SEMINAR WORKSHOP REPORT

Model Building of Community Networks Linked to Social Enterprise and Local Economic Development

November 7 – 10, 2023

Microtel by Wyndham, UP Technohub,
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TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF FIGURES

Seminar-Workshop Participants and the Regional Team

INTRODUCTION

The Seminar-Workshop synthesized a year-long project initiated in January 2023 to catalyze the development of a model for community networks linked with social enterprise and sustainable local economic growth. The project delves into various models of community networks, either as integral components of social enterprise systems or as distinct social enterprises catering to diverse stakeholders. Its primary goal is to leverage Information and Communication Technologies (ICT) to augment the effectiveness, productivity, and incomes of social enterprises and marginalized stakeholders. The exploration of different approaches takes place in Bangladesh, China, and the Philippines.

In Bangladesh, the utilization of ICT, such as a cellular router system, connects Fair Trade value chain stakeholders led by PROKRITEE. This includes women's organizations, artisans from three new supplier communities in Cox's Bazaar, product designers, quality checkers, and marketing channels. The system aims to enable efficient co-creation and sale of products in Fair Trade markets. Over time, it seeks to boost productivity, market access, and income for these craft communities.

Sources for Action in China focuses on developing a digital platform facilitating smallholder farmers, women, and youth in two pilot villages. This platform allows them to document, share, and exhibit their expertise in quality food production, biodiversity conservation, sustainable farming, and local cultural practices using various media forms like text, photos, and videos.

In the Philippines, the project bolsters innovative digital networking and marketing strategies to overcome poor connectivity. These strategies cater to community-based coffee enterprises of farmers and indigenous communities, as well as organized small-scale producers involved in the sustainable agriculture value chain.

The Philippine Rural Reconstruction Movement (PRRM) is exploring the use of ICT to enhance productivity, efficiency, and incomes of women and men small-scale producers of organic vegetables organized under the Kayapa Organic Producers Association (KOPA) and their entrepreneurial non-profit marketing partner social enterprise, Vizcaya Fresh. Furthermore, the Philippine Coffee Alliance (PCAi) is delving into developing an IOT system/ICT program to collect, store, and analyze operational and other data crucial for the community-based coffee enterprise (CBCE) and their partner coffee farmer-suppliers in two pilot communities. This initiative aims to enhance the effectiveness and efficiency of operations and farm planning.

SEMINAR-WORKSHOP OBJECTIVES

The seminar-workshop particularly aimed to:
- have a shared understanding of what a community network model is, focusing on six dimensions: legal and regulatory; technical and community network infrastructure; organization, people, and partnerships; financial; social impact; sustainability
- have a shared understanding of the contribution of their community network initiatives to the process of Model Building of Community Networks linked to Social Enterprise and Local Economic Development

- define their evolving community network models and how these fit with their respective social enterprise and local economic development agenda in the next 3-5 years
- define a set of common and specific set of indicators for social impact that their respective community network initiatives would pursue
- define a medium to long-term sustainability strategy for their respective community network initiatives and a plan to sustain their operations beyond the project
- develop project ideas to support the sustainability plan and strategies of the community network initiatives and a second phase of the model-building project

SUMMARY AGENDA

On Day 1, the agenda centered on imparting insights into Community Network model-building experiences in South Africa and Asia. The case study of Zenzeleni in South Africa expanded on the six elements integral to Community Network Models: 1) technical dimension and community network infrastructure, 2) legal and regulatory framework, 3) organization, people, and partnership dimension, 4) financial dimension, 5) social impact dimension, and 6) sustainability. Meanwhile, Community network models and experiences in Asia, exemplified by BAIF in India and Common Room in Indonesia, delved into the specific contextual factors within each community and underscored the pivotal role of people in driving the success of community network initiatives.

Throughout Days 2 to 4, each of the six elements of a community network initiative received comprehensive elaboration for each of the four initiatives within the project. This exercise facilitated a profound comprehension of these elements and opened avenues for potential cross-country learning opportunities in the future.

The concluding day was dedicated to exploring methodologies for measuring the social impact of the community initiatives. This culminated in a collective decision to develop a Development Index. Additionally, the final agenda segment addressed sustainability strategies and project development for each community network interlinked with social enterprise initiatives.

Table 1: Seminar Workshop Agenda and Flow

Day	Activity
DAY 1	Model Building of Community Networks: Case of Zenzeleni (Introduction to the Six Dimensions/Elements of Community Network Models)
	Presentations and feedbacking on the **Technical Dimension/ Community Network Infrastructure**
	Panel Discussion and Open Forum **on CN Models and Experiences in Asia Pacific**
DAY 2	Input, Application Workshop, Presentations and Feedbacking on the **Legal/Regulatory Framework Dimension**
	Input, Application Workshop, Presentations and Feedbacking on the **Organization, People and Partnership Dimension**
	Input, Application Workshop, Presentations and Feedbacking on the **Financial Dimension**

DAY 3	Input, Application Workshop, Presentations and Feedbacking on the **Social Impact Dimension**
	Workshop, Presentations and Feedbacking on the **Sustainability Dimension**
DAY 4	Integration Workshop, Presentations and Feedbacking on **Defining CN Models Linked to Social Enterprises and Local Economic Development**
	Project Development Plenary Discussions for Phase 2 of the Model Building Project
	Synthesis Session: Model Building of Community Networks Linked to Social Enterprise and Local Economic Development

SUMMARY OF PARTICIPANTS

The seminar-workshop was attended by 12 participants from the following organizations:
- FACE (Bangladesh)
- Prokritee (Bangladesh)
- Philippine Rural Reconstruction Movement (Philippines)
- Philippine Coffee Alliance (Philippines)
- Sources for Action (China)

Marie Lisa Dacanay and Gomer Padong of ISEA facilitated the activity.

PRESENTATIONS AND DISCUSSIONS

Opening Remarks and Introduction to the Seminar-Workshop

Marie Lisa Dacanay, President of ISEA and Project Director of Model Building of Community Networks Linked to Social Enterprise and Local Economic Development, initiated the seminar workshop by delivering the opening remarks, contextualizing the objectives, and facilitating their review.

A participant from FACE expressed appreciation for the activity's goal, recognizing its potential to combine various aspects of a Community Network, particularly the technical and legal dimensions, with their existing grasp on social impact, sustainability, and organizations, people, and partnerships.

Sources For Action (SFA) participant underscored the enduring impact of the project, foreseeing its ability to delve deeper into linking community networks with social enterprise and ensuring sustainability.

The Philippine Coffee Alliance (PCAi) highlighted the project's significance for community-based coffee entrepreneurs, emphasizing how technology development could aid in managing coffee processing facilities, especially for those with limited internet access, in the coming years.

The Philippine Rural Reconstruction Movement (PRRM) emphasized the project's common goal of social impact over its financial aspects. They emphasized the varied social indicators across local partners, underlining the importance of local contexts.

Another participant from PRRM acknowledged the project's objective of arriving at a clear direction and collaborative efforts across stages. They recognized the objective of the evolution of long-term strategies, focusing on cultivating partnerships and fostering friendships.

An SFA participant emphasized the objective of devising plans and strategies for sustaining Community Networks not just within the project duration but extending beyond it. They stressed strengthening organizations and ensuring sustainability.

Dacanay concluded the session by reiterating the critical importance of sustainability for each partner, emphasizing its significance beyond the project's duration.

Session 1: Designing Social Enterprise Models of Community Networks: Zenzeleni Networks

Carlos Rey Moreno, Association for Progressive Communications (APC) representative and Zenzeleni founder, introduced APC as an international network of Civil Society Organizations committed to advancing ICTs for social justice. Since 2017, the network has been actively involved in fostering community network development and is presently supporting 30 organizations in this endeavor.

In 2012, the University of Western Cape partnered with Mankosi, a community in one of the most disadvantaged areas of the rural Eastern Cape, to create Zenzeleni Networks Mankosi, a model of an Internet Service Provider that could be managed and operated by communities themselves. Zenzeleni Community Networks was born—an initiative to replicate the Zenzeleni Networks Mankosi model in other communities. This led to the creation of the Zenzeleni Networks Not-for-Profit Company (NPC), which is intended to function as an umbrella to multiple community-owned cooperatives.

Zenzeleni was established to initiate, mentor, train, support, and assist community-based internet service providers in rural and underprivileged areas of South Africa. It sought to lobby for and source the necessary funding, assets, and related resources for those community-based micro-enterprises to provide sustainable universal affordable access to electronic communications networks and electronic communications services in rural and underprivileged areas of South Africa.

Since its inception, Zenzeleni has evolved into a sustainable two-tier commercial model community network, consolidated and scaled, and presently exploring self-generated income. As part of its

capacity-building efforts, Zenzeleni has implemented the development of Community networks in South Africa and supported community-led approaches to addressing the digital divide. It has advocated for the recognition of community networks and access to spectrum among other things. Currently, it engages with the amendment of the South Africa Electronic Communication Act to recognize community networks as means of electronic communications network service and electronic communications service.

Elements of the model for affordable connectivity in rural South Africa

1. Organization and Operative Structure

There are two interdependent layers to the Zenzeleni organizational model: the not-for-profit company and the cooperatives. The meso organization, Zenzeleni Networks Not-for-Profit Company (NPC), functions as an 'umbrella' to multiple community-owned cooperatives. The NPC plays the role of enabler and supports the Cooperatives to deliver affordable, quality telecommunication services, and catalyzes the rural digital ecosystem. The cooperatives at the micro level have been historically the main Internet Service Providers (ISP) providing affordable and reliable services to the communities of Mankosi and Zithulele in rural Eastern Cape, through prepaid community public hotspots and monthly subscriptions. Both cooperatives have community members as their directors.

Two-tier model

Micro Level
Local Ownership *via* a three stage micro-enterprise growth model
Local teams responsible to **network installation and maintenance**

Meso
Zenzeleni Not For Profit Company
Spin out from UWC with multi-stakeholder organisational representative on board

Obtains funding to :
i.   seed and establish the micro level ISP business
ii. Train and develop capacity to ensure sustainability
iii. Continuous support on legal, regulatory, technical, advisory, backhaul, etc
iv. Develop and maintain the backhaul infrastructure

The cooperatives faced challenges such as poor management and technical skills, limited trust and social cohesion, low democratic decision-making skills, poor compliance with the cooperative legislation among new cooperatives, embracing self-reliance, appreciation of collective interest above individual interests, and limited access to markets. In 20022, the initiative moved to another model, still with two tiers, that considers local ownership and local teams responsible for network installation and maintenance at the micro level.

2. Technical Infrastructure

The main elements of the Zenzeleni community network model are the Network Operations Center (NOC), backhaul, and local network. The NOC has a capacity of 260 Mbps, 1:1 uncontended, maintains power back-up, security, and remote monitoring. The backhaul includes the equipment in the data center, the equipment in the two locations used as relays, including the towers themselves, and equipment for two gateways in Mankosi and Zithulele, using solar power in most of the locations. The current coverage provided by the towers and other high sites would allow Zenzeleni to extend its footprint into new areas.

3. Legal and Regulatory

Understanding the broader legal obligations imposed on internet service providers and network operators of South Africa was necessary as the realities faced by rural service providers and entities seeking to operate legally within the community network environment were different. Thus, Zenzeleni has explored a variety of legal mechanisms to leverage the License Exemption Regulations given the economic and bureaucratic hurdles that accompany the acquisition of various licenses.

Zenzeleni registered for Electronic Communications Network Service (ECNS) licenses as well as Electronic Communications Service (ECS) license exemption to enable an affordable and accessible means of entering the licensing framework. Its ECNS licensing allows it to operate both backhaul and access networks whereas its ECS reseller license exemption allows it to aggregate bandwidth obtained on a wholesale basis from upstream partners.
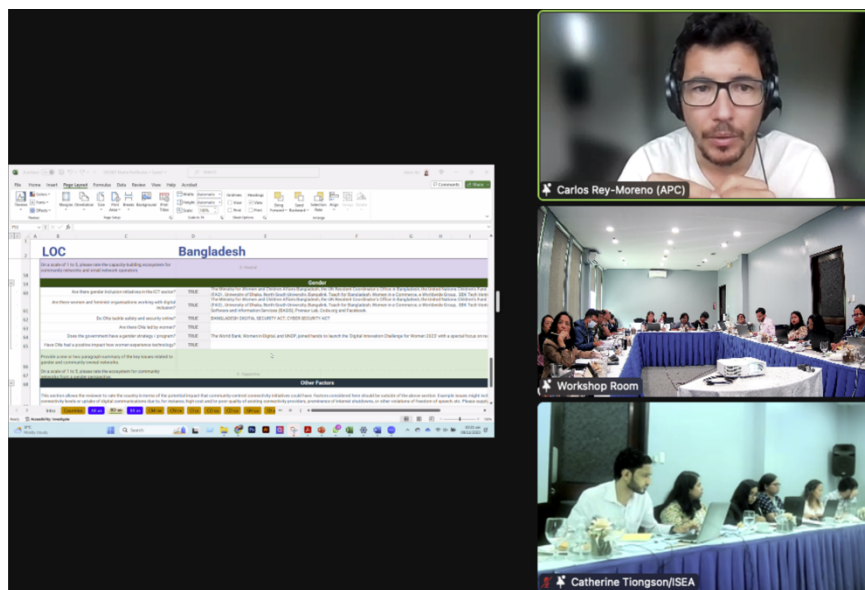
4. Financial

Income Streams

The main income streams of the cooperatives and the NPC are voucher reselling, fixed wireless, projects and grants. Zenzeleni Networks NPC and the two Zenzeleni Cooperatives started their voucher-selling business in Mankosi and Zithulele. These vouchers priced at R25 (2.81% of the monthly income of those living below the poverty line) allow the device to use uncapped internet in any of the 74 hotspots in the two communities at 2 Mbps. This resulted in a revenue of R126 per month per reseller. Zenzeleni Networks also offers fixed wireless services to those clients who request them, producing an income of an average of R12.5 per month. The majority of Zenzeleni's funding comes from grants, of which 40$ comes from the Technology Innovation Agency.

Costs

The costs incurred in the operation of the internet service provision of Zenzeleni are for CAPEX and OPEX. CAPEX includes the equipment, mileage per diem and hourly rate for local technicians, and other incidentals incurred during its installations. OPEX includes the mileage, per diem and hourly rate for local technicians, other incidentals incurred during the maintenance of the network. It also includes the cost of the upstream internet service provider and the cost of high-level support on technical matters the NPC receives from a third party. The average cost per hotspot is R2,450, the average cost per anchor client is R4,200, and the fixed wireless client costs average R1,800 for installation.

5. Sustainability

Zenzeleni uses the social enterprise lens to analyze Zenzeleni's sustainability. Zenzeleni is considered a social enterprise; at a commercial level, it is an Internet Service Provider providing access to affordable quality connectivity for remote rural communities and activities to stimulate demand and productive use of telecommunication services. All of these are intended to ultimately unlock access to the resources and services for improving livelihoods. It has developed its own Social Enterprise Business Model Canvas which considers both the financial sustainability and the sustainability of impacts.

Its current model is considered a transitional business model that proposes the introduction of. Micro-enterprises in the operating model intended to operate as a commercial community-owned enterprise with service level requirements, providing hotspot hosting and maintenance services, sale of vouchers, and value-added services.

In this proposed new model, the NPC serves as the anchor, focusing on training and capacity building, providing technical, legal, administration and business management support, and maintaining the backhaul and contracting with subscription clients. The microbusiness, which is owned by an enterprise owned and managed by an entrepreneur from the local community, is part of an ecosystem that delivers telecommunication services to the community. Each microbusiness hosts and maintains one or more hotspots, sells prepaid vouchers, and provides value-added services.

6. Socio-economic Impact

Based on an impact study done in June 2022, Zenzeleni vouchers are deemed affordable and accessible. Its economic impact is evident as well when analyzing voucher sales in which a 30% profit margin is retained for resellers resulting in more than R24K income since 2022. A large proportion of the respondents use the Zenzeleni network for communicating with families and friends, social media, banking, emails, and surfing the internet. Business owners found the network useful for starting or improving their businesses.

Table 2: Summary of Open Forum Discussion: Zenzeleni Model

Comments and Questions	Response
On the specific context of model building for this project vis-à-vis the Zenzeleni, Indonesia and India models	The discussion at the end of the session underscored the specific context of the Model Building being undertaken under this project, which is distinct from the Zenzeleni model. Most of the community initiatives are working on linking established social enterprises to internet connectivity for poor stakeholders to have better income, productivity, and efficiency, among others. In this project's model building, the aim is to link community networks to improve social

	enterprises and add value to local economic development. The devolution of a separate social enterprise that will provide internet connectivity though might be conceived of in the future.
	The infrastructure expansion of the community networks linked to social enterprises has to consider the technical aspects, legal framework, sustainability, and social impact, whether considering doing the expansion on your own or in collaboration with government or private entities.
What is the meaning of 'community' when we speak of community networks?	In the South African context, 'community' is a term that refers to a geographically bounded area where people live together and a traditional leader or chief leads it. all the microentrepreneurs, cooperative members, six of the seven staff of NPC, and all the beneficiaries from the infrastructure and training belong to these communities.
	In China, we are talking about the virtual community, which are the users of the app from various villages who share the same vision and ethos. They are forming a new type of community because of the Internet connection. Traditionally, it's an administrative village or traditionally naturally formed in an agriculture society very near each other sharing the same culture, religious and other beliefs.
	Community networks refer to telecommunications infrastructure what community radio meant for the broadcast infrastructure. A community radio is a transmitter in the village, with the community networks as for telecommunications.
What should and could Zenzeleni have done to make the community network project become more relevant in these days?	The social enterprise concept is something that we are grappling with in the South African case. Understanding financial sustainability with social value and benefits. Scratching your edge for revenue streams would be valuable. Having had more people thinking through the professionalization of the self-generating income component to reach much more of the social impact in the communities we've been working with could have been done. Understanding how critical CAPEX works, design and marketing could have reached and impacted more people.

Session 2: Panel Discussion on Community Network Models and Experiences in Asia

Case Study of Common Room Networks Foundation in Indonesia: Designing Social Enterprise Models of Community Networks Towards Achieving Social Impact and Sustainability

Gustaff Iskandar and Ridha Nadhiran facilitated the sharing of the case study in the Ciptagelar indigenous community in Indonesia.

The three core components of community network infrastructure in this model are the brainwave (human resources), software, and hardware. Brainware pertains to the human resources that develop and initiate the internet infrastructure using hardware and software.

Some of the elements in the Internet governance policy ecosystem in Indonesia are telecommunications infrastructure, technical standardization, application standardization, content policies and regulations, and business policies and regulations. Five major stakeholders, actors, agencies, and shared interests that the case considered are the government, civil society, academia, the private sector, and the technical community. These elements intersect and connect with various internet and telecommunications infrastructure and utilization.

The community network infrastructure is regarded as a new approach in the country aimed at providing Internet connectivity to address the digital divide. In the country's policies and regulations, internet connectivity can only be provided by either a state-owned company or private sector with legal entities while communities are not acknowledged as operators or stakeholders that provide internet access.
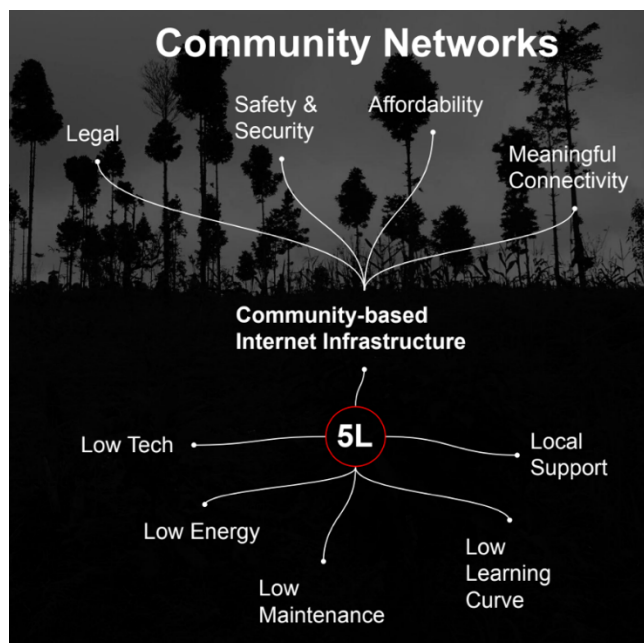
Figure 1. Common Room framework used in community network development

Pilot projects & prototyping for the development, management, and utilization of local community-based Internet infrastructure was initiated in the Ciptagelar indigenous community region in mid-2019 and Ciracap sub-district in late 2020, both located in Sukabumi Regency, the southern part of West Java Province. These initiatives started with radio connectivity, which later utilized fiber connectivity.

Figure 2. Common Room project outreach in different locations in the region

Common Room has published several curricula and training materials to make the Internet relevant to the lives of the people in rural and remote areas, such as basic technical skills on computers, computer networks, internet infrastructure, internet utilization, internet safety, internet for village administration, internet for education, Internet for small and medium enterprises, internet for telemedicine, Internet of Things, and Internet and disaster risk reduction.

Building the community network infrastructure is not only about technical skills and the ability to develop the infrastructure. There was a need for certain approaches that acknowledge the local and cultural traditions, especially rituals, values, and knowledge systems among others.

The fiber optic network topology of the Ciptagelar community network was designed by Abah Ugi Sugriana Rakasiwi, the chief leader of the indigenous community, as he knew the distribution points in Ciptagelar. The System Center monitors and generates the vouchers for resell by agents and the status of connectivity for any point.

As of March 2023, there are 37 hamlets and 11 villages connected, 520 public and 10 private WIFI hotspots, 10 technicians, and 236,320 vouchers sold in one year by 86 voucher agents. From August 2020 until October 2023, internet voucher sales in the Ciptagelar indigenous community grossed US$ 376.734.12.

Some of the identified potentials of the community networks are business opportunities, job creation, the introduction of local culture through social media, dissemination of information and knowledge about public health, communication between teachers and students outside schools, financial transactions, and widening access to information and knowledge. Some of the risks identified were online fraud, illegal loans, game addiction, exposure to pornography and illicit content, online gambling, online-based gender violence, hoax news, misinformation, and disinformation.

The value-added services include technical skill and capacity building of Ciptagelar hotspot technicians, routine monitoring of the installed devices, maintenance and repair of internet tools and devices, per-to-peer training for School of Community Networks participants, free internet access for teachers, podcast and local content workshop, workshop and training on documentation of traditional knowledge and technology (local content development), workshop on the management and administration of community-based internet infrastructure, and workshop and sharing session on healthy and safe use of the Internet.

Case Study of BAIF Development Research Foundation in India: eDOST Program

Pooja Majganjar presented the case of the e-DOST initiative in India in providing digital services in remote tribal villages acknowledging the specific needs and local context to create a digital ecosystem in the village. Starting in 2015, the model addresses the problems of lack of digital services and lack of employment of digitally qualified millennials.

The Community Network has been developed in three clusters: Pathardi, Ramkhind, and Dongarpada in Palghar district in Maharashtra. The objectives of eDost/eSakhi model are livelihood generation and women empowerment through digital literacy. E-Dost are digital village catalyst, mostly women, who earn income by offering various generic digital services. They provide banking, utility, and e-governance services to people at their doorsteps in their hamlets saving time, money, and physical energy. The model allows people to do the transactions as per their schedule and availability, provide a livelihood to people especially women in need, and enhance communication skills, confidence, and technical knowledge of eDost.
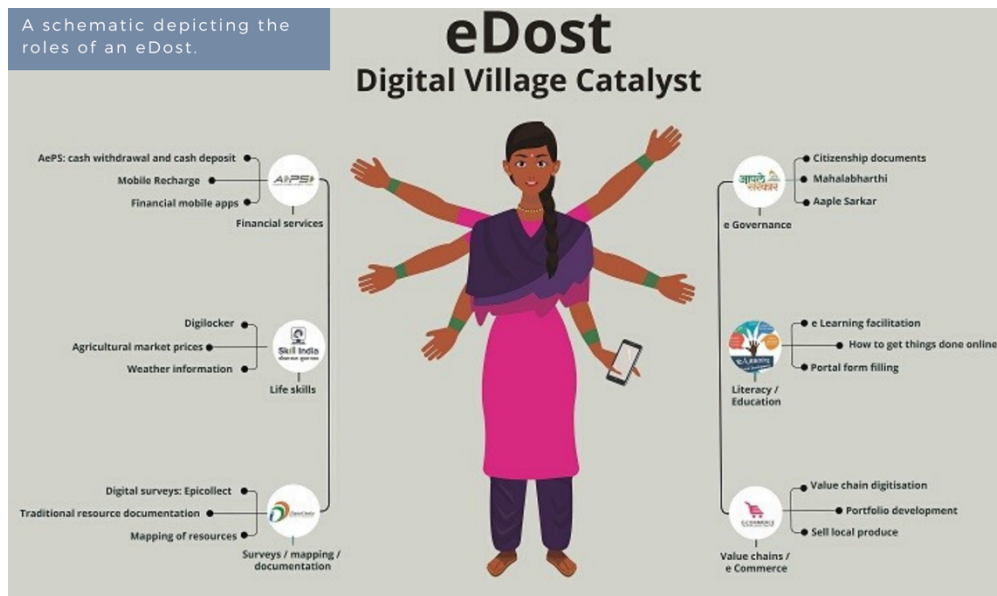

Figure 4. A schematic representation of the roles of an eDost (BAIF)

Aside from financial services, eDost also provides digital services for life skills, surveys and mapping, e-Governance, literacy and education, value chains, and e-commerce. This social enterprise model is

replicated in other states, including Gujrat, Odisha, and Madhya Pradesh, totaling 80 female social entrepreneurs.

Table 2: Summary of Open Forum Discussion: Community Network Models and Experiences in Asia

Comments and Questions	Responses
Do the bamboo towers withstand typhoons and hurricanes?	Finding iron is expensive and the quality is not good. There are plenty of bamboo materials in the village and they already have skills in working with bamboo. We collaborated with the engineers of the Institute of Technology of Bandung. A bamboo tower is only for distribution and not for the main backhaul. It entails understanding the type of bamboo, the age of bamboo, the preservation technique process, and building the bamboo tower with a specific structure to make it rigid.
How do rural women benefit from eDost?	BAIF has been working for livelihood generation among others. eDost creates livelihood opportunities for the rural women who are left in the villages while men go to the nearby city for labor work. EDost leverages the availability of internet connection in these villages to make it meaningful for the community. eDost makes an average of 3,000 to 4,000 Indian Rupees per month. As agricultural income is considered family income, an eDost earns money that she has total control. An eDost puts in 3 to 4 hours a day as per her convenience to provide the services. Her standing is also developed as her social rapport is increased. The impact is both economic and social.
In terms of sustainability of community networks, what are the revenue streams and models?	In Ciptagelar, the model is 'Everybody Happy' or Gotongroyong, a shared cost and revenue model that started with a community-run project supported by APC in 2019 with 25,000 USD. The growth revenue has steadily increased and some income is allocated for the monthly bandwidth subscription, maintenance and services, local technician and staff salaries, including allotting 10% reinvested in other areas and percentage for taxes. Common Room communicates with the government to decrease the cost of bandwidth and taxation to have more revenue for infrastructure development and expansion of internet coverage. The community network is sustainable and does not rely on any grant after five years of work. There are currently 1,000 individual users a day from different villages in two provinces. Daily internet voucher still is not affordable but it is the only option at the moment. They use the voucher as they need. One voucher costs 10,000 Rupiah for unlimited bandwidth of 2Mbps for 24 hours.
	The BAIF initiative is not a revenue model but a sustainable one. Equipment support is through grants. An eDost charges nominal fees for the various services she provides to the villages, which in turn she uses for internet recharge. This makes the model sustainable.
	The eDost have also come together as self-help groups themselves. The APC seed funding started with 5 eDost that grew to a figure of more than 70 eDost across India. Those close-by eDost have formed

	self-help groups that are able to save a lump sum money from each eDost contributes 1,000 rupees per month from her earnings. The lumpsum amount is available for loans for members who need equipment for example.
Does the BAIF have a conscious effort to develop the eDost self-help groups into a social enterprise or cooperative?	BAIF has a self-help group program on a separate mandate from the eDost program and it supports the eDost self-help groups in coming together. But there is no perspective yet to make them into
Can you share the grant experience?	The initiative in the Ciptagelar in 2019 got support from APC through the Catalytic Grant of 25,000 USD. Most of the grant was allocated for training and capacity building, some for tools and devices. The grant support ran for two years and after that the revenue streams came in and deployed this model to other villages. There is a tripartite agreement where Ciptagelar is the beneficiary, Common Room as managers and coordinators and the ISP company Awinet as the internet service provider.
	BAIF received the same pilot grant from APC of 25,000 USD for the first phase, which was mostly allocated for equipment development. The second phase was for the LOCNET grant. We upscaled and replicated the program through our Corporate Social Responsibility (CSR) grants.
	In the BAIF case, we initially worked on the internet infrastructure in the location specifically for internet penetration as it was not profitable for internet service providers to do it. So we started using the cellular router to enable the connectivity for internet services by the community in that location. The cellular router placed at the tower is connected to the cellular phones of the eDost who owns the cellular card and pays the data recharge, and uses the WIFI on her phone for the internet and the biometric device, and enables the services for the people. The village government and community maintains the tower, which is in the middle of the village. When the eDost started getting commission for each of her services provided, she diversified the services on her own (e.g. payment of electricity, mobile bills, mobile recharge). Recently, the villages are asking if the eDost can also deliver Amazon products. Aside from the eDost online aspect, there is also an offline network in which knowledge sharing is developed. The knowledge sharing platform is based on Google Forms from the community, made into certain products, and sold in an e-commerce platform by BAIF.
Parting comments from the panelists	Community Network is mostly about the network of people. To make the Ciptagelar model a success, we need to work with real people and not only the technology, devices and tools. We need to make sure that we work directly with people who need the connectivity. Capacity building and digital literacy has to be built first before the infrastructure. Building the human resources capacity is a lifelong

	experience. To replicate the model, the context is very important; there is no one policy fits all.
	In the BAIF case, we were skeptical with the project at first but we are overwhelmed by its success. Technology may be available but its success totally depends on the people and community. Building the capacity and creating meaning around the technology is what is required at this time. Experimenting with new things for the benefit of the community should also be done and a continuous process.

Session 3: LOCNET Country Matrix Presentation

Steve Song discussed the country assessment framework the APC has developed. The framework is encapsulated in a Google spreadsheet. The spreadsheet is an attempt to create a comparative assessment framework to evaluate the challenges that a community network might face in getting off the ground. It is primarily aimed at new community network initiatives and is intended as an assessment tool to evaluate the likelihood of success prior to investing in support for community networks in a given country.

Countries are scored against seven categories: Operator Licensing, Access to Backhaul, License Exempt Spectrum, Investment Ecosystem, Capacity Building for Professionalization, Gender, and Other Factors.

A country score is averaged from the individual category assessments in each country.

The ratings are crude instruments but should be useful for comparative analysis across countries. For each category, there are specific questions that are intended as much to stimulate thinking about the particular category as to gather quantitative data. At the end of each category, a brief summary of the category is provided and a ranking of 1 to 5 is made.

Figure 5. The seven categories of the LOCNET Country Matrix

There are currently 25 countries in the matrix. To address the issue of rating subjectiveness, APC assigns a primary editor and a reviewer to look at the profile. The aim is to have a meaningful comparative framework for countries.

The tool will serve as a decision-making tool for investments for potential funders and aid in the design process. Initially an internal resource for practitioners, its evolving robustness positions it as a potential benchmarking tool. This is a key point for advocacy efforts too. Beyond its role in decision-making, it has the potential to transform into a resource tool to benchmark regulations.

Table: Summary of Participants Feedback: LOCNET Country Matrix

Comments and Questions	Response
Whom do you look for in the particular country to fill up the matrix?	Often, the matrix is filled out by someone who has been working with APC. It is not necessarily from China, for example, as it is a big ask for the partners in the country. It's mostly organizations that has been involved in advocacy work and understands the needs of the country and the policy regime.
Will this matrix be useful for a Starlink connection, which is not router-based?	Starlink is definitely part of the matrix. How it is regulated by the country is a huge factor in the licensing arrangements and how it is made available.
Your thoughts on Starlink pros and cons and can it be used by community networks?	I have very complicated feelings about Starlink. For a community network to use it is very hard to say no; the terminals are easy to use and the connections are relatively affordable. But Starlink may not be transparent and the long-term is what's concerning. Starlink is also intended for single-user solutions and is not designed to bring people together. As a technology, it doesn't encourage cooperative actions. Ultimately, it may end up increasing inequality because it is the wealthiest people who can afford it. there needs to be a critical thought on this.
	The tool is a work in progress and there may well be better questions to ask in each category to help delve deeper into the various aspects.

WORKSHOP KEY OUTPUTS AND OUTCOMES

Session 4: Presentation of Workshop on Four Sub-Elements of Community Network Infrastructure (Technical Element)

Sources for Action

Community Connectivity Infrastructure:

- First layer: National infrastructure already installed by the government and owned by national companies allowing access to the Internet even in rural China. There is legal space for community network building in this setting

- Second layer: Technology and scientific companies can rent part of their network space and interphase to make platforms and provide services, which have licenses from the government to rent out platforms and space. Small companies can rent from these technology companies (e.g Alibaba) by providing them with their licenses, paying certain amounts, and other requirements.
- Small companies, in this case SFA, can design the apps based on their purpose.
- Communities generate the database, which is stored in a space. These data are then uploaded into the app and shared with the communities.

Table 3. Summary of Participants Feedback: SFA Technical Element

Comments and Questions	Responses
	A very simple network with less maintenance costs
Name of the community network	Origin of Food Talks Network
Who collects the information	Database collection has a two-way approach: SFA capacitates the communities to enable them to generate information by themselves; and SFA builds partnerships from outside, e.g. media production team working on rural revitalization

Philippine Rural Reconstruction Movement

Social Enterprise: Organic agriculture value chain development
Community partners: Kayapa Organic Producers Association (KOPA), Vizcaya Fresh! Inc. (VFI)
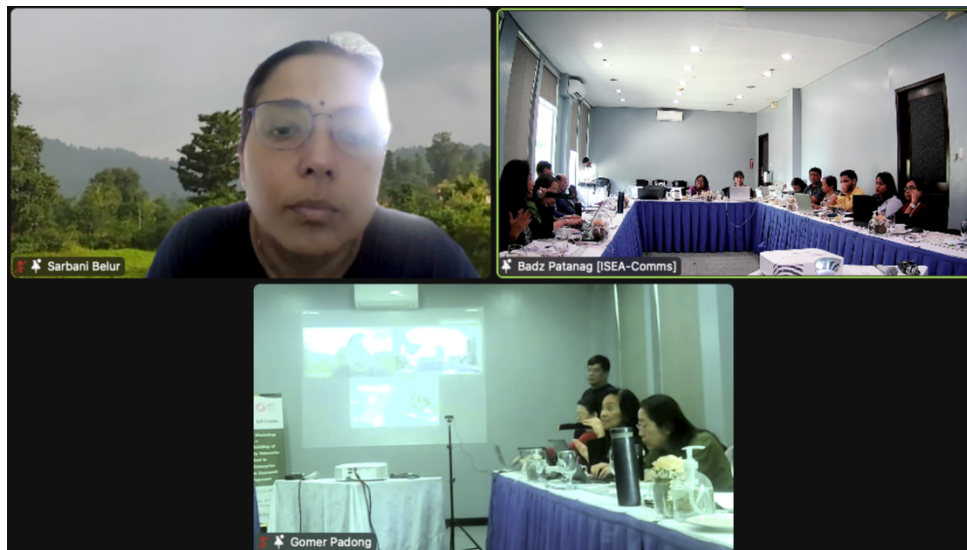
Community Connectivity Requirements:

- Technical support for information sharing for production and marketing purposes to save on expenses (overheads), time and other resources
- Type of connectivity: Online connectivity (i.e Internet)

- Digital app most commonly used is FB Messenger; with smart/android phones; no tablets; laptops (used by some younger family members, children, students). KOPA secretary & treasurer use a laptop for organizational purposes. One young female member is more familiar with other gadgets (laptop, tablet) and uses more apps. Common expense for a prepaid load is Php75 for one week. Some who play ML buy a prepaid load at Php105 per week. They buy loads up 2 to 3 times in a month.
- Current status of internet services: ISPs present are Smart & Globe (cellular router-based), with towers located in 2 barangays/villages in Kayapa. With weak & intermittent signals; strong usually at midnight & sometimes in early afternoon (2pm). Nine (9) of 30 barangays have no access to telecoms and internet signals. Converge (third ISP) cable lines are being laid and may be activated soon. In Bayombong, telecoms and internet connectivity provided by Smart & Globe are relatively better.
- KOPA & VFI have a Messenger group chat for communicating, sharing information, setting meeting schedules, etc. VFI uses FB to post & market available organic products. KOPA officers and VFI use email to communicate with partners (DA, PRRM) and buyers; and MS Office for documents; on a laptop and smart phones.
- Capacity building needs: Use of applications (Google Sheets or Forms), digital literacy, more efficient use of gadgets, community network operations and maintenance, and social enterprise management/business management.
- How can improved internet connectivity support the organic agri value chain to contribute to increased incomes & more efficient operations of KOPA & VFI?
- Sharing of real-time production data (crop varieties planted, expected harvest date & volume, transportation requirements, organic practices, weather/pest issues) among KOPA members and with VFI
- Meet production targets per VFI and KOPA business plan
- Optimize favorable pricing opportunities
- Identify & select good buyers
- Access timely troubleshooting/technical support (VFI, local government agriculturists)
- Reduce overhead costs; generate savings
- Family use (school studies), revenue generation for the organization.

Sample Tool:

Member	Target Production of Crop A (volume)	Resources Needed (when needed)	Expected Date of Harvest of Crop A	Transportation for Delivery (Date Needed, volume)	Issues/Concerns
1	500 kg	Resource 1 – May 1	June 5	One 4-wheeler truck, 80% filled, Point A to Point B	Expecting low pressure area on
2	200 kg	Resource 1 – May 2		One truck 4-wheeler truck, 50% filled, Point A to Point B	
n					
Total	Total Target for the period				

These may be combined (?) to possibly avail of discounts when they purchase from a supplier

These may be combined (?) to save on transpo

Information may be shared to better prepare all members

Figure 6. Sample tool with data that are inputted into the Cloud of PRRM

Figure 7. Clusters of farmer members of KOPA (PRRM)

Three (3) Starlink ⭐ setups
  - cluster in Pangawan, Kayapa
  - cluster in Tidang Village, Kayap
  - VFI farm in Bayombong
each having 200mbps and range o
50- to 100-meter radius.

Receivers ◻ in Pingkian cluster
(before Converge operates in
December) and Cabanglasan cluster.
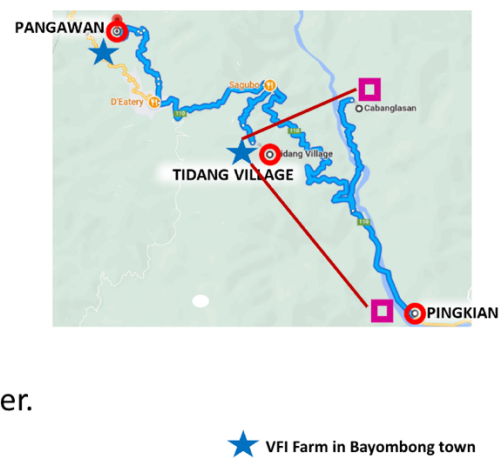
Figure 8. Starlink setups (PRRM)

Backhaul Network:

- Generally Unstable to Bad, due to only selected areas having mobile network access, some areas no internet access at all.
- At present, None, Converge is still laying out their cables.
- Backhaul distance from the village location: Approximately 55 kms.
- Unlicensed spectrum (2.4 Ghz & 5 Ghz)

24

- Internet will be distributed using wireless mesh access points and Customer Premise Equipment.
- Near Line of sight, due to the presence of trees partially obstructing the line of sight of antennas.
- The configuration will use a Mikrotik router connected to the Starlink internet router.
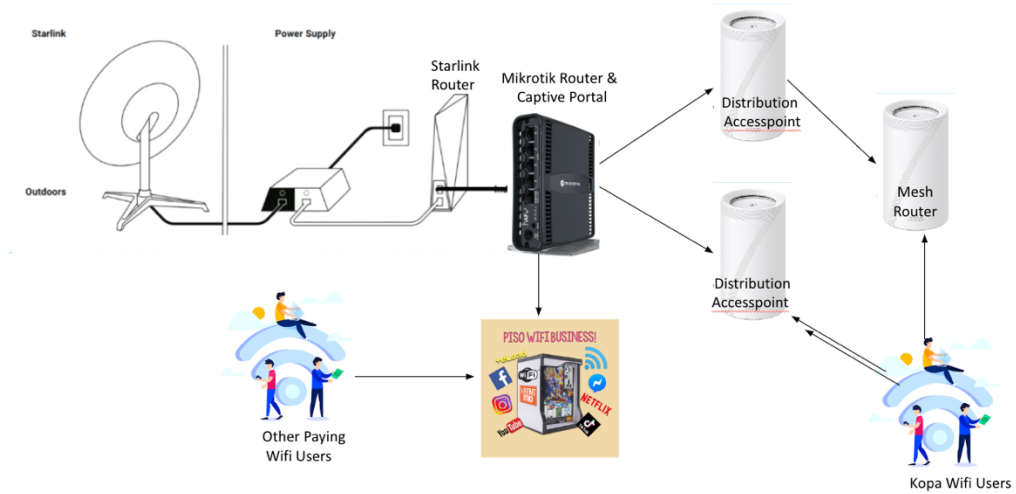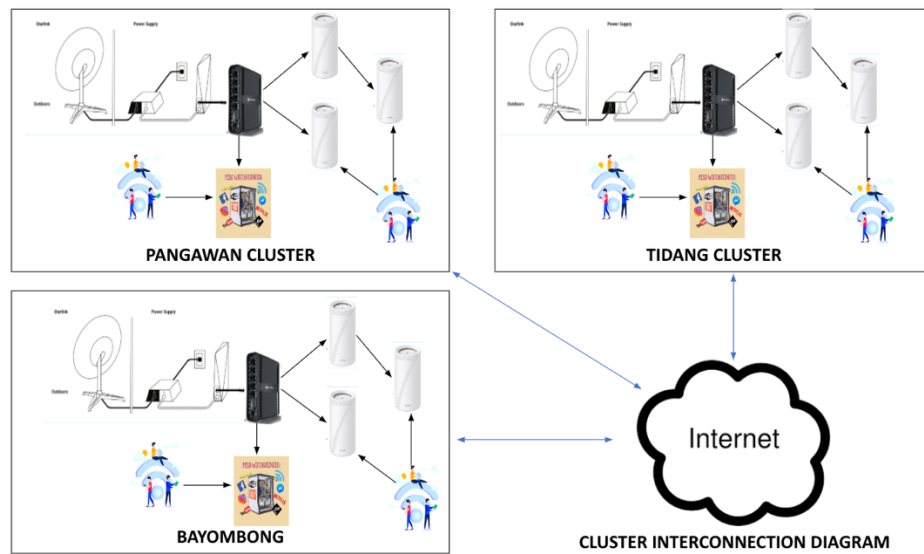
Figure 9. PRRM Community Network Connection Diagrams

Network Operation Center (NOC):
- The project will utilize Google Cloud services

- NOC will be located in house/community support center
- NOC will provide affordable wireless internet access thru PisoWifi vendo stations located in each cluster to sustain the monthly internet fees and maintenance of equipment.
- KOPA and VFI will manage the NOC

Local Network Infrastructure:

- Tower mounted atop house or community building (KOPA trading post, village hall)
- Users will use online connectivity
- Users will view the content stored in the server and upload content to the server
- Smartphone, tablets, laptops, and desktop will be used
- The app NVFarm, which contains data such as current pricing, production and available products) has been built for the community to share knowledge
- Impact: Organic agriculture value chain (production, marketing), disaster preparedness, education, and organizational development

Figure 10. PRRM Local Network Infrastructure

Table 4. Summary of Participants Feedback: PRRM Technical Elements

Comments and Questions	Responses
Regarding the Google drive, how accessible will it be?	There will be levels of accessibility: for the organizational officers- view, edit and upload, others-view and upload; VFI-access to edit, manage database.

Google Drive has to have a secure login and not many people should be able to access it.	
If the internet is stable, it is okay to use Google Cloud. Otherwise, a local access server has to be set up, which would be linked to the Microtik router.	
Consider the number of people that would log in and could simultaneously use the internet. Each of the applications requires different amounts of bandwidth and they have to be identified. A suggestion is to use it only for one specific purpose.	
Who is procuring the bandwidth, both for the PisoWIFI and Starlink? Do regulations allow for the redistribution of bandwidth in both cases?	The project/PRRM will be charged for the subscription at the initial phase and later on, will be taken on by KOPA and VFI. PRRM will partner with the PisoWIFI stall owner so that VFI will no longer need to register for a separate business permit. PRRM is yet to learn more about the regulatory policies.

FACE

Community Connectivity Requirements:

The community's demand for connectivity is driven by a desire to harness economic opportunities, enhance skills, preserve culture, expand market access, access information, and achieve financial inclusion.
- Economic Opportunities
  - Access to online markets for artisan products.
  - Expanding their customer base and income potential.
- Skill Development
  - Access to digital resources for skill enhancement.
  - Online training and mentoring opportunities.
- Cultural Preservation
  - Documenting and sharing traditional art and cultural heritage.
  - Preservation and promotion of community's unique identity.
- Market Access and Global Reach
  - Showcasing artisan products on e-commerce platforms.
  - Engaging with a global customer base
- Information Access:
  - Staying updated on market trends and best practices.
  - Access to a wealth of information for personal and professional growth.
- Financial Inclusion:
  - Managing finances and receiving payments efficiently.
  - Empowering artisans to access financial services.

- Qualitative assessment done through settlement profiling and community mapping process showed low digital literacy
- The type of connectivity desired by the artisan communities in Cox's Bazar can vary based on their specific needs and goals. However, based on common objectives, they are seeking different types of connectivity:
  - Online Connectivity (Internet):
    - Access to online markets for artisans.
    - Skill development through digital resources.
    - Preservation and promotion of cultural heritage.
    - Access to information and global trends.
  - Offline Connectivity (Intranet):
    - Collaboration within the community.
    - Sharing knowledge and resources.
    - Cultural preservation and heritage sharing.
  - Other Types of Connectivity:
    - Specialized networks for healthcare.
    - Disaster management and emergency communication.
    - Any other community-specific application

Backhaul Network
- The status of mobile signal coverage in our community is "unstable"
- Backhaul Network is available: Submarine Cable, Telecom Operator Bandwidth Drop, Local Internet Service Provider
- Distance to Backhaul Network: Bangladesh first got connected submarine cable the South East Asia–Middle East–Western Europe 4 (SEA-ME-WE 4) in 2005. The SEA-WE-ME-4 Cable Landing Station is located at Jhilongja, Cox's Bazar and the Distance from this location to Ukhiya Sonarpara is approximately 24km.
- Spectrum Usage is "unlicensed". Partners are just getting connections from the unlicensed network, the one that is used in Wi-Fi using routers through telecommunication Network Operator Companies which are available near our communities areas, 2.4 to 5 GHz.
- The Speed test of Network Robi Axiata Ltd a very Popular Network overall Bangladesh provides 21.22Mbps signal Strength is 40% with 4G.

Local Network Infrastructure:

- **Internet/Intranet Distribution**

The use of the internet/intranet in my community is facilitated through a SIM card inserted inside the router, which circulates WiFi signals throughout the community area.

- **Line of Sight**

"Near Line of Sight."

- **Device Connectivity**

In a typical setup:

Router: Connects your local network to the internet.

Server: Hosts data/services and connects to the router.

Access Points: Connect to the router and spread WiFi signals for devices to connect to.
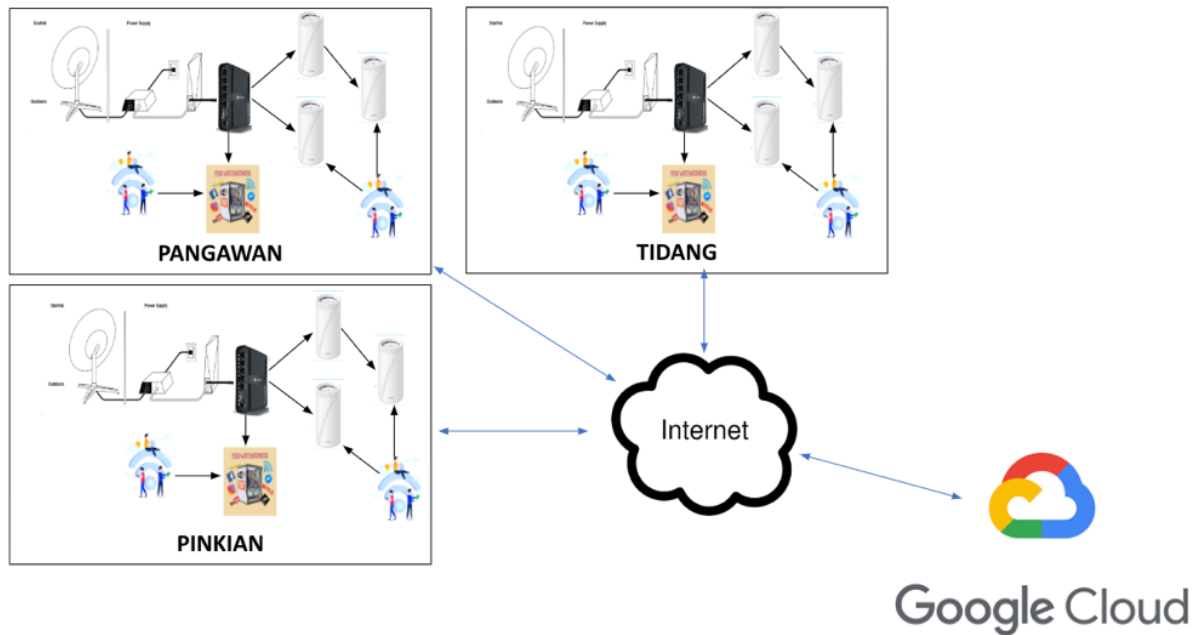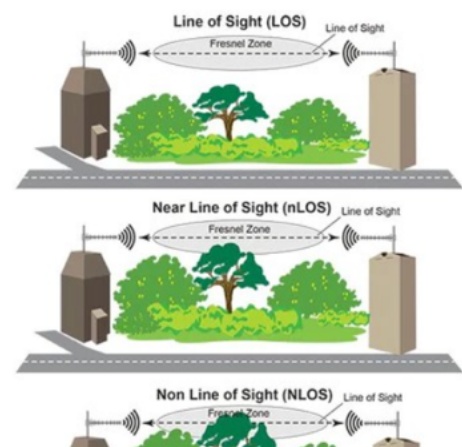
Figure 11. FACE Local Network Infrastructure

Table 5. Summary of Participants Feedback: FACE Technical Elements

Comments and Questions	Responses
What are the organizational arrangements since the initiative is also linked with the Fair Trade and how many organizations are involved?	The organization acts as a bridge between other organizations and community members. At first, there was only one partner and they reached out to every possible organization; one with research and development of craft products, a local organization providing training for artisans for better marketing opportunities, and an organization providing digital literacy training.
How is the community contributing to the community network?	Five communities have been selected in five geographic locations. We have a plan for setting up a database of the craft skills, which would be uploaded to the server and others could have access to the data. The community is influencing the community network by creating hotspots. In that way, we are connecting multiple groups of people. These community clusters are helping to make the community network bigger in that way.
You use a sim card-based router for distribution of bandwidth within the community. Who owns the sim card? Is it legal to distribute with other users?	Each community has a committee of crafts people. Sim card's ownership is registered under one person but it belongs to the community of crafts. There is only one connection and one spot, which is not used for personal purposes. We are not doing anything out of the ordinary. We do not really need any special requirements or permits but we connect with local authorities who have an outline of the work we are doing.
How are the communities connected to the market?	Communities do not sell the products themselves. They use the connectivity to connect with organizations, including Prokritee. They are allowed to sell to other market linkages too. There is no competition among partners. Prokritee practices fair trade practices and FACE follows similar structure, using a three-tier account. Community members decide the price of the product using multiple factors for pricing. After the material and labor costs are computed, they add 16% for design percentage, savings for social enterprise percentage, and operational cost. They sell the products to market linkage partners at that price, which it also adds to the price. Fair trade uses strict guidelines and most extensive system in pricing with transparency in the process.

Philippine Coffee Alliance

Community Connectivity Requirements:
- There is an existing coffee farmers association/coop in Kasibu and Lagawe providing coffee supply
- Weak wifi connection in the two areas
- in the farmers' areas themselves, limited connection , at most times, none

- Financial info is the backbone of any enterprise, thus financial info and data gathered by the system will help in decision making for various stakeholders
- In some areas, PISO Wifiexists (voucher and vendo)
- Mixture of offline and online

Backhaul Network and Network Operation Center (NOC)
- The Roasting Machine shall be the Network Operations Centre, collecting operational data
- GSM/ text messaging through Lora shall be used to give feedback data and info to authorized user(s) of the system
- The Cloud through the WIFI will be used for collecting data and information reports
- Currently, there is communication/connection between the NOC and the roasting machine. Hardware is being setup to make the roasting machine a server.
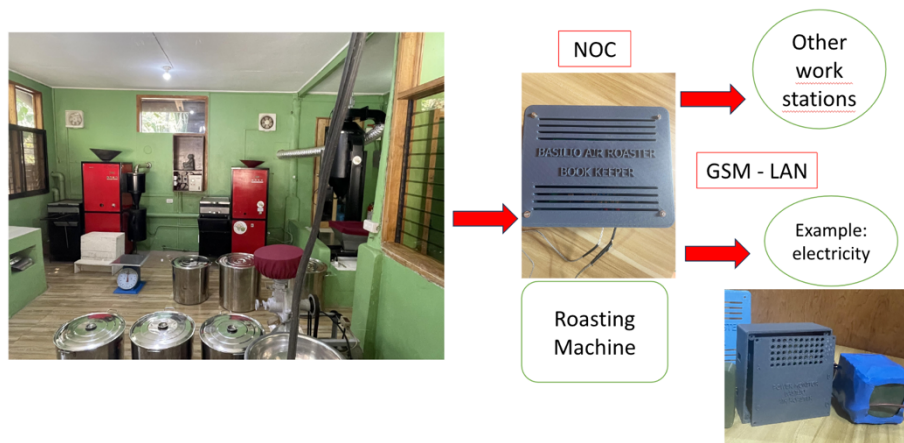
Figure 12. PCAi Local Network Infrastructure
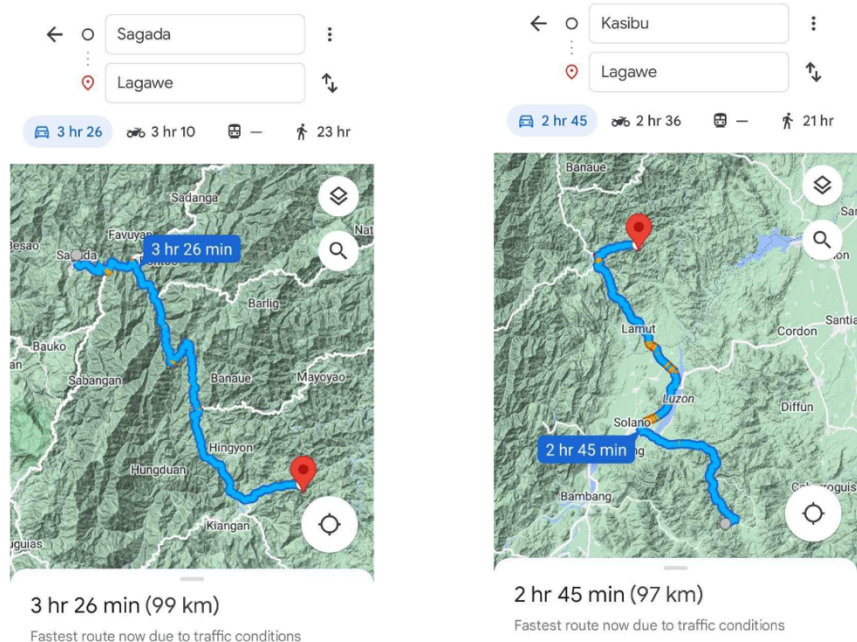
*Figure 13. PCAi Local Network Sites*

Table 6. Summary of Participants Feedback: PCAi Technical Elements

Comments and Questions	Responses
Who is the user of the data? There might be difficulties if many people would have access.	PCAi will use the data to help the industry. There is no reliable data in the Philippines, including production and processing.
Is it correct to say that with the information sharing, a farmer could become a coffee maker as well, or doing all the value chain?	This is the objective, with the coffee markers being the most important stakeholders in the value chain. The enhanced technology will be offered to farmers, cooperatives, and community-based coffee enterprises. The project introduces the additional device as a service to bookkeeping, and clerical monitoring as a basis for decision-making and more efficient operations.

Presentation of Workshop on LOCNET Matrix Application

The results of the matrix application workshop are summarized in the following tables, both quantitative and qualitative.

Table 7. LOCNET Quantitative Rating Per Country

	Operator Licensing	Access to Backhaul	License Exempt Spectrum	Investment Ecosystem	Capacity Building for	Gender	Other Factors	Over-all Rating

					Professionalization			
PRRM	3	2	1	1	1	4	5	**2**
PCAi	5	5	5	5	5	5	5	**5**
Bangladesh	3	4	2	2	3	5	4	**3.4**
China	2	1	2	1	2	3	3	**2**

Table 8. LOCNET Qualitative Rating Per Country

	Philippines	Bangladesh	China
Operator Licensing	Need to be researched (PRRM) No need for license (PCAi)	ISP licensing is provided by the government to local government organizations. CN does not need any license to operate.	Since China Mobile, China Unicom, and China Telecom are basically doing it all in China, community network operators basically have no need to do it. Technology companies can rent part of the network space and interfaces to do platforms and services.
Access to Backhaul	All channels on GSM mobile cellular bands have been allocated to incumbent model network operators. Licenses cover the entire county with no "use-it-or-lose-it" provisions, forbidding local actors. As such, even in areas where these TELCOs have no presence, small-scale cellular networks cannot just operate without coordinating with the regulatory agency and the assigned frequency owner. (PRRM) Access is easy and supportive. With regard to community use, it	There are four major operators providing network throughout the regions, currently developing fiber optic line.	The operation of satellite broadband is basically operated by the state (LEO, GEO), and in China can only use the fiber and broadband of the three major operators, only in the case of emergency disasters, special industries, etc., the state will allocate satellite emergency services, general business satellites (weather, Beidou, etc.), embedded in general APP and other platforms (maps, taxis, agricultural analysis), there is NERN, can be connected, and

	depends on the user or owner. (PCAi)		permission or fee is required.
License Exempt Spectrum	Small network operators cannot just operate; they have to talk to National Telecoms Commission (NTC) and the TELCO. Small operators have to link with these TELCOs and by themselves do not have access to licensing. (PRRM)	No policies set yet for this. Since policies are now well identified, this can be easily accessible still at the moment.	License-free spectrum is not available to private individuals and communities, and both require state permission and regulation.
	Our use is not from a community-owned network perspective, but could be used for the interest of the community. (PCAi)		
Investment Ecosystem	There are public-private partnerships and state university-TELCO partnerships, as in the case of Aurora. (PRRM)	No investment opportunities yet from the government and have very few operations with UNDP support. There were investment and training opportunities for start-ups but with small and insufficient amounts.	CN with the above technical factors is basically done by the state, and the space for small operators and/or community networks is basically small.
	Investment cost for Starlink is acceptable relative to other network providers. (PCAi)		
Capacity Building for Professionalization	There are only two cases—the UP initiative and the Nathan associates, and not very extensive. (PRRM)	There are two initiatives by the government: ICT and A2L. The government trains professionals at the basic level. It is also a recent venture for a few organizations working with UNDP.	Sometimes ISPs organize trainings and conferences but very little for the community.
	Starlink has been used for a year and it has served well using connectivity for education and the project's purpose of data and information. (PCAi)		
Gender	Equal opportunity for men and women in taking on key roles in community network	Bangladesh is very supportive in this criterium. Many organizations working	The government had gender plans and strategies that had some effect on

	operations but less in rural areas. (PRRM)	on improving gender equality.	women's access to information and digital rights.
	No issue on gender and community's interest with the user/owner of the network. (PCAi)		
Other Factors	Starlink is allocating several units for the Philippines, for validation.	There are not many obstacles with the government. The only struggle currently faced results from the lack of investment and political unrest.	Because the domestic communication and interconnection foundation has been very complete, and even in remote mountainous areas there are signal and Internet services, so most of the Chinese people can access network services, it is easier to access the Internet, enjoy socializing, online shopping, etc., everything is based on the construction of the country, so for small operators or CN living space is very small, in the interconnected environment, there is still room for CN, through the services provided by Alibaba Cloud, WeChat, Huawei and other service providers, social software can establish a connection, build a private domain platform, mini app, etc., are beneficial to the community.
	Access can be shared for free. (PCAi)		

Table 9. Feedback highlights and key points: LOCNET Country Matrix

	Comments

On the Philippines	The country framework is used for the country assessment In terms of the overall regulatory framework. The intention of the tool is for it to be a country assessment tool and not a project-based tool.
	The matrix is a good tool to understand what you need now and what you need in the future. Engaging with the matrix at the national level, which applies at the local level, is important. It can also be used for funding, such as how public funding mechanisms could be maximized. Project Beacon has done a lot of work in understanding the framework and learning from them is important.
	The matrix can be used as an operational tool for project assessment. It can be used as a qualitative tool, an operational assessment to better understand the project development potential.
Tool development	When the definition of feminism means vouching for marginalized women, it excludes the people who are already working with this section. The particular aspect of women organizing for women working on digital inclusion (second question) could be included in the first question.
On Bangladesh	Exploring the links can be useful as we can discover some elements. For example, the Bangladesh Network Operators Group (NOG) is approachable and can be a resource support. One of the policy documents of the country contains the community network concept. The Alliance for Affordable Internet has an actively involved chapter in Bangladesh, which the partner could draw on for potential collaboration. Janata WIFI, a small ISP, has a very interesting business model, which has potential synergies with the work of the project's Bangladesh partners. You could explore the matrix together with them.
	It is wonderful if you indeed observe the existence of licenses and infrastructures at the village level. This is particularly significant given the contextual nature of public processes and projects, as they operate at this basic level.
	Explore deeper how infrastructure expansion in the target locations can happen, given the political context (e.g. working in areas at the border of Myanmar). This is an issue of self-determination of an infrastructure whereby the political or economic issues of a mobile network operator are their incentives. Think about being independent of this particular mobile network operator infrastructure and start using those types of licenses at the community level and the fiber optic. Combine this with skills to extend the infrastructure being independent from the mobile network operator. Explore the alternatives to using small ISPs that are less reliant on the interest of a particular mobile network operator. There could be particular funding in working with women entrepreneurs to tackle the gender digital divide issue and exploring it as a particular social impact of your network.
On China	It is not only about access but autonomy and available space to create alternatives. It could be that there is very little room to do anything else other than the available infrastructure and services. It is now working on leveraging the available infrastructure for the benefit of the community.
	SFA can look at negotiating with the operator to have free access to the platform or consider the issue of digital diaspora, as it is something that the operator can do.

	Explore linking with APC's project in Mexico on the production of cultural knowledge being done by cooperatives.
	SFA can explore how the individualization of mobile phones can produce better content that rebuild ties within communities. Same project In Malawi was supported by APC, particularly for the creation of community media and training local people to produce better content.
	In response, Lanying of SFA shared that community network will be used for the aim of rural revitalization in China, for an ecologically sound, harmonious and sustainable society. The community network using app will feature villages that maintain their culture and traditional knowledge.
	Carlos noted that the realm of meaningful connectivity or content production is not in their expertise as there are several factors related to it, such as copyright and privacy.

Session 5: Workshop on Organization, People and Partnerships

The participants directly proceeded with the workshop based on their groupings.

FACE
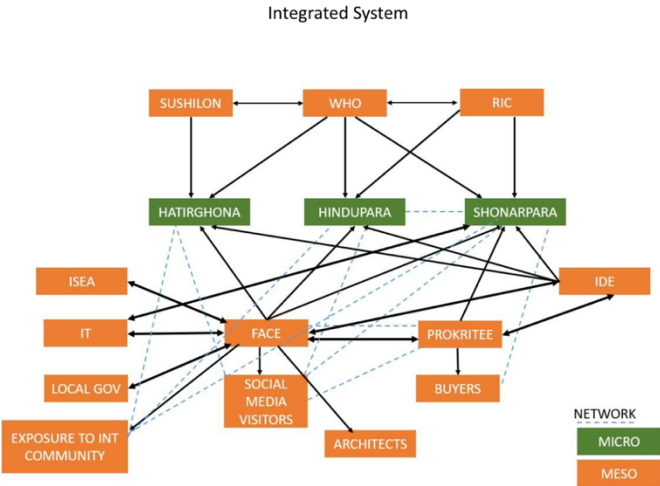
Figure 14. FACE illustration of the element of Organizations, People and Partnership

Figure 14 above illustrates the different characterization, activities, and partners in Bangladesh's community network model. The meso organizations in the model are FACE, Prokritee, and ISEA working together. The micro organizations selected from eight communities through intricate and selective processes are Telipara, Sonar Para, and Hatighorna. A needs assessment was done in each of these communities These organizations at the micro level are interconnected by the IT network through FACE, reaching bigger meso communities and networks by exposure to the international community and social media reach.

PHILIPPINE COFFEE ALLIANCE
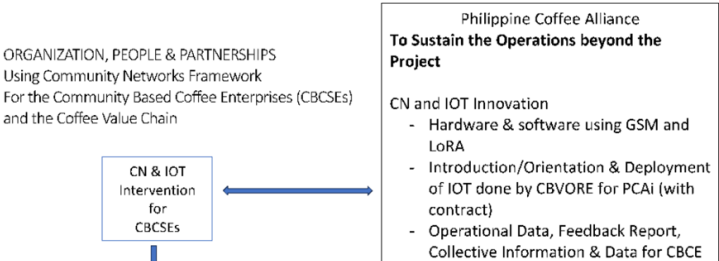
Figure 15. PCAi Organizations, People and Partnership element

SOURCES FOR ACTION
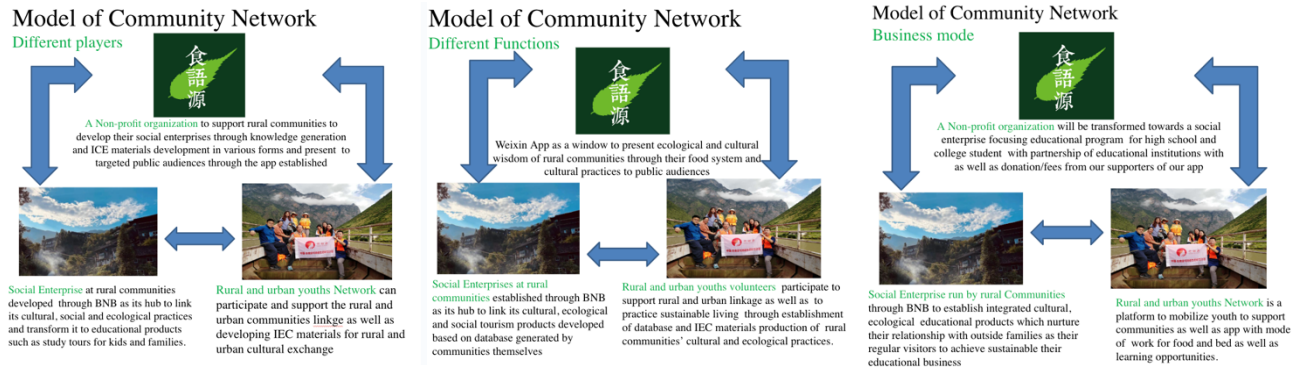
Figure 16. SFA Model of Community Network (players, functions, business mode)

Sources for Action presented the element on three levels: in terms of players, functions of players, and the business mode, with the app playing a key role. Weixin App is a window to present the ecological and cultural wisdom of rural communities through their food system and cultural practices to public audiences. The app will support local communities' social enterprise by uploading information to be able to attract more tourists. The pilot villages will help the framework and process to develop data and to work with partners to produce videos and villages to upgrade video production. the non-profit organization will be transformed into a social enterprise run by local communities while the youth network will be a platform to mobilize youth in learning by doing and sustaining rural lifestyles.

PHILIPPINE RURAL RECONSTRUCTION MOVEMENT

Figure 17. PRRM Organization, people and partnerships element

PRRM identified the initial organization, people, and partnerships and the roles of the organizations and partnerships during and beyond the project's duration, and for sustainability listed in the following table.

Table 10. Roles of organizations and partnerships: PRRM

During the Project	Beyond the Project	To reach sustainability
- PRRM in PRRM program areas (4 provinces) ⮕ 2 provinces ⮕ 1 province (Nueva Vizcaya). 1 project coordinator, 1 local/NV point person. - Because organic agri value chain ⮕ Vizcaya Fresh! Inc. (VFI) and Kayapa Organic Producers Association – both established orgs (VFI in 2013, KOPA in 2014) before the CN project and already engaged in SE (2010). - ISEA - APNIC Foundation – Sylvia Cadena, Engr. Mia Perez - Consultants in MM – Bobby , Engr Iris Martinez - Contact persons from local service providers (Globe, Smart, Converge) - Local consultants – Engr. Percy Labog, Dennis Directo - NVSU - Local government unit (mayor, municipal agricultural technician, barangay/village chair) - BEACON	- NVSU – capacity building, student internships, use of NVFarm app, local advocacy - Other higher education institutions (PLT, Aldersgate, St Mary's) - Institutional buyers (NVAT, Healthy Options, RR Trade) - Local government unit (provincial, municipal, barangay) – for policy supporting local community network (SDG targets), capacity building, trade fairs - PRRM – organizational development, SE management support, networking, local advocacy - ISEA – capacity building, networking, resource mobilization - GLMi – marketing support, funding - Department of Agriculture (DA), National Organic Agriculture Board (NOAB), Agricultural Credit Policy Council (ACPC) – program support, funding (grants, loans) - Department of Information, Communication and Technology (DICT) – capacity building - Nueva Vizcaya Participatory Guarantee System (NV-PGS) – networking, local advocacy, market linkage, production support, capacity building on organic production technologies,	- PRRM, RR Trade - ISEA - Local government unit (province, municipal, barangay) - NV-PGS - DA - Provincial Cooperative and Enterprise Development Office (PROCEDE) - Banco Lagawe - NVSU

	organic inspection and certification ● BEACON and partner CNs – capacity building, networking, resource mobilization	

Table 11. Feedback highlights and key points: Organizations, People and Partnerships

Comments and Questions	Responses
Defining the element	Organizations means people and partnership. People are related to knowledge, skills, and capabilities. It is relevant to identify the key support capacities. Organizations are formal or informal and could be pre-social enterprise or pre-community-based. Partnerships can be differentiated between strategic and tactical or short-term. There is a need to clarify the ways to communicate how 'organizations, people and partnership' as an element of model building is expressed.
	We need to differentiate and illustrate the community network at one level, and the social enterprise development linked to local economic development, at the second level. The element 'organization, people and partnership' of the two should not be lumped together in the same plane.
PCAi	The two pilot CBCEs should be separated and the particularities of the two organizations must be identified, including the capacities and skills.
SFA	The report presented the app or the community network and did not report on organization, people, and partnership per se. Going through the components and synthesizing into community network model building document could be a way forward, as each model will have specific characterization that is different from others.

Presentation of Workshop on the Financial Element of Community Network Model Building

PHILIPPINE RURAL RECONSTRUCTION MOVEMENT

Table 12. Financial Element (Sources and Uses): PRRM

Sources	Uses
Sources (in cash) ● ISEA – project grant ● PRRM – counterpart funds	● Travel ● Communications ● Personnel costs, consultant fees

Sources (in kind) ● VFI – vehicle use ● KOPA – use of training hall and facilities, Local transportation of the members, Food for meetings	● Meetings and consultations (KOPA, local consultants, LGUs) ● Physical infrastructure ● Purchase of hardware, subscription ● Operations and maintenance ● Capacity building, trainings, study visits
● Travel ● Communications ● Personnel costs and consultant fees ● Meetings and consultations (KOPA, local consultants, LGUs) ● Capacity building In kind (VFI, KOPA) ● Vehicle use ● Use of training hall and facilities ● Local transportation of KOPA members ● Food for meetings	● Monthly subscription fees ● Capacity building ● Maintenance costs ● Meetings and consultations ● Farm inputs (seeds, organic fertilizers, rain shelters, farm tools) ● Fuels and vehicle maintenance ● Labor ● Packaging materials and equipment ● Utilities ● Networking, market linkage, and bench marking for marketing purposes ● Monitoring and evaluation costs ● Membership expansion and organizing costs

Table 13. Financial Element (Costs and Investments): PRRM

Costs and Investments		
Initial costs within the project	Costs related to sustain operations beyond the project	Costs and investments to reach sustainability
● Travel ● Communications ● Personnel costs and consultant fees ● Meetings and consultations (KOPA, local consultants, LGUs) ● Capacity building In kind (VFI, KOPA) ● Vehicle use ● Use of training hall and facilities ● Local transportation of KOPA members ● Food for meetings	● Monthly subscription fees ● Capacity building ● Maintenance costs ● Meetings and consultations ● Farm inputs (seeds, organic fertilizers, rain shelters, farm tools) ● Fuels and vehicle maintenance ● Labor ● Packaging materials and equipment ● Utilities ● Networking, market linkage, and bench marking for marketing purposes	● VFI Farm development costs (infrastructure, materials, labor, personnel, utilities, solar pump irrigation, farm tools, training and lodging facilities, seed bank) ● Membership expansion and organizing costs ● Capital for marketing ● Capacity building for VFI, KOPA, and NV-PGS ● Costs for accreditation by TESDA and DOT (revenue source) ● Overheads (travel and communications) ● Community network costs (gadgets, desktop,

	● Monitoring and evaluation costs ● Membership expansion and organizing costs	laptop, apps, and subscription fee) ● Training costs and study visits (Lakbay-Aral) ● App/software development (Baseline data/database development)

Table 14. PRRM Financial Element (Income Streams and Value Added Services)

Income Streams	Value added services
● Marketing of organic products (vegetables, fruits, root crops, herbs, mushrooms, processed foods, and livestock) ● Sales of inputs (organic fertilizer, seedlings, seeds) ● Training services ● Agri-farm tourism ● Youth camps and study tours (local and foreign) ● Catering services ● Vehicle rental ● Project grants from public and private sources	● Marketing of organic products (vegetables, fruits, root crops, herbs, mushrooms, processed foods, and livestock) ● Sales of inputs (organic fertilizer, seedlings, seeds) ● Training services ● Agri-farm tourism ● Youth camps and study tours (local and foreign) ● Catering services ● Vehicle rental ● Project grants from public and private sources

SOURCES FOR ACTION

Table 15. SFA Financial Element (Sources and Funds)

Sources	Funds
● Sources for Action as a non-for-profit organization registers as a company limited ● Partnership with Slow Food for the initial design of the app ● Cihai Foundation supports the initial IT support to establish the app ● Initial farmer groups who join our apps are around 30 farmers ● Staff team: 4 persons when we started and now a new member has joined and becoming 5 staff	● Human resources from Sources for Action, Slow Food and Cihai Foundation ● Human resources worth 100,000 investment for initial app development

Table 16. SFA Financial Element (Costs and Investments)

Costs and Investments		
Initial costs within the project	Costs related to sustain operations beyond the project	Costs and investments to reach sustainability
• RMB 80,000 for initial app establishment before the project • RMB 10,000 at yearly basis for app maintenances • RMB 150,000 to building community SE, capacity building, documentation and video production etc. at community level	• RMB 10,000 at yearly basis for APP maintenances • RMB 150,000 New village SE establishment linking with CN model establishment in China	• Institutional support cost: 200,000 • Investment for business mode for SFA, app, and SE at community level: 300,000

Table 17. SFA Financial Element (Income Streams and Value Added Services)

Income Streams	Value added services
• Funding agency support for SFA • Community BnB income generation	• Support to community enterprises based on their needs at different development stage and develop IEC materials for both rural kids, visitors etc. • Develop educational program both for international and national SE players in different forms such as seminar, field visits and exchange etc. , • Develop study tours or seminar for exchange and learning sector, students and retirees for community SE income generation • Donations for our apps after we establish a strong social capital build on our work for community SE development and local knowledge generation and exhibition on their cultural, ecological and social practices for sustainable living and sustainable community development

FACE

Table 18. FACE Financial Element (Sources and Uses)

Type of Partnership	Initiative	Source	Percentage	Use of Fund
Strategic Partner (Meso)	CN+SE	ISEA	2/3 of the total budget	● Baseline research_SE ● Professional Consultants_SE+CN ● Equipment_CN ● Devices(smartphone/portable router/extender/ups/Maintenance support)_CN ● Fieldwork_SE+CN ● Documentation_SE+CN ● Country support field team_SE+CN
Meso Organization	CN+SE	FACE	Inkind	● Expert supervision ● Promotion ● Expert evaluation
Meso Organization	CN+SE	PROKRITEE	Inkind	● Expert supervision ● Promotion ● Expert evaluation
Strategic Partner(Meso)	SE	IDE	1/3 of the total budget	● Research and Design ● Community Mobilization ● Initial setup

Table 19. FACE Financial Element (Costs and Investments)

Costs and Investments		
Initial costs within the project	Costs related to sustain operations beyond the project	Costs and investments to reach sustainability
Initial Cost to prepare a new Community (Hatirghona) ● Field comrade finding the community ● Working with the community to find their strength ● Community capacity building and skill development (craft and IT) ● Community agreeing to take the IT ● Field comrade living Initial Cost to prepare a ready	● Community mobilization ● Capacity building ● More It Networks ● Regular Maintenance of the IT networks ● Material cost borne by the community ● Advocacy to sustain the network ● Resource person to troubleshoot immediate IT problems	Community level Sustenance ● Training, and capacity building to follow ongoing trends in IT & and craft ● Infrastructure maintenance Organization level Sustenance ● Country support field team ● Institutional support cost

Community (Shonarpara)		
● Community capacity building and skill development(IT) ● Community agreeing to take the IT services		

Table 20. FACE Financial Element (Income Streams)

Income Streams

Type of Partnership	Initiative	Source	Income(Y/N)	Remarks
Meso organization	SE	Prokritee	Y	Fair trade with market linkage
Strategic Partner (Meso)	CN+SE	ISEA	N	
Meso Organization	CN+SE	FACE	N	
Strategic Partner(Meso)	SE	IDE	N	
Community	CN+SE	Hatirghona	Y	Basket
Community	CN+SE	Shonarpara	Y	Quilt
Community	CN+SE	Hindupara	Y	Bag

Table 21. FACE Financial Element (Value added services)

Community	Organization
Women Artisan Committee Structure ● President ● Secretary ● Cashier ● Tech Resource Person (E-Dost?) ● General members	● Craft Database- CN ● Online community building- CN ● International exposure to- SE through CN

PHILIPPINE COFFEE ALLIANCE

PCAi presented the financial aspect at the facility level, in which there are two existing community-based coffee enterprises. Each of the existing facilities will contain the bookkeeper gadget and the workstations. The initiative will entail social enterprise development and transitioning from manual to digital financing and accounting systems.

A. Baseline research/ scoping study and sharing results with project partners	
Social Prep /Project launching and Community Networking	2.65%
Baseline study	5.61%
Capability Building	5.11%
Case Study Model	5.85%

FINANCIAL ELEMENT

Total Project Cost : 27,486 USD
IOT Development Investment : 50.5%
Social Preparation & Baselining of 2 CBCEs & Communities : 27.25%
Admin & Personnel : 22.25%

Income Streams of a CBCE on a Yearly Basis

Figure 18. Summary of the financial element of a PCAI facility

Table 22. Feedback highlights and key points: Financial Element

Comments and Questions	Comments
General	Values (how much is needed) should be put in, the amount needed to build a community network. The partners in terms of financing should also be defined in the models, whether short-term or long-term for clarity of the requirements.
	There is a need to separate the financial elements of the community network initiative from the overall social enterprise work that is being done. There would be separate funders, donors, and investors for the community network initiative different from the entities that support the social enterprise as a whole.
	The community network initiative is considered a subset for now but could be built to become a social enterprise in itself, in the future. The service provided could lead to revenue streams such as expanding the community network to other communities.
	We are communicating the digital transformation of the social enterprise and its stakeholders, which is happening through the community network initiative
Framing of the timeline (in terms of phases)	The plenary agreed to differentiate the three phases in terms of the project timeline. These are phase 1, 2 and 3. Phase 1 is the initial phase, year 2023; phase 2 is year 2024, and phase 3 will be beyond 2025.
Bangladesh	Clarify which is the social enterprise for local economic development that is leading the community network incentive and its function.
	The in-kind services provided by any meso organization have to be valued and reflected, including what the community has also contributed.
	The eDost initiative of India could be an alternative model for Bangladesh, another income source for the communities. There could be a two-tier income—from the social enterprise perspective and the other from the community network initiative itself.
Sources of income streams	There could be three income streams sources: 1. From the social enterprise improved by the community network initiative, 2. Community network income streams, and 3. Community network partnerships that may provide income in-kind or pay for specific operating costs. Other substantive categories could be created later as the community network initiative is operationalized.

PCAi	Consider the source and uses of funds, costs, and investment in the future, beyond 2023 for model building. Articulate the contribution of Bote Central and other meso organizations so that they are not invisible.
PCAi, SFA	IOT investment is a one-time investment but the Research & Development (R&D) is a cost that could be included in the financing element, including app development and updates.

Session: Input on Social Impact Measurement of Community Networks and Social Enterprises

Marie Lisa Dacanay facilitated the session and discussed the concept of social enterprises with the poor as primary stakeholders by first defining what social enterprises are. Social enterprises are social mission-driven and wealth-creating organizations engaged in the provision of goods and services to pursue poverty reduction and alleviation.

Different ways that social enterprises engage the poor impact them differently, depending on their orientation. The project's desire is to do both a collaboration model and an empowerment model at the same time. The inputs to be able to do it is by providing transactional and transformational services where different actors play different roles.

To artfully manage social enterprises, their impacts or outcomes have to be measured, specifically used for planning, monitoring, evaluation, social marketing, and learning. One of the social enterprise impact tools is development indexing. It is a tool for quantifying qualitative outcomes of development interventions when simple proxy measures are not adequate.

Presentation of Workshop on Exploring appropriate social impact measures for the Community Network initiatives as part of model building

Some emerging social impacts that may be attributable to the four Community Network initiatives as key result areas are: improved capacities of marginalized stakeholders (at the level of individual producers or producer groups), improved access to productive resources and markets (at the level of individual producers or producer groups), and increased productivity (at the level of individual producers or producer groups, or at the level of partner social enterprise.

The participants presented the workshop results in the following discussions.

PHILIPPINE RURAL RECONSTRUCTION MOVEMENT

Some emerging social impacts that may be attributable to the community network initiative:
- Improved capacities of marginalized stakeholders
  - o Improved capacities to create and sell marketable products at the level of individual producers, producers groups, and social enterprises (at the level of organic agriculture SE, CN)
  - o Improved capacities to create and share knowledge products
  - o Improved capacities to monitor and learn from operations
- Improved access to productive resources and markets
  - o Improved access to markets (at the level of individual producers, producers group, and social enterprise)
  - o Improved access to production and/or processing technologies (at the level of individual producers, producers group, and social enterprise)
- Increased productivity
  - o Savings generated from an increase in efficiency of operations and coordination (at the level of SE)
  - o Increase in incomes or revenues at the level of individual producers and SE (e.g. trainings online, additional income streams for KOPA through the community network)

PRRM sees the potential relevance of creating a Development Index for the community network initiatives towards the creation of a common Development Index to measure the social impact. Because the project aims to build models, the Development Index will be useful for measuring its success, guiding similar initiatives, and contributing to knowledge building.

PHILIPPINE COFFEE ALLIANCE

The alliance noted that all the key result areas are relevant and applicable to its initiative, both for community-based coffee entrepreneurs and PCAi. It also sees the need to arrive at a common development index, one which could simply be framed in terms of connectivity. With the digital connectivity brought in by community network initiatives, it made geographically scattered stakeholders closer together.

FACE

- Improved capacities of marginalized stakeholders
  - o Improved capacities to create and sell marketable products (at the level of SE, procurer group, individual, CN)
  - o Improved capacities to create and share knowledge products (Level of CN to SE)
  - o Improved capacities to monitor and learn from operations (Level of SE, individual, CN)
- Improved access to productive resources and markets
  - o Improved access to markets (Level of SE, CN, procurer group, individual producer)
  - o Improved access to production and/or processing technologies (Level of SE, CN, procurer group, individual producer)
- Increased productivity

- o   Savings generated from the increase in the efficiency of operations and coordination (Level of SE, procurer group)
- o   Increase in incomes or revenues / steady source of income considering the inflation rate (Level of SE, procurer group, individual producer)
- ● Gender and inclusivity
    - o   Increase in the number of women achieving financial independence (Level of SE, procurer group, individual)
    - o   Increase in stakeholder number to use the internet (Level of CN)
    - o   Reduction of gender gap in employment (Level of SE, CN)

FACE sees as well the need for a common indicator that quantifies the qualitative element. Its suggestion is to quantify the number of users to indicate or measure inclusion.

SOURCES FOR ACTION

The SFA noted that all of the measures identified so far deal with economics, while the social and cultural impacts were not very visible. Moreover, it agrees with the participants that there has to be a common development index measure to be worked out. Despite the differences in geography and location, all the partners come from an agricultural-based society. The values and formation of lifestyles are built from an agricultural context, so there must be commonality or common value that should be discovered.

Thus, it proposes the following social impact measures in a time framework of three years to be considered when coming up with a Development Index:
- ● Improved capacity of marginalized stakeholders
    - o   Improved capacities to create and share knowledge products
    - o   Improved capacities to monitor and learn from operations (plan, make decisions, and make improvements in operations)
- ● Improved access to productive resources and markets
    - o   Increased income streams
- ● Increased productivity
    - o   Increased incomes and revenues
- ● Concerns
    - o   Social and cultural impacts, like happiness

The session concluded by agreeing to add two major measures – one, on **gender and inclusivity,** and the other, **on social, cultural, and environmentally sensitive** community networks linked to social enterprise.

Presentation of Workshop on Sustainability Strategies and Project Development Efforts

Given the experiences of how community network cases presented made their initiatives sustainable and the inputs from resource persons, the participants defined their respective sustainability strategies (medium to long-term) and a sustainability plan for the community network initiatives. They also presented their project development and resource mobilization efforts for 2024 and 2025-2027.

SOURCES FOR ACTION

Key area of work:
- Build strong partnership with village SE
- Transformation of our apps to a social enterprise

Key strategies:
- Develop a guideline for our expansion to various villages
- Develop various forms of study tours
- Action research about knowledge content development and rights-related issues with bottom-up approach

Support:
- ISEA: international study tours, Action research on knowledge management, model building case writing, networking with different SE in Asia
- PRRM: further deepening our collaborative Youth program in the area of apps, knowledge generation
- FACE: experience in designing products built on traditional knowledge and skills

Year 2024 Plan:

1. SFA App content building
- Continue producing videos built on the raw materials villagers generated and upload them to our apps
- Develop village assessment tools for knowledge generation and documentation
- Piloting an area immersion program for retirees based on their special needs but the added value of educational components leading their further participation in the support community social enterprises development as well as an education program for local kids and families
- Piloting a study tour on social enterprises exchange with ISEA in the Philippines

2. Support to local communities
- Support local SE development based on their stages of development and needs
- Support in developing IEC materials for both rural kids and family visitors etc.

Years 2025-2027 Plan:

Apps transformation towards Social Enterprise mode through educational programs as added value income streams for local social enterprises:

- International study tour
- National study + research tour for university students
- Routes for study tours development (program for retirees and college students or seminar for exchange and learning sector, students and retirees for community SE income generation
- Donations for our app users after we establish a strong social capital build on our work for community SE development and local knowledge generation and exhibition on their cultural, ecological, and social practices for sustainable living
- Strong support group for CN (apps and SE at community level) from volunteers of retirees as well as youths

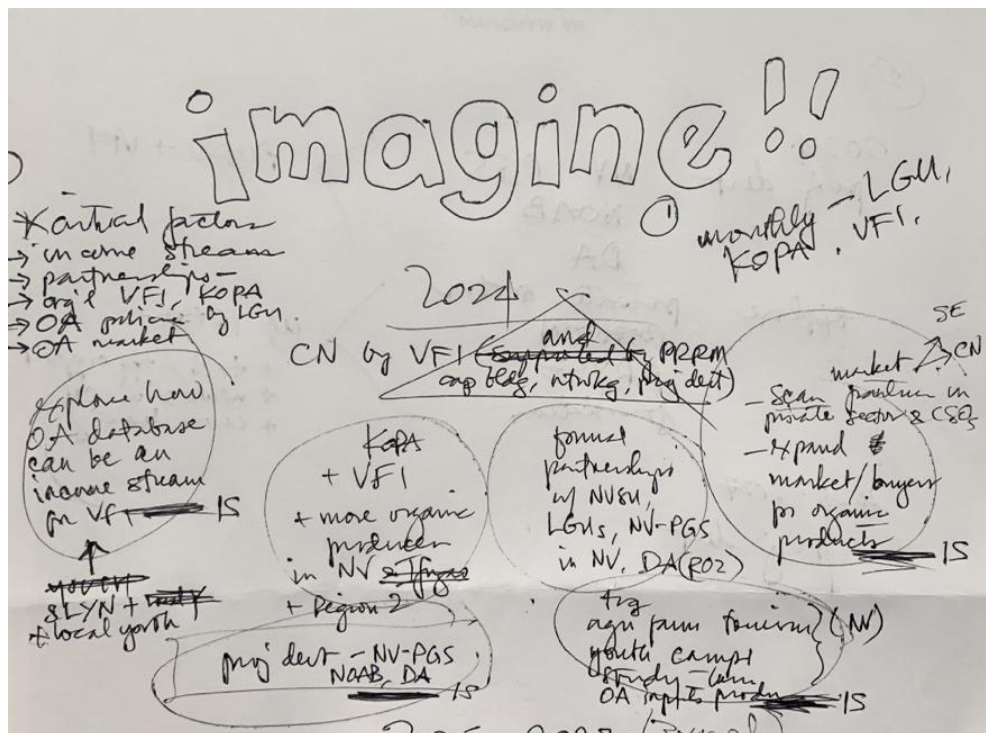## PHILIPPINE RURAL RECONSTRUCTION MOVEMENT

Figure 19. PRRM sketch of Sustainability and Project Development

Plan for 2024:
- More organic producers in Nueva Viscaya and Region 2
- Formal partnerships with NVSU, LGUs, NV-PGS in Nueva Viscaya, Dept. of Agriculture (Region 2)

- Scan partners in private sectors and CSOs
- Expand market/buyers for organic products (income stream)
- Explore organic agricultural database can be an income stream starting with VF
- SLYN and local youth to work in Vizcaya in establishing database
- Continue training, agricultural farm tourism (started already(, youth camps, study tours, organizational inputs production (income streams)
- Income stream: project development targeting NV-PGS, NOAB, DA
- Monthly OPEX for 2024: work with LGU, KOPA and VFI will shoulder monthly subscription
- Critical factors: ensure income streams, partnerships, PRRM continues helping VFI and KOPA in terms of organizational and enterprise development, organic agricultural policies by the LGU, and ensuring organic products markets
- Ownership of the community network will be jointly by PRRM and VFI

Plan for 2025-2027:
- Almost the same as 2024

- Expand the concept of organic agriculture with community networks in the upland areas of Bicol, and Ifugao, which are PRRM areas with existing partners
- Continuing partnership
- Partnerships: Loan CP Academy, increase organic producers, PGS Pilipinas and other PGS producers/networks, DA National, NOAB
- Replicate with modifications the Organic Food Talks of SFA—promote our stories with our chapters in both connected and unconnected communities (ala OFT) maximizing youth uploaders
- Ownership of the community network will be with VFI for Nueva Vizcaya and PRRM at the national level.
- Can link up with PCAi as there are partner coffee producers

Project development and resource mobilization

- 2024: project development through NV-PGS, NOAB, DA; explore the private sector, BEACON, and RRYSE with other NGOs in Asia; support from ISEA: technical/training support, networks in community network, and cross learning
- 2025-2027: project development, SE building, youth mobilizations, camps (YSEE)

PHILIPPINE COFFEE ALLIANCE

Strategies and Synergy for Sustainability:
- The CBCE has to adapt to the user-friendly IOT, be able to use it to improve their operations and increase their efficiency
- The dynamic IOT/ICT technology (CN backhaul element) to continuously serve the needs of the CBCE , farmers and the market
- Better informed farming communities will support coffee sub-sector of Community Based Coffee Enterprises for increased supply and improved productivity
- Market appreciates and responds with full support
- Government provides the enabling environment to the coffee sub-sector of CBCEs supported by an evolving CN framework
- The 2 pilot CBCEs to do their own resource mobilization for CN maintenance and increased capacities to benefit also the farming communities
- PCAi shall own and maintain the whole integrated CN system for the CBCEs. – tap academe for students to OJT to improve on the IOT/ICT system

At the country level:
- PCAi together with PRRM and ISEA, for resource mobilization to further develop the CN framework at the country level
- Create and establish a development index for CN linked to SE and LED to grow the geographical communities
- Do we put up our own CN backhaul infrastructure or do we lobby to democratize policy legislation and the environment
- Multiple partnership approach to develop and engage CN stakeholders at the country level

FACE

Sustainability Strategies:
- Income sources from SE
- create more strategic partnerships/ Define the roles
- Capacity building in the community to make innovation with CN to SE?
- Capacity building product making skill, quality control_SE
- Donations from local gov and other partners or sources
- Grants search
- Craft Hub -- placemaking
    - Exposure to craft,
    - Community center,
    - Safe space for women artisans,
    - Craft workshop

Year 2024: Community cooperative through savings groups, managed and monitored by community mobilizer, FACE

Years 2025-2027: Community co-operative through savings groups, managed and monitored by community mobilizer, partnership with local govt. existing partnership

Monthly operating costs, maintenance, and further development will be financed from the savings group generating income stream by selling the products in local fairs, international market care of Prokritee, funds, and marketplaces created by the community network.

Project development and resource mobilization:

2024:

- Capacity Building in SE and CN
- Searching for more partnerships for Grant Search
- R&D in craft

2025-2027:
- Craft RnD
- Market linkage with capacity building
- Community co-operative building SE

For 2024, FACE can pursue the following: continue RnD, grant search, promote the product using CN, search for partnership. It suggests that for 2025-2027, the project could allocate funds for social enterprises for local economic development.

For Prokritee, it will provide technical support for the quality of the products. For 2024, it aims to expose products in the international market by sharing the artisans' stories. For every new product, there will be stories behind each product.

Table 23. Feedback highlights and key points: Sustainability Strategies and Project Development

Comments and Questions	Comments
SFA	The development of the app into a social enterprise will be a component of the model building for the SFA initiative.
PRRM and PCAi	There is a replication of a model that SFA is piloting. There is the potential for community network initiatives linked to the organic agriculture model building in this case. It is worthwhile to look into the development of income streams arising from the integration of community networks into the social enterprise system (e.g. servicing PGS in Nueva Vizcaya and at the national level, and the ownership of the PCAi initiative to explore beyond the current two communities).
	Seeding community networks from a village or district level to a national level will entail multiple partnerships and different organizations coming into the fold. A School of Community Networks in this case would be helpful in order to manage the training and capacity building and systematically assess them.
FACE	This scenario is a potential community network model building that can be considered as a torchbearer of innovative community network building in Bangladesh. FACE can explore the possibilities of seeding the community networks to other locations, looking at expanding connectivity into the last mile of the villages. Another aspect that could be explored is the community radio stations available in the country that can be transformed into community networks.
	FACE might need to focus on its community network model building. A potential could be a model building exercise of community networks linked to Fair Trade. Guidelines in engaging the existing communities to expand can be elaborated, with

	possible direct APNIC support for 2025. WFTO can also be a potential partner.

CLOSING

Marie Lisa Dacanay synthesized the seminar workshop. The group has also agreed that it would be part of the Technological Innovations for Sustainable Development (TISD) platform; it will form the core group for the model building of community networks linked to social enterprise and local economic development. Project development will be done on this in a broader perspective as a contribution to sustainable development and the SDGs. Phase 2 will be a process of developing new social enterprises and community networks linked to social enterprises more fully at the national and international levels.

PARTICIPANTS EVALUATION

On a scale from 1 (lowest) to 5 (highest), a total of 12 participants rated the seminar workshop on various categories presented in the following tables.

Table 24. Evaluation of Activities/Topics

Activities/Topics

	N	Minimum	Maximum	Mean
Session 1: Input on Model Building of Community Networks: The Case of Zenzeleni	9	3	5	4.11
Session 2: Presentation on 4 sub-elements of community network infrastructure	12	3	5	4.17
Session 3: Panel Discussion on CN Models and Experiences in Asia	12	4	5	4.42
Session 4: Evaluating the Legal and Regulatory Environment of Community Networks at the Country Level	12	3	5	4.17
Session 5: Workshop on Organization, People and Partnerships of Our Respective CN Initiatives	12	2	5	4.17
Session 6: Workshop on the Financial Element of CN Model Building	12	4	5	4.42
Session 7: Input and Discussion on Social Impact Measurement of Community Networks and Social Enterprises	12	3	5	4.42
Session 8: Input and Class Discussion on Evolving Sustainability Strategies of Community Network Initiatives	12	3	5	4.50
Session 9: Project Development Plenary Discussion	12	4	5	4.42
Session 10: Synthesis Session on Model Building of Community Networks linked to Social Enterprise and Local Economic Development	12	4	5	4.58

Table 25. Evaluation of Speakers

Evaluation of Speakers

	N	Minimum	Maximum	Mean
Marie Lisa Dacanay	12	5	5	5.00
Gomer Padong	12	4	5	4.92
Carlos Rey-Moreno	12	2	5	4.50
Sarbani Belur	12	4	5	4.67
Steve Song	12	3	5	4.58
Pooja Majgankar	12	3	5	4.08
Gustaff Iskandar	12	1	5	4.25

Table 26. Overall Evaluation

Overall Evaluation

	N	Minimum	Maximum	Mean
Overall workshop design, tools and methodologies, and learning materials	12	4	5	4.25
Overall virtual experience and file accessibility	12	3	5	4.08
Secretariat support	12	4	5	4.50
Meals and snacks	12	3	5	4.25
Venue and accommodation	12	3	5	4.33
Overall assessment of the seminar workshop	12	4	5	4.50

ANNEXES

Annex 1. Guide Questions on the Technical Element

Presentation of Four Sub-Elements of Community Network Infrastructure (Technical Element)

Community Connectivity Requirements
- What has been the need for connectivity by the community?
- What type of connectivity do they want?
- Mention about the qualitative assessment from your needs assessment study of the community
- Has the community expressed need for training of any type for e.g. digital literacy, understanding about internet, how to use smart phone, etc.

Backhaul Network
- What is the status of mobile signal coverage in your community? Good, bad or unstable?
- Is there a backhaul network already available? Mention what is it (e.g. fiber, telecom operator bandwidth drop, local internet service provider)?
- How far is the backhaul from the village location?
- Are you going to use licensed or unlicensed spectrum?

- How will you distribute the internet/intranet in your community?
- Keep in mind the line of sight for the connections. Identify whether they are pure line of sight, near line of sight?
- How will you connect the various devices in your internet? Server to access points? Router to server and then access points?

Guide questions on Network Operation Center (NOC)
- What is going to be the heart of your network? Local Server, Cloud Server or any other storage device?
- Where will the NOC be located? Would it be a house, a community support center?
- What will be the other purposes of the NOC?
- Who will manage the NOC? Local Community, Local Government Office

Guide questions on Local Network Infrastructure
- How does your local network look like? Draw and show.
- Show what are the infrastructure that you have used from the community.
- Link it up with the community needs for connectivity.
- How will be the users use the connectivity (online or offline)
- Would they just be viewing the content stored in the server or would they also upload content to the server?
- How would they do the above? Smartphone, tablet
- What has been built for the community to share knowledge e.g. community platform, mobile application, open source applications
- Highlight how the community will use the knowledge shared by them meaningfully to impact their lives.