

Comparison of grid-based versus administrative approaches to the collection and dissemination of statistics

MEXICO

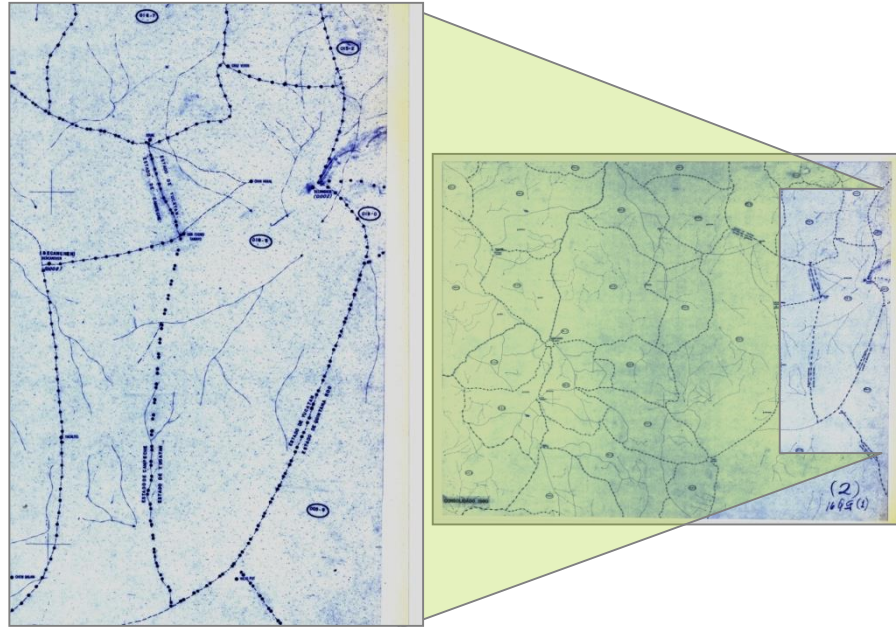
Beijing, June 2014



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The National Geostatistical Framework

At the beginning ...



Representación geoestadística del punto PUT

Before 1978 there was no clear territorial division of states and municipalities in México

At the beginning ...

In 1978 The National Geostatistical Framework was created by INEGI

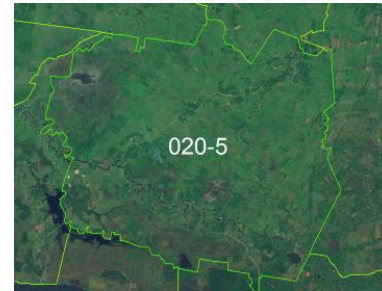
State Geostatistical Areas (AGEE)



Municipal Geostatistical Area (AGEM)



Basic Geostatistical Area (AGEB)



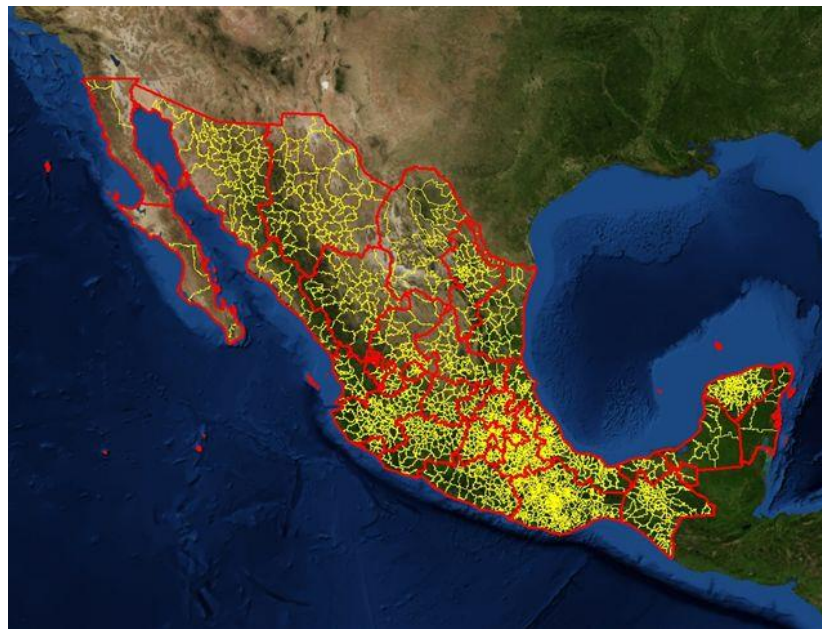
Rural



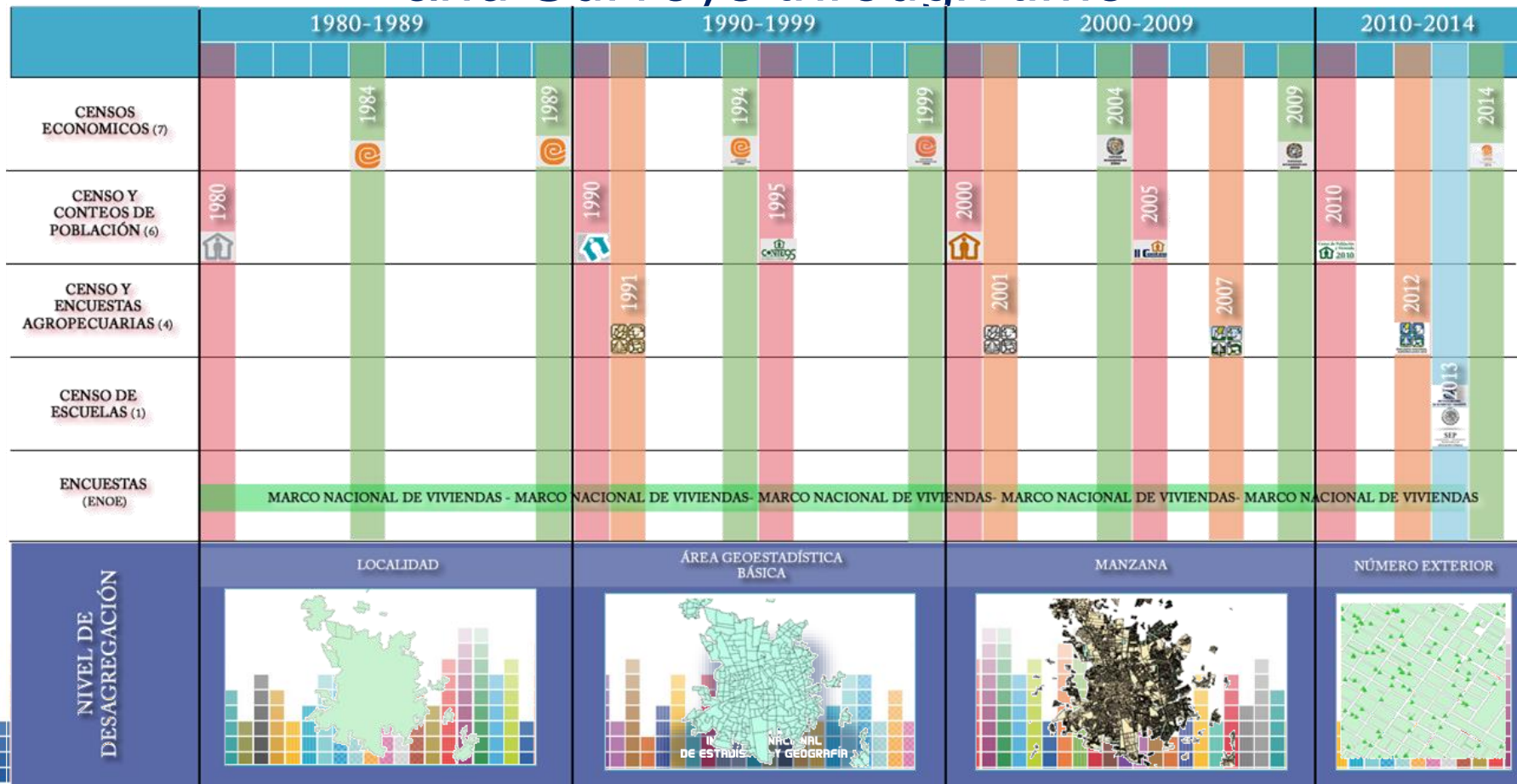
Urban

Today...

- The MGN encodes the entire country in geostatistical areas, with the external numbers as maximum level of disaggregation.
- Is updated before and during each census event, being useful in every stage of national censuses.



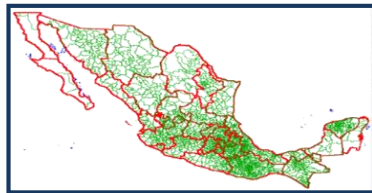
National Geostatistical framework in Censuses and Surveys through time



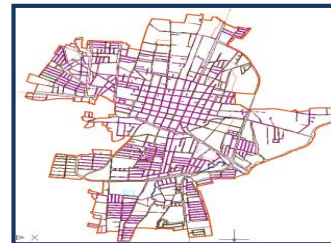
Geostatistical Framework levels



➤ 32 State
Geostatistical
Areas



2,457 Municipal
Geostatistical
Areas



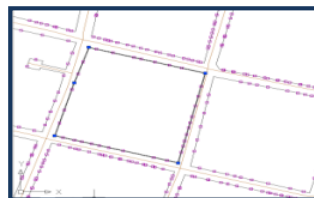
4,547 Urban
Geostatistical
Localities



47,492 Rural
Geostatistical
Localities with plans



2'301,542
Total of Roads



2'220,103
Geostatistical
Blocks

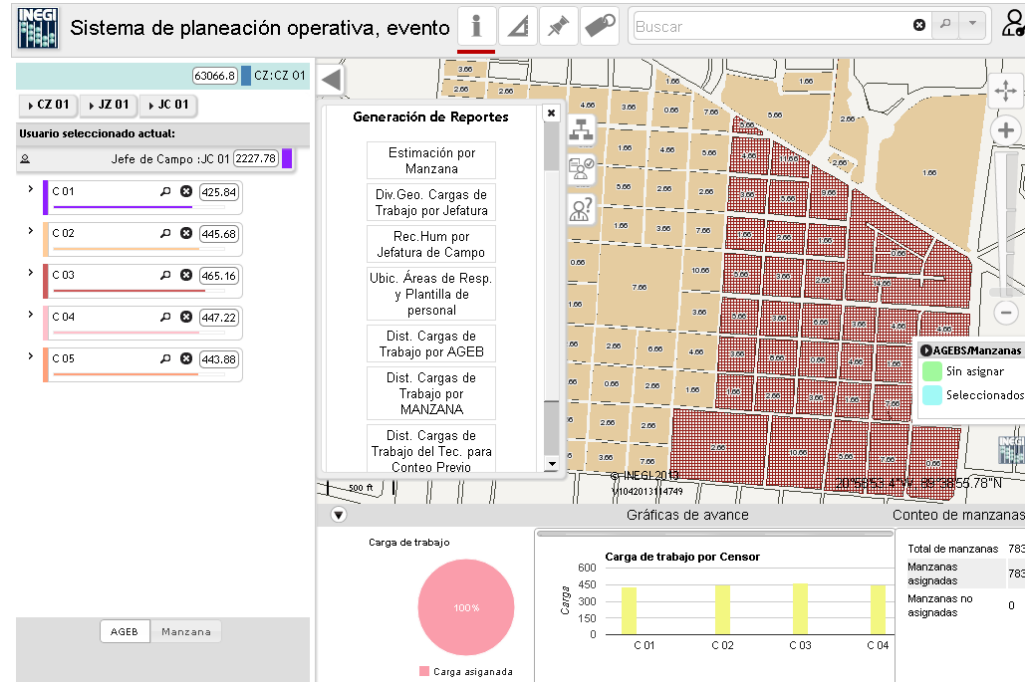


31'100,512
Street numbers

USES OF THE GEOSTATISTICAL FRAMEWORK AT DIFFERENT STAGES OF CENSUSES

1. Planning:

- General and detailed planning of censal operations
- Spatial distribution of workloads and risk mapping.



Censo Económico

2. Data collection and processing:

- Geographic identification of units of observation.
- Graphic monitoring and control coverage of census operation.
- Establishment of monitoring strategies.

Green dots indicate that the observation unit has already been completed



The yellow dots indicate that the unit of observation is still pending of filling the questionnaire.



Geographical form of the advance and coverage of the census by blocks, AGEB and Localities.

3. Results publication

- Dissemination of results through GIS, available at INEGI's web page.



The Grid



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The Grid

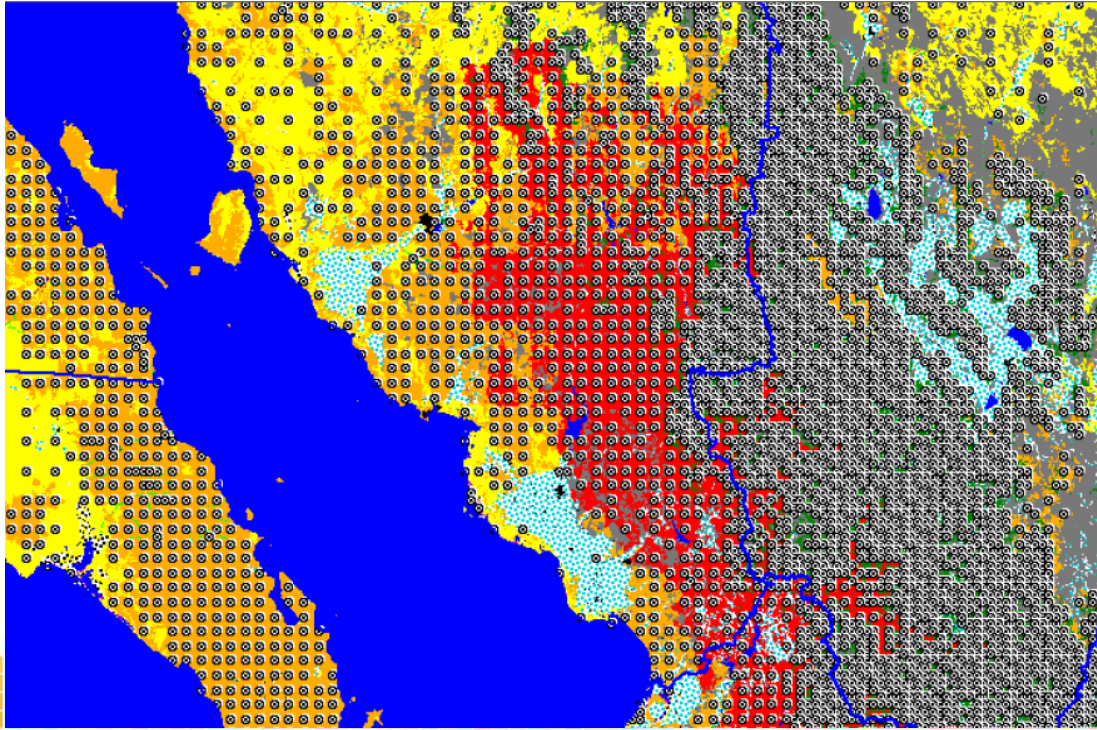
We currently have the challenge of incorporating to the Geostatistical Framework a **regular grid** to define stable sampling points over time

Some examples are:



Grid, CONAFOR site

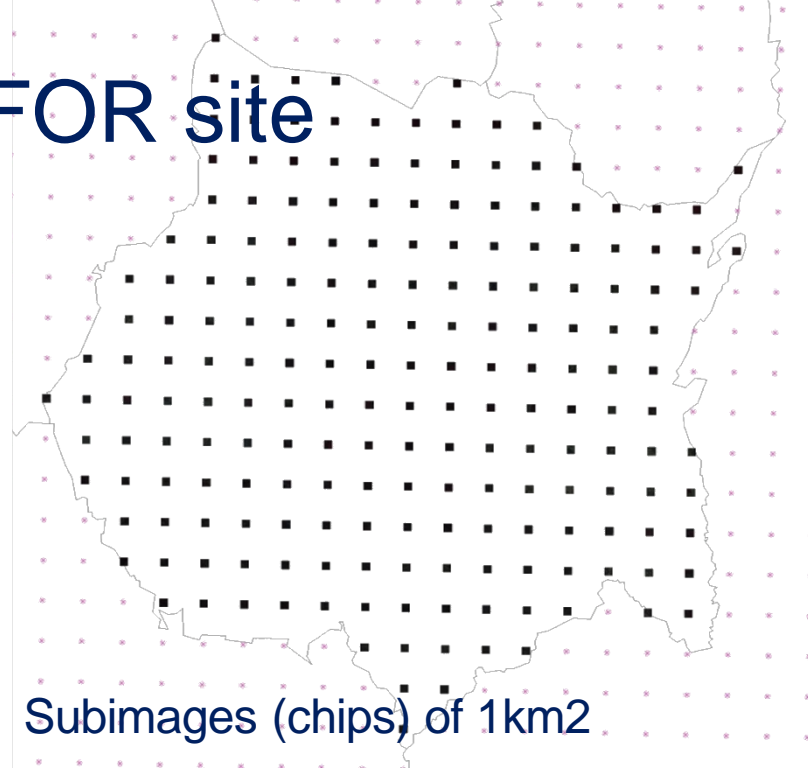
Master grid of 5 km x 5 km that maintains uniform sampling points over time. And stratified by vegetation (10 km x 10 km and 20 km x 20 km).



Grid, CONAFOR site



Regular grid with spacing of 5 km
78,008 points for Mexico



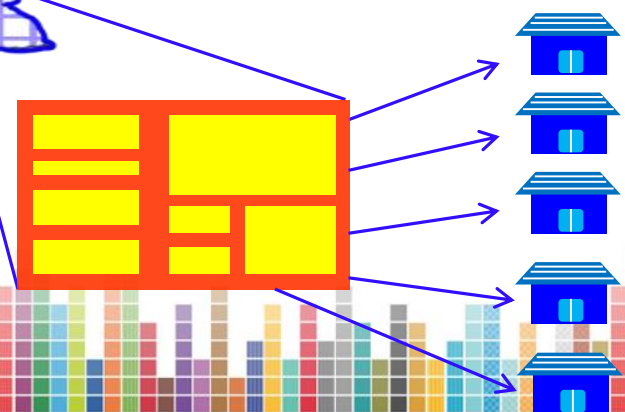
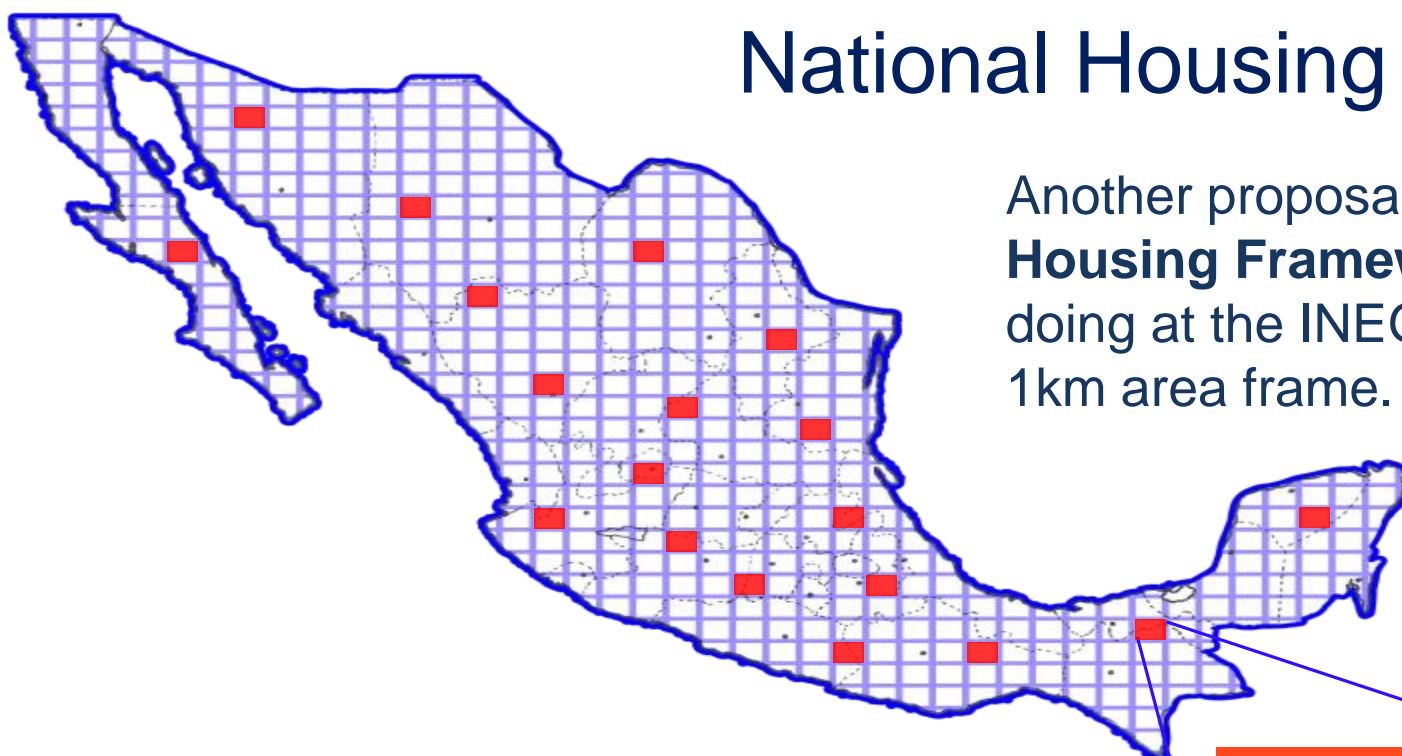
Subimages (chips) of 1km²

From this grid Conabio-CONAFOR-INEGI is considering generating a grid of "chips" 1 km x 1 km, to speed up the classification of satellite images

National Housing Framework

National Housing Framework

Another proposal is the **National Housing Framework** we are doing at the INEGI with a 1km x 1km area frame.



Some numbers..

National Housing Framework

245,279 UPM were formed.

The UPM are distributed in 4 national layers and 746 of design.

22,380 balanced samples were selected and evaluated.

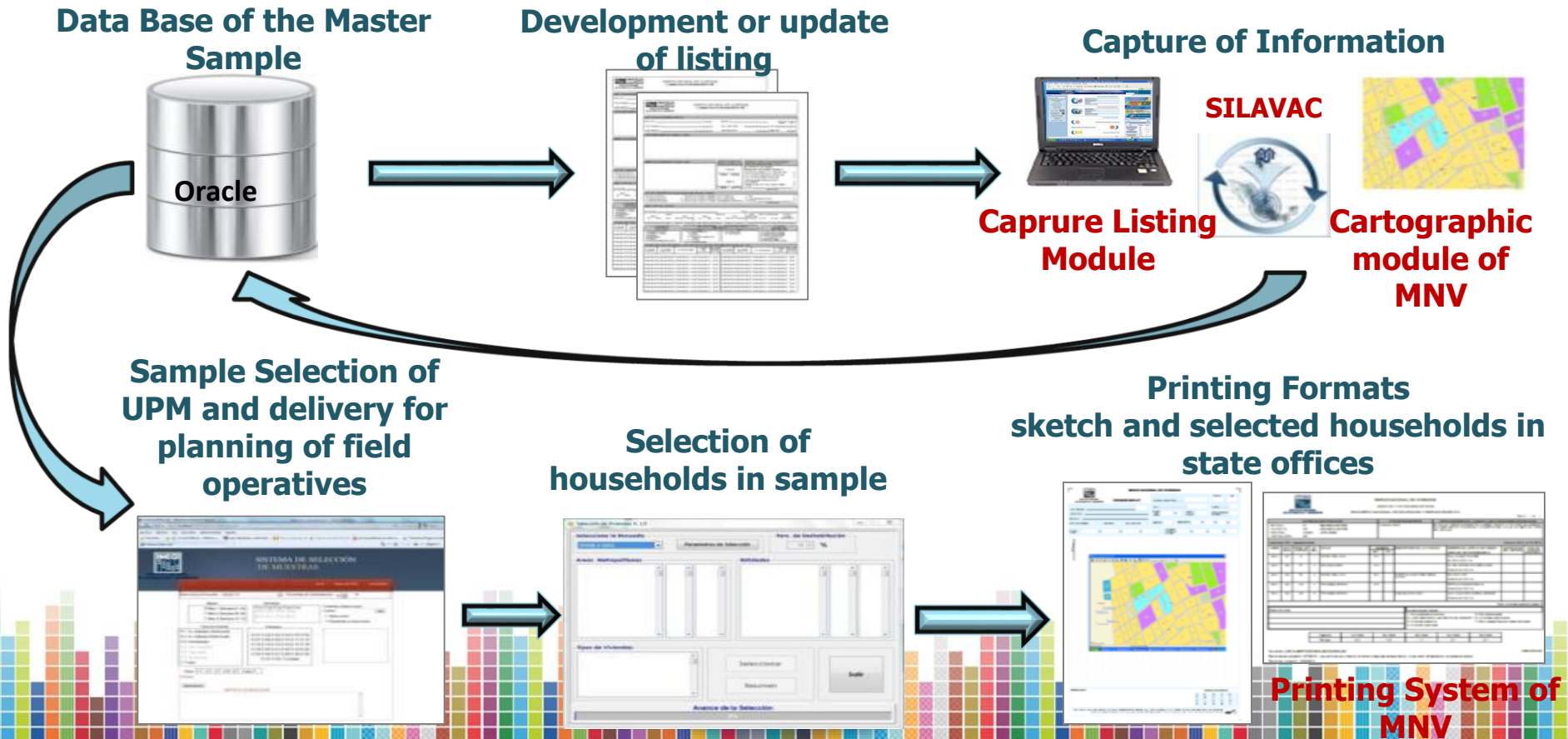
The master sample has 22,477 UPM for which listings were made.

3.5 million homes were listed.

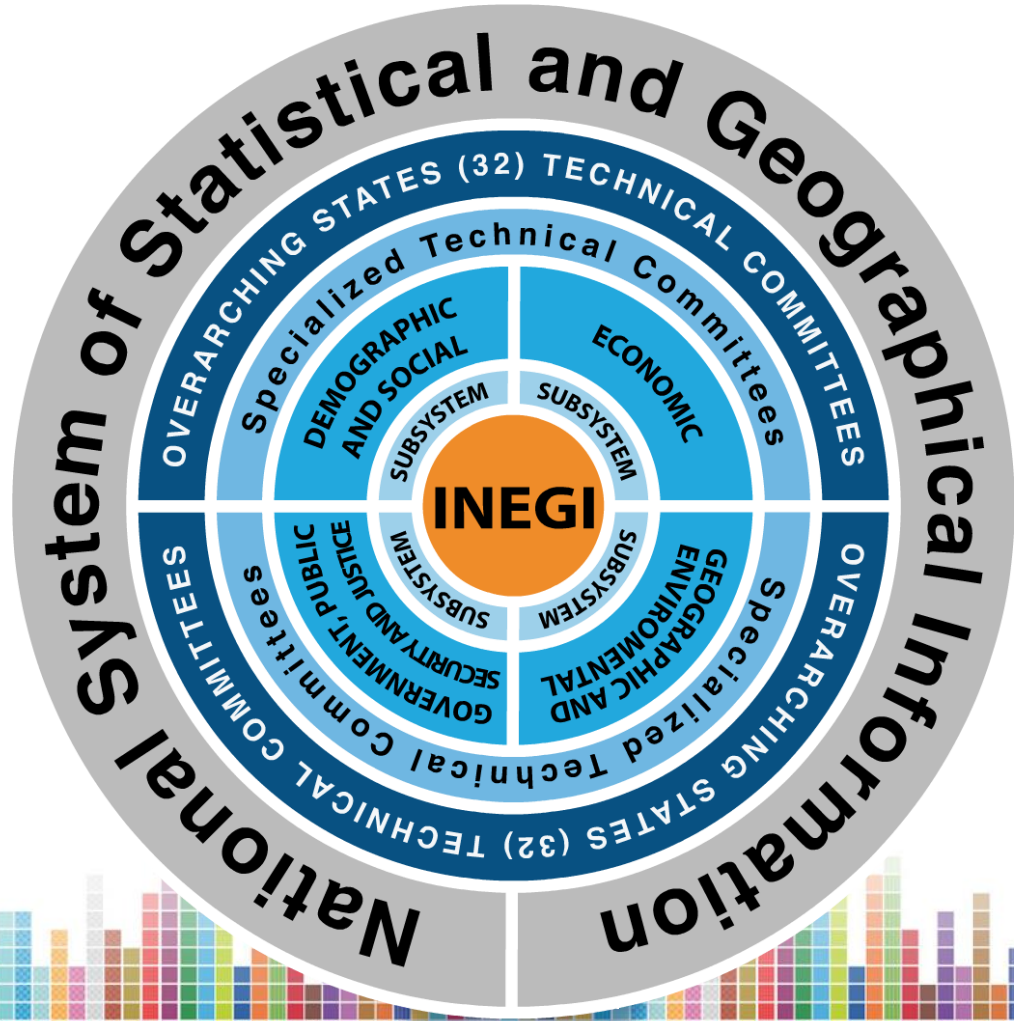
Each trimester will provide a sample of 5 million people to estimate the age and sex structure.

Operating Process

National Housing Framework



GRID FOR NATIONAL TERRITORY DIVISION



Specialized Tec

**GEOGRAPHIC AND
ENVIROMENTAL**



Specialized Technical Committees



Water



Basic Geographic
Information



Emissions, Waste and
Dangerous Substances



Climate Change



Cadastral Information



Energy Sector



Land use, vegetation and
natural resources



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Technical Committee of Basic Geographic Information (CTEIGB)

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Alternatives

To generate a grid, there are different solutions, in which we must choose between accuracy and ease of use:

1. Generate a grid from geodesic surfaces.
2. Generate a grid in the map projection system of Universal Transverse Mercator (UTM)
3. Generate a grid in the map projection Lambert Conformal Conic (CCL)
4. Generate a geographic grid based on geographical coordinates: degrees, minutes, and seconds



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