Economics of Affordable Access and Open Data
Three Economies

Global Economy
Large companies, financial institutions, the State: serves global markets

Local Market Economy
Small businesses, self-employment: serves local needs

Subsistence Economy
Few market economy activities and mainly informal activities: serves a subsistence economy

Fernand Braudel
A Jar of Stones Metaphor

Even though the stones appear to fill the jar, it is less than have full by volume.
Local Operators

Smaller operators don’t necessarily need to scale individually but rather scale in number of operators.
Cooperative and common pool resource models may create sustainable access where commercial models fail.
Transparency and Public Engagement
The Impact of Fibre on Wireless

The growth of undersea fibre optic capacity has been a catalyst for change.

The impact of technological change often takes years to manifest.
Access to comprehensive fibre maps can prevent duplication, promote investment, identify coverage gaps.
In South Africa, Dark Fibre Africa publishes a comprehensive map of their fibre network.
Population Coverage: 97.6%
Unserved Population: 896K
Population Coverage: 81%
Unserved Population: 6.5M
A Global Problem

Reports of Iowa’s connectivity are greatly exaggerated… many providers, large and small, often overestimate their connectivity because they simply lack accurate, independently verified maps.
Good Practice – Canadian Regulator

- Operator
- Location
- Frequency
- Height
- Power
WHAT IS INDIA’S FIRST OPEN NETWORK?

In 2015, Project Leap took the first brave step in building a truly transparent network. It is now time to take the next step and make it available to everyone. This will enable the growth of the digital economy in India, and provide greater access to essential services.
Spectrum Assignments

900 MHz Band

Botswana

Burkina Faso

Egypt

Ghana

Kenya

Namibia

Mascom
Orange
BeMobile
Government

Onatel
Orange
Telecel

Vodafone
Orange
Etisalat

Glo
Airtel
Tigo
Vodafone
MTN

Yu/Safaricom
Safaricom
Orange
Airtel

Orange
Airtel

MTC
Telecom Namibia

Nigeria Broadband Infrastructure Forum
30 October 2018
Spectrum Assignments

1800 MHz Band

Botswana
- Masicom
- Orange
- BellMoblie

Ghana
- Airtel
- MTN
- Vodafone
- Tigo
- Glo

Mozambique
- mcel
- Movitel
- Vodacom

Nigeria
- ntel
- Glo
- MTN
- Airtel
- Etisalat
# Good Practice

## LIST OF ACCESS FREQUENCIES ASSIGNED TO OPERATORS

### A. MOBILE WIRELESS ACCESS

<table>
<thead>
<tr>
<th>Frequency Band</th>
<th>Amount of Spectrum</th>
<th>Assigned Operator</th>
<th>Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>800 MHz</td>
<td>5MHz paired</td>
<td>Telkom Kenya Limited P.O. Box 30301-00100 NAIROBI</td>
<td>MTNL</td>
</tr>
<tr>
<td>900 MHz</td>
<td>10MHz paired</td>
<td>Safaricom Limited P.O. Box 46350-00100 NAIROBI</td>
<td>Reliance Jio</td>
</tr>
<tr>
<td>900 MHz</td>
<td>10MHz paired</td>
<td>Celtel Kenya Limited P.O. Box 73146-00200 NAIROBI</td>
<td>Bharti Airtel</td>
</tr>
<tr>
<td>900 MHz</td>
<td>7.5MHz paired</td>
<td>Telkom Kenya Limited P.O. Box 30301-00100 NAIROBI</td>
<td>Airtel</td>
</tr>
<tr>
<td>900 MHz</td>
<td>7.5MHz paired</td>
<td>Essar Telecom Kenya Limited P.O. Box 45742-00100 NAIROBI</td>
<td>Vodafone</td>
</tr>
<tr>
<td>1800 MHz</td>
<td>10MHz paired</td>
<td>Safaricom Limited P.O. Box 46350-00100 NAIROBI</td>
<td>Idea</td>
</tr>
<tr>
<td>1800 MHz</td>
<td>10MHz paired</td>
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<tr>
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<td>Airtel</td>
</tr>
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</table>

### 1800MHz BAND-GSM

<table>
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<tr>
<th>OPERATOR</th>
<th>MTEL</th>
<th>GTEL</th>
<th>MTN</th>
<th>AIRTEL</th>
<th>ETISALAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tv FREQUENCY</td>
<td>1455-1465</td>
<td>1455-1465</td>
<td>1455-1465</td>
<td>1455-1465</td>
<td>1455-1465</td>
</tr>
<tr>
<td>Fr FREQUENCY</td>
<td>1719-1726</td>
<td>1719-1726</td>
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<td>1719-1726</td>
<td>1719-1726</td>
</tr>
</tbody>
</table>

**Nigeria**

**Kenya**
Monitoring Spectrum Use

900 MHz Band

Kenya -

Orange  Yu(Safaricom)  Safaricom  Orange  Airtel

Orange  Yu(Safaricom)  Safaricom  Orange  Airtel
Thank you!

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