



Guidelines on Use of Electronic Data Collection Technologies in Population and Housing Censuses

Meryem Demirci, UN Statistics Division



Introduction

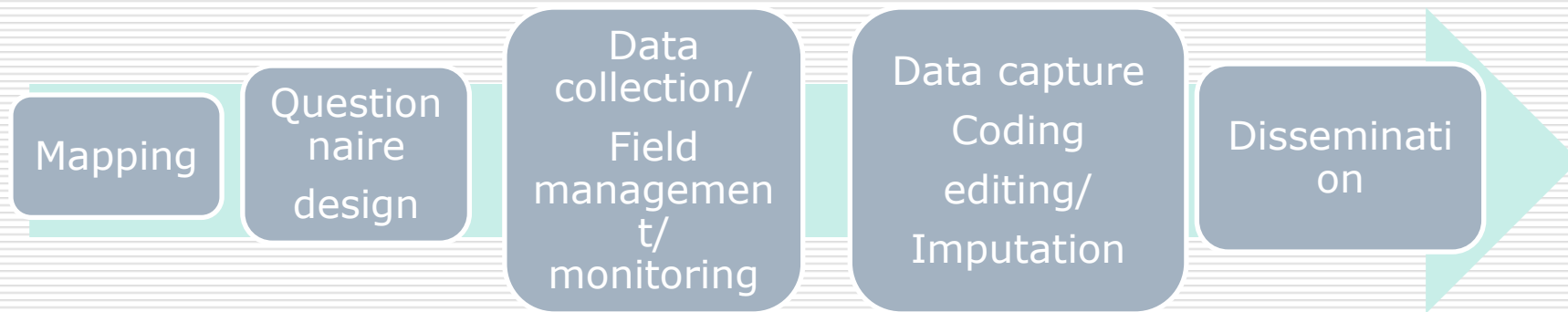
- ❑ Guidelines on the use of technology in conducting population and housing census :
 - operational guidelines for adoption of electronic data collection technologies focusing on the use of hand-held devices and Internet
 - aims to help NSOs for making sound decision and planning and designing census operations with electronic data collection technologies
 - supplementary document to the Handbook on Census Management and the Principles and Recommendations for Population and Housing Censuses



Growing interest in the use of technology

- ❑ Recent round of censuses have introduced new technologies in conducting censuses
 - Optical data capture and Internet in 1990s
 - GIS in 2000s
 - Electronic data collection technologies in 2010s

Technology adoption through out census operation



Coverage, Data quality, Timeliness, Accessibility



Main considerations in census planning

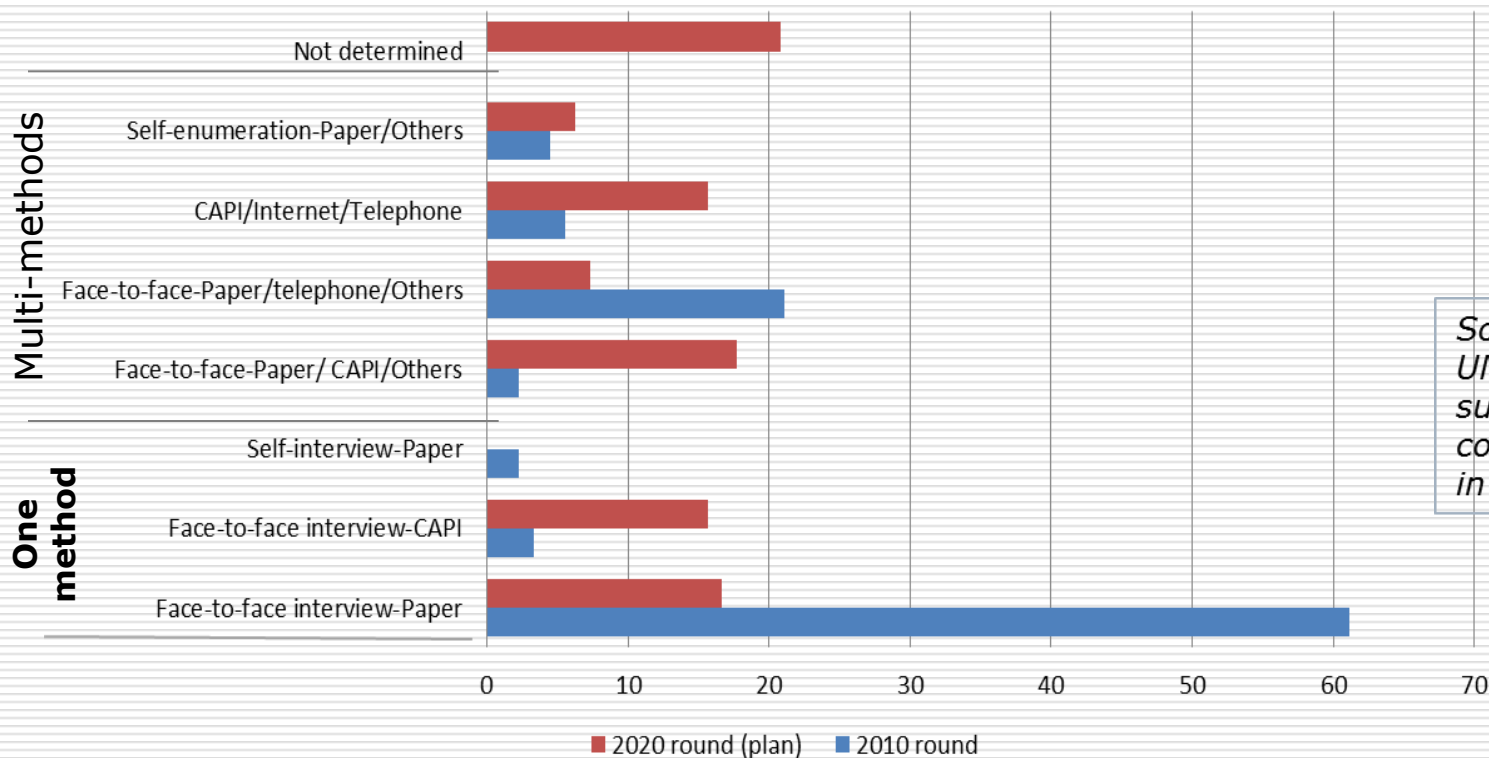
- ❑ *Cost-effectiveness* – adoption of technology in effective way to minimize the cost
- ❑ *Cost-benefit*- efficient use of technology for maximizing the benefits
- ❑ *Re- designing census procedures* – new technology has impacts on all phases
- ❑ *Capacity building* – human resource, technological infrastructure
- ❑ *Sustainability of introducing new technology* – long term plan for ensuring efficient use

- *Requires very early planning, strong collaboration, testing, continuous monitoring, ...*



Practices in 2010 round and Plans for 2020 round

Percentage of countries by enumeration method

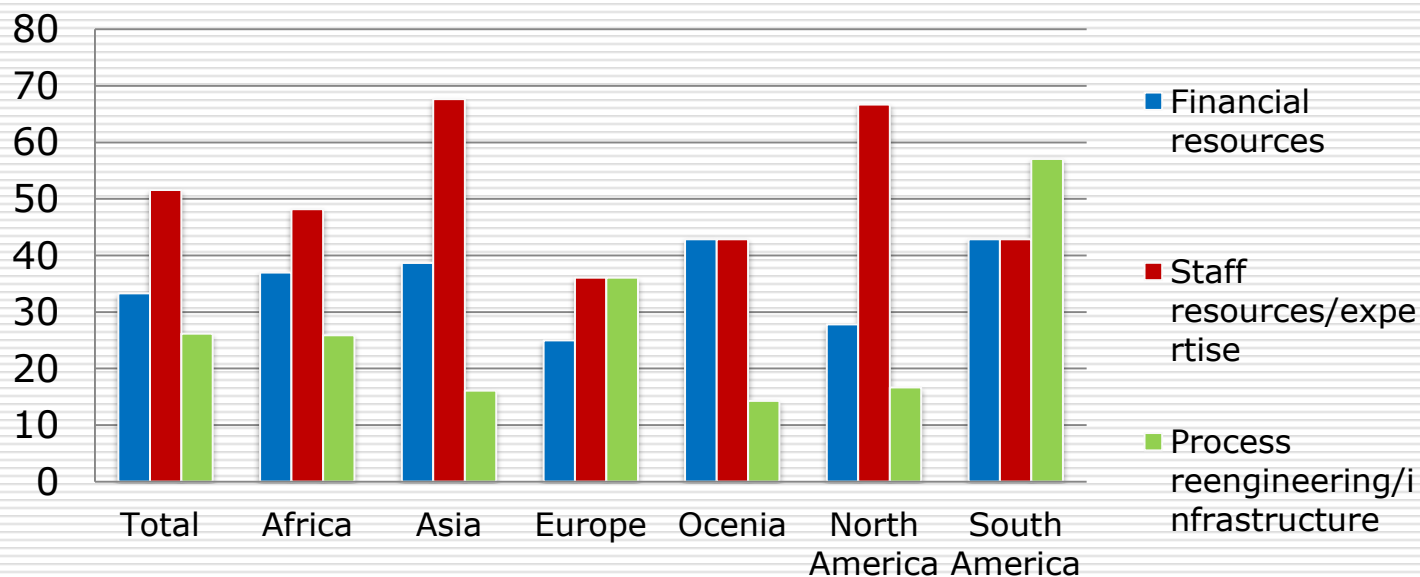


Source:
UNSD
survey
conducted
in 2016



Lessons learned from the 2010 round

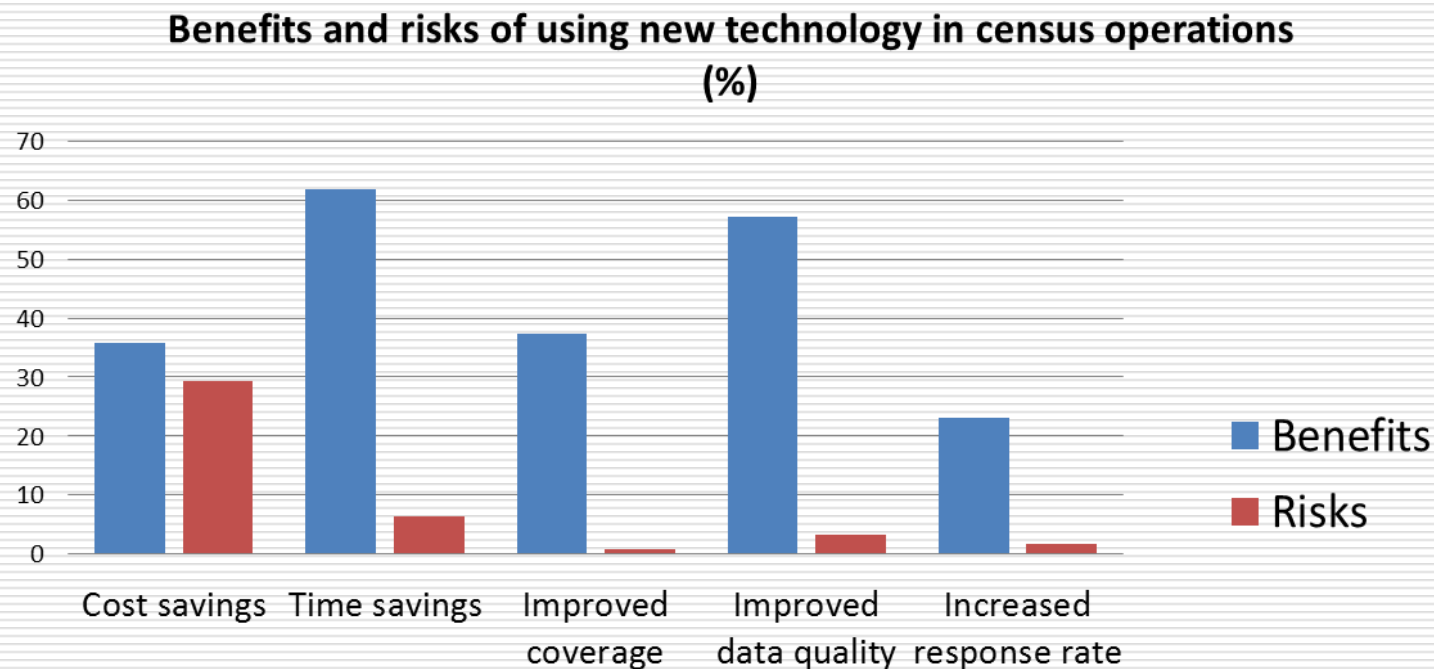
Percentage of countries by obstacles faced in the use of new technologies during the 2010 census round (%)



Source: UNSD survey conducted in 2012



Lessons learned from the 2010 round



Source: UNSD survey conducted in 2012



Guidelines on the use of electronic data collection technologies

- ❑ It aims to serve as a reference for:
 - Identification of key factors for making sound decision on the use of electronic data collection technologies
 - Strengthening national capacity for effective adoption of the selected technology
 - Designing census processes with the use of hand-held devices and/or Internet
 - Developing strategies for maximizing the benefits from this investment



Guidelines on the use of electronic data collection technologies

- ❑ The guidelines will discuss :
(the content prepared through the global technical meeting in Dec 2016)
 - **Overview of data collection methods** including multi-mode data collection approaches
 - **Decision-making in adoption of electronic data collection technologies**
 - Key determinants: institutional, technological, economic, social/cultural factors
 - Information required for decision making (cost estimates, benefits, risks, timetable, plans for reuse/disposition, success criteria, assumptions, etc.)



Guidelines on the use of electronic data collection technologies

- ❑ The guidelines will discuss :
 - **Planning and preparation considerations**
 - Institutional capacity development
 - IT acquisition management
 - IT systems development
 - Use of geospatial technology for census preparation
 - Supportive systems- Call center, MIS,..
 - Testing IT systems and processes
 - Contingency planning
 - Information and system security



Guidelines on the use of electronic data collection technologies

- ❑ The guidelines will discuss :
 - **Data collection with handheld devices**
 - Important features of handheld devices
 - Data collection application (essential features, design and performance considerations, etc.)
 - Data transmission and security
 - Use of geospatial technology during enumeration
 - Testing data collection applications and systems
 - Field operation, management and monitoring
 - Reuse/disposition of devices



Guidelines on the use of electronic data collection technologies

- ❑ The guidelines will discuss :
 - **Data collection with Internet**
 - Benefits –cost, quality, respondent burden, improving coverage
 - Requirements for adoption – high literacy, internet access, public trust, quality of address frame
 - Data collection application and portal
 - Implementation approaches- choice among other modes, sole initial means to respond
 - Identification of respondents (unique access code)
 - Management and monitoring
 - Security
 - Support to respondents



Guidelines on the use of electronic data collection technologies

- ❑ Collaborative approach for drafting the guidelines with the participation of countries and international organizations
 - First draft by mid-2017
 - Final draft by the end of 2017 based on regional consultations

- ❑ Live document be updated for:
 - significant changes in adoption of the technology
 - technological changes
 - good country practices