Information Document

Small Island Developing States face unique challenges and Community Networks are an innovative, adaptive solution

Community Networks (CNs) are a complementary connectivity solution for hard to connect areas particularly in Small Island Developing States (SIDS). We hope this information document on Community Networks, which are an important element in bridging the digital gap, can help enrich the discussions on the Thematic Priorities and the Asia-Pacific Regional Initiatives[1] on Connectivity and Enabling Environment for the International Telecommunication Union (ITU) Development Sector (ITU-D) 2021 World Telecommunication Development Conference (WTDC-21).

Throughout the Asia-Pacific region—particularly in rural and remote areas, and in SIDs, Community Networks are proving to be an innovative solution for connecting the unconnected. SIDS face challenges in Internet connectivity due to their remoteness and the high cost of crossing open seas, combined with long distances to other islands and continents, small populations, low population density and consequent low economies of scale which often leads to higher connectivity costs. These unique conditions require innovative and adaptive solutions to connectivity. CNs are complementary and adaptive to different environments as they fit local circumstances and meet local challenges. There are a variety of ways for governments to foster an enabling environment for communities, regulators, service providers, and universities to work together to bring innovative access solutions that include CNs.

Rural, remote, and underserved areas face many barriers to broadband access. Often, commercial Internet service providers do not see a viable business model for deploying affordable broadband to these areas due to factors that include low population density, average income per household, and difficult geographies that often lead to limited, or no, return on investment. To fill these gaps in connectivity, communities around the region have

[1]Asia-Pacific Regional Initiatives (ASP3 and ASP4), Buenos Aires Action Plan,2017, pg. 167, See: http://search.itu.int/history/HistoryDigitalCollectionDocLibrary/4.438.43.en.100.pdf,

deployed self-sustaining localised networks to complement what is available from commercial operators. In essence, these complementary solutions demonstrate that several connectivity models can work together to provide better connectivity to remote, rural, and underserved areas.

CNs use a variety of emerging and innovative technologies to build a network that is affordable, and less costly. This makes CNs an innovative way to meet current Internet connectivity challenges that help bridge the access gap. The logistics and administrative overhead of CNs are less expensive because of their scale and local nature – the community themselves are involved in operation and management. These factors help make CNs sustainable from an economic perspective. CNs often are environmentally sustainable as many tend to make use of renewable energy such as solar and wind power.

Fostering an Enabling Environment for Complementary Connectivity Solutions

Bridging the digital gap requires new approaches to connectivity that are possible in an enabling policy or regulatory environment. It demands taking proactive steps and a commitment to achieve a shared goal of connecting the unconnected. To enable CN's as a solution requires:

1. **Opening up** access to and eligibility for funding mechanisms such as Universal Service Funds for Community Networks;
2. **Creating** innovative and appropriate licensing and authorization frameworks that are affordable and easy to understand for small-scale community operators; and
3. **Adopting** innovative spectrum licensing frameworks to create opportunities to access unused spectrum.[2]

For more detailed information please see: ISOC's ITU-D Study Group (SG-1) 1/Question1 Submission "Creating an Enabling Regulatory Environment for Community Networks" https://www.itu.int/md/D18-SG01.RGQ-C-0338/

Complementary connectivity in Island nations in the Asia-Pacific Region

Despite there being room for improvement to create a more enabling environment, Island nations in the Asia-Pacific are building community networks to fill in connectivity gaps and

[2]See https://www.internetsociety.org/wp-content/uploads/2017/10/Spectrum-Approaches-for-Community-Networks_20171010.pdf

provide affordable access to rural and remote areas using innovative and emerging digital technologies.

- **Partnership with Government of Papua New Guinea to support community connectivity:** In 2019, the Government of Papua New Guinea (PNG) signed a Memorandum of Understanding (MOU) with the Internet Society to work together to design and deploy a community network in a rural coastal area of the country that local residents will help manage. In 2020, ISOC started working to support a pilot CN deployment in PNG. This deployment, however, was delayed due to the COVID-19 pandemic and travel restrictions. In December 2020, we were able to restart our planned deployment and the work will be completed in the coming months. The pilot will help demonstrate innovative approaches that regulators and governments can take to connect underserved locations through Community Networks.
- **Innovative Solutions in the Philippines:** The public Wi-Fi project in the Philippines has opened up opportunities to utilize un-licensed spectrum to connect locations across the country, particularly geographically isolated and disadvantaged areas. The Internet Society Philippines Chapter in collaboration with Ateneo de Manila University Innovation Centre has also piloted a project that uses Unmanned Aerial Vehicles (UAVs, or 'drones') to act as wireless relays and data aggregators. These can be deployed during times of natural disasters to create a local mesh network for government agencies to facilitate emergency communications and Internet connectivity as well as damage assessment and rescue services.[3]
- **2020 Community Network Exchange Asia-Pacific (CNXAPAC) and Summit**[4]: This virtual event took place in late 2020 and hosted more than 2000 participants engaging across 10 thematic sessions culminating in a Summit Roundtable. The sessions covered a range of issues including:
    - Fostering an enabling regulatory and policy environment
    - Partnerships & Collaborations for Community Networks
    - Connecting Indigenous Communities

[3] Learn more here: https://www.internetsociety.org/blog/2017/04/a-drone-project-to-change-humanitarian-disaster-response-in-philippines/

[4] For more info visit: https://cnxapac.org/

Additional Resources:

- CNXAPAC 2020: Meaningful Access with Community Networks, Event Report with Session Summaries: https://cnxapac.org/wp-content/uploads/2021/02/CNX-final-report-_version-2.pdf
- Community Networks – Internet access for the community by the community at APrIGF 2018: http://apps.2018.rigf.asia/submission/proposaldetail?id=202
- How Community Networks Are Helping during COVID-19 https://www.internetsociety.org/blog/2020/07/how-community-networks-are-helping-during-covid-19/
- Unleashing Community Networks: Innovative Licensing Approaches: https://www.internetsociety.org/resources/2018/unleashing-community-networks-innovative-licensing-approaches/
- Policy Brief: Spectrum Approaches for Community Networks: https://www.internetsociety.org/wp-content/uploads/2017/10/Spectrum-Approaches-for-Community-Networks_20171010.pdf
- Innovations in Spectrum Management: https://www.internetsociety.org/resources/doc/2019/innovations-in-spectrum-management/
- Global Information Society Watch 2018: Community Networks: https://giswatch.org/sites/default/files/giswatch18_web_0.pdf–Building
- Community Network Policies: A Collaborative Governance towards Enabling Frameworks: https://comconnectivity.org/wp-content/uploads/2020/05/building_community_network_policies_-_a_collaborative_governance_towards_enabling_frameworks.pdf