3rd

COMMUNITY
NETWORK
XCHANGE

AsiaPacific

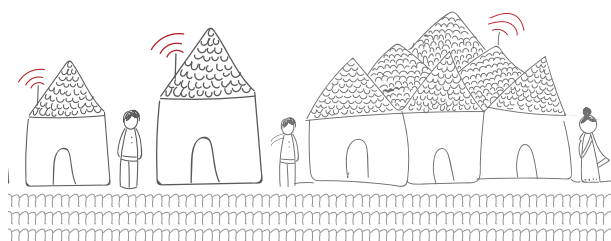# Annual Meeting of Community Network Practicioners and Enthusiasts

Theme:
Community Networks &
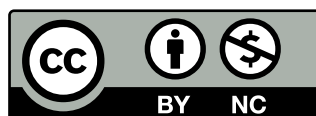the Internet of People

2019 REPORT

www.cnxapac.org

DEF
DIGITAL EMPOWERMENT *foundation*

Internet Society

DEF
DIGITAL EMPOWERMENT *foundation*

CNX 2019 Report: Community Networks & the Internet of People

Report prepared by: Ritu Srivastava
Saurabh Srivastva
Kriti Singh
Design & layout by: Ravi Kumar Yadav

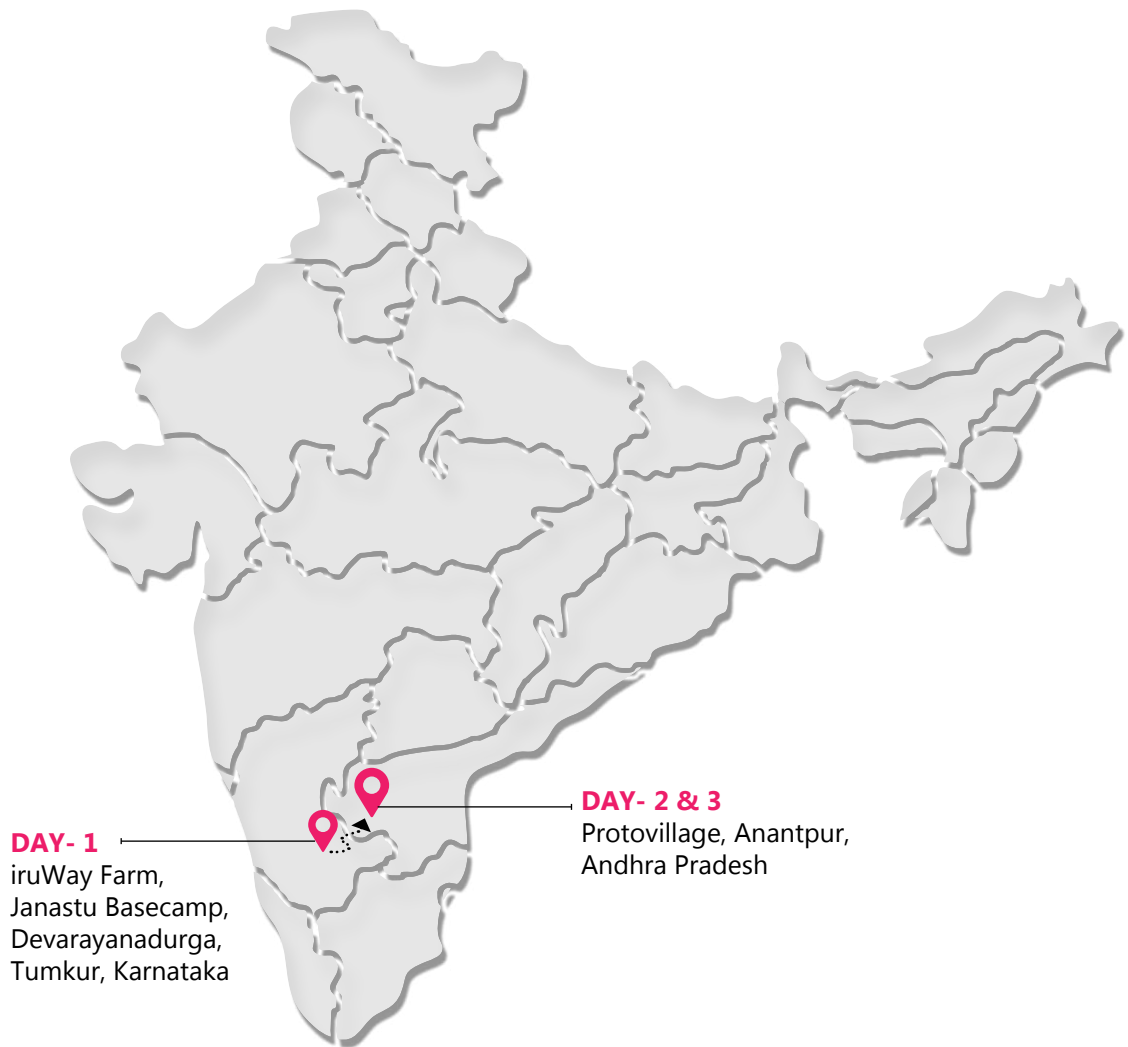Published and distributed by
Digital Empowerment Foundation

Year of Publication: 2020

To read this publication online, visit
www.defindia.org/publication-2

3rd
COMMUNITY NETWORK XCHANGE
AsiaPacific
2019 REPORT

Community Networks & the Internet of People
Annual Meeting of Community Network Practicioners and Enthusiasts

DAY- 1
iruWay Farm,
Janastu Basecamp,
Devarayanadurga,
Tumkur, Karnataka

DAY- 2 & 3
Protovillage, Anantpur,
Andhra Pradesh

DEF
DIGITAL EMPOWERMENT *foundation*

Internet
Society

APC
ASSOCIATION FOR
PROGRESSIVE
COMMUNICATIONS

A4AI
ALLIANCE
FOR
AFFORDABLE
INTERNET

isif asia
A program of APNIC FOUNDATION

PREFACE & ACKNOWLEDGEMENT

Asia Pacific has been the biggest contributor in terms of mobile service subscribers globally. According to the 2019 GSM report, 2.8 billion people own a smartphone. Despite this, the annual growth rate of Asia Pacific is slowing down. This is largely because the region has areas with low penetration levels affected by socio-economic conditions like poverty, inequality and lack of access to information. As a result, while the world is moving towards being globally connected to information and services, those excluded are being further isolated. Further, we have also seen that once there is an Internet shutdown or censor, almost all modes of communication get subjugated and compromised. This raises the question that if the power of 'internet' is now concentrated in a few hands or people own the internet in real sense. Therefore, it is the need of the hour to come up with innovative business models which will use low cost technologies and alternative methodology to achieve internet for all.

CNX 2019 attempted to explore synergies between 6 Community Radios and 15 Community Networks from 12 countries across Asia Pacific. The summit was hosted by Digital Empowerment Foundation and Internet Society (ISOC) with support from the Association for Progressive Communications (APC), Alliance for Affordable Internet (A4AI), Facebook, WhatsApp, ISIF and IDEOSync. We would also like to thank our hosting partners Janastu and ProtoVillage for their hospitality.

Osama Manzar
Co-Convener

Ritu Srivastava
Co-Convener

Rajnesh Singh
Co-Convener

EXECUTIVE SUMMARY

Connecting the next half billion users to the Internet is one of the prime agenda on the international Internet governance forums and international bodies. Along with achieving the Sustainable Development Goals (SDG) targets[1], the international organisation- the Internet Society (ISOC)'s mission and vision[2] considers connecting the next half billion as a key issue. Despite the success and revolution of mobile connectivity in Asia Pacific, providing affordable access to communication to the economically disadvantaged segments of the population is still a challenge. For instance, justifying the cost of deploying a base station cost requires more than 3000 active users, according to GSMA[3] .

This has led governments, civil society and other telecommunication practitioners to start looking for an alternative solution. Community Networks (also known as Wireless networks) can prove to be one such alternative. Community Networks are broadly defined as community-led telecommunication infrastructure deployed, owned and managed by the community for their need purpose.

There are about 50 community networks in the Asia Pacific region with some of these located in India, Nepal, Pakistan, Indonesia, Australia and Afghanistan, They provide Internet services to the most remote locations, utilising varying technology, tools, regulations and socio-economic and cultural conditions.

Like Community Networks, Community Radio Stations is another space that is managed by the community to generate and produce community- owned content. There are about 44,000 radio stations worldwide. Like community networks (CNs), these community radios (CRs) are working in rural and remote regions of the country. Most of these CRs work within the community; understand the local dialect and language, which is crucial for community

network providers. Moreover, these CRs also have technical and legal requirements such as towers to set up antenna and router; SACFA (Standing Advisory Committee on (Radio) Frequency Allocation) clearance; resources to manage the local content and services. However, CRs find it difficult to sustain them since subscription models are rare. To address this, CRs can act as CNs and provide access to the Internet.

In 2017, Digital Empowerment Foundation and the Internet Society (ISOC) organised the first Community Network Exchange (CNX) on September 20, 2018. in New Delhi with support from partners including ISIF Asia & AAssociation for Progressive Communications. The objective of the summit was to find ways to empower communities with information and know-how of community networks, especially in marginalised areas throughout Asia Pacific. The 2018 Summit identified synergies between community networks and community radios in promoting public wi-fi access in Asia Pacific countries.

Taking the recommendations from last year, this year's CNX was focused on 'Community Network as a technological alternative to the Internet for people's communications system which is infrastructurally independent. The theme of CNX 2019 was "Community Networks and Internet of People."

Over 50 people from 12 countries representing the community networks, community radio stations and their communities participated in the Summit. These countries included India, Indonesia, Myanmar, Kyrgyzstan, Argentina, Lebanon, Philippines, Bangladesh, Nepal, Malaysia, Thailand and Singapore. This report gives a glimpse of the three-day summit along with recommendations and the way forward for next year's Community Network Exchange.

1. Several SDGs address inequalities in access to the internet and ICTs, most significantly Target 5.b ("enhance the use of enabling technologies, in par- ticular ICT, to promote women's empowerment") and Target 9.c ("significant- ly increase access to ICT and strive to provide universal and affordable access to internet in less developed countries [LDCs] by 2020").

2. The Internet, an Opportunity for Sustainable Development; http://www. intgovforum.org/multilingual/index.php?q=filedepot_download/3416/56

3. http://www.intgovforum.org/multilingual/index.php?q=filedepot_down- load/3416/412
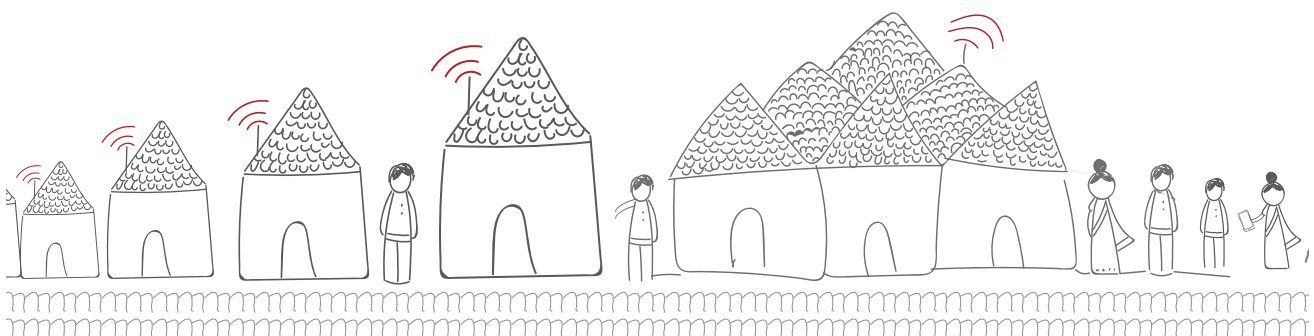
OBJECTIVES

- Showcasing the spaces where communities evolved and participated to create safe space for women.

- Organise a deliberation session on "how large-scale, diversified and decentralised Community Networks could become model-of-choice of community-of-practices."

- To make 'Community Networks' as a space for 'Internet of People!'

- Can Community Networks emulate the model of Community Radio?

- Can community-based networks and organisations be invited to participate in discussions and demo sessions?
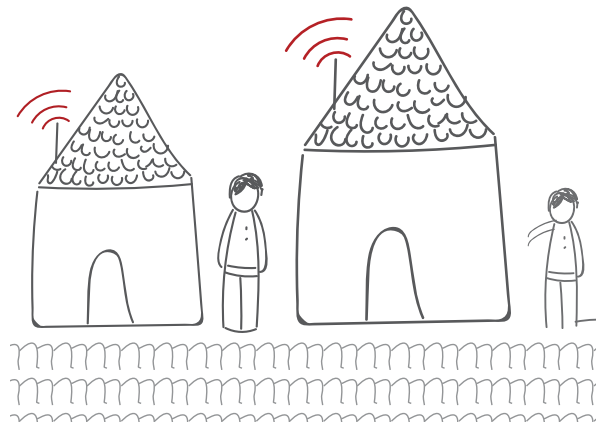
COMMUNITY NETWORK EXCHANGE PARTICIPANTS

FROM COMMUNITY NETWORK

1. Claire Barela, Community Cellular Networks in Rural Aurora, University of the Philippines
2. Vinay Taragi, Mojo Labs, India
3. Senthil Kumar, SevaMom, India
4. Nisarat Tansakul, Internet Education and Research Laboratory (intERLab), Thailand
5. Antonius Sasongko, Kampoeng Cyber Yogyakarta, Myanmar
6. Talitha Yurhika Anni, Common Room, Indonesia
7. Gustaff Harriman Iskandar, Common Room, Indonesia
8. Reina Wulansari Wargahadibrata, Common Room, Indonesia
9. Ramprasad, BAIF, India
10. Nico Pace, Altermundi, Argentina
11. Shalini, Janastu, India
12. Mary Dim Suan Huai, Asorcom, Myanmar
13. Michael Suantak, Asorcom, Myanmar
14. Cynthia el Khoury, APC, Lebanon
15. Talant Sultanov, APC, Kyrgyzstan
16. Nirali Shah, BAIF, India

17. Pooja M, BAIF, India
18. Kapil Guleria, AirJaldi, India
19. T.B Dinesh, Janastu, India
20. Farah Draim, Empower, Malaysia
21. Adrian Wan, ISOC, Singapore
22. Goverdhan, Protovillage, India
23. Fauzia Nasim, Digital Empowerment Foundation (DEF), India
24. Aamir Rehman, Digital Empowerment Foundation (DEF), India
25. Ritu Srivastava, Independent Researcher, India

FROM COMMUNITY RADIO STATION

1. Girish, Janastu, India
2. Mohammad Abdul Haque, Bangladesh Internet Governance Forum, Bangladesh
3. Manickam A, Radio Kotagiri, India
4. K. SHAPNA, Rathinavani Community Radio, India
5. Manoj Kakkonal, Radio mattoli90.4 FM, India
6. Nirmal Mayyazhi, Janvani 90.8 FM, India
7. Manickam A, Keystone Foundation, India

COMMUNITY NETWORK PARTICIPANTS

Michael Suantak,
Myanmar

Kapil Guleria,
India

Nico Pace,
Argentina

Suraj Adhikari,
Nepal

Vinay Tyagi,
India

Gustaff Harriman
Iskandar,
Indonesia

Antonius Sasongko,
Myanmar

Anand Adhikari,
Nepal

Ramprasad,
India

Cynthia el Khoury,
Lebanon

Shalini,
India

Claire Barela,
Philippines
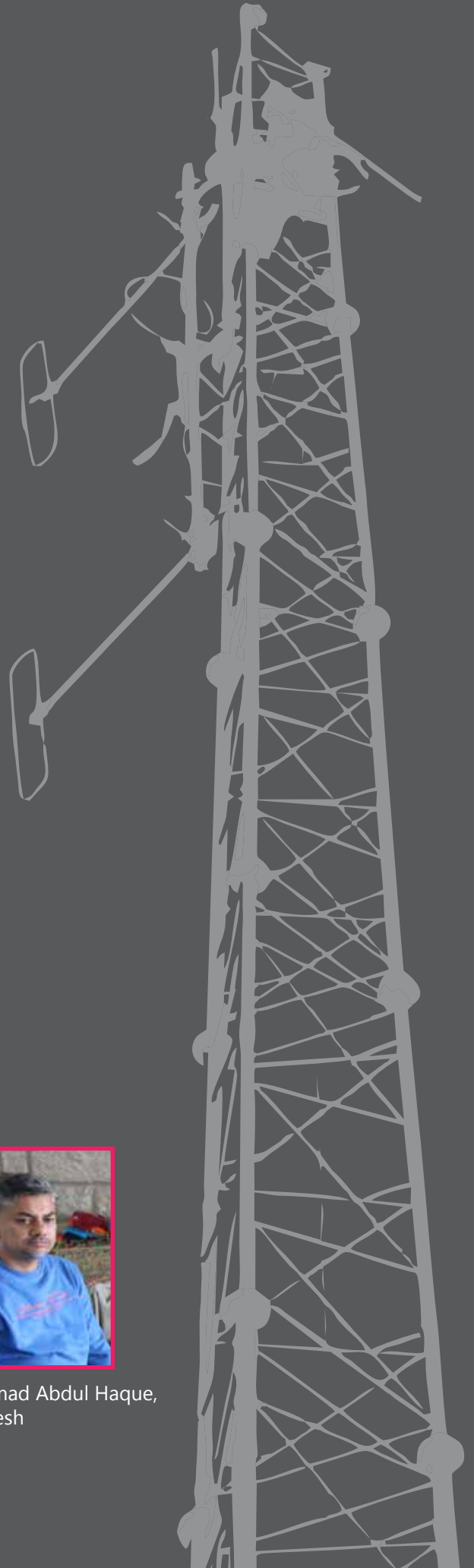
Talant Sultanov,
Kyrgyzstan

Adrian,
Singapore

Senthil Kumar,
India

Nisarat Tansakul,
Thailand

Farah Draim,
Malaysia

COMMUNITY RADIO STATION PARTICIPANTS

Nirmal Mayyazhi,
India

TB Dinesh,
India

Manoj Kakkonal,
India

K. Shapna,
India

Mohammad Abdul Haque,
Bangladesh

COMMUNITY NETWORKS & THE INTERNET OF PEOPLE

Only 8% of the Asia Pacific population is connected to affordable and reliable high-speed Internet. As a result, millions of people are excluded from digital opportunities such as education, health and financial services. Moreover, trends are showing a slowdown in Internet connectivity which will imapct the Sustainable Development Goal (SDG) 9[1] to achieve universal internet connectivity by 2030. However, Community Networks (CNs) can be an alternative to connect the unconnected regions where traditional internet service providers are not willing to go. These CNs are 'do-it-yourself' network, built and managed by people for people. Infact, several CNs have emerged out in the Asia Pacific providing affordable and low-cost connectivity in regions where commercial providers don't want to go.

The third edition of CNX was organised by Digital Empowerment Foundation (DEF) and the Internet Society (ISOC) with the support of ISIF Asia, Association for Progressive Communications (APC), Alliance for Affordable Internet (A4AI), Facebook and WhatsApp. More than 15 community network operators and five community radio stations from India along with representatives from industry stakeholders and telecom experts participated in the Summit.

The journey of the third edition of Community Network Exchange (CNX) started on December 12, 2019, from Janastu base camp. The first day started with discovering the treks of the base camp, where Janastu has installed two access points – using Libremesh router[2] — one on the top of the hill and other in the village. The one installed at the top of the hill is connected with Raspberry Pi [3] which acts as a local server for the community radio station, Namadu One. The team of Janastu gave a demonstration of how they store the radio programmes on the Raspberry Pi and disseminate amongst community members.

---

1. Sustainable Development Goal 9: Investing in ICT access and quality education to promote lasting peace; https://www.un.org/sustainabledevelopment/blog/2017/06/sustainable-development-goal-9-investing-in-ict-access-and-quality-education-to-promote-lasting-peace/

2. https://libremesh.org/

3. https://www.raspberrypi.org/products/

DAY 1: COMMUNITY SPACE

Participants introduced themselves on Day 1 of the CNX 2019 followed by discussions on the expected outcome from the summit:

EXPECTATIONS

- Operational models for community organisations or community networks while working in a rural region
- Community network as an alternative during Internet shutdowns
- Achieveing collaborations between community radios and community networks
- Role of Community Networks for improving livelihoods
- Operating Community Networks offline
- Creating and managing Community Networks for entrepreneurial use
- Usability of the network in a village
- Creating a dummy guide for Community Networks on a sustainable approach
- To know more about open-source, latest technology and cryptocurrency with regards to Community Networks
- Addressing the challenges faced by Community Networks
- Dos and Don'ts while sharing content on Community Networks
- Online safety and security for women in community network space
- Understanding accessible internet

**The Day 1 featured three plenary sessions that focused on the following:**

- Plenary Session 1: Combining synergies of Community Networks & Community Radios to create accessible 'internet for all'

- Plenary Session 2: Technological trends around Community Networks

- Plenary Session 3: Gender lens to Community nNetworks

The plenary sessions saw active interactions between the speakers, moderator and participants.

PLENARY SESSION 1: COMBINING SYNERGIES OF COMMUNITY NETWORKS & COMMUNITY RADIOS TO CREATE ACCESSIBLE 'INTERNET FOR ALL'

The session was moderated by Nico Pace, APC; with Dinesh, Janastu and Mohammad Abdul Haque, Bangladesh Internet Governance Forum as the speakers.

CR station operators shared that sustainability and revenue generation are one of the biggest challenges in operating a CR station. Taking last year's CNX recommendation on identifying the synergies between CN and CR, both act as community space models which are built and operated by people in the community,
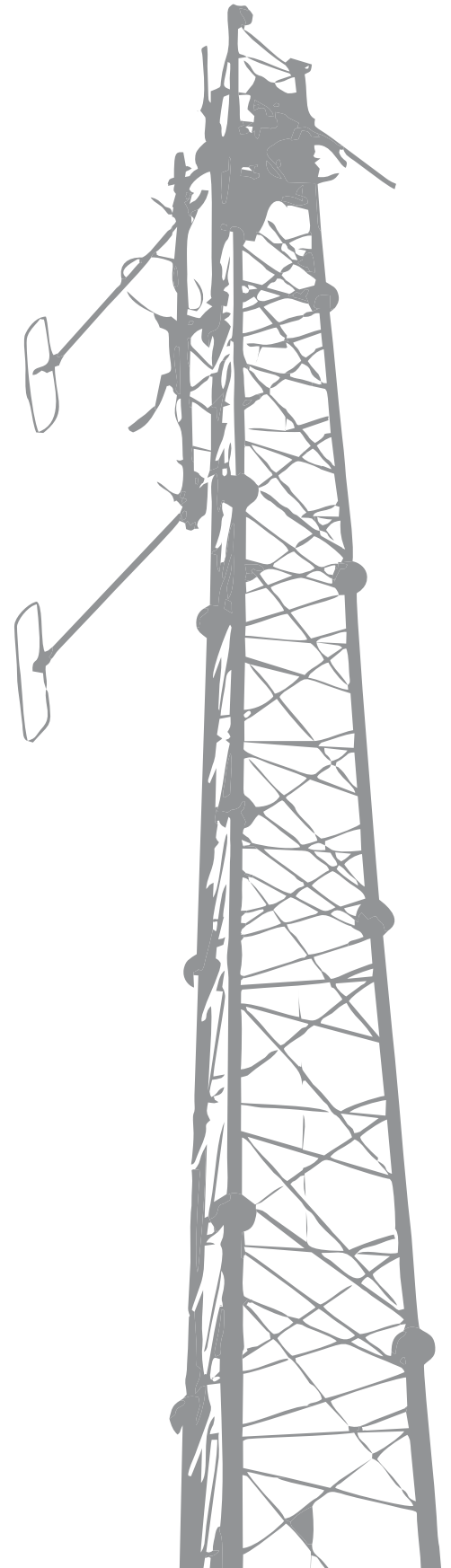
for the community. They start when a group of people want to bring communication and access to information to their local village or town. However, CR stations have always less bandwidth or internet connectivity due to limited resources, so it is difficult to reach the last-mile user.

CR stations enable community members to create and disseminate local content, achieving the condition of the 'internet of people for people'. Except for ISP license, for instance, CR stations in India have pre-established resources such as the infrastructure, broadcasting license, SACFA clearance[4], technologists including radio operators to manage their station. Similarly, in Bangladesh, CR operators have infrastructure and the resources, however, the knowledge of setting up CNs is yet to be transferred to CR operators so that they not only produce the local content but also publishe and disseminate the local information to the last-mile user. The panel of speakers reminded how Janastu started community radio using the wireless mesh community network. Communities may not immediately understand the importance of the network and access to information, but the process of raising awareness on the benefits of CN takes time. Hence, if they work together, combine their resources and learn-by-doing to build, operate and maintain their respective models, then this synergy is achievable.

PLENARY SESSION 2: TECHNOLOGICAL TRENDS AROUND COMMUNITY NETWORKS

The panel of speakers for the second plenary session included Kapil Guleria, Head, Microsoft Networks Project, AirJaldi, Gustaff Harriman Iskandar, Common Room, Indonesia, Senthil Kumar, Seva Mom and Nico Pace, APC. There are hundreds of CNs around the globe, but they differ in their size, purpose, governance, sustainability models and technological set-up. Thus, the challenges they face and the solutions required to address these vary and is context-specific. The session identified some common hurdles as well as some innovative approaches and good practices that can be adopted to overcome them. One of the major challenges is the provision of backhaul connectivity without increasing the cost. In Indonesia, the focus of ISPs has been a cultural shift since 2015 from culture and creativity to agriculture. It is challenging to collaborate with conventional ISPs to bring the

4. https://dot.gov.in/spectrum-management/2457

backhaul connectivity in unconnected regions. Since traditional ISPs are expensive, CNs in Indonesia has collaborated with local ISPs and is expanding it to the adjoining areas. Now, local governing bodies are one of their clients and as a result the government is also recognising the value of CNs.

Sustaining the network in rural regions is another major challenge faced by CN operators. Having a bottom-up and human-centric approach will enable us to sustain the network. One of the examples - Airjaldi, a national ISP, sets-up Wi-Fi hotspot in a cost-effective way by subsidising the cost of equipment and understanding the user requirement and their payment capability. AirJaldi charges Rs. 10 for unlimited bandwidth in rural regions where payment capability is low with the number of users is minimum 100. AirJaldi measures and identifies the ROI (Return of Investment) prior to setting up the wifi hotspot network. For this they need to generate a minimum Rs.5000 to reach their threshold ROI.

The concentration of power by big telecoms is creating an unhealthy environment for new CN operators. Therefore, CNs have to be careful while partnering with these big companies. Maintaining the cost-effectiveness, CNs in India use devices that are easily available in the market such as Microtek

and Ubiquiti for setting up the network. From a community perspective, rural ISP should know where and what kind of business model will work.

Another challenge is the unfavourable regulatory environment for CN. They are often unable to navigate the complex legal requirements for registration, licensing and permitting while covering their associated costs. Although many new technologies are now available at a relatively low cost that CN can potentially use to establish connectivity in difficult terrains, regulatory barriers like the high duties, taxes and customs fees for the import of equipment and the access to and use of spectrum impede CN development. Therefore, the government's support in easing regulatory requirements and creating enabling regulations and policies to specifically address non-profit and small-scale operators is crucial.

Understanding the local requirement and the issue of community is one of the vital aspects while setting up the CN or rural ISP. Seva Mom's wireless network is based on providing health-related information and services to the community they work in. They use a wireless mesh network to store local information related to health services and maternal and newly born children.

PLENARY SESSION 3: GENDER LENS TO COMMUNITY NETWORKS

Session 3 of the CNX was primarily focused on how Community Networks can create safe spaces for women. The session was facilitated by Cynthia from APC; Ritu Srivastava, Consultant, DEF and Shalini from Janastu. The session opened with a discussion on the challenges and how it will help to create an inclusive community platform where women can easily participate. Thereafter, the session was divided into seven groups and each group had 30 minutes to discuss and share their experiences on the given topic.

Group 1: Power & their relations

Group 2: What do you understand by safety

Group 3: Communication boundaries

Group 4: Exclusion & inclusion

Group 5: How do we imagine a feminist community network supporting each other

Group 6: Relations in a community and how it impacts safer space

Group 7: Online safety

Equality is different for both men and women. Women have restrictions and freedom of expression is limited in CR stations. Men are decision-makers culturally and socially and to change it men need to take a step down and women also need to take up that place.

CNs, on the other hand, not only need to create safe spaces for women to learn wireless technology but also enable them to express themselves. Technology has always been seen as a male arena which needs to be challenged. Along with doing home chores, women and girls can also create, manage and operate the network. Claire from Community Cellular Networks in Rural Aurora, University of the Philippines, stated that there are gender-described roles. As a female technician, the response from female participates is really good. It is important to create more inspiring spaces for women where they can participate openly.

When creating a gender-inclusive community network space, every gender should feel comfortable and men should also be engaged in the process of inclusiveness. Talking about 'relations in a community', jealousy among neighbours is a common attribute and to overcome this teamwork and participatory approach is required. Freedom of expression with due respect and equal opportunity are features of a safe space.

DAY 2: PROTOVILLAGE, COMMUNITY SPACE

Early morning, the journey of CNX 2019 started towards the second community space, Protovillage. The day started with the introduction of Protovillage and how community members came forward to build its infrastructure. Two plenary sessions were structured wherein Osama Manzar, Founder, DEF, shared the status of CR stations in India. There are over 170 CR stations in India, out of which 100 are managed by non-profit organsiations and the rest 70 are managed by academic institutes. Osama initiated the discussion by asking the questions –

- How can we work together?
- How can we multiply using our experiences?
- How can we convert the learning in a bottom-up approach?
- How CR stations can be converted as CN operators?
- How can we build the network without being dependent on telcos?

The session 'Do it yourself and make your community networks' started with a discussion that every NGO has the capability of setting up community network, however, it is the responsibility of the community to take it ahead and manage it. Session 4 was divided into six groups. Each group had one CR station operator led by Claire, Senthil Kumar, Michael Suantak, Talant Sultanov, Nico Pace and Ritu Srivastava, respectively. Each group had 30 minutes to discuss and answer the below questions. Further, they had to identify specific solutions for creating a prototype wireless network supported by CR station:

- Understanding how CR station operators can establish a prototype community network
- What are existing challenges and gaps in transforming CR station as CN operator?
- What are the opportunities for CR operator to become CN operator?

GROUP 1: JANVANI 90.8 FM STATION

Janvani 90.8 FM station operates in 16 blocks catering to a dense population in Kannur district of Kerala. One of the challenges Janvani 90.8 faces is the sustainability of the station and generating revenue. Suggestions offered by the group:

- Selling internet connection through vouchers can be one way. To generate the revenue, the CR station needs to reach out to 100 users for the internet connection.
- Partnering with local ISP for fibre connectivity which is cost-effective can be provided to a large number of users. Depending upon the economic background (high-end) of the user, for those who want a large amount of bandwidth and is able to afford wireless devices, the cost of providing internet connectivity can be increased.
- CR station can also install a local server so that anyone with connectivity can also listen to the radio programmes through the app. Moreover, the radio can be used for the promotion of internet service.
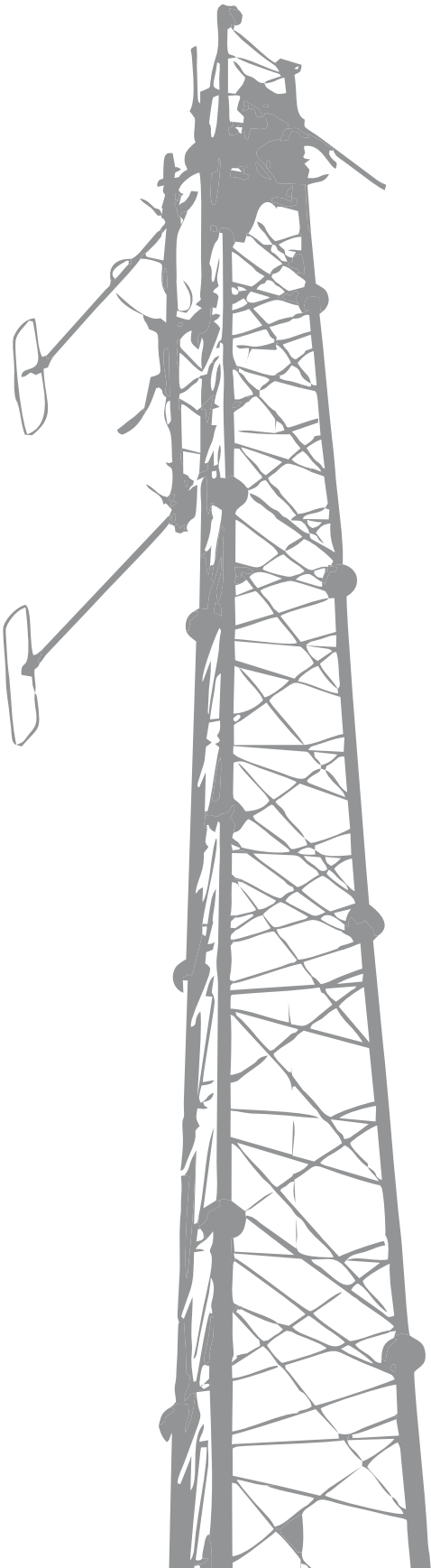
GROUP 2: RATHINAVANI COMMUNITY RADIO

Rathinavani CR station operates in Coimbatore, covering the range of Coimbatore, Pollachi and Palakkad NH Road Broadcast. The strength of the radio station is the availability of local content, ideas, a medium to escalate problems and the ability to use different apps. One of the challenges that Raithinavani CR station faces is no feedback mechanism. It acts as a one-way communication medium instead of a two-way communication platform. Suggestions offered by the group members:

• CR station can put a wifi hotspot connected to a local server, where CR station can conduct a podcast.

• For the feedback, CR station can have an app, so that users can record the feedback and station operators can listen to it real-time.

GROUP 3: RADIO MATTOLI 90.4 FM

CR Mattoli, located in Wayanad district of Kerala, has a 30-meter tower and broadcastes 24 hours. One of the challenges CR station faces is that they are unable to reach geographically challenged areas and do not have feedback mechanism. During the time of Kerala flood, CR station was the only communication

medium to reach the flood-prone areas, but there was no mechanism to receive the feedback from listeners. Since the population nearby CR station is not dense, the group members suggested the following:

• A parallel community network will be useful so that in disaster times, it can be utilised and in normal times, it can be used for the dissemination of general radio programmes.

• The CN will also help them to generate another source of revenue.

• CN for private communications will be helpful during the time of disaster.

GROUP 4: RADIO BENZIGER HOSPITAL

Radio Benziger is located in the fishermen community of Kolam district in Kerala. The radio station specifically operates for the fishermen community and Benziger hospital. It provides weather information. One of the challenges is that CR station acts like one-way communication instead of two-way. Group members gave the following suggestions to integrate offline CN network with CR:

• IVR (Interactive Voice Responsive) system can be setup for a local network to make calls and get the feedback in audio files.

• Using IVR based system to resolve the queries raised by listeners. Even if listeners have a

feature phone instead of smartphones, they can not only listen but also give feedback.

- Using a community network for extending the radio programmes through podcast. Activities like live quiz can also be activated using the IVR mechanism.

GROUP 5: RADIO KOTAGIRI 90.4 FM

Radio Kotagiri 90.4 FM operates in the tribal region of Kotagiri block of the Nilgiris district of Tamil Nadu. Organic farming is the main occupation of farmers living in the region. One of the challenges that CR station faces is change in culture in the community due to the migration of farmers. Moreover, a lot of corporates are influencing farmers to use pesticides in their crops. Thus, it is challenging to bring back farmers to organic farming. The CR station has started the pilot project in a school to provide training to grow organic farming and also preserve indigenous seeds. Solutions offered by group members are as follows:

- Community network needed for two-way communication to promote organic farming.
- There should be a reward mechanism to promote organic farming. Good practices need to be promoted through CR and CN network.

GROUP 6: CR OPERATORS IN BANGLADESH

Infrastructure of the CR operators in Bangladesh is similar to that of India. One of the challenges they face is sustaining the station and expansion of the network. Regulators in Bangladesh is another challenge. Solutions offered by group members are as follows:

- CR operators can use unlicensed spectrum (2.4 GHz and 5.8 GHz) for setting up the network along with CR station. Moreover, it will also help them to disseminate their content using the community network.
- They can put up wireless routers in different locations to create a wireless mesh network. Since it will be a node-based network, even if one node fails, other nodes will be working. It will work for internal communication as well as external communication.
- Engage the community not to operate the CR station but also operate and manage the network.

DAY 3: DO IT YOURSELF

Day 3 of CNX was focused on hands-on sessions to understand different aspects of managing the community networks. The day 3 had three main sessions – 1) Combating misinformation and fakenews @ community radio and community networks to manage community internet; 2); Manage your network – enable community networks to create and manage 'Internet of People' platform and 3) The way forward for CNX Asia Pacific Summit.

The day started with showcasing of Protovillage community network space by young girls and Protovillage members who have created five Wi-Fi hotspots. They also showcased how DVR cameras were installed and created a new Wi-Fi hotspot in Protovillage Soap factory.

The third session, manage your network – enable community networks to create and manage 'Internet of People' platform, highlighted how community spaces (CN & CR) can be looked at as an alternative to the 'Internet of People's communication system'. Starting the discussion with 'policy and regulations', Nico showed the APC's Wiki platform that will help CN operators to understand their country policy and regulatory environments, including key legislation and regulation, barriers, and opportunities.

Ramprasad from BAIF said the 'digital ecosystem' is critical for any community system. BAIF has initiated a concept of e-Dost that enables a local person to provide e-Services to the villagers while earning their livelihoods. For example, they provide Aadhar-enabled e-governance services along with CSC (Common Service Centres). They are providing digital literacy and digital skills to create a digital ecosystem. Janastu team shared their community network programme in Bedar, one of the most backward districts in Karnataka state. As a community approach, they have documented the folk songs sung by local women and broadcasting it through community radio and community network. This way, they are trying to preserve their culture and heritage and their traditional practices.

Similarly, Antonius Sasongko from Kampoeng Cyber Yogyakarta, Indonesia, was the first community network operator to start its operation in 2008. Initially, people in the area did not have knowledge about internet and its infrastructure. When they started building the network, one of the challenges was that people didn't own a computer due to the low-income families. So, they start conducting workshops to on digital skills. By 2010, they connected 50% of the people and by 2015, they connected 100% of the community members. It took seven years to learn digital skills as community needs to establish the CN first. They have established wire-based and wireless connectivity in the region as per the feasibility of the region. They have established 17 access points and 9 switch hubs. Community members share the finance to maintain the sustainability of the network. Moreover, they also use the network for promoting their local products.

REFLECTIONS & WAY FORWARD FOR CNX 2020

- Community networks need to be considered not as an alternative but as serious players in providing internet connectivity in the last-mile space. There is a lack of bottom-up movement for CN and related to this is the continued challenge of finding human resources at the community level to establish and operate the CN.

- Governments should promote infrastructure sharing and access to rights through policies that allow smaller networks to share infrastructure and build infrastructure in a more cost-effective manner. CN operators need to continuously do advocacy with policymakers for bringing effective policies.

- CN can also learn from other community-based initiatives such as successes as well as failures of telecentres and community radio networks in the region, particularly in planning and engaging with communities to address needs, developing relevant content, establishing community ownership and sustaining the initiatives. Additionally, there is a need to address issues of privacy and security in CN, given the rising incidences of security breaches, as well as misinformation and fake news on social media.

- There is a need to develop South Asia and South East Asia community network principles that share our values, vision, tactics and strategies. Such guiding principles will be useful for self-reflection.

- CNX 2020 should be organised for the larger duration – to organise certain workshops for CR and CN operators. Moreover, there should be more field trips giving exposure to different infrastructure, content and sustainable models.

- Community radio participants can benefit if there are in-depth discussions around setting up the network.

AGENDA

📍 iruWay Farm, Janastu Basecamp, Devarayanadurga, Tumkur, Karnataka

📅 Thursday; 12 December 2019 | Pre- CNX 2019

Time	Description
10.00 am to 4.00 pm	**Tech Demo**
	• DEF showcasing START kit, the binary language to unbind digital literacy for illiterate & Barefoot Wireless Engineers (BWE) toolkit
	• By Janastu showcasing community radios to become wireless mesh radio
	• LibreRouter
4.00 pm to 8.00 pm	Full moonlight watch & dinner

CNX 2019 Day 1

📅 Friday; 13 December 2019

Time	Description
9.00 am to 11.00 am	**Registration, introduction of participants, context & setting up the expectations**
	Facilitators
	• Ritu Srivastava, Consultant DEF
	• Nico Pace, Association for Progressive Communications (APC)
11.00 am to 11.30 am	Tea
11.30 am to 1.00 pm	**Session 1: Combining synergies of CN & CR to create accessible 'internet for all'**
	Based on last year recommendations, the session will have representatives from community networks and community radios share views on how they can help create accessible 'internet for all' in a sustainable manner.
	Discussion leads:
	• Mohammad Abdul Haque, Secretary General Bangladesh Internet Governance Forum
	• Suraj Adhikari, Vice President, ISOC Nepal, Kathmandu
	• Ritu Srivastava, Consultant DEF
	• TB Dinesh, Janastu
	Each discussant will have 5 minutes to lead the discussion and share their experiences and it will be followed by question and answers by participants.
1.00 pm to 2.00 pm	Lunch
2.00 pm to 3.30 pm	**Session 2: Technological trends around community networks**
	The session will identify new technological trends around community networks to make the cost-effective and affordable last mile access to the network. The session will bring the frugal innovations and models and that are used at community level (including offline vs online) to make the connectivity accessible.
	Discussion leads:
	• TB Dinesh, Janastu
	• Nico Pace, Association for Progressive Communications (APC)
	• Senthil Kumar, SevaMom
	• Gustaff Harriman, Common Room
	Each discussant will have 5 minutes to lead the discussion and share their experiences and it will be followed by question and answers by participants.

4.00 pm to 4.30 pm	Tea
4.00 pm to 5.30 pm	**Session 3: Gender lens to community networks**
	The session will highlight the role of women in community networks and how women are engaging in building up these networks beyond technology.
	Discussion leads
	• Cynthia El Khoury, APC
	• Ritu Srivastava, Consultant DEF
	• Shalini A, Janastu
	• Claire Barela, Community Cellular Networks in Rural Aurora, University of the Philippines
	Each discussant will have 5 minutes to lead the discussion and share their experiences and it will be followed by question and answers by participants.

CNX 2019 Day 2

📅 Saturday; 14 December 2019
📍 Protovillage, Anantpur, Andhra Pradesh

| 6.30 am to 11.00 am	Travel to community space, ProtoVillage & breakfast
11.00 am to 1.00 pm	Introduction about the ProtoVillage
	By: Kalyan Akkipeddi, ProtoVillage Osama Manzar, DEF
1.00 pm to 2.00 pm	Lunch
2.00 pm to 4.00 pm	**Session 4: Do it yourself and make your community networks** The session will deliberate on different models that community networks have developed to create their own 'network'. The session will also discuss methods and courses available which can be used by community to make their own community networks.
	This will be hands-on session where participants will be divided in three groups to identify and create campus-wide network at Protovillage and its surrounding villages.
4.00 pm to 4.30 pm	Tea
4.30 pm to 5.30 pm	The Protovillage annual sustainability festival of dance, music, arts, science and sport
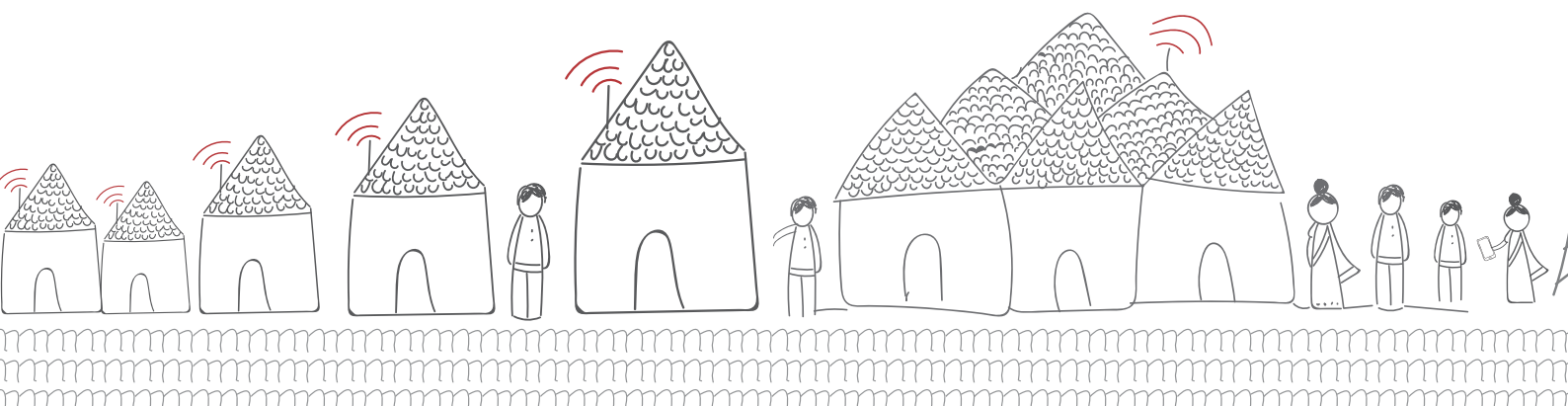
CNX 2019 Day 3

📅 Sunday; 15 December 2019
📍 Protovillage, Anantpur, Andhra Pradesh

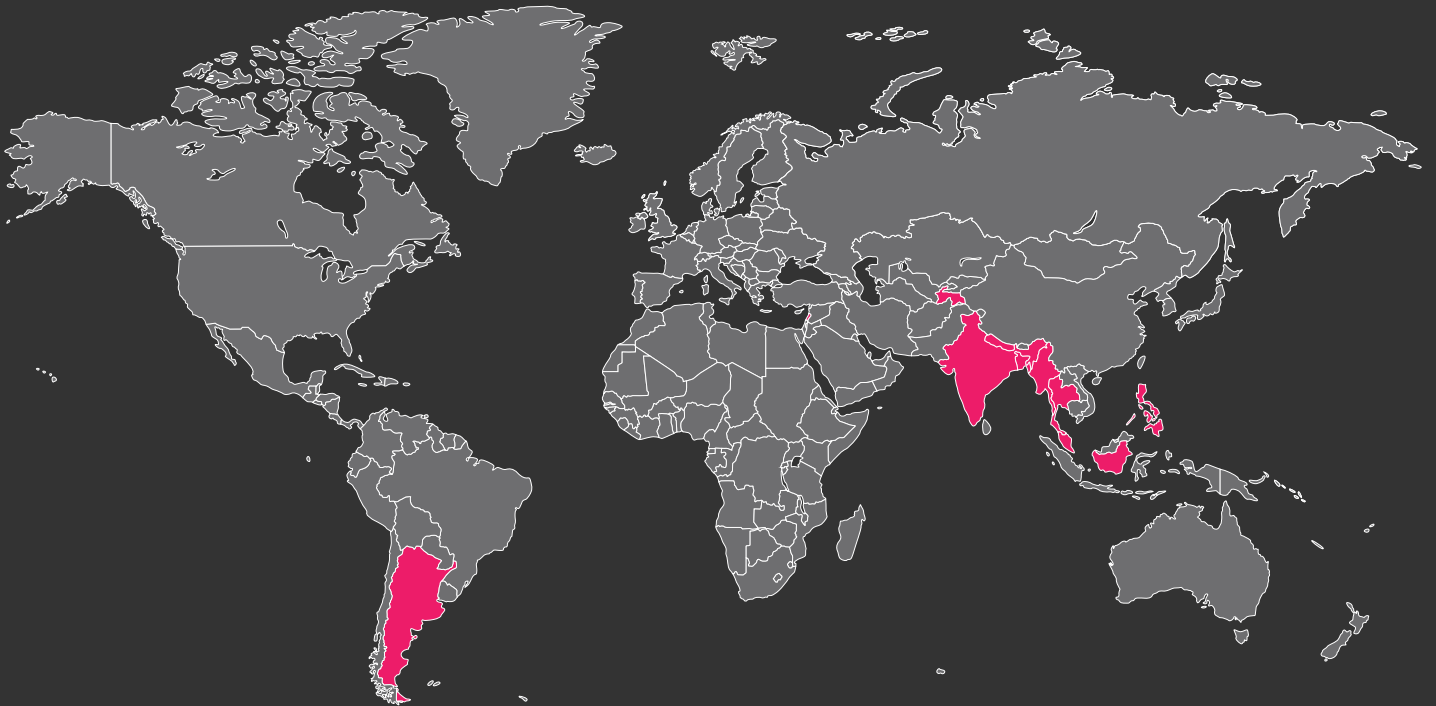|	
10.00 am to 11.00 am	**Session 5: Combating misinformation and fakenews @ community radio and community networks to manage community internet** **Facilitator** Kriti Singh, DEF
11.00 am to 11.30 am	Tea
11.30 am to 1.00 pm	**Session 5: Manage your network – enable community networks to create and manage 'Internet of People' platform** The session will highlight how community spaces (CN & CR) can looked at as an alternative to the 'Internet of People's communication system'. The session will be divided into groups to discuss different aspects of operational and management. **Discussion leads** • Ramprasad, BAIF • Nisarat Tansakul, Internet Education and Research Laboratory (intERLab) • Nico Pace, APC • Antonius Sasongko, Kampoeng Cyber Yogyakarta, Indonesia Each discussant will have 5 minutes to lead the discussion and share their experiences and it will be followed by question and answers by participants.
1.00 pm to 2.00 pm	Lunch
4.30 pm to 5.30 pm	**Session 7: Closing and the way forward** The session will highlight two-day discussion points and how community networks and community radios can not only make the internet available & affordable but accessible for all. It will discussions collaborations formed this year and decide the theme for the next year.
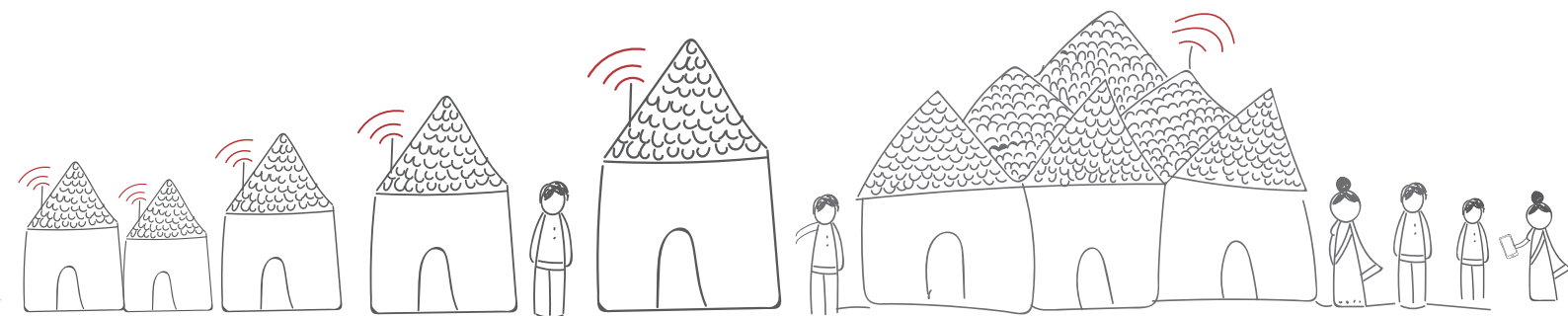
Participation from
India | Indonesia | Myanmar | Kyrgyzstan | Argentina |
Lebanon | Philippines | Bangladesh | Nepal | Malaysia |
Thailand | Singapore

www.cnxapac.org