

Community Radio and Community Networks

## CR Bolo: Hybrid connectivity model to strengthen the rural connectivity

Global Access to the Internet for All  
(GAIA)

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# Landscape of CRs and CNs

Over 40,000 community radio stations worldwide

Community Radio Stations are managed by the community owned organizations to generate and produce local content.

<b>India</b>	<b>480+</b>
Bangladesh	18
Nepal	360
Philippines	1000
Thailand	3900
South Africa	290
Australia	450
Ghana	20
Kenya	55+
Uganda	22
So on... in other countries	

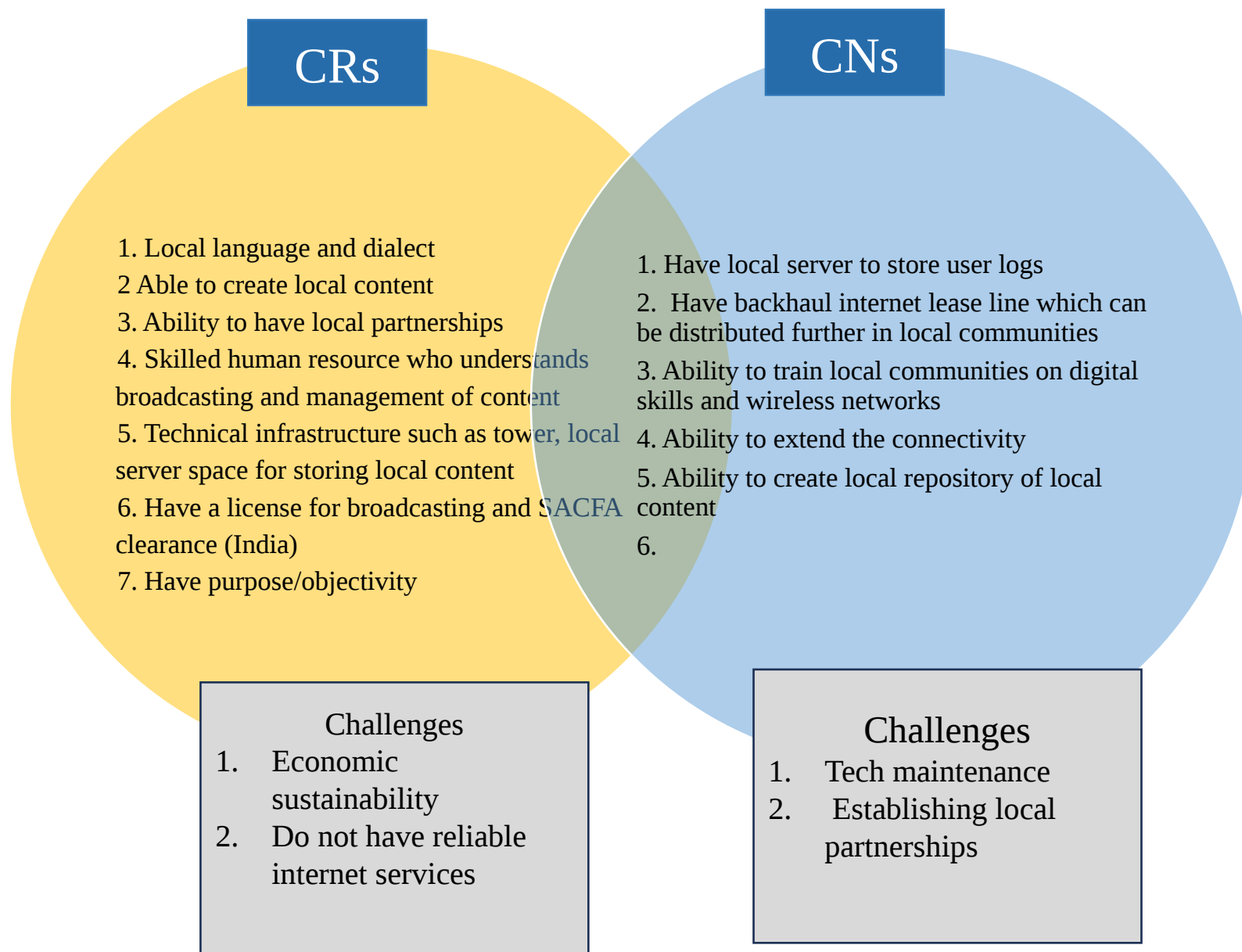
There are over 100 community networks worldwide

Community networks are bottom-up network approach based on community-driven infrastructure development to connectivity, and challenge the classic top-down operator-driven paradigm

<b>India</b>
Nepal
Philippines
Thailand
South Africa
Kenya
Uganda
Myanmar
Nigeria
Indonesia
So on... in other countries



# Community Radios Vs Community Networks



## Common Attributes between CRs Vs CNs in India

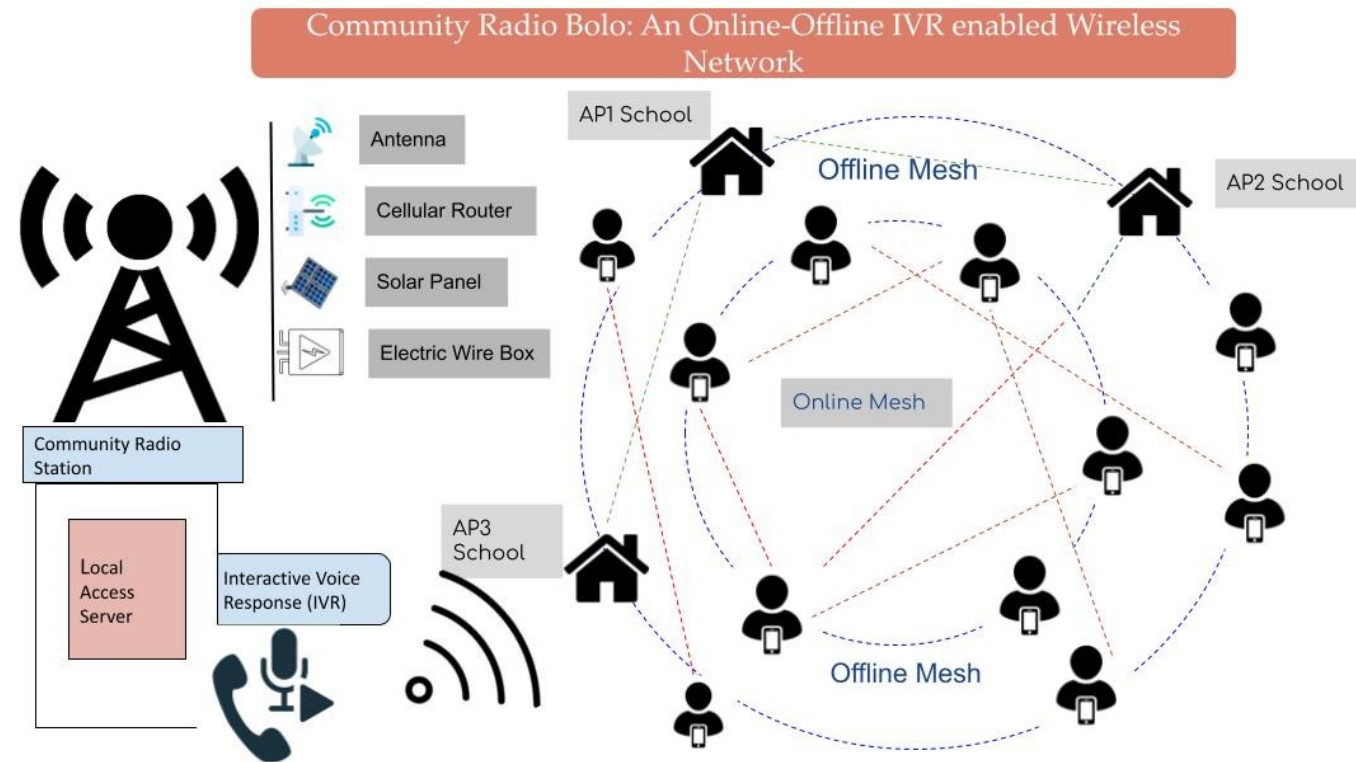
1. Infrastructure
2. Technology
3. Licensing
4. Local Content
5. Skilled Human Resource
6. Community Engagement



- A **cost-effective** and **community-owned model** designed for community radio stations where internet connectivity is **scarcely available** or **telecom dark zones**
- CR Bolo project is established at Radio Bulbul, rural Orissa leveraging the existing **local infrastructure** available at CR station. It utilizes **height of tower** to set up router and other wireless devices and **local server** for storing the content for bringing the **last-mile meaningful connectivity** by transforming CR station into Network providers.
- Established the P2P (point-to-point) wireless network connecting the Radio Bulbul to 3 schools and 4 SHGs within the radius of 5 to 7 kms by setting up APs (Access Points) in each locations.
- Rural communities are able to create and share **hyper local content with or without the internet**, using the **online-offline** wireless mesh network.
- Establishing a localised **communication platform** enabled with plug-in-play IVR operating on **GSM band** and the local network
- Creating new possibilities of **social and economic empowerment** for rural communities while enabling employment opportunities

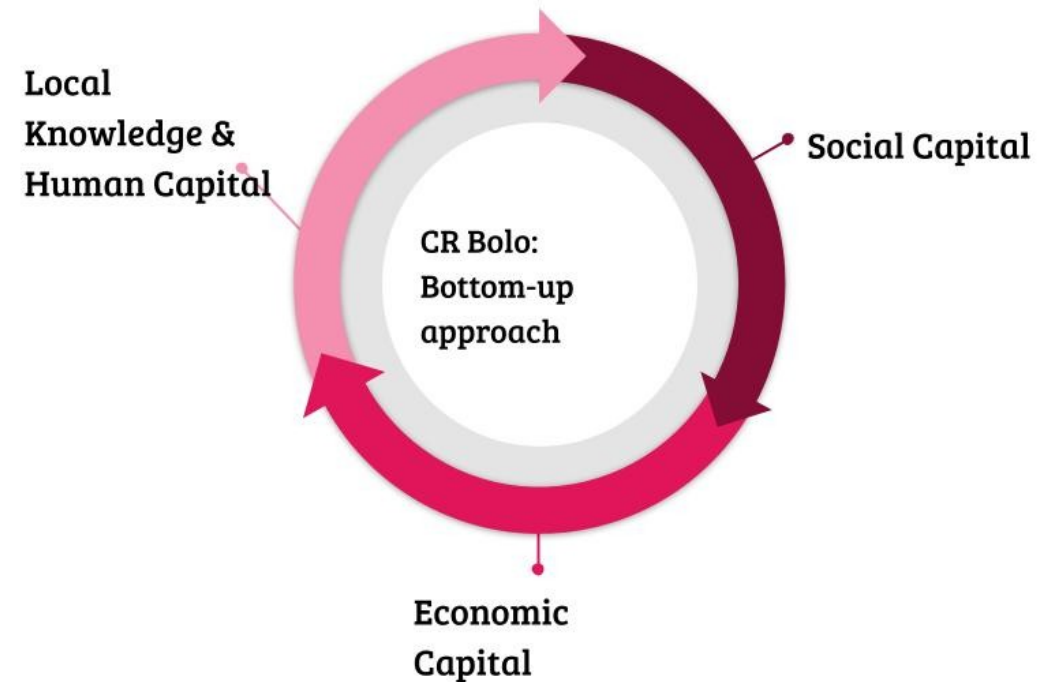
# CR Bolo: Technical architecture

- **Low-cost wireless devices:** The project uses the low-cost wireless devices such as Microtek, Ubiquity, Airgrid, et which is easy to procure in the local region
- **Solar enabled router:** Each access point backed up by backup router so that the access point received power if electricity is not available.
- Using unlicensed spectrum 2.4 Ghz and 5.8 Ghz: for establishing point-to-point network
- Open source IVR technology: Using open source IVR ASTERISK for setting up the IVR channel to be integrat with localised D2C platform
- In order to establish localised communication platform, we will use tech tools such as Verboice, MojoBol IVR, Kolibri, Jellyfin, BigBlue Button, etc.

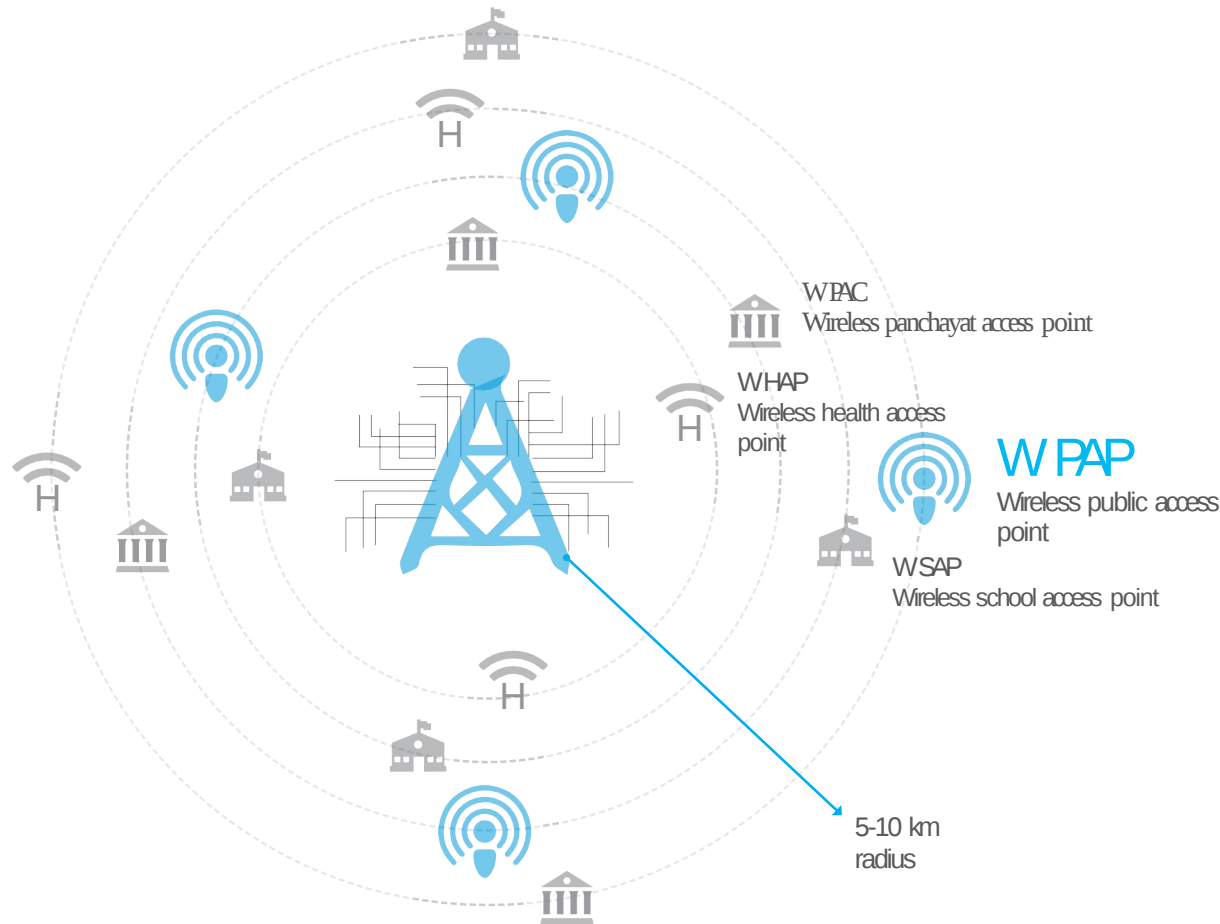


# Cost and social and human capital

Cost of establishing connectivity in range of 3-5 kms				
	CR Bolo (hybrid network + IVR)		Traditional ISP	
	INR	USD	INR	USD
Capex	28416.7	347	45833	559
Opex	45000	256	75500	921
<b>Total</b>	<b>73417</b>	<b>603</b>	<b>121333</b>	<b>1480</b>



# Community Radio Bolo: Community ecosystem



1. Educators
2. Students
3. SHGs
4. Women
5. Entrepreneurs
6. Local NGOs
7. Staff
8. Panchayat members



1. Individuals
2. Households
3. Institutions
4. SHGs
5. Micro Enterprises



- 1. Digital literacy centre
- 2. Information, entitlement service centre
- 3. Financial Inclusion
- 4. Digital service centre

7





Wireless training with Radio Bulbul Staff members

Thank you

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Project film:

<https://www.youtube.com/watch?v=f2eNHMTNI5U>