Use of Geospatial Data: Philippine Statistics Authority[1]

[1] Presentation by Lisa Grace S. Bersales at the UNSC 2016 side event on **Geospatial information and earth observations: supporting official statistics in monitoring the SDGs,** 7 March 2016

Agenda

- Delineation and Enumeration
- Development of Master Sample Frame
- Sharing Map Shapefiles Holdings and Geography-based Statistics
- Agricultural Land Information System (ALIS)
- Innovative Data Collection Methods for Agricultural and Rural Statistics
- Pilot Survey of Palay Yield Estimation using Crop Cutting Technique
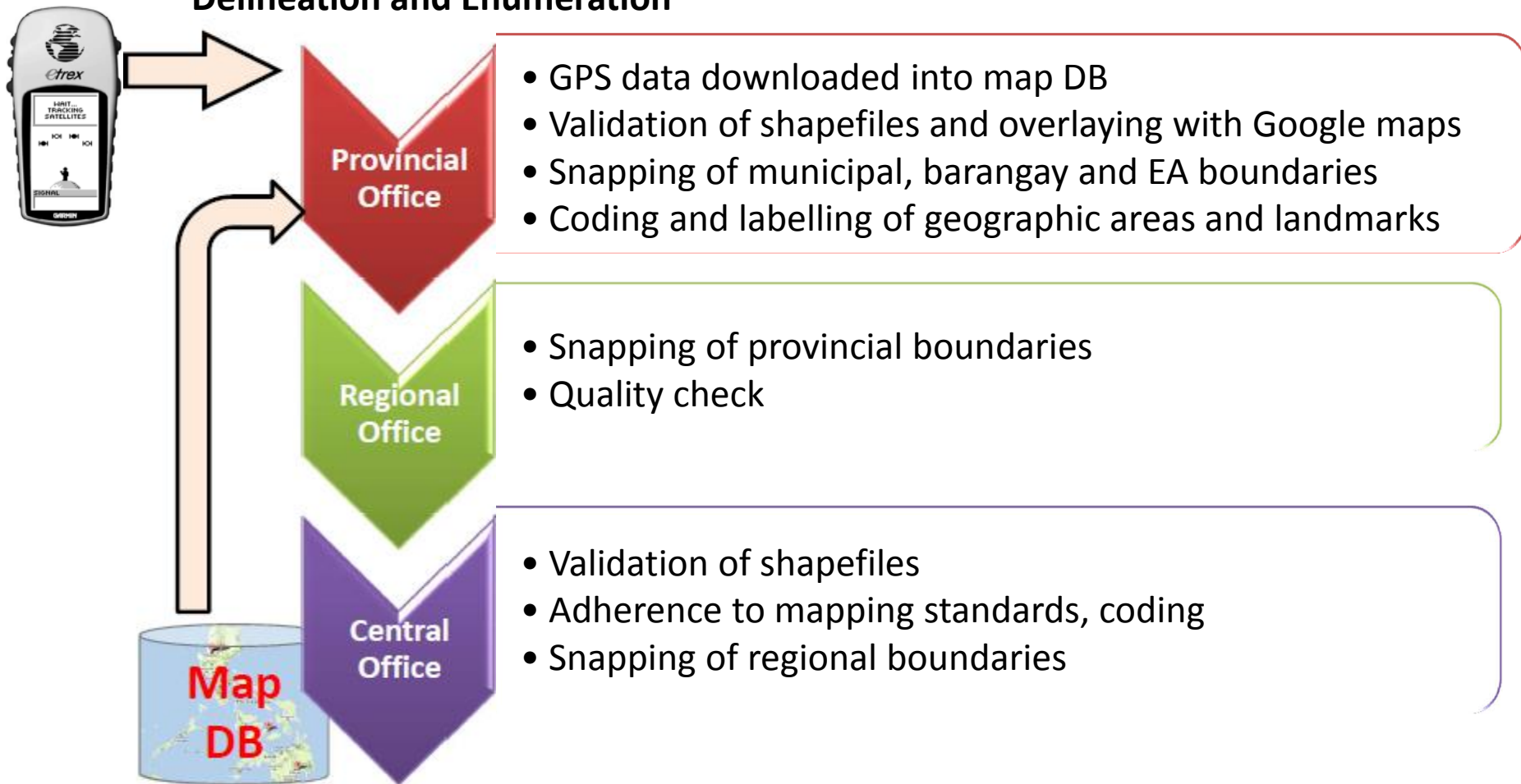- Other Uses of Geospatial Data
- Future Direction

Delineation and Enumeration

Nationwide Mapping Using GPS

• A **mapping operation was undertaken for the 2010 CPH to ensure accurate boundary maps** covering *barangays (or villages) with 2 or more* EAs or highly populated areas in 5 regions
• Key field personnel underwent training on census mapping using GPS.
• Equipped with GPS units, field staff went around most of the geographical units to verify and plot boundaries, rivers, roads and landmarks.

Delineation and Enumeration

Provincial Office
- GPS data downloaded into map DB
- Validation of shapefiles and overlaying with Google maps
- Snapping of municipal, barangay and EA boundaries
- Coding and labelling of geographic areas and landmarks

Regional Office
- Snapping of provincial boundaries
- Quality check

Central Office
- Validation of shapefiles
- Adherence to mapping standards, coding
- Snapping of regional boundaries
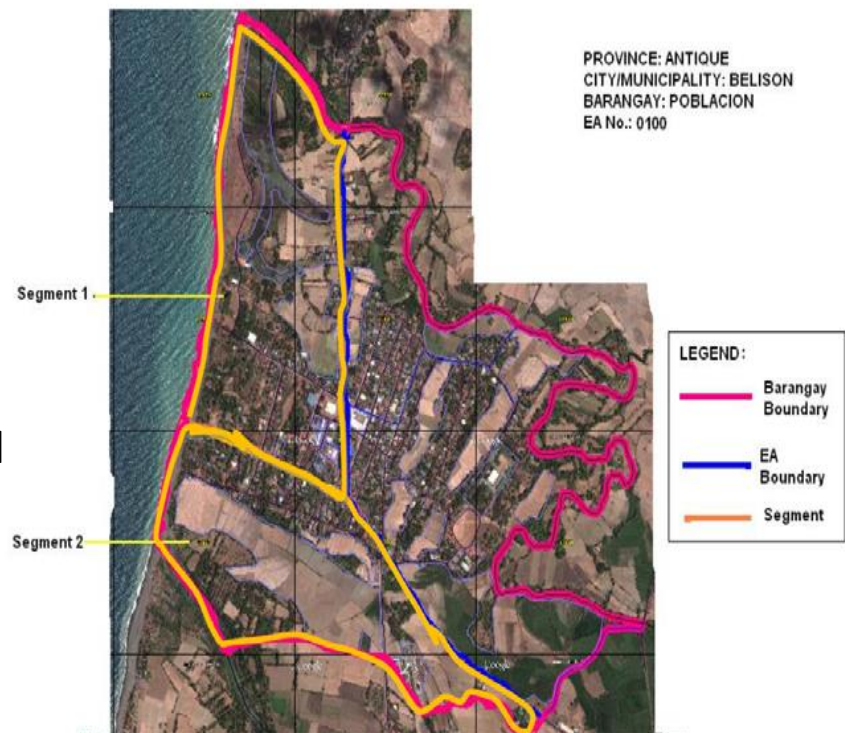
Map DB

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Delineation and Enumeration

- A **nationwide mapping of area boundaries** was undertaken during mapping activities for **2012 Census of Agriculture and Fisheries (CAF)**

- Mapping of areas with no digital maps were also undertaken using GPS units

- For the **2015 Mid-Decade Census of Population, the PSA conducted EA delineation operation and updating of digitized maps.**

- With updated digitized maps, all areas were enumerated completely and accurately
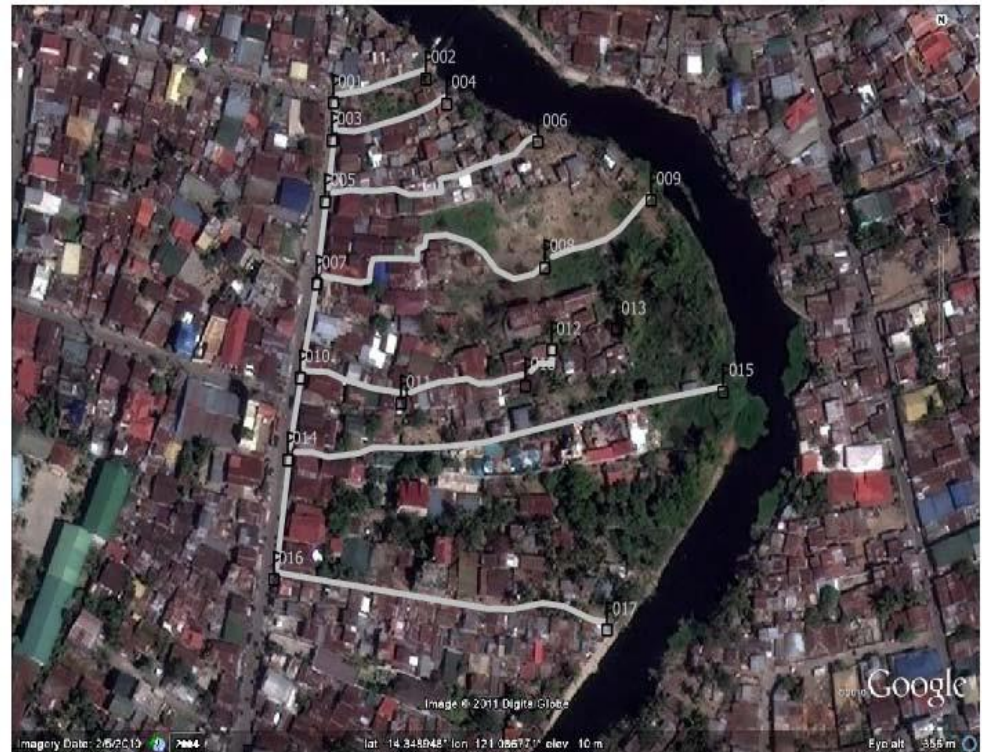
Development of Master Sample Frame

• Use of digitized maps, Google Earth maps and 2010 census block maps facilitates the development of PSU formation guidelines for the development of new master sample

• The overlaid digitized maps help identify the natural boundaries such as rivers, roads or street patterns, and known land marks in the area, results into a clearer and non-overlapping segment boundaries

Figure5a. An Illustration of Segmented Large EA using digitized Satellite Image

PROVINCE: ANTIQUE
CITY/MUNICIPALITY: BELISON
BARANGAY: POBLACION
EA No.: 0100

Segment 1

Segment 2

LEGEND:

— Barangay Boundary
— EA Boundary
— Segment

Development of Master Sample Frame

• Clusters of roofs help in determining the presence of residents, community, and villages.

• This information could vastly improve the quality of new master sample frame for household-based surveys.

Sharing Map Shapefiles Holdings and Geography-based Statistics

- PSA shared its map shapefiles holdings and geography-based
  statistics with other government agencies, NGOs,
  and researchers (especially gov't agencies engaged in disasters)
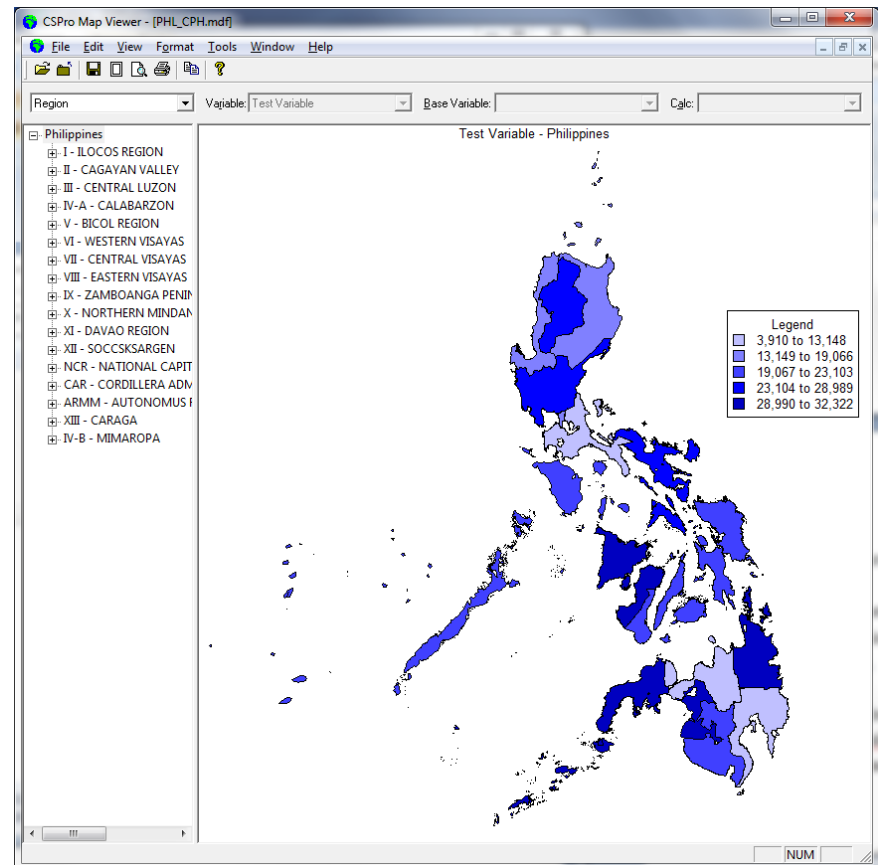
- This is to encourage use of statistics in planning and
  research

Sharing Map Shapefiles Holdings and Geography-based Statistics

• Users of PSA digitized maps include:

 – Department of Science and Technology's Project NOAH for their Disaster Management Using WebGIS

 – NGO to assist mothers in setting up household-based stores in communities in selected provinces

 – National Mapping and Resource Information Authority (NAMRIA) acquired *Barangay boundary shapefiles*

 – National Economic Development Authority (NEDA)

 – National Anti-Poverty Commission (NAPC)

 – Department of Health (DOH)

Sharing Map Shapefiles Holdings and Geography-based Statistics

• The PSA also conducted workshops for municipal planning officers and regional statisticians on how to include data from 2010 CPH microdata into thematic maps using CSPro. The workshops equipped them with tools to present accurate profiles of their municipalities and regions.

Agricultural Land Information System (ALIS)

-A tool developed under the ASEAN Food Security Information System (AFSIS).

-Provides estimates of total agricultural land area and area planted to major crops.

-Uses satellite imagery that can be accessed free of charge (i.e. Google map).

-First adopted in Vientiane Province, Lao PDR   and Kandal Province, Cambodia.
-Survey support

Innovative Data Collection Methods for Agricultural and Rural Statistics

Intended Impact:

Promote the use of satellite-based technology for more evidence-based policies and programs on food security.

Expected Outcome:

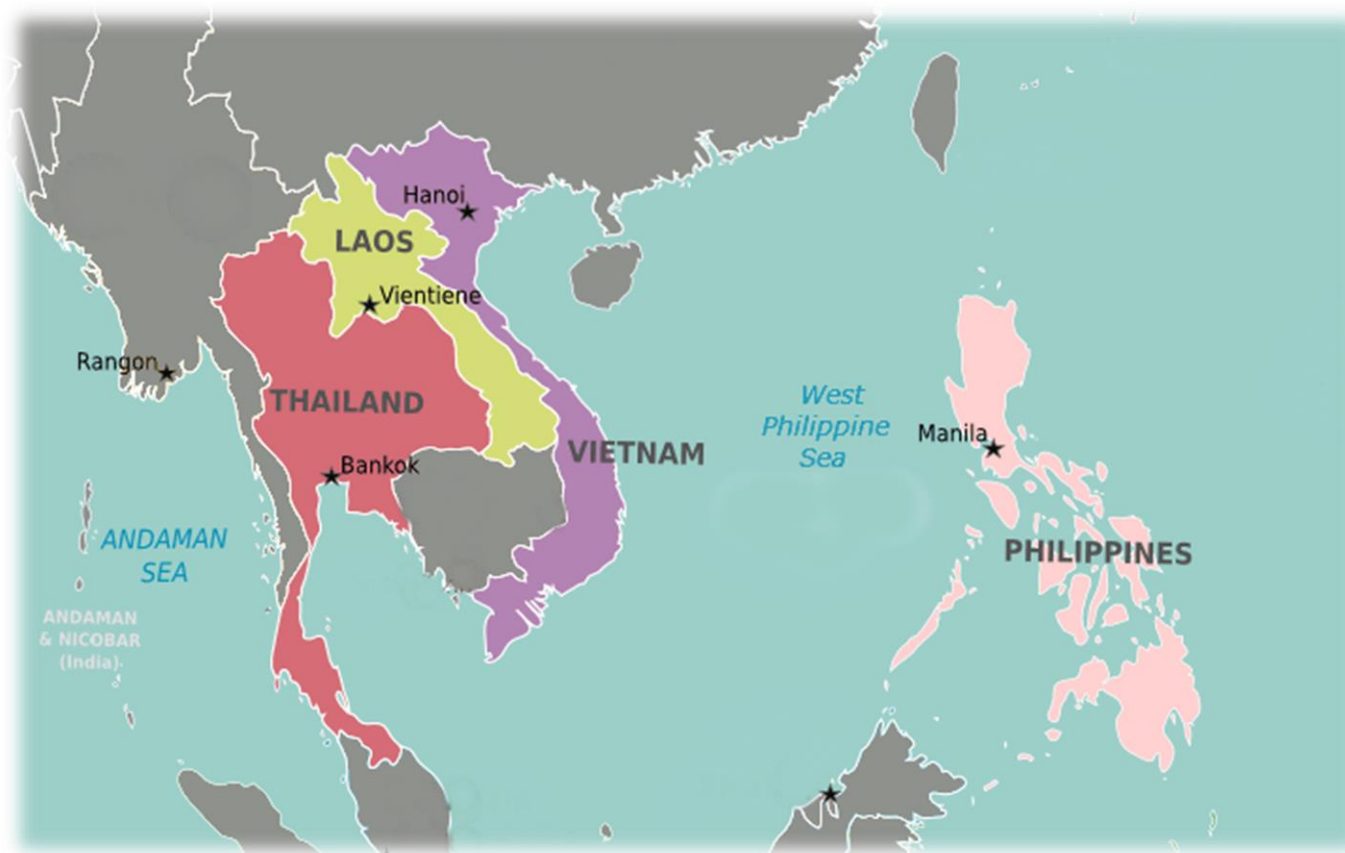Improve quality and timeliness of rice crop area and production estimates and forecasts.

Innovative Data Collection Methods for Agricultural and Rural Statistics

Pilot Countries: Philippines, Lao PDR, Thailand and Viet Nam

Other Uses of Geospatial Data

1.) Official Poverty Statistics in the Philippines (national, regional and provincial level)
2.) City and Municipal Level Poverty Statistics
3.) Millennium Development Goal Posters
4.) Infographics on the city and municipal level poverty statistics

Future Directions

- The PSA intends to include geospatial-based data visualization tools in its website in the near future

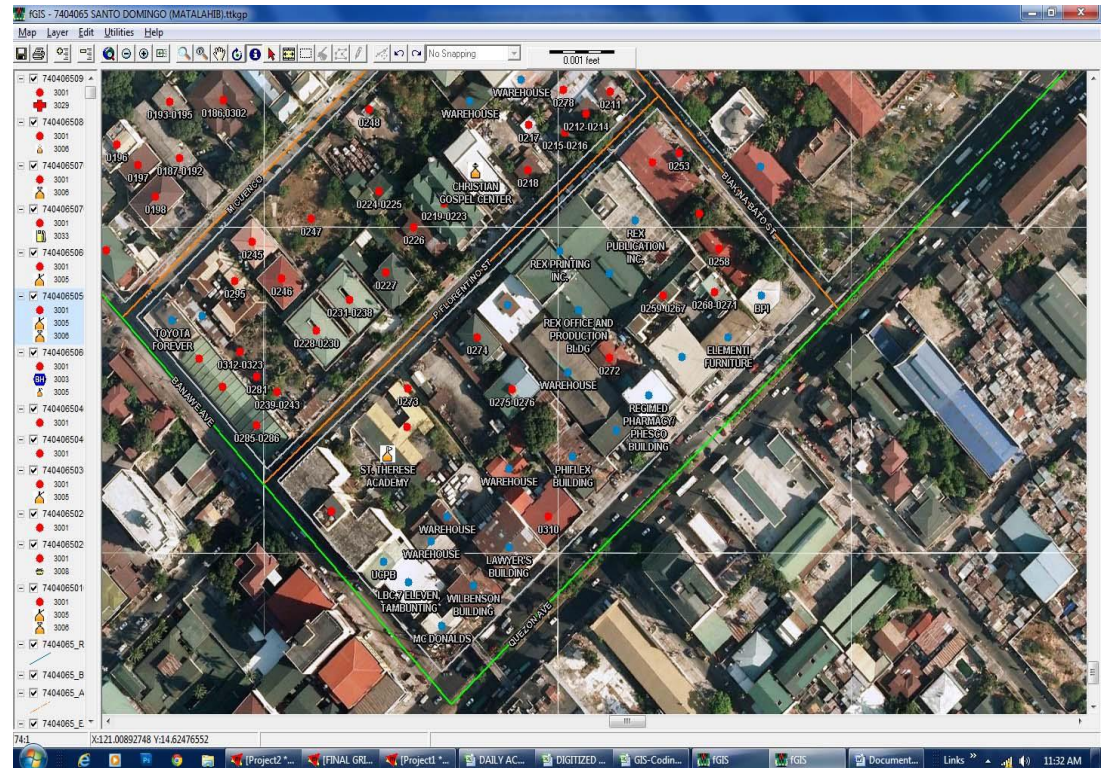- The PSA also intends to use infographics in all their publications and press releases.

Future Directions

• Field Office Initiative to map buildings and housing units- a workable model for field offices
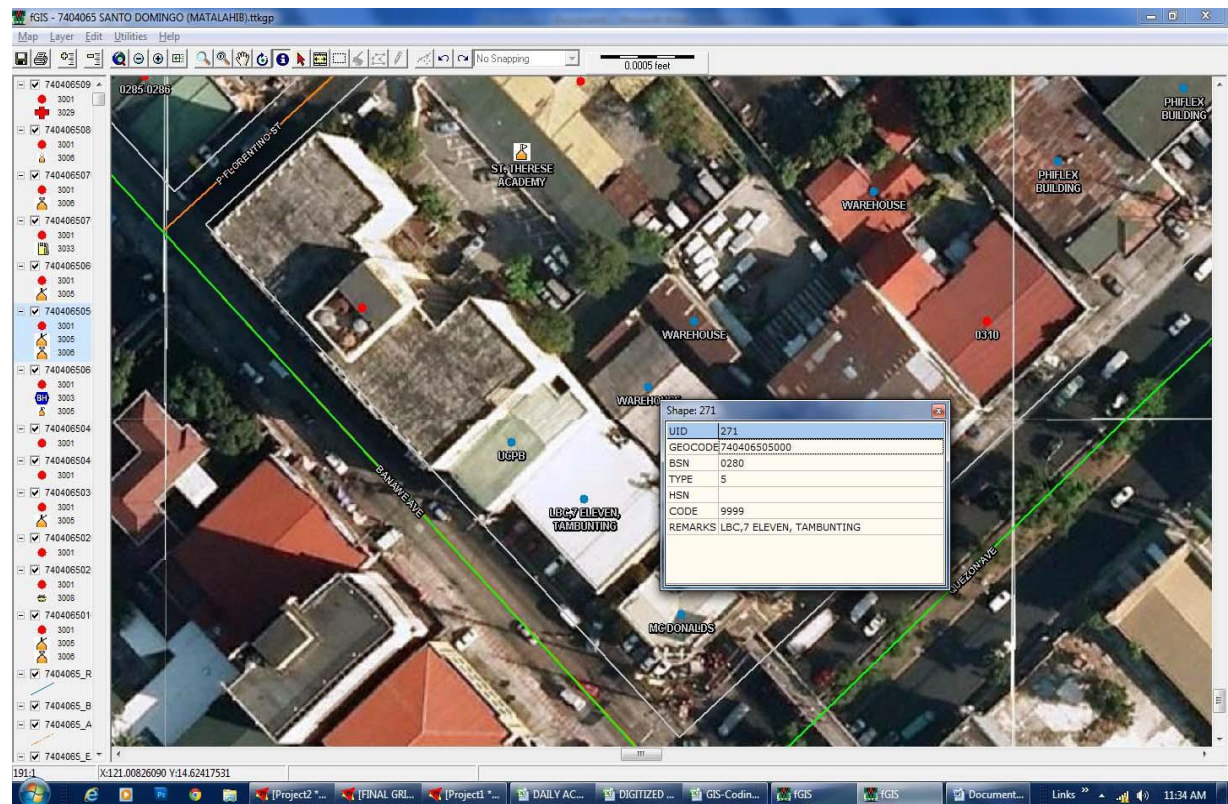
Digitized buildings

Red dots: housing units

Blue dots: establishments

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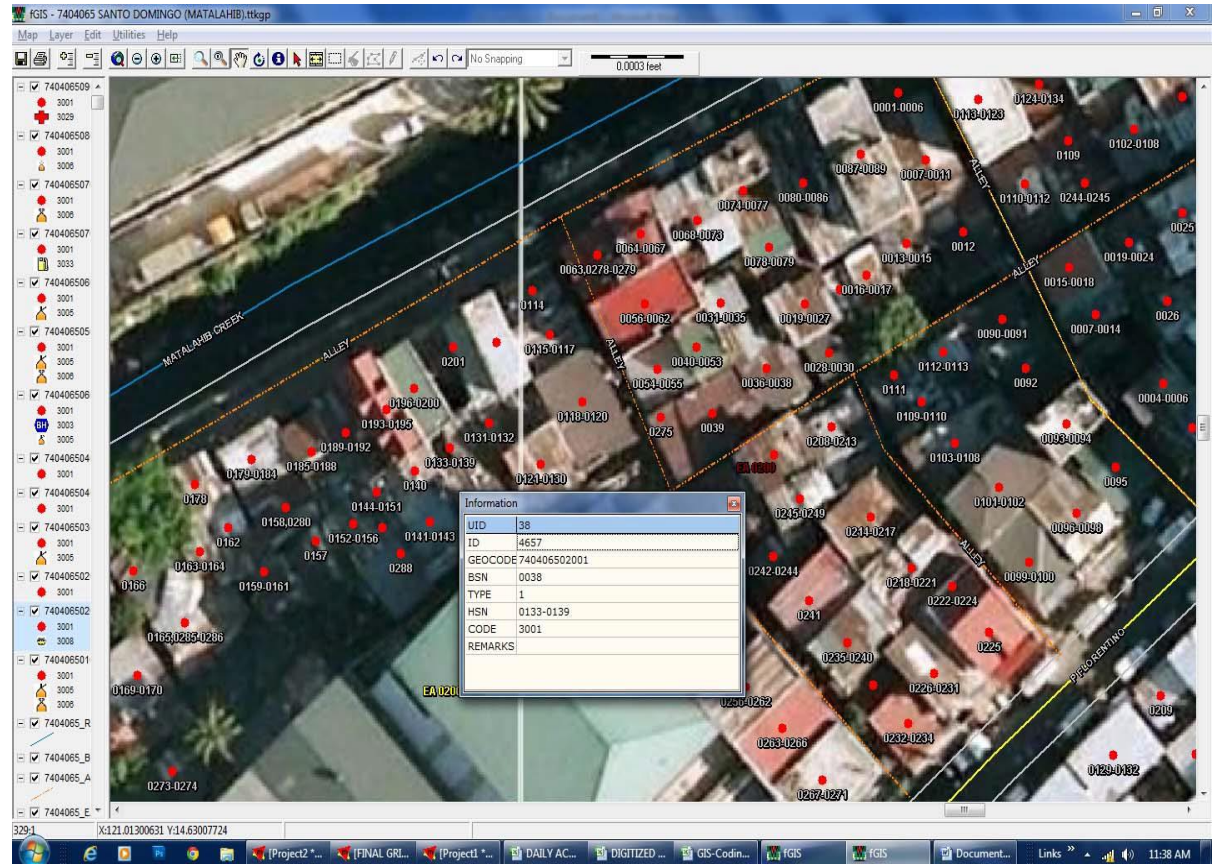
Plotting
Bldg attribute

Future Directions

• Field Office Initiative to map buildings and housing units- a workable model for field offices

Concentration
of plotted
housing units

Future Directions

• Field Office Initiative to map buildings and housing units- a
workable model for field offices

Plotting
Attribute of
Housing units

End of Presentation..