How the Unconnected are Connecting Themselves

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Who are the Unconnected?

The Gender Gap is most pronounced in Africa, the Arab States and Asia-Pacific.

Half have a GNI/capita of < US$ (PPP) 6,500, a large proportion of which are located in Africa and Asia-Pacific.

60% live in rural areas, of which a large proportion is located in Africa and Asia-Pacific.

Individuals with low educational attainment often remain unconnected across all regions.

The elderly have much lower Internet penetration levels than the overall population across all regions.

Source: ITU
Internet Adoption Barriers by Region

In Developed Countries, the top Internet Adoption Barrier is Affordability

Internet Adoption Barriers
- Infrastructure
- Capability
- Relevance
- Affordability

In Developing Countries, the top Internet Adoption Barrier is Relevance

Key Regional Internet Adoption Barriers

<table>
<thead>
<tr>
<th>Africa</th>
<th>Arab States</th>
<th>Asia-Pacific</th>
<th>CIS</th>
<th>Europe</th>
<th>The Americas</th>
</tr>
</thead>
</table>

Source: ITU
Subscriber Growth is Slowing

Source: GSMA Intelligence

Unique subscribers (billions)  Percentage of population

2010: 3.2  66%  46%
2017: 5.0  5.9
2025: 71%
### We’ve Connected the Easy Half

<table>
<thead>
<tr>
<th>Billions of People on Earth</th>
<th>Average Annual Income</th>
<th>Affordable Monthly Communication Spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Billion</td>
<td>$29,206</td>
<td>$205</td>
</tr>
<tr>
<td>2nd Billion</td>
<td>$12,702</td>
<td>$53</td>
</tr>
<tr>
<td>3rd Billion</td>
<td>$5,540</td>
<td>$23</td>
</tr>
<tr>
<td>4th Billion</td>
<td>$2,987</td>
<td>$12</td>
</tr>
<tr>
<td>5th Billion</td>
<td>$1,771</td>
<td>$7</td>
</tr>
<tr>
<td>6th Billion</td>
<td>$1,065</td>
<td>$4.4</td>
</tr>
<tr>
<td>7th Billion</td>
<td>$540</td>
<td>$2.25</td>
</tr>
</tbody>
</table>

Source: Richard Thanki, University of Southhampton from UN & ITU data
The RISE of the bottom
Community Networks in Africa

- Holistic approach
- Bottom-up models started by local communities to address connectivity gaps
- Human–centered – built with, for and by the community.
- Peer to peer
- Non commercialized
- Catalyze local economies and drive adoption of technology

CNs in Africa -12 African countries. 25 are considered active
Community Networks in Africa

Zenzele
Eastern Cape, South Africa

TunapandaNET
Kibera, Nairobi Kenya

BOSCO
Uganda

Macha Works
Zambia
Community Ownership
Promote the growth of local businesses e.g. Lubanzi backpackers guests stay longer because of reliable internet.

Investment in the local economy:

- $100,000 investments in the OPEX
- $36,000 in CAPEX
- $54,000 revenue generation

Non tangible such as digital literacy and other businesses born as a result of connectivity.
Community Driven

Idjwi community members
CNs Deploy Low-Cost Infrastructure
CNs providing supporting Infrastructure

Battery Operated System for Community Outreach (BOSCO-Uganda)
• Connecting community ICT centers that are run by the local youth
• Building solar mini grids for local businesses e.g. hair dressing, phone charging, barber shops that enable businesses to run longer hours
• Provide solar mini grid to schools replacing use of diesel
• Local youth are also trained in maintenance of the solar equipment thus which becomes a source of employment for them
Delivering Meaningful Access

Salama Application
CNs Driving Digital Inclusion
Skilling the local youth with skills that enable them find work or give them pathways to becoming entrepreneurs

- User centered research
- Tech entrepreneurship
- Freelancing

75% of organization is sustained by revenue generated from client work
Through local and international client work
63% of graduates from the training have been able to find employment
It takes the WHOLE Village
RECOMMENDATION ITU-D 19

Telecommunications for rural and remote areas

3. that community access to ICT facilities and services is particularly important in rural and remote areas: business models which can achieve financial and operational sustainability can be operated by local entrepreneurs supported by a variety of initiatives, and these facilities, where necessary, should also be supported by universal service funds as an essential component of rural communications;

6. that enhancing local technical expertise and adoption are important for successful implementation of ICT services and applications in rural and remote areas, and attention should thus be paid to training, exchange of information and sharing of maintenance facilities in order to achieve sustainability and viability;

10. that it is important to consider small and non-profit community operators, through appropriate regulatory measures that allow them to access basic infrastructure on fair terms, in order to provide broadband connectivity to users in rural and remote areas, taking advantage of technological advances;

11. that it is also important that administrations, in their radio-spectrum planning and licensing activities, consider mechanisms to facilitate the deployment of broadband services in rural and remote areas by small and non-profit community operators;
Resources on Community Networks

- https://www.internetsociety.org/issues/community-networks/
- https://communitynetworks.group/
- https://manypossibilities.net
- https://detroitcommunitytech.org/communitywireless
- https://nextcenturycities.org/becoming-broadband-ready/
- https://commotionwireless.net/
Resources on Community Networks

Videos
Zenzeleni - https://www.youtube.com/watch?v=R9u-hfxAeBo&t=
MachaWorks - https://www.youtube.com/watch?v=fDVAxJLVFOE
Tunapanda - https://www.youtube.com/watch?v=vKcdLC48fzo