Investment in Broadband Infrastructure in Ethiopia

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Outline

About FDR Ethiopia

Telecom Investment in Ethiopia

Broadband Strategy of Ethiopia

Conclusion
About Federal Democratic Republic Ethiopia
Federal Democratic Republic of Ethiopia

• Federal Democratic Republic Of Ethiopia (FDRE)
• Location: East, Horn of Africa
• 9 National Regional States and 2 city admin
• Land Area: 1.14mil Sq. kms (1.07 million Km² land, seven thousands Km² water)
• Population: Total: ~90 million; Rural : 83%; Urban : 17%; Density: 59.4/Km²; Population Growth rate is 2.72%
• Agricultural Country (coffee, flower, livestock, etc.)
Telecom Infrastructure Of Ethiopia
• Telecommunication service was introduced to Ethiopia in less than a decades of the invention of telephone (around 1890s).

• Up to early 1990 the expansion of telecommunication was very low (total switching stations 498, subscribers only 93,500)

• In 2010 the mobile service subscribers reached 6.5 Million, in first Q’s of 2016 ~38 Million

• In 2017 the subscription is 60.67 million, of which 45.9M for Mobile, 13.9M internet, 1.1M fixed, this is around 67%

• Regarding universal telecommunication service access the rural Kebeles (15,000 villages) telecom service in 5 km radius increased from 13% in 2005 to 62.14% in 2010, 98% 2016

• Currently in the process of establishing “Rural Communication Centers” in all 15,000 Kebeles, with broadband access (3G)
• **Two phase telecom expansion program**
  • Phase one:- NGN project of a total investment of 1.5 Billion USD
    • 40 Million Network capacity (21m GSM, 3m CDMA, 500K 3G, 3.75G)
  • Phase two:- 1st Telecom Expansion Project (TEP I) of a total investment of 1.6 Billion USD
    • 80 Million Network capacity (62m wireless, 11m 3.75G, 400K 4G)
• A total of 3.1 Billion USD investment in Telecom to enhance the telecom infrastructure until 2016
• From 2017 onwards, a demand based telecom expansion is to be realized (TEP II), to have 110 million wireless capacity of which 25m is 3G, 2.5m 4G and 10m is fixed line.
Data:
- Total 21,000 KM
- Total International Link 37.5 Gbps
- Djibouti = 14.9 Gbps
- Sudan = 17.4 Gbps
- Kenya = 4.9 Gbps
• **Telecom Expansion I:** Network improvement in the capital, Addis Ababa.

Example:-
TEP I In Addis
Telecom Infrastructure of Ethiopia

Services (4th Q of 2016) | Subscription
--- | ---
Mobile | 45.9 M
Data & Internet | 13.9 M
Fixed line | 1.1 M
Total | 60.67 M

2G, 3G and 4G (in the capital)

Coverage:- 57% (3G)

Coverage:- 85.4% (2G)

Network Capacity:- ~80 Million
• BB strategy an implementation plan was approved at national level, end of 2016
• Developed based on the international benchmarks
• Broadband strategy implementation covers the period 2016-2020/21
• Demand based telecom expansion program will be implemented,
• BB to all public/private institutions based on demand (for urban and rural)
Broadband Strategy of Ethiopia

Target Sectors
- Government
- Education

Supply
- First Mile
- Middle Mile
- Last Mile
- Invisible Mile

Demand
- Affordability
- Awareness
- Attractiveness

Implementation Plan

Target Sectors
- Agriculture
- Health

Monitoring/Coordination & Funding

15/03/2017
UN-OHRLLS, Regional Meeting for African LDCs, Dakar, Senegal
## Population and Sector Specific Broadband Targets

<table>
<thead>
<tr>
<th>Sector</th>
<th>Context</th>
<th>2020/2021</th>
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<tbody>
<tr>
<td>Population</td>
<td>% of population covered by mobile broadband</td>
<td>100% 3G, 20% 4G</td>
</tr>
<tr>
<td></td>
<td>Mobile broadband average download speed (Mbps)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Fixed broadband penetration (per 100 people)</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>Pop. (18+), Total: 48 million, Male: 24 m, Female: 24 m, (CSA, 2015)</td>
<td>40% gender equality achieved</td>
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<td>Agriculture</td>
<td>Mobile broadband population coverage (rural areas)</td>
<td>100% of rural areas</td>
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<tr>
<td></td>
<td>Average speed (Mbps) (rural areas, demand base)</td>
<td>5 Mbps</td>
</tr>
<tr>
<td>Government</td>
<td>Average speed (Mbps)</td>
<td>Urban: 50 Mbps, Rural: 5 Mbps</td>
</tr>
<tr>
<td>Health</td>
<td>16,251 health posts, 3,335 health centers, 156 hospitals (2013/2014)</td>
<td>100% connected</td>
</tr>
<tr>
<td></td>
<td>Average speed (Mbps)</td>
<td>Urban: 50 Mbps, Rural: 5 Mbps</td>
</tr>
<tr>
<td>Schools</td>
<td>Primary:- 3,988 (Urban), 24,313 (Rural)</td>
<td>100% connected</td>
</tr>
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<td></td>
<td>Secondary:- 1,053 (Urban), 339 (Rural), (2010/11)</td>
<td>Urban: 50 Mbps, Rural: 5 Mbps</td>
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<tr>
<td></td>
<td>Average speed (Mbps), (demand based)</td>
<td>From 256 Kbps up to 4 Mbps</td>
</tr>
<tr>
<td>Rural Communication</td>
<td>All Kebeles (around 16,000) will have one Communication Center</td>
<td>100%</td>
</tr>
<tr>
<td>Center</td>
<td>Average speed (demand based)</td>
<td></td>
</tr>
<tr>
<td>Cost of BB</td>
<td>Mobile broadband (1GB per month) as % of GDP per capita</td>
<td>5%</td>
</tr>
<tr>
<td>Training</td>
<td>Number of digital literacy courses per year</td>
<td>48,000</td>
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<tr>
<td></td>
<td>Number of people trained in digital literacy (cumulative)</td>
<td>5.8 million</td>
</tr>
<tr>
<td>International Link</td>
<td>Bandwidth of international connections</td>
<td>1,485 Gb/s</td>
</tr>
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</table>
**Broadband Strategy of Ethiopia**

- **Basic Telco infrastructure is to be invested by the operator (Ethiotelecom)**
- **This estimated funding plan is only around monitoring and demand side stimulation (2016-2020/21)**

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td><strong>Digital literacy</strong></td>
<td>Estimated cost for 1,000 trainers for four years.</td>
<td>USD 4 million</td>
</tr>
<tr>
<td><strong>Technical monitoring</strong></td>
<td>To verify coverage &amp; technical parameters of mobile broadband network (e.g., speeds, latency, etc.). Assumes one complete regional system per region (including database).</td>
<td>USD 10 million</td>
</tr>
<tr>
<td><strong>Marketing activities</strong></td>
<td>Advertise availability of digital literacy courses and other broadband promoting advertisements. Includes 12 30-second TV ads, weekly 60-second radio ads and monthly full-page newspaper ads for a period of four years.</td>
<td>USD 110,000</td>
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<td><strong>Demand survey</strong></td>
<td>Annual survey on ICT usage for four years.</td>
<td>USD 7.4 million</td>
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<td><strong>TOTAL</strong></td>
<td></td>
<td>USD 21.5 million</td>
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Basic telecom infrastructure is in place, to most of the geographical locations (including rural areas) currently 57% of the geographical coverage is accessing 3G (3.75G) network, no additional investment in the 2G technology, this will help to increase the 3G coverage, BB access to public institutions, schools, health centers, agricultural posts, etc. (demand based), to achieve the Sustainable Development Goals (SDG) and Istanbul Plan of Action (IPoA), we are working to achieve Connect 2020 Agenda of ITU (growth, inclusiveness, sustainability and innovation & partnership), we are committed to work with all stakeholders based on win-win principle.
Thank You
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