Strategic Data Sourcing for Measuring SDG Progress

Day 1

International Programs
U.S. Census Bureau
September 18- September 22, 2017
Washington, D.C.
Let’s introduce ourselves!

- Name?
- Country and institution?
- What is your job?
- Do you work with SDGs data?
- What is your favorite food or hobby?
- What do you expect of this workshop?
Outline - Day 1

- 9:30 - 11:00 AM - Check-in, introductions, and agenda
- 11:00 - 12:00 PM - Background
- 12:00 - 1:00 PM - Break
- 1:00 - 3:00 PM - Presentations (Tool 3)
- 3:00 - 4:30 PM - Types of indicators (goals 1, 3, 4, 5, and 6)
Objectives

• By the end of the workshop, participants will:
  – Identify data sources which can be used to monitor progress toward SDGs
  – Understand the strengths and limitations of various data sources for SDG monitoring
  – Develop a template with baselines to help monitor progress toward SDGs
Strategic Data Sourcing for Measuring SDG Progress

• What this workshop is NOT:
  – A comprehensive workshop on SDGs (not all 17 goals will be covered)
  – A workshop on how to calculate indicators
Day 1

• Introductions
• Background
  – Millennium Development Goals
  – Sustainable Development Goals (SDG)
• Capacity Assessment Questionnaire (Tool 3) presentations
• Types of indicators
  – Goals 1, 3, 4, 5, and 6
  – Sources
Day 2

- Minimum Data Template – Tool 1
- Goal 1 – No Poverty
- Common Data Template – Tool 2
- SDG Template
Day 3

- Goal 3—Good Health and Well-being
- Demographic and Health Survey (DHS)
- Exercise (SDG Template)
Day 4

• Goal 4—Quality Education
• Goal 5—Gender Equality
• Goal 6—Clean Water and Sanitation
• Multiple Indicator Cluster Survey (MICS)
• Exercise (cont.) – Work on template
Day 5

- Exercise (cont.) – Work on template
- Living Standards Measurement Study
- Group presentations by country
- Closing ceremony
- Evaluations
WHAT ARE SUSTAINABLE DEVELOPMENT GOALS?
What are Sustainable Development Goals?

• SDGs are a set of goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda.
• They were adopted on September 25, 2015 by the United Nations member states.
• Each goal has specific targets to be achieved by 2030.

*United Nations – Sustainable Development Goals
GOALS, TARGETS, AND INDICATORS
Goals, Targets, and Indicators

• **Goal:** The end result towards which effort is directed
  – e.g., Goal 3: Ensure healthy lives and promote well-being for all at all ages

• **Target:** Concrete objectives to achieve goals
  – e.g., By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births
Goals, Targets, and Indicators (cont.)

- **Indicator**: It is the representation of statistical data for a specified time, place, or any other relevant characteristic
  - e.g., Maternal mortality ratio

\[
\frac{\text{maternal deaths}}{\text{live births}} \times 100,000 = MMR
\]

*Eurostat – Statistics Explained*
Goals, Targets, and Indicators (cont.)

• National Statistical Offices (NSO) will be responsible for delivering a large subset of SDG indicators.
  – especially as they pertain to socio-economic and demographic measures

• This workshop is designed to help NSOs strategize on sourcing data.
Goals, Targets, and Indicators (cont.)

• Main data sources:
  – Censuses
  – Household surveys
    • Demographic and Health Survey (DHS)
    • Living Standards Measurement Study (LSMS)
    • Multiple Indicator Cluster Survey (MICS)
BACKGROUND
Millennium Development Goals

• The Millennium Development Goals (MDGs) are the predecessors of the Sustainable Development Goals.
• They were signed in 2000 as part of the United Nation’s Millennium Declaration.
• They consisted of eight international development goals for the year 2015.
• The eight goals consisted of 21 targets and a series of measurable indicators for each target.
The Sustainable Development Goals (SDGs) were signed in 2015.

They consist of seventeen goals with specific targets to be achieved by 2030.

The SDG goals consist of 169 targets and 232 indicators.
Sustainable Development Goals

• Note: The SDG list includes 232 indicators on which general agreement has been reached.
• The total number of indicators listed in the revised global list of SDG indicators is 244.
• However, since nine indicators repeat under two or three different targets, the actual total number of individual indicators in the list is 232.
Sustainable Development Goals

• In this workshop we will focus on the goals that deal with socioeconomic and demographic indicators only.
TOOL 3: QUESTIONNAIRE
Tool 3: Questionnaire

- The third tool of the Global Partnership for Sustainable Development Data’s (GPSDD) Minimum Essential Data Package is a set of questions meant to help countries assess their current data capacity and determine areas where investments need to be made for a more efficient monitoring system, which is based on identified global standards.

*GPSDD – see more at: http://www.data4sdgs.org/minimum-essential-data-package*
Tool 3: Questionnaire

• The Questionnaire is a tool intended to help national data teams to evaluate their preparedness for SDG monitoring, and to subsequently draft a *Data Roadmap for Sustainable Development*. 

• Emphasis was placed on the frequency of data collection, alignment with international standards, sample representativeness, level of disaggregation, and geospatial attribution of data.

*GPSDD – see more at: http://www.data4sdgs.org/minimum-essential-data-package*
Tool 3: Questionnaire

• Once all questions are answered, countries should be able to identify gaps that need to be filled to conform to global best practices, thus enabling them to best determine where to invest in capacity for better SDG monitoring.

*GPSDD – see more at: http://www.data4sdgs.org/minimum-essential-data-package
Tool 3: Questionnaire

Example:

Q. Did your country conduct a population and housing census in the past 20 years?
A. Yes

Q. How many censuses were conducted in the past 20 years?
A. One

Conclusion: more capacity needs to be built nationally to conduct a population and housing census every 10 years.

*GPSDD – see more at: http://www.data4sdgs.org/minimum-essential-data-package
Tool 3: Questionnaire

• The questionnaire is meant to be further refined in partnership with national statistical offices and other data stakeholders.

*GPSDD – see more at: http://www.data4sdgs.org/minimum-essential-data-package
Exercise

• Present an overview of data availability in your country based on the GPSDD questionnaire.
• What challenges do you foresee looking forward to 2030?
• What “data gaps” did you identify in your country?
• What can/cannot be done in your country to fill this “gaps”?

*GPSDD – see more at: http://www.data4sdgs.org/minimum-essential-data-package
Exercise (cont.)

• How does your country score on the Open Data Barometer and Open Data Index?
  – http://www.opendatabarometer.org/
  – http://index.okfn.org/

*GPSDD – see more at: http://www.data4sdgs.org/minimum-essential-data-package
DATA SOURCES
AND INNOVATION
Essential Data

- Census data
- Household surveys
  - Demographic and Health Surveys (DHS)
  - Multi-Indicator Cluster Surveys (MICS)
  - Living Standards Measurement Study (LSMS)
  - Income & Expenditure Surveys (IES)
  - Reproductive Age Mortality Surveys (RAMOS)
  - Core Welfare Indicator Questionnaire (CWIQ)
- Agricultural surveys
- Administrative data
- Economic and fiscal statistics
- Geospatial data
- Environmental data
Other Data Sources/Innovations for SDGs

• **Satellite Imagery:** Many applications for development monitoring, particularly in data constrained environments. Cost of satellite imagery is falling while availability of images and capacity for automated processing are increasing.

• **Unmanned Aerial Vehicles (UAVs):** Similar to satellite imagery, UAVs or drones are able to collect a range of useful measurements at low cost. They are currently being applied in agricultural studies with potential applications in other areas.
Other Data Sources/Innovations for SDGs

• **Crowd-Sourcing:** Advances in global connectivity has created opportunities for wide-scale participation in data collection and processing, with current applications in road mapping, land cover classification, human rights monitoring, price tracking etc.

• **Smart-Meters:** The increasing use of smart-metered systems for energy and water distribution that transmit usage information over communications networks could create novel capabilities to measure and manage service provision.
Other Data Sources/Innovations for SDGs

• **Smart-Phone and tablet-based data collection:** Many surveys are now being conducted on mobile platforms. This practice reduces time and cost for data collection, improves accuracy, and creates geo-located data that streamlines integration with other information systems.

• **Data Mining:** New uses are emerging from data sources that have been not explicitly designed for development monitoring, such as social media, mobile call data records, commercial transactions etc. with applications in crisis response, urban planning, and public health management.
Other Data Sources/Innovations for SDGs

• **Institutional Innovations**: Country data ecosystems like public-private partnerships are an important consideration while assessing the data systems.

• **Process Innovations**: Innovations in data processes need to be updated for better development monitoring. For example - Micro-data anonymization, synthetic datasets, and so on.
Census Data (types of censuses)

- **Population census**: A population census is the total process of planning, collecting, compiling, evaluating, disseminating, and analyzing demographic, economic, and social data at the smallest geographic level pertaining, at a specified time, to all persons in a country or in a well-delimited part of a country.

*UN Principles and Recommendations for Population and Housing Censuses*
Census Data (types of censuses)

- **Housing census:** A housing census is the total process of planning, collecting, compiling, evaluating, disseminating and analyzing statistical data relating to the number and condition of housing units and facilities as available to the households pertaining, at a specified time, to all living quarters and occupants thereof in a country or in a well-delimited part of a country.

*UN Principles and Recommendations for Population and Housing Censuses*
Census Data

• The essential features of population and housing censuses are individual enumeration, universality within a defined territory, simultaneity, defined periodicity, and small-area statistics.
Indicators Typically Found in Census Data

- 1.4.1 Proportion of population living in households with access to basic services
- 3.1.1 Maternal mortality ratio
- 3.2.1 Under-five mortality rate
- 3.2.2 Neonatal mortality rate
- 3.7.2 Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group
- 4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex
- 4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
- 4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated
- 5.3.1 Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18
- 5.5.2 Proportion of women in managerial positions
- 6.1.1 Proportion of population using safely managed drinking water services
- 7.1.1 Proportion of population with access to electricity
- 7.1.2 Proportion of population with primary reliance on clean fuels and technology
- 8.3.1 Proportion of informal employment in non-agriculture employment, by sex
- 8.5.2 Unemployment rate, by sex, age and persons with disabilities
- 8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training
- 8.7.1 Proportion and number of children aged 5-17 years engaged in child labour, by sex and age
- 9.2.2 Manufacturing employment as a proportion of total employment
- 9.5.2 Researchers (in full-time equivalent) per million inhabitants
- 10.2.1 Proportion of people living below 50 per cent of median income, by age, sex and persons with disabilities
- 11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing
Indicators Sometimes Found in Census Data

- 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)
- 1.2.1 Proportion of population living below the national poverty line, by sex and age
- 1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
- 1.4.2 Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure
- 3.8.2 Number of people covered by health insurance or a public health system per 1,000 population
- 4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex
- 5.a.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure
- 5.b.1 Proportion of individuals who own a mobile telephone, by sex
- 6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water
- 7.2.1 Renewable energy share in the total final energy consumption
- 7.3.1 Energy intensity measured in terms of primary energy and GDP
- 8.9.2 Number of jobs in tourism industries as a proportion of total jobs and growth rate of jobs, by sex
- 11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
- 12.2.1 Material footprint, material footprint per capita, and material footprint per GDP
- 16.7.1 Proportions of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions
- 16.9.1 Proportion of children under 5 years of age whose births have been registered with a civil authority, by age
- 17.6.2 Fixed Internet broadband subscriptions per 100 inhabitants, by speed
Household Surveys

• Household surveys are used to produce statistics that describe populations and their characteristics, such as age, education, housing and income. Data is collected by asking household members to provide information about the people who live in the house, apartment, mobile home, or group housing.

• To determine the sample of households that are selected to be in a survey, a variety of sources are used, some samples are address-based, others are telephone number- or person-based.
Household Surveys

• While household surveys may not be able to collect the detailed information that can be obtained from censuses for small areas or small population groups, there are other advantages associated with interviewers collecting the data rather than, for example, the information being collected on a self-enumeration basis or from administrative records—such as, administering and navigating through probing questions.

*UN - Principles and Recommendations for Population and Housing Censuses (p. 186)
Indicators Typically Found in Major Household Surveys

- 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)
- 1.2.1 Proportion of population living below the national poverty line, by sex and age
- 1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
- 1.4.2 Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure
- 3.8.2 Number of people covered by health insurance or a public health system per 1,000 population
- 4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex
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Administrative Records

• Administrative records (AR) are government or private data on the persons or households within a country.

• ARs are a less-costly alternative to conducting direct inquiries of the population.

• However, the utility of these data sets for statistical analysis is usually limited by their lack of population coverage, data accuracy, or range of characteristics.

*UN Principles and Recommendations for Population and Housing Censuses
Administrative Records

• Administrative data can replace census data – for example in some countries income data from the taxation/revenue department can replace the need to directly collect it in the census.

• Administrative data can extend census data – for example, linking census data with visa information or health information to extend the census data set into areas which may be too sensitive to collect on the census form, or with past education data to analyze longitudinally the impact of education on labor force outcomes.

*UN Principles and Recommendations for Population and Housing Censuses
Administrative Records

• Administrative data can also replace missing data – for example, in one country health records have been used to impute the count and characteristics of usual residents that were nonresponding during the census enumeration period.
SDG MEASUREMENT PROBLEMS
Measurement Problems

Lack of specific target values in the statement of goal targets creates a major challenge for assessing progress towards achieving the SDGs.

- Of the 169 SDG targets, only 30 percent specify target values.
  - Explicitly: halving, doubling, 7 percent, and so on
  - Implicitly: eradicate, universal access, maintain, end, and so on

Implicit targets can be translated into numerical target values of 0 or 100 (or indicate no change).

*UNESCAP (2017)
Measurement Problems (cont.)

The lack of specific target values in the statement of goal targets creates a major challenge for assessing progress towards achieving the SDGs.

• The remaining 70 percent indicate only a desirable direction of change...
  – Decrease, increase, enhance, promote, and so on

• ...or do not clearly specify the value or direction but propose actions to be taken

*UNESCAP (2017)
Distribution of SDG Targets by Specificity of Target Values

*UNESCAP (2017)
DEMOGRAPHIC AND HEALTH SURVEY (DHS)
DHS Program

• The DHS Program is implemented by ICF International and partners Blue Raster, The Futures Institute, The Johns Hopkins Bloomberg School of Public Health Center for Communication Programs (JHUCCP), PATH, and Vysnova, EnCompass, and Kimetrica.

• Since 1984, the DHS Program has collected, analyzed, and disseminated accurate and representative data on population, health, HIV, and nutrition through more than 300 surveys in over 90 countries.
DHS Program

• The primary focus of the DHS Program is health. Health information is collected through interviews with women and men, as well as collection of biological samples to test for HIV and other STIs, malaria, vitamin deficiencies, and many other health conditions.

• The DHS Program implements Demographic and Health Surveys (DHS), AIDS Indicator Surveys (AIS), Malaria Indicator Surveys (MIS), and Service Provision Assessment (SPA) surveys.
DHS Program

• The DHS Program also provides:

• Capacity Strengthening: The DHS Program builds local skills on all areas of survey design, implementation, and data analysis through on-the-job mentoring, classroom training, curriculum development, eLearning, and blended approaches.

• Increased Access to and Use of DHS Results: The DHS Program makes survey results and datasets available through web-based tools, mobile apps, print materials, video/films, media training, and organized workshops.
Demographic and Health Surveys

• Within the DHS Program, the Demographic and Health Surveys are the most relevant to this workshop.

• The DHSs are nationally representative surveys that provide data for monitoring and impact evaluation indicators in the areas of population, health, and nutrition.
Demographic and Health Surveys

• There are two main types of DHS Surveys:
  – **Standard DHS Surveys** have large sample sizes (usually between 5,000 and 30,000 households) and typically are conducted about every 5 years, to allow comparisons over time.
  – **Interim DHS Surveys** focus on the collection of information on key performance monitoring indicators but may not include data for all impact evaluation measures (such as mortality rates). These surveys are conducted between rounds of DHS surveys and have shorter questionnaires and smaller sample sizes than standard DHS surveys.
Demographic and Health Surveys

• Information is available for the following topics, among others:

- Anemia
- Child Health
- Domestic Violence
- Education
- Environmental Health
- Family Planning
- Female Genital Cutting (module)
- Fertility and Fertility Preferences
- Gender/Domestic Violence
- HIV/AIDS Knowledge, Attitudes, and Behaviors
- HIV Prevalence
- Household and Respondent Characteristics
- Infant and Child Mortality
- Malaria
- Maternal Health
- Maternal Mortality
- Nutrition
- Tobacco Use
- Unmet Need for family planning
- Wealth
- Women’s Empowerment
Demographic and Health Surveys

• Are any of the DHS Program surveys conducted in your country?
• How often?
• How many?
• Since when?
LIVING STANDARDS MEASUREMENT STUDY (LSMS)
LSMS

• The Living Standards Measurement Study (LSMS) is a household survey program housed within the Survey Unit of the World Bank's Development Data Group.

• Since its inception in the early 1980s, the LSMS program has worked with dozens of statistics offices around the world.

• The program provides technical assistance to NSOs in the design and implementation of multi-topic household surveys.
LSMS

• The LSMS has helped other countries generate high-quality data, incorporate innovative technologies and improved survey methodologies, and build technical capacity.

• The LSMS team also provides technical support across the world in the design and implementation of household surveys and in the measurement and monitoring of poverty.
MULTIPLE INDICATOR CLUSTER SURVEY (MICS)
MICS

• The Multiple Indicator Cluster Surveys, known as MICS, are surveys implemented by countries under the programme developed by the United Nations Children's Fund.

• Since its inception in 1995, the MICS has become the largest source of statistically sound and internationally comparable data on women and children worldwide.
MICS

• In MICS countries, trained fieldwork teams conduct face-to-face interviews with household members on a variety of topics – focusing mainly on those issues that directly affect the lives of children and women.

• MICS was a major source of data on the Millennium Development Goals (MDG) indicators and will continue to be a major data source during the 2030 Sustainable Development Agenda to measure Sustainable Development Goals (SDGs) indicators.
MICS

• In MICS countries, trained fieldwork teams conduct face-to-face interviews with household members on a variety of topics – focusing mainly on those issues that directly affect the lives of children and women.
MICS

- Over the past two decades, close to 300 Multiple Indicator Cluster Surveys have been carried out in more than 100 countries, generating data on key indicators on the well-being of children and women and helping shape policies for the improvement of their lives.
MICS

21 years; 107 countries; 292 surveys

*http://mics.unicef.org/about
References


• http://www.unescap.org/sites/default/files/SD_Working_Paper_5_May2017_Tracking_progress_towards_the_SDGs_0.pdf


*UN Principles and Recommendations for Population and Housing Censuses (p. 186)