Integrating geospatial information in census- UNFPA priorities for the 2020 round

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Value of GIS

1. Improves the precision of cartography, for cleaner boundaries, and quality assurance of census coverage

2. Enables the integration of different data sources (remote sensing, census, surveys), for higher resolution information (data disaggregation) and census estimations

3. Allows comparability of census data over time, by providing raster data independent of changing administrative boundaries and EAs
**Why GIS is important for UNFPA strategy for the 2020 census round**

1. Increasing demand for disaggregated data for SDGs, and regional & national development
   - 98 SDG indicators require population data for their calculation

2. The Independent Evaluation of UNFPA support to the 2010 census called for increased dissemination and use of census data- geocoded census data enables more efficient, effective & wider dissemination & use

3. Potential to use geo-coded census data to generate estimates of populations affected by humanitarian crises

**UNFPA GIS priorities for the 2020 census round**

1. Advocate for greater application of GIS in census

2. Strengthen national capacity for production and use of high resolution geo-referenced census data
   - Overall – capacity strengthening – a top SDG priority – Target 17.18-with a target for year 2020-
   - Map census data at lower geographic levels – for development planning, implementation, monitoring & reporting
   - Capitalize on GIS to integrate census & survey data for small area estimation

3. Support Hybrid Censuses
Advocate for greater application of GIS in census

- ICT/Mobile enabled censuses
- South-South partnership within Africa and LACRO to promote hand-held devices facilitating GPS

Advocate for greater application of GIS in census ...

Update census-based national sampling frames

Source: A joint project by ORNL, Flowminder and the Bill & Melinda Gates Foundation - Nigeria
Advocate for greater application of GIS in census ...

- Using satellite imagery of settlement patterns to verify enumeration areas
- Enable navigation (GPS) to HH by fieldworkers
- Real-time monitoring of enumeration

Strengthen national capacity for use of geo-referenced census data

Using GIS/Accessmod to map Geographic accessibility to Basic EmONC in Togo
Strengthen national capacity for use of geo-referenced census data ...

**Top 15** Districts with highest % Child Marriage

<table>
<thead>
<tr>
<th>District</th>
<th>Child Marriage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chama</td>
<td>44.0</td>
</tr>
<tr>
<td>Mpulungu</td>
<td>43.5</td>
</tr>
<tr>
<td>Chilubi</td>
<td>43.0</td>
</tr>
<tr>
<td>Lundazi</td>
<td>40.0</td>
</tr>
<tr>
<td>Kaputa</td>
<td>38.8</td>
</tr>
<tr>
<td>Kalala</td>
<td>39.0</td>
</tr>
<tr>
<td>Mungu</td>
<td>38.2</td>
</tr>
<tr>
<td>Luvungi</td>
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<tr>
<td>Nyimba</td>
<td>38.0</td>
</tr>
<tr>
<td>Mafinga</td>
<td>37.8</td>
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<tr>
<td>Petauke</td>
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<tr>
<td>Lufwanyama</td>
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<tr>
<td>Chinsali</td>
<td>34.9</td>
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<tr>
<td>Luwingu</td>
<td>34.4</td>
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<tr>
<td>Kaputa</td>
<td>33.8</td>
</tr>
<tr>
<td>Samilya</td>
<td>33.7</td>
</tr>
</tbody>
</table>

**Strengthen national capacity for use – Small Area Estimation**

Estimating SDG indicator 3.7.1 at district level - Nepal

- DHS data alone gives only regional estimates of FP.
- Census does not have FP indicators.
- SAE allows FP estimates at district level.
Strengthen national capacity for use of geo-referenced census data – Humanitarian Crises

Locating Nepali pregnant women

Nepal Earthquake Magnitude

- Post-enumeration survey for quality assurance and validation
- Digital statistical products for data dissemination
- Promoting GIS-based platforms for public access
Support for Hybrid Census - Afghanistan

**Innovative Modeling**

*Ancillary geospatial data*

- Vegetation index
- Settlements
- Night-time
- Slope

**Output**

- 100mx100m grid population estimates

**GRID Project**

**Partnership:** UNFPA, WorldPOP/Flowminder, DFID, BMGF, CIESIN

**Goal:** Supporting governments to improve production, use and sharing of high-resolution population, settlement, and infrastructure data

- Further work on promoting use of geospatial population data with other geospatial datasets (range of African countries)
- Use of high-resolution geospatial settlement layers and micro-census data to generate population estimates where a census is not possible (beyond Afghanistan)
Census GIS collaboration

- Supporting censuses in 135 countries:
- Multi-lingual experts for expanding UNFPA regional census rosters in GIS-related work
- In-country and regional partnerships for GIS capacity strengthening – sustainable academic partnerships
- Guidelines, tools, and standards

Thank you