

US Census Bureau's Priorities for Supporting the Global 2030 Round of Censuses



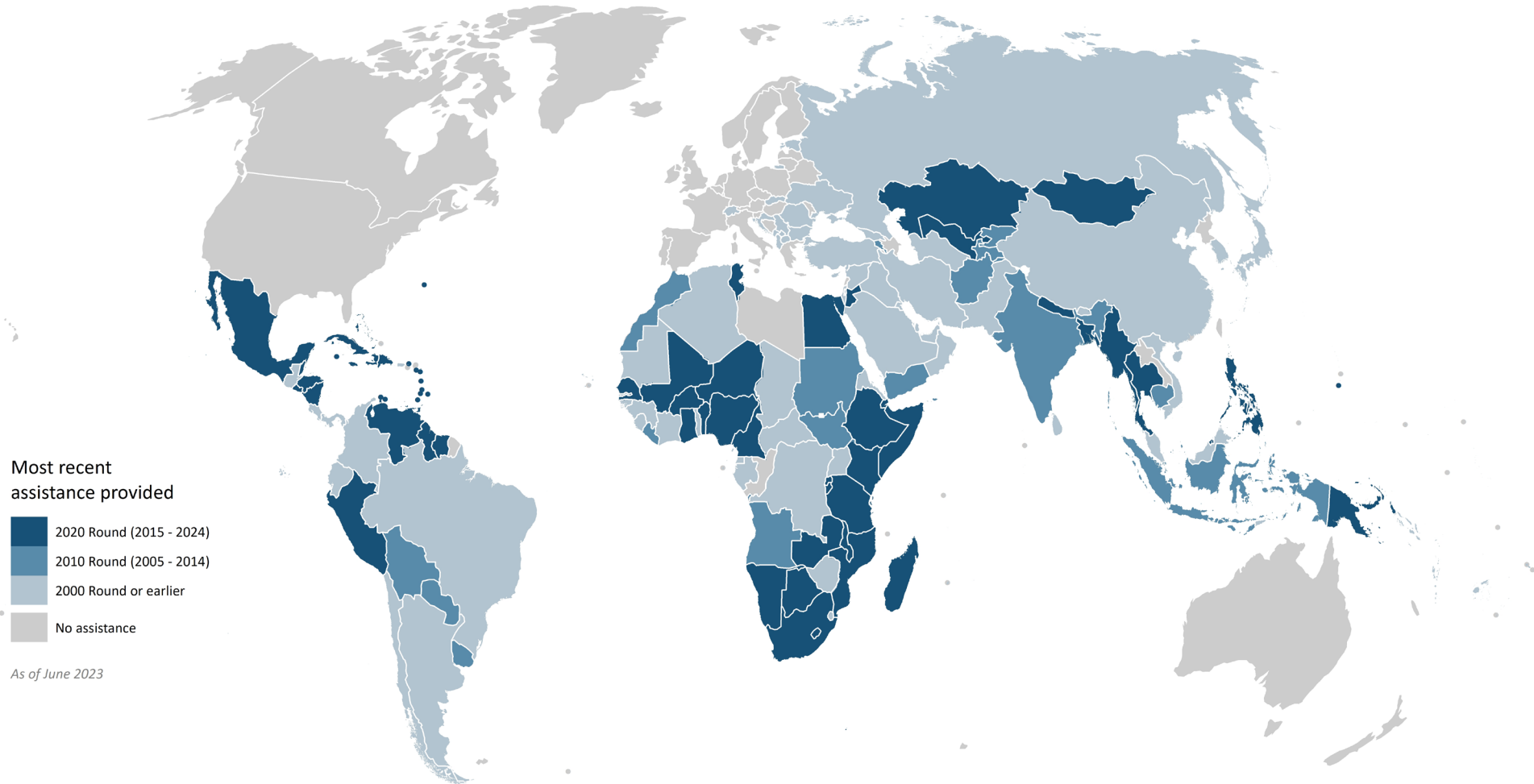
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U.S. Census Bureau

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The U.S. Census Bureau's International Programs Center

*The International Programs Center advances data-driven decision making through **tools**, **capacity strengthening**, and **data products** for the global statistical community. We share the Census Bureau's expertise globally.*

Countries We Have Worked, By Census Round



Most recent assistance provided

- 2020 Round (2015 - 2024)
- 2010 Round (2005 - 2014)
- 2000 Round or earlier
- No assistance

As of June 2023

Goals for Supporting the 2030 Global Round of Population and Housing Censuses

- Three overarching goals:
 - **Strengthen capacity** of host country NSO to conduct high-quality Population and Housing Census.
 - **Develop free tools** to facilitate the process of collecting and disseminating census data.
 - **Coordinate and lead** the international community in developing best practices for census implementation in resource-constrained environments.

New/Updated Tools for the 2030 Round

Select Topics in International Censuses (STICs)

STICs are brief technical notes based on international standards on various census operations. Each note covers a new subject, method, or operation useful for NSOs in low- and middle-income countries.

- Most are available in English, French, Spanish, Arabic and Russian
- Plan to update STICs to incorporate UN P&R Revision



Recently Released STICs

Planning & Management

Documenting the Census to Improve Future Data Quality

Select Topics in International Censuses¹

Released January 2024

INTRODUCTION

Documenting census experience is an integral activity critical to a national statistical office's (NSO) future success in implementing censuses and improving overall data quality. The United Nations (UN) recommends that every NSO prepare and publish administrative, methodological, and procedural history reports to preserve census historical memory based on information that has been recorded in the knowledge management system (KMS) (United Nations, 2021).

Historical reports are useful for users, other stakeholders, and the NSO itself. Recording census experience makes it easier for NSOs to evaluate census activities and overall census quality in order to form recommendations for future censuses and surveys. Data users and other stakeholders also utilize historical accounts to assess census data quality to assist with the acceptance of the results (United Nations, 2021). Making historical accounts available to the public helps NSOs build public trust and bolster their reputation for transparency and accountability within their staff and among their public stakeholders.

This technical note provides guidelines for documenting census experience during the planning, implementation, and postcensus phases through administrative, methodological, and procedural history reports. This note details important considerations for planning a KMS for documentation as well as the important components that

¹ This technical note is part of a series on Select Topics in International Censuses (STIC) that explores matters of interest to the international statistical community. The U.S. Census Bureau helps countries improve their national statistical systems by engaging in capacity building to enhance statistical competencies in sustainable ways. Any views expressed are those of the author(s) and not necessarily those of the U.S. Census Bureau.

NSOs should include in historical reports to comprehensively preserve census historical memory.

PLANNING FOR DOCUMENTATION

As experienced staff are likely to retire or leave NSOs between censuses, the risk for gaps in institutional knowledge is significant. Documenting prior census experience is thus essential for preserving institutional knowledge within NSOs. To bridge potential chasms in institutional knowledge between census years (typically 10-year gaps), NSOs must systematically document procedures during census operations beyond the standard process of monitoring project plans using knowledge management systems. Knowledge management systems capture comprehensive records of plans, activities, operations, decisions, and risks throughout the entire census process from pre- to post-enumeration census phases.

Establishing the Knowledge Management System

Table 1 outlines the important requirements and considerations for establishing and maintaining a KMS.

Items to Track

Important characteristics to track differ depending on the phase and type of activity being monitored, while the amount of information to document depends on the context of the NSO and country (United Nations, 2021). Table 2 details important items to track throughout different census phases. Note that this table is not meant to be comprehensive as additional items important to the NSO's context are also important to include.

It is important to note that while NSOs are encouraged to track sensitive details comprehensively in KMS's, sensitive

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Mapping

Assessing the Quality of Geospatial Operations for Census Enumeration

Select Topics in International Censuses¹

Released January 2024

INTRODUCTION

Geographic data are crucial throughout census and survey operations. These data provide the frame for census and survey data collection, analysis, and dissemination. In pre-2020 census rounds, most countries collected dwelling unit and household information by drawing pictographic (i.e., sketch) maps during the listing operation. During the last decade, the majority of low- and middle-income countries (LMICs) transitioned from paper- to digital-based listing operations, utilizing satellite imagery and GIS applications to record dwelling unit boundaries and create areas for enumeration (U.S. Census Bureau, 2015). Though technology has eliminated paper-to-GIS digitization, the hard work of ensuring attribute and topological quality remains.

This technical note focuses on the various data quality dimensions national statistical offices (NSOs) must consider across all pre- and during-enumeration geospatial operations. This note will help NSOs to build quality assessments for their census and survey geographic data, allowing them to produce more effective, efficient, and useful geospatial data products.

Data Quality Dimensions

Geographic data support the quality of statistical products published by NSOs (Box 1). They enhance the utility of statistical data by localizing phenomena and allowing people to understand changes in their community. They support objectivity by providing the framework to ensure that people are counted once (and only once) and in the correct place. Geographic data also build integrity because they locate respondents in the correct place,

making it more difficult to falsify data to favor one community over another.

These dimensions of information quality are useful for the general geographic dissemination products and for the geospatial data that support data collection operations.

Pre-Census Geospatial Operations

Before a census is conducted, there are two essential geographic operations that must be completed: demarcation and listing/address canvassing. Demarcation is the process by which statistical boundaries (e.g., enumeration areas) are maintained (or created) based on the listing of dwellings and households (U.S. Census Bureau, 2023). The listing is the result of the listing operation when census workers record GPS building points and identify dwelling units and households within those buildings (for definitions, refer to U.S. Census Bureau, 2015). In country contexts where street naming is applied consistently and dwelling units are uniquely numbered (or otherwise distinguishable), addressing can be completed. Address lists (maintained intercensally or updated preenumeration) can then be provided to enumerators or used to send questionnaires for self-enumeration. In many LMICs, street names and addresses are not available—especially in rural areas. This makes addressing impossible and requires that buildings be identified by geographic (i.e., latitude/longitude) location. Though identification of dwelling units and households requires fieldwork, NSOs increasingly have access to satellite imagery and building footprints (Box 2) for extracting building points, decreasing the time staff need to spend in the field capturing GPS locations.

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Analysis & Practice

Drawing a Master Sampling Frame From a Population and Housing Census

Select Topics in International Censuses¹

Released May 2024

INTRODUCTION

Most national statistical offices (NSOs) conduct a population and housing census (PHC) once every 10 years. In addition, they are responsible for doing several demographic and other household-based surveys in the interim to gather various kinds of data and measure change over time for their countries. These surveys need a well-defined sampling frame as a basis for sample selection (United Nations Statistics Division, 2007, 2021). Without a robust sampling frame, survey results would not be representative of the population. Establishing a high-quality frame should meet the following three criteria:

Be complete with respect to the target population, particularly when aiming to include all members of the universe within the frame.

Be accurate so that the sampling frame can precisely reflect the characteristics and attributes of the population, avoiding errors, duplications, or omissions.

Be current by incorporating updates related to demographic changes and evolving geographic boundaries.

The concept of a master sampling frame (MSF) represents an innovative approach developed by the United Nations National Household Survey Capability Programme as an integrated, multipurpose sampling frame designed to help developing countries. Instead of developing a sampling frame for each survey, an MSF can serve the needs of

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multiple demographic surveys simultaneously when coordination among survey programs is applicable. This strategic use of an MSF offers two significant advantages: cost efficiency and enhanced data quality. By harnessing the power of a single, comprehensive sampling frame across various surveys, organizations can streamline their data collection efforts, optimize resource allocation, and reduce redundancy.

This technical note describes the elements of an MSF, details the benefits, and highlights the design considerations when developing one from a PHC or demographic surveys.²

WHAT IS AN MSF?

An MSF is a special frame designed for selecting samples for multiple distinct surveys or for different rounds of a recurring or periodic survey (U.S. Census Bureau, 2022). Typically, it consists of a comprehensive list of geographic area units that cover the whole country exhaustively and without overlap, which is used in the first stage of selection in many developed and transition countries. The basic frame units of the MSF are established using enumeration areas (EAs). These EAs can be, but are not limited to, villages, city blocks, or neighborhoods that are organized hierarchically and geographically within the frame and distinguished by numeric identifiers, making them uniquely identifiable units.

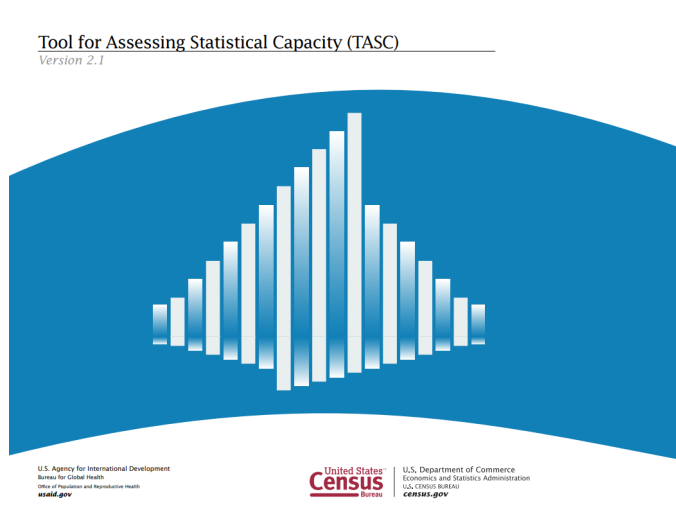
The hierarchical structure of the MSF allows for the formation of primary sampling units (PSUs) of variable

² The MSF detailed in this note is limited to demographic surveys. It does not encompass economic units or agricultural units—unless measuring the informal sector where households may grow crops for own use and for the market or craft goods for the market.

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Tool for Assessing Statistical Capacity (TASC)



The TASC provides an NSO with a quantitative assessment of their areas of strength and weakness in preparation for a population and housing census or household-based survey.

Results from the TASC –

1. Aid NSOs in identifying areas where improvement is needed
2. Assist NSOs and donors to justify the need for funding for training in specific areas
3. Provide a measure of the impact of capacity building activities by being administered at two points in time, before and after.

Tool for Assessing Pilot Electronic Censuses (TAPEC)

A comprehensive assessment tool designed for national statistical offices (NSOs) -

- To systematically assess and document pilot electronic population and housing censuses.
- To identifying critical issues to address before the execution of the full census.

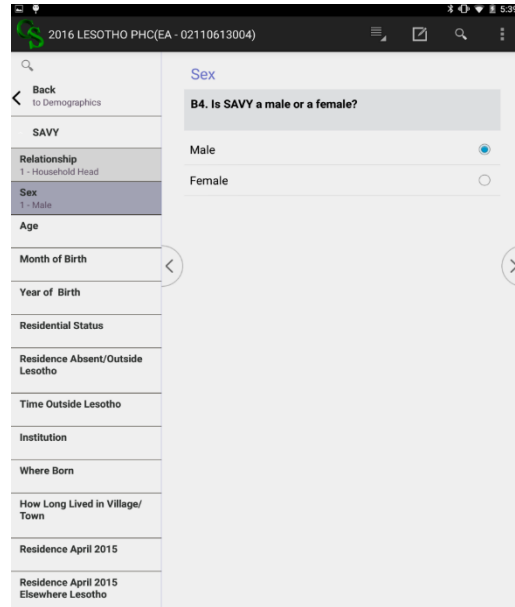
The **TAPEC toolkit** includes:

- Instructions
- Field observation form
- Field debriefing forms
- Assessment workbook
 - 11 modules that cover various aspects of the pilot census
 - Operational Pilot Data spreadsheet
 - Report on Issues

Census and Survey Processing System (CSPro)

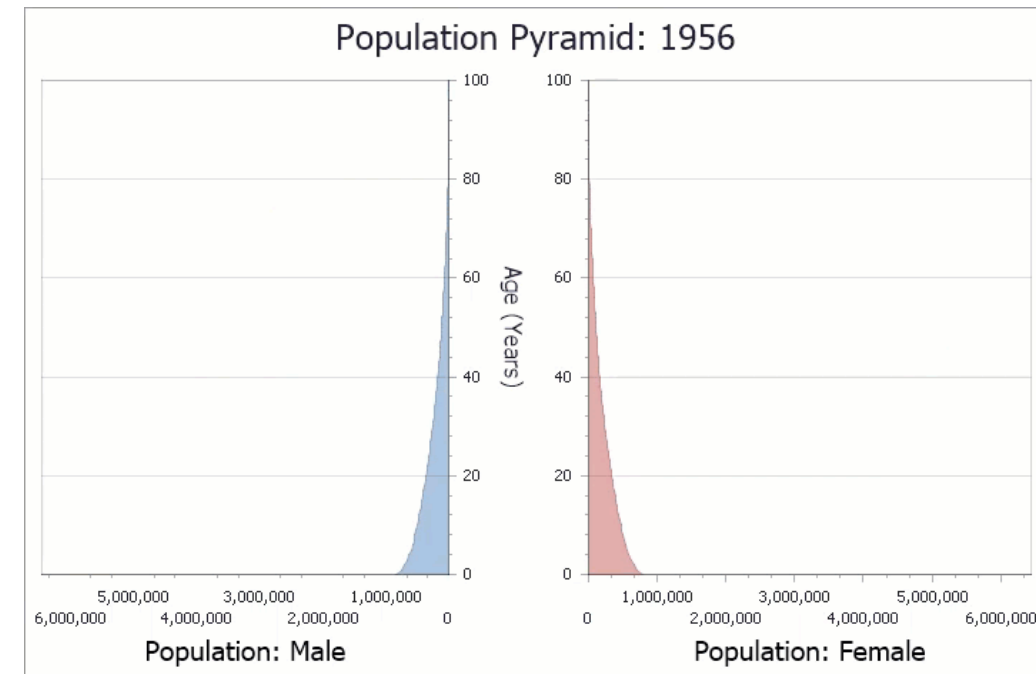
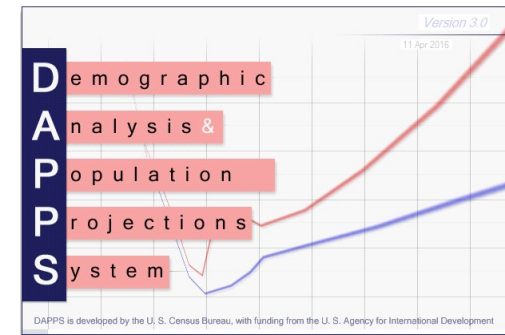


- End-to-end processing solution: data entry, editing, and tabulation
- Used in 193 countries across various organizations
- 2014 CSPro Android released
- 2025 Beta CSPro CAWI release



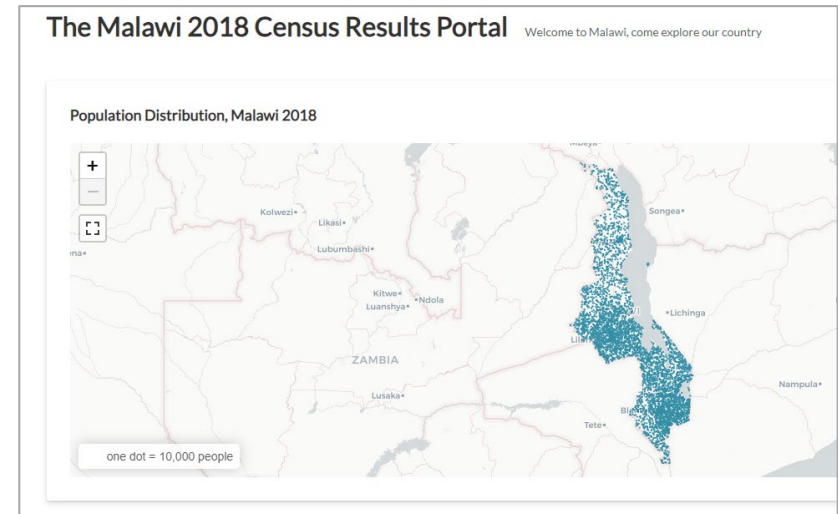
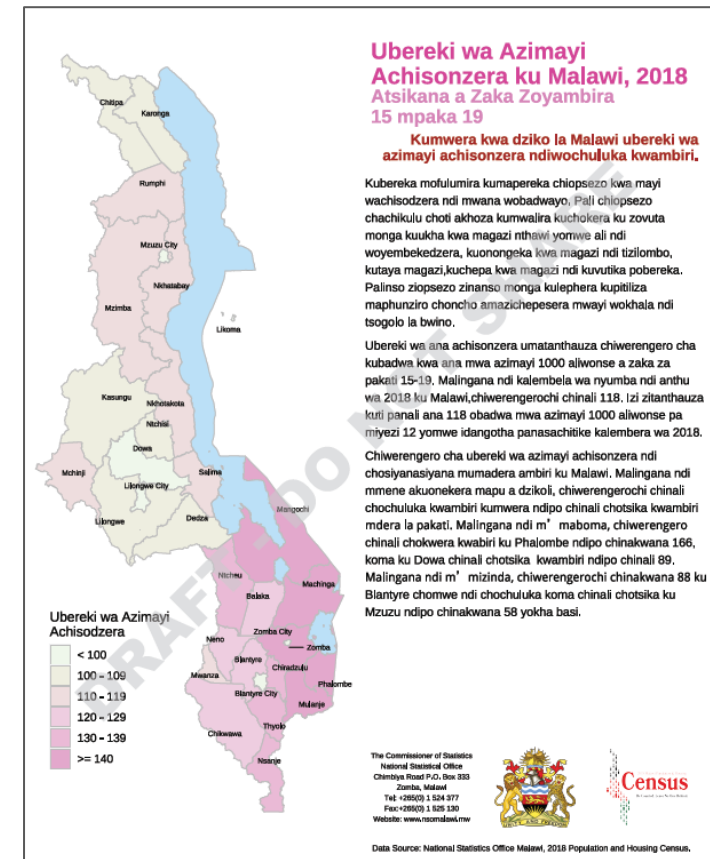
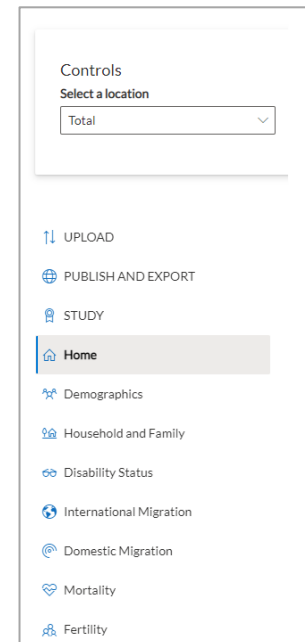
Demographic Analysis and Population Projection System (DAPPS)

- Software designed to help users produce and analyze population projections.
- Cohort-component population projection
- Over 70 countries trained in DAPPS for the 2020 Round.
- DAPPS 4.0 – improved UI and visualizations.



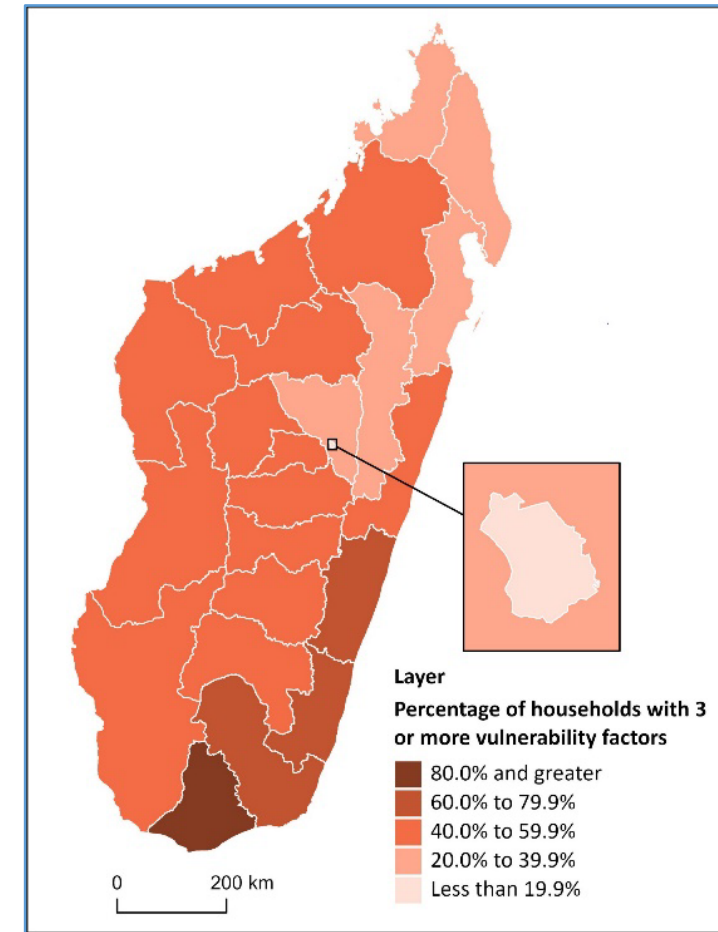
Open-Source Dissemination System (OSDS)

- Set of applications designed to support NSOs to independently produce quality census dissemination products.
- Public-facing platform for custom dashboards
- Custom report production



International Community Resilience Estimates (ICRE)

- Adapting U.S. Census Bureau **Community Resilience Estimates** to low/middle income countries.
- Vulnerability factors informed by Cutter et al, 2003.
- Data from NSOs (via IPUMS, DHS Program).
- ICRE toolkit that can be adapted and localized by NSOs.



Thank You!

<https://www.census.gov/programs-surveys/international-programs>