Getting unwired in East Africa

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The views expressed are those of the author and may not necessarily reflect the opinions of the ITU or its Members.

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Mobile cellular in East Africa

<table>
<thead>
<tr>
<th>Location</th>
<th>Start-up</th>
<th>Subscribers</th>
<th>Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>6/95</td>
<td>26'000</td>
<td>0.15%</td>
</tr>
<tr>
<td>Uganda</td>
<td>9/95</td>
<td>38'000</td>
<td>0.12%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>1992</td>
<td>7'300</td>
<td>0.02%</td>
</tr>
</tbody>
</table>

Data at December 1998.
Mobile growth

New telephone subscribers, East Africa (000s) *

<table>
<thead>
<tr>
<th>Year</th>
<th>Mobile</th>
<th>Fixed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>1997</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>1998</td>
<td>20</td>
<td>8</td>
</tr>
</tbody>
</table>

* Kenya, Tanzania and Uganda

Source: ITU.

Telephones per 1'000 people, East Africa *

<table>
<thead>
<tr>
<th>Year</th>
<th>Fixed</th>
<th>Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>1997</td>
<td>6</td>
<td>0.5</td>
</tr>
<tr>
<td>1998</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

* Kenya, Tanzania and Uganda

Source: ITU.

Substitution

- Quick to implement
- Low connection fee
- Generally little wait for service
- Functionality advantages

Mobile cellular as % of total telephone subscribers, 1998

- Uganda: 35%
- Tanzania: 24%
- Kenya: 3%

Source: ITU.
Strategic foreign investors

<table>
<thead>
<tr>
<th>Country</th>
<th>Mobile Operator</th>
<th>Foreign Investor</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanzania</td>
<td>MIC</td>
<td>Millicom (Luxembourg)</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td>TriTel</td>
<td>TRI (Malaysia)</td>
<td>60%</td>
</tr>
<tr>
<td>Uganda</td>
<td>CelTel</td>
<td>Vodafone (UK)</td>
<td>37%</td>
</tr>
<tr>
<td>MTN</td>
<td>MTN (South Africa)</td>
<td>Telia (Sweden)</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: ITU.

Prepaid

- Provides access to those who might not normally qualify
- Accounts for majority of new subscriptions
- Operator avoids bad debt

source: MIC Tanzania.
Roaming

- Extra revenue source
- Can help spur regional integration
- Not widely implemented

Roaming agreements
- Tanzania (Tritel): 4
- Uganda (MTN): 5
- Kenya: 0

Note: No Tanzania-Uganda-Kenya roaming!!!

Mobile cellular licenses

- How many
  - How many operators can market bear?
- How long
  - Time period of license
- How much
  - License fees will be passed on to consumers
- How about
  - Coverage obligations
  - Technology
  - Scope
Market structure

- Private sector
  - Tanzania & Uganda
  - Kenya from 2000
- Competition
  - Tanzania since 1996
  - Uganda since 10/98
  - Kenya from 2000

Cellular market structure

Number of mobile operators with license or to be licensed

Source: ITU.

Universal access obligations: Coverage

- Coverage typically limited to major towns
- Licenses should be linked to coverage targets
- Global mobile satellites may help

MTN Uganda: Mobile cellular coverage

Source: ITU adapted from GSM Association.
Tariffs

- Still high relative to fixed and compared to other regions
- Biggest barrier to mobile access
- Reasons why
  - "High retention"
  - Interconnect charges
  - Handset & service provider subsidies
- Cost based tariff: US$ 15/month

### Mobile cellular tariffs, 100 minutes, US$, ’99

<table>
<thead>
<tr>
<th>Country</th>
<th>Tariff (US$)</th>
<th>Times Fixed Tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>$41</td>
<td>6.6</td>
</tr>
<tr>
<td>Tanzania</td>
<td>$51</td>
<td>6.5</td>
</tr>
<tr>
<td>Uganda</td>
<td>$33</td>
<td>1.5</td>
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</tbody>
</table>

Source: ITU adapted from published operator tariffs.

Competition in Uganda

### CelTel Mobile Tariffs

- 100 minutes per month US$

<table>
<thead>
<tr>
<th>Year</th>
<th>1996</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90</td>
<td>80</td>
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<tr>
<td></td>
<td>80</td>
<td>70</td>
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<td>30</td>
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<td>20</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

### Cellular subscribers in Uganda

- MTN
- CelTel

Forecast

Source: ITU adapted from company information.
Handsets

Factors affecting handset prices:
- Custom duties
- Distribution policy
- Subsidies

Forecast

Fixed and mobile telephone subscribers (000s)

Source: ITU.
Conclusions

- Mobile cellular enhances access to communications
- Must not be viewed as service for privileged
- Requires regulatory encouragement to extend access to all

World Telecommunication Development Report 1999

- Theme: Mobile cellular
- Publication launch: TELECOM ‘99
- Available on paper and PDF
- Website: www.itu.int/ti/publications/wtdr_99/wtdr99.htm
"Mobile will substitute for fixed telephony as the primary form for personal communications."

—Vodafone