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Understanding Community-Centered Connectivity Initiatives in Asia and the Pacific

A mapping and landscape analysis

Adrian Wan, Senior Policy and Advocacy Manager, Internet Society



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Community Networks Mapping in Asia and the Pacific - Adrian Wan, Senior Policy and Advocacy Manager, Internet Society

APFSD12 - Empowering Communities: Connectivity Initiatives for Sustainable Development in the Asia-Pacific – 24 February 2025

Adrian Wan: To kick things off, I'll introduce myself briefly. I am Adrian Wan. I'm with the Internet Society. It's a great pleasure to see so many familiar and new faces here, and I look forward to saying hi to you in person after this.

In the next 20 minutes or so, I will go through another study. that's different from, the one that Marie Lisa [Dacanay] just talked about, but you'll see on the screen, we have the same partners, APC, ISEA, and the Internet Society, and it's our privilege, for the Internet Society, to be part of this, to be one of the supporters of this new study that I will tell you a bit about.

A brief word about who we are. If you don't know anything about the Internet Society, we are a global non-profit organization. We were founded by the creators of the Internet, in 1992, to empower communities around the world to protect this technology, the Internet that we all use today, We have, more than 130,000 individual members around the world. They join our local chapters in more than a hundred countries around the world, and we have around 130 chapters and special interest groups. You'll find interest groups on topics including affordable broadband and AI and other technology policy issues. We do have around 80 organization members. They include organizations from business, academia, and other NGOs as well.

This is to give you the context of why what we're talking about today is so important. According to the ITU, the latest, facts and figures from the end of last year, there are 2.6 billion people offline, and that's around a third of the world's population. It can be seen from the data that 5g mobile network only reaches around 40 percent of the world, so 4G remains the pathway to meaningful connectivity for so many people, but that only reaches around 39 percent of the population in low income countries.

As more of us talk about things like AI, metaverse, or 5G, in developed markets, people in low income countries are falling farther behind.

That's why we say there is persistent, widening, digital divide, leaving people in low income countries behind, and that's why what we do today, what we talk about today, is so important.

Just to take a step back, but, if it's any help, community centered connectivity is a complementary way of connecting people to the Internet. We call it a complementary way because it's not the conventional way. The conventional way is the profit-making model, where ISPs and telcos put in the investment, build the network, and attract customers.

But in rural areas, in underserved areas, they don't derive the income, the returns on investment, required to run a business, and that's why a new model of something more creative is needed.

The study we took on is entitled 'Understanding Community Centered Connectivity Initiatives in Asia and the Pacific'. APC took the lead, and ISEA and Internet Society are the supporters. One of the objectives is to give a bird's eye view on the landscape of CCCIs in APAC, and the role of social enterprises and CCCIs in addressing the digital divide.

Again, a bit like what Osama [Manzar] did, two presentations ago, it'd be great if we could tell where exactly are the CCCIs, and tell people where's the location.

Before this, there was no exhaustive effort. Our methodology was a mix of different ways of collecting input. From literature review, we identified 331 projects, and, through an online survey we did, we collected 276 responses. We did key informant interviews with 31 organizations representing 42% of the CCCIs.

in total, we identified 1,417 CCCIs in Asia and the Pacific. You can see in the pie chart that most of them, more than half, are in South and Southwest Asia, followed by Southeast Asia and Pacific. Central and North Asia, and East and North Asia, get a really small part of the pie.

This is going to be tricky to read for most of you, but you'll find a link to the report later on in the presentation, which will contain this table.

So, basically it's a display showing where the CCCIs are, and in which country. You'll find some higher numbers in some countries, like India, Myanmar, Philippines, and we think one of the contributing factors is the presence of Internet pioneers in those countries. For instance, it has to be said, Osama did a great job, a huge effort, in pushing for connectivity in India.

He listed around 280 such efforts in India, and that's one of the reasons why you'll see a number like that in India, and including Thailand as well. We just heard from Nunthaphat [Weshsuwannarugs], and his colleague Kanchana [Kanchasut] has been working in this space for many years.

But, you'll notice that not all the countries are listed in the table. In fact, there are no CCCIs in 23 countries in Asia and the Pacific, and, for various reasons, some of them have their country entirely covered by 4G, 3G, 5G, and there's no need for that.

It's not that, if there's no CCCI, it's a bad thing. Sometimes it's not needed for the country.

Our observation was that most CCCIs were set up in or after 2021. If you recall, that's the COVID period. Most of them remain active at the time of research, and most of them you'll find they're in low income countries.

Basically there are different types of CCCI models, one of them is self-provision, think of them as community run networks, perhaps smaller scale, perhaps a few households, and then, there could be the social business, then entrepreneurial, non-profit, and public municipal, which are government run efforts.

In terms of technology, we find that a big majority use household or office Wi-Fi hotspots, and some of them use public Wi-Fi hotspots as well.

What are the motivations for people behind the 1,400 or so CCCIs for doing something like that? We found that, for different models, they have different purposes. For instance, for the self-provision and social business model, first and foremost they want a stable and affordable Internet for the community, and then they want to bring in value added services, like digital literacy and technical training, that are so important. They also do local content creation, like the podcast for the local community, as well. Some of them do printing or device charging to generate income. Of course, this is to help the community meet their basic needs like education, healthcare, and government services.

For social enterprises, it's a bit different. They look for enhanced productivity and income generation. They look for ways to boost operational efficiency and expand its market reach, especially in sectors like agriculture and local commerce. They also seek to generate social impact and wealth creation, on top of the community empowerment that's also present in the self-provision and social business models.

When we surveyed the various models of CCCIs, we found that almost all of them involve the community organizations or members as service providers, resellers, end users, and not as a fellow manager of telecom infrastructure. We found that there was limited direct involvement in passive infrastructure. The result of that is there is a dependency on external funding for many of these CCCIs.

We found that the CCCIs are mainly funded by grants by non-profit organizations and development partners. Some combine their own resources with grants. Whereas on the OPEX, the operational costs, vouchers, like Wi Fi vouchers, sometimes government funding, advertising and subscription fee comes into the formula as well.

What does it mean to partner communities, that they do this? What are the benefits? We categorize them into social, economic, and environmental. For social benefits, obviously there is an opportunity to improve digital inclusion, to give them government service access, and cultural preservation, on top of the education and healthcare access that this gives.

Nunthaphat talked about the sensor-enabled network that helps a lot with disaster response.

In terms of social benefits, it also helps to pass on knowledge about network operations and digital literacy to the community.

On the economic side, giving the partner communities Internet, increased their market access and job creation prospects, and also they can run their own businesses online, like, perhaps people selling their goods.

We found a couple of key challenges, and they come in a few categories. First and foremost is the policy and regulatory related barriers. They tell us it's really complex and time consuming to handle all the licensing requirements in their own countries. Different countries have different requirements, depending on what you want to do. Very few have a separate license for CCCIs, and most of them require them to look at which one fits them. Sometimes they need to apply for an ISP license or a network-related license, depending on how many people use the service. As a remote community, they find it really time consuming and really confusing to have to do that.

So, we think there's a lack of policy support, and sometimes inconsistent regulations as well, and that's about the inconsistent enforcement of different policy and regulations.

You'll find that perhaps one day, person A does this, and it's approved. Person B does the same, it may not be approved. So, sometimes it's not really clear what can work and what cannot.

There is also the key issue of lack of spectrum resources, and that's a really key policy related barrier that we see.

In terms of financial viability, as we said, many of them rely on external funding, and they struggle with long term sustainability. In some countries there are restrictions on foreign funding, so they're not allowed to accept NGOs funding from abroad.

In terms of infrastructure and technical issues, we find that unreliable power supply is a really key challenge for many, many CCCIs, and there's a lack of skilled personnel, so if we can give them stable reliable power supply, it's a big help to us reaching the goals of connecting people.

In the report, we have a few recommendations based on what we found. You'll find that they are based on many of the challenges we generated. For instance, we think the governments should streamline the licensing and spectrum policies, include CCCIs in national and broadband strategies, and support financial sustainability through incentives.

We encourage, CCCIs to look at a hybrid funding model, starting with a grant, and meanwhile look at how to generate revenue, so that they can gain financial sustainability beyond the term of the grant, be it one year or two years.

On technical and capacities development, we think there should be more technical training, on how to run the networks, and also, we think it would be really helpful for there to be a knowledge sharing platform for all CCCIs, in the region or beyond.

We think CCCIs should invest in resilient, climate-adaptive infrastructure, and again, that goes to the point of environmental protection.

And this is a really key point, about gender inclusion. We think there should be more women-focused training, and there should be a safe space for access, entrepreneurship support.

We concluded in the report that they have evolved over the past decades. It has been more than a decade since they came about. They've evolved from purely community-owned to now hybrid models, involving social enterprises, government, and businesses. They've come to be a crucial way to bridge the digital divide, and they've proven to be a viable model for inclusive connectivity.

So, looking forward, we think the future of CCCIs in APAC requires balancing social impact with financial sustainability, while navigating the complex. policy environment as well. We think there should be continued innovation in technology and business models so that they can evolve and work in different times as well.

But still, no matter how the models or the policy requirements change, we think what's special about CCCIs, what makes them magical, is that they put community at the center, and that's why we think community empowerment will always remain crucial. That's why we call them community centered connectivity.

This is the report, you'll find a PDF on this page, so feel free to scan the QR code and get access to this APC website.

That concludes my part. Thank you. Thank you.