The third session was a roundtable moderated by Ms. Anju Mangal of the Alliance for Affordable Internet (A4AI). The panel included Mr. Masanori Kondo, Secretary-General of the Asia-Pacific Telecommunity (APT); and Ms. Renuka Rajaratnam, Public Policy Manager of Connectivity and Access Policy at Facebook. The roundtable explored opportunities for accelerating connectivity deployment, priorities and recommendations for the upcoming Action Plan for Implementation of the AP-IS (2022-2026).

Mr. Masanori Kondo shared that APT has been implementing digital projects in the last three decades, and he finds that a major bottleneck for any connectivity projects is the lack of

relevant local content and service, and users do not see the benefit of accessing the Internet. This leads to lack of community ownership and project sustainability. It is therefore important to come up with innovative solutions to both “supply” connectivity to rural and remote areas where it is economically unviable, and demand-side issues such as affordability, awareness and digital skills development, and relevant content and services in local languages. As a result, one of APT’s priority areas is to establish partnerships in conducting local training of trainers digital awareness and skills-building courses that reach 600-700 trainees annually who in turn can train others in their communities to expand awareness and usage of the Internet beyond video streaming and social media.

Ms. Renuka Rajaratnam shared information about the Facebook Connectivity Programme that works with local Internet service providers and mobile network operators to bring people online. The programme is focused on driving open solutions and open access networks. She noted that a constant challenge in providing last-mile connectivity is spectrum policy in the region. The traditional regulatory approach to spectrum licensing is to authorise exclusive and broad licenses that cover large geographical areas. The cost for these exclusive-use, licensed spectrum is high, excluding CN and small local operators’ access to licensed spectrum. However, there has been some progress in enabling spectrum and infrastructure sharing. Indonesia, for example, has included spectrum sharing as part of its new regulation to allow open access LTE and fibre deployment. With this new regulation, Facebook has been able to support the development of public Wi-Fi systems and backhaul networks, including extending connectivity to low-income suburbs in Jakarta and building LTE networks in remote areas through LTE spectrum sharing. The success in Indonesia is also due to the government’s willingness to partner with the private sector to achieve their connectivity goals. In addition, Ms. Renuka Rajaratnam shared Facebook’s [Terragraph](#) technology for areas where it is difficult to lay fibre. Terragraph is an affordable and quick alternative to fibre that leverages existing street furniture to create a wireless distribution network at the last mile. She emphasised that it is important that regulators enable open access to spectrum to allow innovation.

Both Mr. Masanori Kondo and Ms. Renuka Rajaratnam, as well as the participants have stressed the importance of multistakeholder and multisectoral collaboration. As countries continue to experience successive COVID-19 waves and have recognised the importance of connectivity for all, a window of opportunity exists to engage in collaborative efforts to build digital infrastructure and systems to allow everyone access to fast, reliable and low-cost digital

services; makes Internet-enabled devices and data plans affordable for the poorest; and addresses other barriers that prevent use such as restrictive sociocultural norms, and lack of digital skills and relevant local content. It is important to adopt best policy and regulatory practices such as those recommended by the [Association of Progressive Communications](#) and [Internet Society](#) to accelerate universal affordable access to the Internet and enable CN and other complementary access solutions in underserved and unserved areas. Both APT and Facebook have been promoting a multi-ministerial approach to holistically address these multiple and complex challenges in a holistic manner.

## 4. Closing and Key Takeaways

Mr. Siope Vakataki 'Ofa of ESCAP and Mr. Juan Peirano, Senior Policy Advisor of the Internet Society delivered the closing remarks.

Mr. Siope Vakataki 'Ofa thanked H.E. Mr. Mohamed Shareef, Mr. Mr. Masanori Kondo, all speakers, moderators and participants for making this event a success. He stated that CN will continue to play an important role in connectivity, and each stakeholder plays a part in the success of CN - from ADB's fibre-optic projects, Facebook's initiatives to bridge the digital divide, APT's capacity training efforts, and communities working to grow and expand CN. Regional cooperation platforms such as AP-IS are critical to bringing together the different stakeholders.

Mr. Juan Peirano thanked ESCAP for partnering with the Internet Society. He commented that this event has been both critical and timely. The Internet has been a lifeline and continue to be a lifeline. Although the core Internet network was ready for the crisis, we still need to work very hard to overcome challenges on the access side. This requires work and commitment from different stakeholders. He referenced the [United Nations Secretary-General's Roadmap for Digital Cooperation](#) that calls for multistakeholder collaboration. This approach has been the cornerstone for success at the Internet Society and the Internet as a whole. In particular, we need to work together to ensure that local communities are ready with the awareness and skills to leverage the Internet to improve their lives. This CN Summit 2021 is an example of how we

can support communities on the ground - by recognising achievements as well as exploring ways to overcome the challenges.

### **Five Takeaways from the CN Summit 2021 on Innovating Policymaking to Connect the Unconnected**

1. To achieve universal connectivity, we need the 4C's - Collaboration, Coordination, Cooperation and Common Understanding.
2. The 4C's are required across different stakeholder and sector groups among governments, the private sector and civil society.
3. Innovative policymaking is needed for both supplying connectivity to rural and remote areas where it is economically unviable, and addressing demand-side issues such as affordability, awareness and digital skills development, and relevant content and services in local languages.
4. Policymakers and regulators must be innovative in addressing both supply and demand side issues, ease regulatory requirements and increase financing options for non-profit and small-scale operators. They include enabling spectrum and infrastructure sharing and open access solutions.
5. Policies must include the voice of marginalised groups, including women, children and youth, older persons, persons with disabilities and indigenous peoples.

## Annex: Programme

Bangkok time (UTC+7)

### **09:45-10:00 *Logging in and system connectivity checks***

#### **10:00-10:15 *Inaugural session***

*Featuring opening and welcome remarks*

- Mr. Tae Hyung KIM, Chief of ICT and Development Section, ESCAP
- Mr. Rajnesh D. SINGH, Regional Vice President, Asia-Pacific, Internet Society
- H.E. Mr. Mohamed SHAREEF, Minister of State, Ministry of Environment, Climate Change and Technology, Maldives

Moderator: Mr. Siopé Vakataki 'OFA, ESCAP

#### **10:15-11:15 *Session 1: Digital Connectivity in the Asia-Pacific - State of Play***

This session will reflect on the past two years since the 2019 Summit, new and emerging digital divides, and the critical role connectivity plays. It will also look at some of the challenges being faced by the region and progress on the implementation of the AP-IS.

- Overview of digital connectivity and use in the region, Ms. Amrita CHOUDHRY, Vice-Chair, APRIIGF, MAG Member, IGF
- Progress on AP-IS and initiatives to support connectivity, Mr. Siopé Vakataki 'OFA, ESCAP
- Promoting a resilient digital connectivity strategy (national/subregional/regional) during and after COVID-19, Mr.

Thomas E. ABELL, Advisor SDCC and Chief of Digital Technology for Development, ADB

Moderator: Ms. Cristina BERNAL APARICIO, ESCAP

### **11:15-11:25 *Break***

#### **11:25-12:00 *Session 2: Sharing Success - Case Studies of How CNs Have Helped Connect the Unconnected***

- India (Mr. Osama MANZAR, DEF, India)
- Thailand (Prof. Kanchana KANCHANASUT, TakNet/THNIC Foundation, Thailand)
- Kyrgyzstan (Mr. Talant SULTANOV, Internet Society Kyrgyzstan Chapter, Kyrgyzstan)
- Q&A

Moderator: Mr. Naveed HAQ, Internet Society

**12:00-12:50** *Session 3: Roundtable: How Innovative Policymaking Can Accelerate Connectivity Deployment*

*This session will reflect on the status of digital connectivity in the region, consider the policy and regulatory gaps that exist, and reflect on how innovative policymaking can accelerate connectivity deployment to under- and un-served communities.*

- Mr. Masanori KONDO, Secretary-General, Asia-Pacific Telecommunity
  - Ms. Renuka RAJARATNAM, Public Policy Manager, Connectivity & Access Policy, Facebook
- Moderator: Ms. Anju MANGAL, A4AI

**12:50-13:00** *Session 4: Closing*

- Mr. Siope Vakataki 'OFA, ESCAP
- Mr. Juan PEIRANO, Senior Policy Advisor, Internet Society