THE COMMUNITY NETWORK
AND YOUR ROLE AS COMMUNITY MEMBER

Introduction

The Universal Service Provision Fund (USPF) has said there are 114 communities where GSM signals are either weak or not at all. These are called underserved and unserved communities. An estimated Population of these communities ran into millions with no deliberate and reliable plan to provide them with alternative means of communication. This represents about 14% of the country and is greater than the populations of 188 countries, including Ghana, Tunisia and Australia to cite a few. Presently, Nigeria does not have a specific community-focused license category – which may help to bridge the digital gap – but instead relies on the work of Mobile National Operators (MNO) in the main to roll out communications networks and services across the country. While the National Broadband Plan seeks to ensure that all underserved areas are connected by 2025, the strategy to achieve this is based on the deployment of community access centres by Nigerian Postal Service (NIPOST), Nigerian Communications Satellite (NIGCOMSAT), National Information Technology Development Agency (NITDA), Nigerian Communications Commission (NCC), the Universal Service Provision Fund (USPF) and governments at all levels.

Yet the complexity and size of the digital divide in Nigeria requires an innovative regulatory approach to further 'push' network services to undeserved areas. One such innovative approach is the use of community networks to complement market driven solutions to provide connectivity and digital opportunities to areas that appear unprofitable to private operators. Community networks approach in particular fits the uniqueness of the Nigerian situation as it offers the following benefits:

I.   Addresses specific community needs by deploying simpler technologies to meet local needs,

II.   Addresses digital skills gaps by providing avenues for skill acquisition at community levels,

III. Provide a more responsive and inclusive platform for addressing different aspects of the digital divide,

IV.   Encourages communities to experiment and remake technology to meet their needs, and

V.   Relieves government of the resource burden of having to provide communications networks in remote locations.

What is Community Network

Community networks are telecommunication services and applications deployed over locally installed infrastructure and operated by smaller

independent groups to meet the communication needs of the community. These operators may build and run networks in one or more communities as long as they exclusively serve the social purpose and needs of the communities where they operate. It specifically encourages the cooperative self-provisioning of connectivity infrastructure by local communities. It also encourages other examples of social-purpose operators such as consumer cooperatives, community-owned networks driven by social entrepreneurs and municipal networks whose aim is to meet the communication needs of their communities.

Networking and Digital Marketing Training facilitated by Mujahid and Suhail Technical Officers, CITAD at Jama'are

Communities come together to pool resources, experience, and other endowment to design, deploy and manage telecommunication infrastructure that meets that community need. Such infrastructure could be set up to provide services where none exist, to provide cheaper services where existing ones are more expensive and to create new services that would add value to the development prospects of the communities. It also gives community a certain measure of autonomy over technology, one that they could use to develop their creative abilities and make technology, not just as tool placed in their communities but as methodology for addressing social problem.

Why Community Networks?

Over the years, two major modes for infrastructure ownership have been used in the telecommunication sector in Nigeria. These are public and private ownerships. Public ownership has been shown to not only be inefficient but also saddled with corruption that makes it impossible for the desire goals to be achieved. On the other hand, private ownership has grown the sector rapidly, reaching many communities that could not have been possible under public ownership, however, private ownership with its interest on profitability has tendency to go where profit is more assured. For this reason, private ownership has created connectivity gaps in which areas or communities where the prospects for profitability are low are left out of infrastructure rollout. These areas include communities that have low human density, those that are economically poor and those that are hard to reach, requiring special investment. This has defined a limit for private ownership which is not willing or ready to go. Community networks as a third type of infrastructure ownership is means to address the gaps left by private ownership. Community ownership is able to do this by mobilizing local resources and local opportunities to lower the cost of rollout and operation and by focusing on the deployment of infrastructure to support community development as a central goal rather than mere profitability as the central premise. While many community networks make profits, their sustainability and their purpose is not just to make profit but to address the connectivity gap and enhance the condition for community development and rural transformation.

Benefits of Community Networks

- Benefiting end-users and the community networks themselves with cost-oriented approaches.
- Providing service that is tailored to the unique needs of the community;
- Empowering local people, and thereby encouraging involvement in other grassroots efforts, community affairs, and political processes.
- Encouraging digital literacy;

- Providing a "stepping stone" for people to become part of the global economy;
- Creating new working opportunities; and
- Promoting the virtuous cycle by improving both access to and creation of local content and services.

What is Needed to Seed Community Networks in Nigeria

Experience from across the globe has shown that successful and sustainable community networks require the following:

1. An appropriate and conducive policy to regulate, license and provide support for community networks as a complementary tool available to governments in their efforts to promote digital inclusion and connecting the unconnected

2. The opportunity for community networks to access and utilize free spectrum such as the use of TVWS

3. The availability and activation of local community champions to provide support, leadership, and resources for the realization of community networks initiatives

4. Technical capacity in local community associations that would activate the agency for communities to mobilize their resources and drive themselves building, managing and sustaining community networks

Policy Vacuum

As stated above, one of the key requirements for the flourishing of community networks is the availability of a policy that allows community networks to get license and operate and to interconnect with other networks in terms that are not injurious to them. At the moment there is no policy on community networks. There are no frameworks or regulations for licensing of community networks and there is no interconnectivity framework for community networks to either connect with their peers or connect with MNOs. This is why we say there is a policy vacuum.

Government at both the level of the Federal Ministry of Communication and Digital Economy and its various agencies such as the telecommunication sector regulator, the Nigerian Communications Commission (NCC) has recognized this vacuum and appreciate the desirability of having a national policy on community networks, however, there has been an inertia for government to move from promise and develop the policy.

Friends of Community Networks need to raise their voice further to get the government to meet its obligation that it has set for itself by committing to a digital transformation of Nigeria which is not possible without addressing the huge digital divide in the country.

Strategy for Resource Mobilization for Community Networks

There is the temptation that given the huge infrastructure of MNOs to think that community networks would be capital intensive. But while it is true that some of the infrastructure needed could be expensive, there are ways to deal with the situation.

- Raising funds from the community networks from the community members and from philanthropies who are interested in bridging the digital divide
- Support in kind from companies, organizations, etc such as the donation of equipment
- Partnering with telecommunication
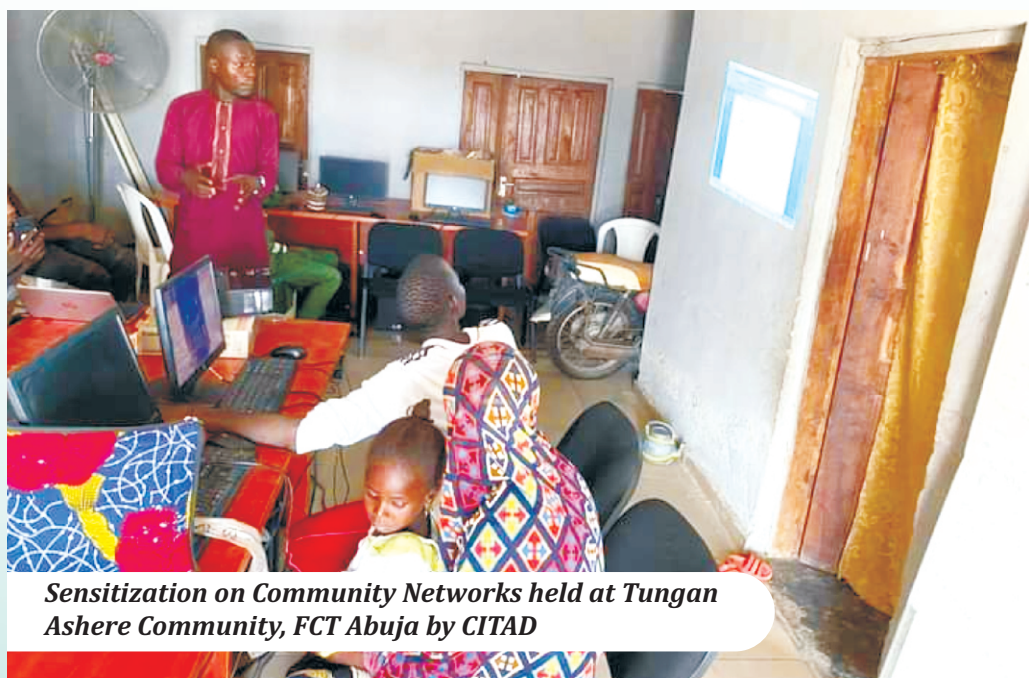
Sensitization on Community Networks held at Tungan Ashere Community, FCT Abuja by CITAD

companies to leverage some of their infrastructure that may be lying idle due to design redundancy or even active that could be shared

• Innovation by substituting expensive ones with cheaper substitutes. For example, in a number of countries, community networks are using bamboo trees for telecommunication

CITAD team at a meeting with Tungan Ashere Community

towers instead of steel structures which are costly and expensive to move to move in community where transportation is also poor

• Getting government to provide license free spectrum etc

• Leverage universal service Provision fund which in Nigeria is domiciled in the NCC located as Universal Service Provision Fund (USPF) which has the mandate to bridge both accessibility and affordability in the country.

For a dependable resource mobilization strategy, Micro-organizations should consider the following

• Development and implementation of a realistic resource mobilization strategy

• Must have an accountability mode

• Ability to develop proposals and grants applications

• Fundraising at community level for community network

• Organization should endeavor to assess itself periodically (SWOT) and identify internally, some salient ways of mobilizating resources to conduct activities

Support for Capacity Building

Another requirement as listed above is for community to have the needed skills and knowledge to design, deploy and manage community networks. While few communities are lacking professional telecommunication experts such as engineers and technicians, for the rest, they have to avail themselves of various capacity building programmes to develop the necessary skills and competences. There are a

couple of organizations that can be approached to support capacity building programmes. These include:

1. Galaxy Backbone, a public limited corporation that is providing connectivity
2. Digital Bridge Institute, a training arm of the Nigerian Communications Commission
3. NIRA, the country's top level domain administrator and manager
4. IXPN, the first internet exchange company in the country
5. Internet Society
6. International Telecommunication Union (ITU)

CITAD also runs a number of training programmes for community-based organizations. In addition, it runs a structured training in its annual School of Community Networks of Nigeria

Relevant Agencies that Can Assist with CN Initiatives

The following organizations can be approached/contacted for support to micro-organizations. They can also collaborate for specific assistance:

• **Universal Service Provision Fund (USPF):** The Universal Service Provision Fund (USPF) was established by the Federal Government of Nigeria to facilitate the achievement of national policy goals for universal access and universal service to information and communication technologies (ICTs) in rural, un-served and under-served

areas in Nigeria. The Fund is being managed to facilitate the widest possible access to affordable telecommunications services for greater social equity and inclusion for the people of Nigeria. More about USPF can be obtained via https://www.uspf.gov.ng

• **The Association for Progressive Communications (APC):** APC is an international network of civil society organizations founded in 1990 dedicated to empowering and supporting people working for peace, human rights, development and protection of the environment, through the strategic use of information and communications technologies (ICTs). They work to build a world in which all people have easy, equal and affordable access to the creative potential of ICTs to improve their lives and create more democratic and egalitarian societies. https://www.apc.org/en/about

• **NITDA:** National Information Technology Development Agency (NITDA) was created in April 2001 to implement the Nigerian Information Technology Policy and co-ordinate general IT development in the country. It is poised to actualize its mammoth mandate through strategic and inclusive stakeholder management, local and international partnership and efficient utilization of resources in the interest of Nigeria. (https://nitda.gov.ng)

• **NCC:** The Nigerian Communications Commission is the independent National Regulatory Authority for the telecommunications industry in Nigeria. The Commission is responsible for creating an enabling environment for competition among operators in the industry as well as ensuring the provision of qualitative and efficient telecommunications services throughout the country. Over the years, NCC has earned a reputation as a foremost Telecom regulatory agency in Africa. The Commission is hoping to catalyze the use of ICT'S for different aspect of national development. (https://www.ncc.gov.ng)

• Galaxy Backbone:

• **Nigerian Communications Satellite (NigComSat):** Nigerian Communications Satellite (NIGCOMSAT) Limited is a company under the supervision of the Federal Ministry of Communications. NIGCOMSAT manages and operate the first quad band communications satellite in sub-Saharan Africa, NigComSat-1r which has on-board Ku-band, Ka-band, C-band and L-band. The company offers: Transponder leasing services, Broadband services, Broadcasting services (signal carrier services), Trunking services and Fleet Management services.

Capacity Building Support

Communities wishing to establish community network may get capacity support from any of the following organization.

• **Infratel Africa:** Infratel Africa provides four core services which are: TowerCo, Enterprise services, PowerCo and Rural transformation. Some of the services under all the four areas includes Co-location Facility, fiber optics solutions, Solar power solutions and Value-Added Services such as e-Finance, e-Agriculture and e-Learning.

• **ATC:** ATC Nigeria is a provider of wireless towers, in-building and outdoor DAS, small cell and Wi-Fi networks, managed rooftops and services that speed network deployment for the wireless and communications infrastructure sharing community. https://atcnigeria.ng/en/index.html

• **Alliance for Affordable Internet (A4AI):** https://a4ai.org/

Harira Wakili making a presentation at a sensitization on Community Network held at Pasepa community, FCT, Abuja

• **International Telecommunication Union (ITU):** https://www.itu.int

The International Telecommunication Union (ITU) is the United Nations specialized agency for information and communication technologies – ICTs. Founded in 1865 to facilitate international connectivity in communications networks, they allocate global radio spectrum and satellite orbits, develop the technical standards that ensure networks and technologies seamlessly interconnect, and strive to improve access to ICTs to underserved communities worldwide. Every time you make a phone call via the mobile, access the Internet or send an email, you are benefitting from the work of ITU. ITU is committed to connecting all the world's people – wherever they live and whatever their means. Through our work, we protect and support everyone's right to communicate.

• **Internet Society (ISOC):** It is where we collaborate and innovate for a better world. Where we share our hopes and strengthen our bonds. It is where we work, learn, and make progress. We are a global nonprofit organization empowering people to keep the Internet a force for good: open, globally connected, secure, and trustworthy. https://www.internetsociety.org/about-internet-society/

• **Omidyar Network:** Omidyar Network is a self-styled philanthropic investment firm, composed of a foundation and an impact investment firm Established in 2004 by eBay, founder of Pierre Omidyar and his wife Pam. Omidyar Network reports it has committed more than $992 million to non-profit organizations and for-profit companies across multiple investment areas.

In 2020, during the COVID-19 pandemic, Omidyar Network funded 67 projects under the Rapid Response Funding Initiative, investing a total of INR 10.75 Crores. These projects were selected from 2000 applications. The projects funded included RightWalk Foundation, Peepul India and GiveIndia.

• **UNHCR Innovation Service:** UNHCR's Innovation Service is committed to creating an enabling environment for innovation to flourish in UNHCR. We equip staff with the knowledge, resources, and skills to ensure that they can create value for people forced to flee with novel ideas. UNHCR incentivize innovation through funding and technical support and by creating an enabling environment for experimentation to take place across the organization. We innovate to deliver UNHCR's mandate more effectively.

The innovation service offers four funds to accelerate innovations in the following areas:

Engineer Y Z Ya'u speaking at Dakwa community on Community Networks

Digital inclusion, innovation, environment and resilience, Data innovation impact and refugee-led innovation. More about UNHCR on https://www.unhcr.org/innovation/.

Some Pilots Community Networks Initiatives

The following are some of the current community networks initiatives:

1. **Leleyi Gwari Community Network**
Pai Ward
Kwali Area Council
Federal Capital Territory (FCT) Abuja
Email: shazy722@gmail.com
Phone No: 09016643660, 08173764463

2. **Jama'are Community Network**
No 7 Mohd Wabi Street
Kofar Arewa, Jamaare
Bauchi State

Email: - babawuros@gmail.com,
Phone Nos: 08030736340, 0806 242 0272

3. Itas Community Network
Unguwar Nassarawa, Adjacent to Tafida Primary School
 Itas, Itas-Gadau LGA
Bauchi State, Nigeria
Email: nuramashema@gmail.com
Phone Nos: 08087176880, 0806 061 7115

4. Pasepa Community,
Along Kubwa Road, Bwari Area Council,
FCT-Abuja.
Email: pasepayiza53@gmail.com
Phone No: 07057301353, 07052667006

5. Dakwa Community
Dakwa Sarki, Off Zuba Express Way
AMAC,
FCT Abuja.
Email: ismailashuaibu720@gmail.com
Phone No: 07068340417, 08131185777

6. Tungan Ashere Community
Tungan Ashere, Along Zuba,
Abuja Municipal Area Council
Email: jafarumadakIashere@gmail.com
Phone no: 08126096417, 07058054081

7. ZittNet Community Network
No 1 Fantsuam Close
Bayan Loco Kafanchan
Kaduna State.
Phone: 08034572418

Group photograph with Group Head, Regional Offices, Galaxy Backbone after the first phase of NSCN at Stonehedge Hotel, Kaduna

(www.fantsuam.org), jeseyinesq@gmail.com

What CITAD is doing about Community Networks

CITAD is working on four tracks to midwife a robust community networks sub-sector that will contribute to addressing the digital divide in the country. The four tracks as follows:

• **Advocacy at National Level** to get government to create a new tier of providers through a national Policy on community networks. In addition to the policy, government and its agencies can help seed a community network sub-sector by articulating and implementing a conducive regime of initiatives such as providing license free use of TVWS, the access to backhaul, etc. CITAD has met with the Federal Ministry of Communication and Digital Economy, the Nigeria Communications Commission, USPF, NITDA, etc.

• **Capacity Building for Communities:** CITAD is building the capacity of community organizations to design, deploy and manage community networks in their respective communities. As part of this capacity building, it has been organizing a series of training programmes for both the micro-organizations, community leaders as well as other relevant stakeholders. In addition, it has instituted an annual School of Community Networks that trains people from pilot communities on various topics for a duration of three months

• **Engaging Other Stakeholders:** there are number of organizations both public and private that have resources which could be used to support community networks in the country. For this reason, CITAD has been engaging a number of them to see how communities could leverage their resources in their efforts to set up community networks. These include for example, Galaxy Backbone, (public), USPF (Public), Infratel Africa (Private), ATC

Engr. Suhail Sani making his presentation on Community Network at Itas community

(private, etc.

• **Experimentation and adaptation:** CITAD is also seeking for innovative solutions that could cut cost in setting up community networks. For example, one of this is the use of Bamboo trees for telecommunication towers in place of steel structures.

You Can Support/Start a Community Network

All those who are committed to ending the digital divide in the country has role to play in supporting community networks. You can deliver your support by joining the advocacy efforts and speaking out in support for the call for national community networks policy. You can support community capacity building programmes including the annual School of Community Networks. Support for community capacity building does not necessarily means financial, it can be donating your hours if you are a professional to train others, it can be providing training infrastructure such as venue for training, accommodation for training, feeding for participants, materials, etc. You can also serve as a community networks champions, offering advice, mobilizing community support and resources, etc or linking the community networks initiatives in your community to other stakeholders. You can also support efforts through procurement of some of the equipment community need to set up their community networks.

Conclusion

Research and experience have shown that globally, internet penetration has flattened, not because a universal coverage has been reached but because we have reached the limits of the dominant market model of connectivity rollout. MNOs cannot expand further because what are left are the unprofitable islands of low population density, hard to reach and operate areas and poor communities where people cannot afford connectivity. Recognizing this conclusion, countries are encouraging and facilitating the emergence of new small, adaptable, nibble and flexible players to fit into the gaps that MNOs are not able to fill and enable those left behind to be connected. These nibble players are mostly community networks. Community networks, however, unlike the market, thy don't come on their own. They need the support of governments, development partners, private sector, civil society, community, philanthropies and above all, individuals like you. Make that move now by adapting and supporting a community network in your community or anywhere. Together we can bridge the digital divide.

Foreign Commonwealth
& Development Office

CITAD
CENTRE FOR INFORMATION
TECHNOLOGY AND
DEVELOPMENT

APC
ASSOCIATION FOR
PROGRESSIVE
COMMUNICATIONS