Connected refugees: Opportunities and barriers for refugees using mobile devices and the internet in East Africa
Key questions

• What are the mobile phone penetration rates in Kakuma and Nakivale?
• What are the main barriers to using mobile technology for refugees in transit and those that are settled?
• What are some of the solutions used by refugees to overcome these barriers?
Sampling approach

- Mixed methods data collection
- GPS locations recorded
Survey sample

Survey population in Kakuma
- 32.1% 18 to 24
- 45.8% 25 to 44
- 16.5% 45 to 64
- 5.6% 65 +

Survey population in Nakivale
- 31.1% 18 to 24
- 42.9% 25 to 44
- 20.5% 45 to 64
- 5.5% 65 +

By nationality
- South Sudan: 193
- Somalia: 122
- DR Congo: 105
- Burundi: 97
- Sudan: 90
- Ethiopia: 47
- Other: 42

- DR Congo: 320
- Burundi: 151
- Somalia: 99
- Rwanda: 93
- Tanzania: 6
Refugee access to mobile technology

Kakuma

Refugee mobile device ownership

National Ownership ~26%

Average age of ownership

28 33 39

Nakivale

National Ownership ~4%

Average age of ownership

30 34 38

Kakuma

Refugee mobile device ownership

National Ownership ~26%

Average age of ownership

30 34 38

Nakivale

National Ownership ~4%

Average age of ownership

30 34 38
Barriers to using mobile technology

- Poor network signal strength is a significant factor
- Other SIM cost
- No content in local language
- Poor literacy
- Difficulty charging mobile phones
- Device Affordability
- Credit (Data) cost
- SIM cost
- Other

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• Poor network signal strength is a significant factor
Mobile phone connectivity and use in transit

Decisions made by refugees during transit based on information obtained through mobile

Level of mobile phone connectivity experienced by refugees in transit

<table>
<thead>
<tr>
<th>Location</th>
<th>All</th>
<th>More than half</th>
<th>Less than half</th>
<th>None</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kakuma</td>
<td>16.4%</td>
<td>23.0%</td>
<td>20.5%</td>
<td>16.4%</td>
<td>23.8%</td>
</tr>
<tr>
<td>Nakivale</td>
<td>49.2%</td>
<td>16.9%</td>
<td>25.4%</td>
<td>5.9%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>
Mobile phone signal coverage and major migration routes in Kenya, Uganda and the surrounding region.
Characteristics of mobile data access in settlements

Refugee access to the internet

<table>
<thead>
<tr>
<th>Settlement</th>
<th>Smartphone and internet</th>
<th>Feature phone and internet</th>
<th>Basic phone and internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kakuma</td>
<td>38.1%</td>
<td>91.9%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Nakivale</td>
<td>46.8%</td>
<td>94.2%</td>
<td>13.6%</td>
</tr>
</tbody>
</table>

Internet access amongst mobile device owners surveyed

<table>
<thead>
<tr>
<th>Settlement</th>
<th>Kakuma</th>
<th>Nakivale</th>
</tr>
</thead>
<tbody>
<tr>
<td>No internet access</td>
<td>61.9%</td>
<td>53.2%</td>
</tr>
<tr>
<td>Internet access</td>
<td>38.1%</td>
<td>46.8%</td>
</tr>
</tbody>
</table>

Method of accessing the internet

<table>
<thead>
<tr>
<th>Settlement</th>
<th>WIFI</th>
<th>3G or 4G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kakuma</td>
<td>96.8%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Nakivale</td>
<td>87.7%</td>
<td>12.2%</td>
</tr>
</tbody>
</table>
Connectivity barriers in refugee settlements

Key: Cell phone signal recorded
- 2G Signal
- 3G Signal
- 4G Signal
- No Signal
Overcoming barriers to accessing mobile data

Email address ownership

<table>
<thead>
<tr>
<th>Location</th>
<th>Has an email address</th>
<th>No email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nakivale</td>
<td>22.6%</td>
<td>77.4%</td>
</tr>
<tr>
<td>Kakuma</td>
<td>29.0%</td>
<td>71.0%</td>
</tr>
</tbody>
</table>

- Users without email can download apps without accessing app stores.
- Airtime costs are zero as Bluetooth does not use 3G/4G.
- Apps, photos and other files can be shared even in areas with poor mobile connectivity, or no 3G access.
Conclusion

• Internet access for most refugees in Kakuma, Nakivale and across the region means using a smartphone
• However, smartphone ownership is notably above national averages
• Mobile connectivity influences how many refugees migrate in the region:
  • Often to get information about the route ahead
  • ‘Islands of connectivity’ follow major migration routes
• Once settled, there are many similarities in the barriers faced by refugees in Kakuma and Nakivale to access mobile services
  • Poor, or intermittent connectivity including unreliable 3G access
  • Innovative solutions, such as peer-to-peer file sharing, overcome issues in accessing apps and sharing data