APPLICATION OF GEOSPATIAL TECHNOLOGY IN SAMPLING FRAMES
1. Background on Somalia’s Statistical System
3. Somali Health and Demographic Survey (SHDS) Sampling Frame
4. Applications of the Sampling Frame
1. Background on Somalia’s Statistical System

- The first population and housing census for Somalia was conducted in 1975, which published limited results; the findings from a second population census conducted in 1986/87 were not published officially.

- The lack of data for planning necessitated development partners to organize the Population Estimation Survey of Somalia (PESS) to assist in coming up with some reliable parameters to estimate population.
One of the objectives of the PESS was to establish a sample frame for future household based surveys.

Sample Frame Strata

1. Urban
   1986 district capitals delineated into Enumeration Areas (EAs) of 50 to 149 HHs

2. Rural
   Updated list of settlements from 2005 Somalia community census with EAs of 50 to 149 HHs

3. Nomadic
   List of water points

4. IDP
   IDPs living among sedentary and nomadic population & IDPs living in camps
2. SHDS Frame

Objective of the SHDS is to fill data gaps on health and demographic issues, for better planning, policy formulation and informed decision-making.

Sample Frame Strata

- **Urban/IDP**: 1988 district capitals delineated into Enumeration Areas (EAs) of 80 to 149 dwelling structures
- **Rural/IDP**: Updated list of settlements from PESS with EAs of 80 to 149 dwelling structures
- **Nomadic**: List of water points or TNS
Type 1 – Dwelling structure
Type 2 – Non dwelling structure
Type 3 – IDP shelter

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APPLICATIONS OF SAMPLING FRAME
Investigating Population Movements in Baidoa, Somalia
INTRODUCTION

• Population movements in Somalia are not a new phenomenon. People are known to move for various reasons including conflict, drought or as part of their lifestyle as nomads.

• The objective of the study was to demonstrate the patterns in population movement in Baidoa town through a comparison of enumeration areas, number of households and number of structures using satellite imagery and geospatial techniques.
BACKGROUND

• The combined effect of famine and the conflict caused a negative impact on the town’s economic stability and livelihoods leading to a dire humanitarian situation and major displacements of population.

• Over the years, it has also become clear that persons living in nearby districts in Baidoa gravitate to the town to seek basic services such as shelter, food, health care etc. during any humanitarian crisis.
The study analysed Enumeration Area data collected from:

1. The field mapping exercise for the PESS survey in 2013.
FINDINGS
2013
ENUMERATION AREAS: 66
HOUSEHOLDS: 7,976

2016
ENUMERATION AREAS: 119
HOUSEHOLDS: 13,990

2017
ENUMERATION AREAS: 300+
HOUSEHOLDS: 32,447

Based on dwelling structure counts from high resolution imagery
** Based on dwelling structure counts from high resolution imagery in February 2018. More than half of these are IDPs

ENUMERATION AREAS: 600+
HOUSEHOLDS: 60,000+

** Based on selected EA field verification in July 2018. More than half of these are IDPs
FINDINGS

• The comparisons of previous and current enumeration areas, number of households and number of structures proved to be useful in understanding the population patterns in Baidoa town.

• The findings of the spatial analysis show that the population of Baidoa town and its environs has risen 7 fold since 2013. This is mainly attributed to the influx of internally displaced persons.
Flood Response in Beletweyne, Somalia
Background on Beletweyne Frame

• The number of dwelling structures digitized in the flood affected areas were selected to provide estimates of the affected population.

• This data was verified using field collected data in 2016 during a births and deaths survey carried out by UNFPA and the MOPIED which showed that the number of households per dwelling structure in the town was on average 1.
CASE STUDY OF BELETWEYNE

LEGEND
- Dwelling Structures/ Households in Belet Wayne Town
- Severely Flood Affected Dwelling Structures/ Households
- Severely Flooded Area

2017

2018

5TH MAY 2018
CASE STUDY OF BELETWEYNE FLOODING

BELETWEYNE - DEMOGRAPHICS OF FLOOD DISPLACED PERSONS

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<td>17,545</td>
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<td>Total population</td>
<td>107,025</td>
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<td>Population affected by floods</td>
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Average size of household: 6.1
Population density: total population per km² 4,214

Key demographic indicators:
- Total males (%) 53.4
- Total females (%) 46.6
- Total women aged 15-49 years (age in complete years) = women of reproductive age (%) 29.3
- Total women aged 10-19 years (age in complete years) = adolescent women (%) 11.6
- Total young women aged 15-24 years (age in complete years) = young women (%) 7.3
- Total population under 15 and aged 0-14 years in complete years = children (%) 51.7
- Total population aged 10-19 years (age in complete years) = adolescents (%) 24.4
- Total population aged 15-24 years (age in complete years) = youth (%) 15.6
- Total population under 1 (%) 1.5
- Total population under 5 (%) 11.6
- Total population aged 10 years and over (%) 62.3
- Total population aged 65 years and over (age in complete years) = seniors (%) 0.3
- Total female heads of household (%) 17.5
- Total children (population under 18) heads of household (%) 0.2

Prepared by: [Imagery] UNFPA
[Building Structures Household Count]: Ministry of Housing, Federal Government of Somalia with support from UNFPA
[The KOL Technical Team from UNFPA]

The demographic analysis is based on Beletweyne urban births and deaths data collected in 2016-2017, 2016 field mapping & verification, and recent land ownership and spatial data mapping in 2017 and 2018.
THANK YOU