



Use of Geospatial Information in Support of Census Operations

Meryem Demirci
United Nations Statistics Division



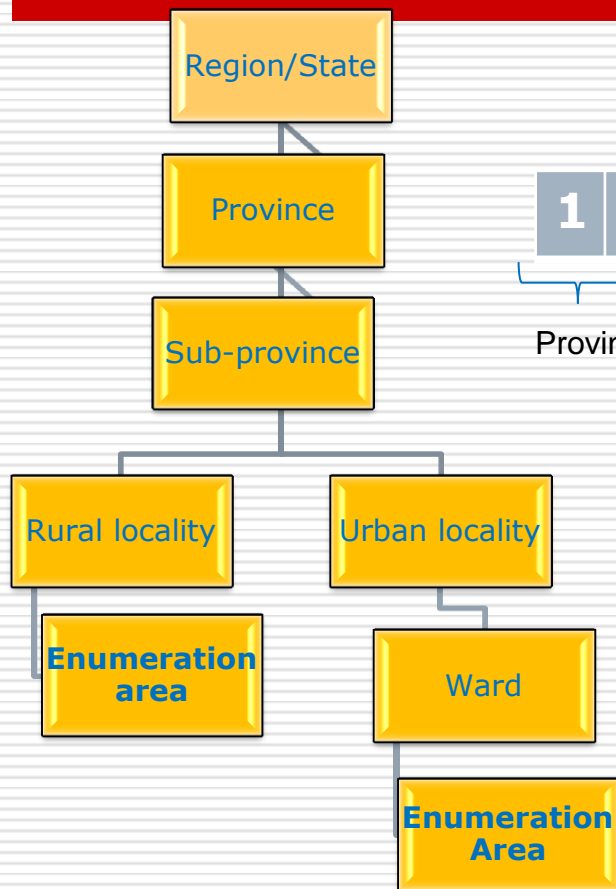
Generic Statistical Business Process



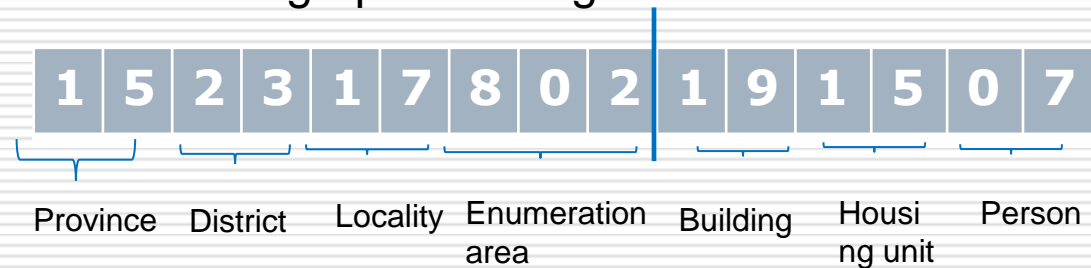
- Mapping has been an integral part of census taking for a long time
- The quality of maps used in the census has a major influence on the quality and reliability of census data
 - ensuring full coverage of geographic areas/buildings/housing units/people
 - ✓ **About 60 % of countries used GIS for establishing census maps in the 2010 round**



Generating Enumeration Areas: Operational geographic unit



Geographic coding in census database



- Unique code in census database for each enumeration area
- Codes for buildings within Enumeration Area
- Codes for housing units within buildings



Census maps with Geospatial Information





Census maps with Geospatial Information



Digital maps
building numbers



Integration with GPS

- GPS data on
 - EA boundary
 - Building location
 - Other relevant features (Road, service facilities)



Integrating with census data

- Types of building (residential, government offices, schools, malls, etc.)
- Building/Housing unit characteristics
- Demographic, social and economic characteristics of population

- Opportunity for 2020 round with the use of handheld devices for data collection in the field enumeration



Main Benefits of Using Geospatial Information

❑ Enumeration

- **Coverage of population improved significantly**
- Efficient monitoring-integration of management information system with GIS
- Use of GPS - opportunity for real time monitoring at central and local level
- Less time for field work

❑ Dissemination of Geospatially enabled statistic

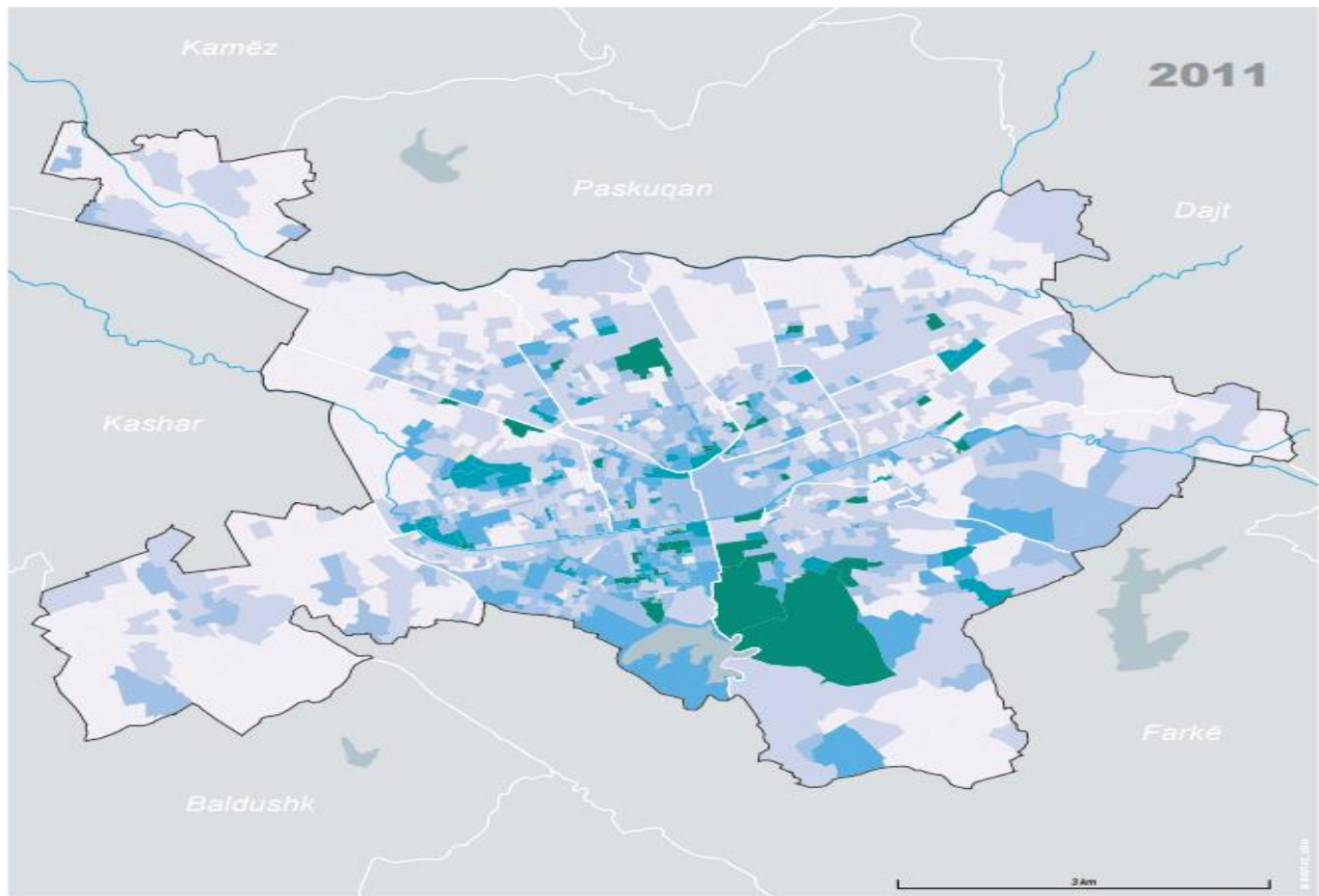
- Thematic mapping of census data-static/dynamic
- More understandable and meaningful data for policy analysis and monitoring SDG indicators
- Flexibility in data dissemination by different geographical areas- such as EA and grid approach



Banesat e pazëna në Tiranë

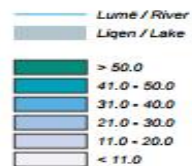
Unoccupied dwellings in Tirana

s Statistics Division



2011

Zona Censuri
Enumeration Areas

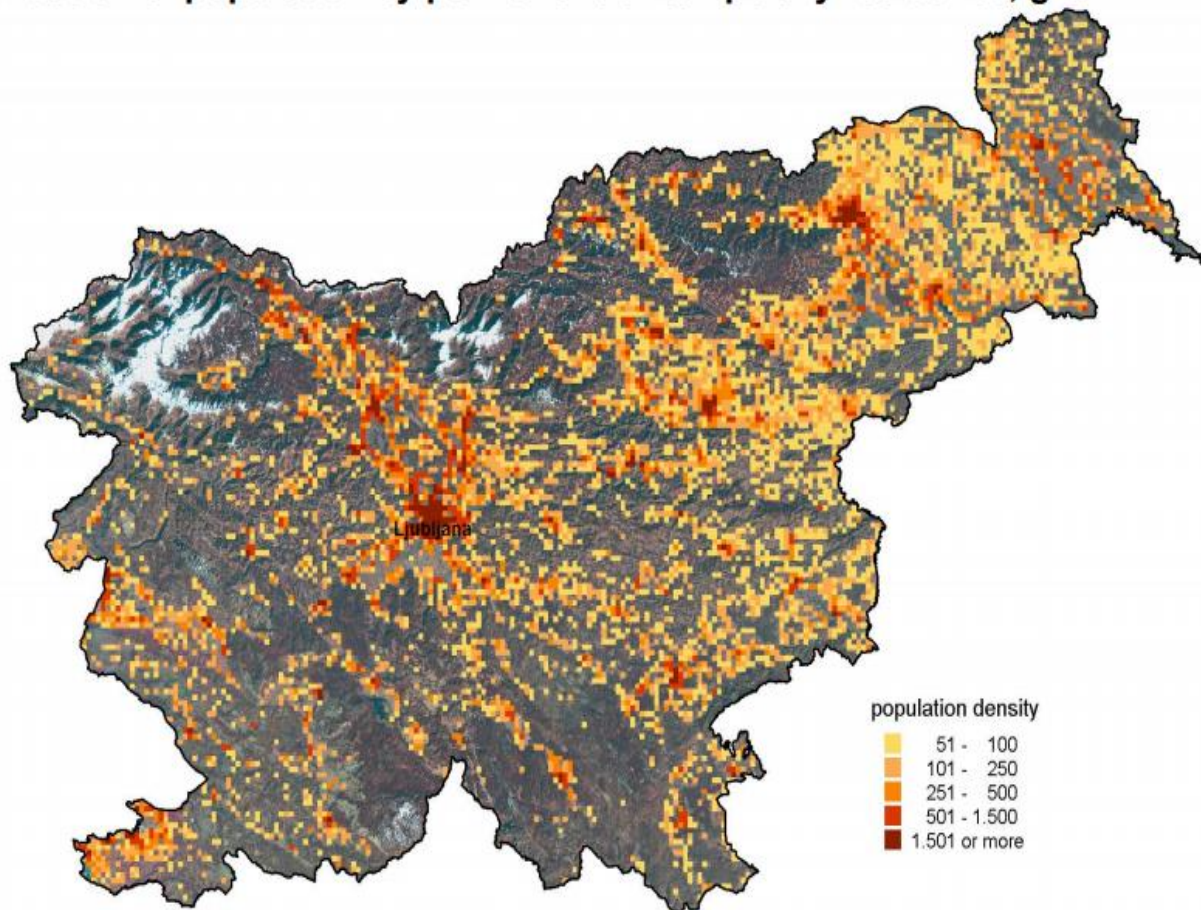


Raporti i numrit të banesave të pazëna ndaj numrit të banesave gjithsej, në %. Banesat e pazëna përfshijnë banesat boshe dhe ato për qëllime dytësore ose sezonale.

Ratio of the number of unoccupied dwellings to the total number of housing units, in %. Unoccupied housing units include dwellings reserved for seasonal or secondary use and vacant dwellings.



Distribution of population by permanent or temporary residence, grid 1 km x 1 km





Main challenges and opportunities

- ❑ Updating digital maps in the inter-censal period
 - Changes in administrative boundaries
 - Adding new buildings
 - Other necessary information

NSOs usually don't have a resource and capacity....

- ❑ Lack of capacity in NSOs for undertaking geospatial analysis
- ❑ Standardization of national address system
- ❑ Difficulties in data integration and comparability overtime



Main challenges and opportunities

- ❑ Improving Geospatial Information and Integrating with statistical information- how to benefit from the use of electronic data collection technologies
- ❑ Strong collaboration between geospatial information agency and NSOs for producing and disseminating census maps
- Sustainable system for updating and sharing geospatial information

• Qatar Nationwide GIS-The GISnet

Qatar Nationwide GIS setup (of more than 90 Govt./Semi-Govt. Agencies) makes the use of GIS in Qatar Statistics and its integration special and different from other NSOs.

Ministry of Municipality and Environment

