Session 5:
Important considerations in planning, preparation and design of census operations
How times change!

Participate Online

For the first time in Japan’s history, an online survey of all households is being conducted.

In order to ensure the accuracy and efficiency of the statistics produced, reduce the hassles of filling in forms and increase overall convenience, you are encouraged to complete the 2015 Population Census online. More than 10 million households are expected to go online to take part in the census, which makes it one of the largest online undertakings in the world.

Get online with your PC, tablet or smartphone to participate in the Smart Population Census.

Census “Big Challenges”
Find out about promotion of nationwide online participation in the population census.

How to Participate Online
Find out how to complete your census questionnaire online.
Why is GIS important?
Modernization of NSO with GIS

Generic Statistical Business Process Model (GSBPM)

Planning/Pre Enumeration | Enumeration | Post Enumeration/Dissemination

Quality Management / Metadata Management

Specify Needs | Design | Build | Collect | Process | Analyse | Disseminate | Evaluate

Smart Geo-spatial Systems for Census

Data collection using Mobile devices, tablets and laptops

Census dissemination

Online thematic maps

Design and production of enumeration areas
Integration of Mapping with Enumeration Systems

- Create and maintain GeoDatabase
- Create efficient enumeration areas (EAs)
- Update EAs using Imagery and change detection
- Optimize site placement of field offices
- Optimize capital and asset distribution
- Determine where to test census survey questions
- Incorporate updates or changes identified by enumerators
Try this:

- Use the Swipe Tool to turn on/off the date-attributed change polygons.
  - Note the growth pattern from the older change (cooler colors) to the newer change (warmer colors).
- Use the Bookmark widget to zoom in closer.
- Use the Swipe widget to turn on/off the PCM change.
Field Operations Workflows

... an organized and repeatable pattern of business activity that’s been logically ordered into processes that get things done
Huh?
Workflow

Creating Shared Information and Facilitating Collaboration
Field Operations Workflow

**Plan**
- Plan, organize, prioritize and assign work

**Coordinate**
- Receive assignments, communicate status and coordinate with others

**Navigate**
- Get where you need to be, optimize your travel routes, use your own data

**Capture**
- Conduct surveys, inspections, collect new information and document status

**Monitor**
- Monitor the progress and effectiveness of your field operations

**Understand & Communicate**
- Ensure data quality and integrity, make better decisions
Considerations:

- People
- Hardware
- Software (Ease of Use)
- Connectivity (Access)
- Training
- Security
- Time Management
- Project Management
- Change Management
- Device Management
- Database Management

DATA QUALITY

Accurate & Authoritative
Field Staff Hierarchy

What are appropriate Staffing Ratios?

- Local Supervisor to Field Manager: X:X
- Enumerator to Local Supervisor: X:X
A Dive into Territory Planning with GIS (Geographic Information Systems)

By: Wolfgang Hall, whall@sysco.com

Effective territory planning and optimization is critical for many businesses. Almost every organization that uses field crews for sales, services, or deliveries has a need for organizing field staff into territories or regions.

Well-defined territories increase efficiency, response time, and customer satisfaction while cutting costs.

Territories can be either loosely defined or based on fixed geographical areas, such as postal codes. Work within territories can be different every day or make use of pre-planned, repeating routes. Some of the customer locations may require recurring weekly or monthly visits.

This story map tutorial will explore how these different types of territories can be created and optimized using GIS. The typical process includes two main steps:

1. Territory Assignment: assigns customer locations to balanced territories
2. Territory Scheduling: schedules varying daily routes to customer locations
Apps for the Field

- Workforce for ArcGIS
- Navigator for ArcGIS
- Collector for ArcGIS
- Survey123 for ArcGIS
- Drone2Map for ArcGIS
Apps for the Field
Coordinate

- Workforce for ArcGIS
- Navigator for ArcGIS
- Collector for ArcGIS
- Survey123 for ArcGIS
- Drone2Map for ArcGIS
Apps for the Field

Navigate

Navigator for ArcGIS
Collector for ArcGIS
Survey123 for ArcGIS
Drone2Map for ArcGIS
Workforce for ArcGIS
Apps for the Field

Capture

Collector for ArcGIS
Survey123 for ArcGIS
Drone2Map for ArcGIS
Navigator for ArcGIS
Workforce for ArcGIS
Coordinating field to office workflows

- Field workforce optimization
- Efficiently plan and assign work
- Receive assignments and report status from the field
Coordinate

- View and complete work assignments
- Organize your work list
- Receive notifications
- Set your working status
- Add and edit notes
- View referenced attachments
Dispatch work

- Create new work assignments
  - By Geocode
  - Using the Map
  - From features
  - Automatically
- Assign, re-assign and cancel work
  - Individually
  - In bulk
- Filter and sort assignments
- View all mobile workers
- Search the map
Work Assignments

- Properties of a Work Assignment
  - Status, Due Date, Priority, Assignee, Type
- States
  - Unassigned, Assigned, In Progress, Paused, Completed, Declined
  - Date/Time stamps
- Priorities
  - None, Low, Medium, High, Critical*
- Attachments
  - Documents, Pictures
Workers

- Dispatchers and Mobile Workers
- Worker Details
  - Contact Number, Title, Notes
- Worker Status
  - Working, On Break, Not Working
- Worker Location
  - Current Location, Location Tracks
Get to assigned work

- Integrated with ArcGIS Apps so you can:
  - Get to the location of work assignments using Navigator for ArcGIS
Integrated with ArcGIS Apps so you can:

- Get to the location of work assignments using Navigator for ArcGIS
- Complete your work using:
  - Collector for ArcGIS

Open Collector and go to location

Return to Workforce when finished
Collector for ArcGIS

Map Centric Data Collection

High Precision

Works offline
Survey at location

- Integrated with ArcGIS Apps so you can:
  - Get to the location of work assignments using Navigator for ArcGIS
  - Complete your work using:
    - Collector for ArcGIS
    - Survey123

Open Survey123

Return to Workforce when finished
Survey123 for ArcGIS

Form-centric Data Collection

Smart Forms

Works Offline
Operations Dashboard

Real-time monitoring

Key Performance Indicators

Workforce
Operations/Work Force Management

Command & Control Frame-work...

Day 3 HH Listing:

Number of Households Listed

Rwanda
Collection of Apps

Collector for ArcGIS
ArcGIS Maps for Office
Esri Story Maps
GeoPlanner for ArcGIS
Drone2Map for ArcGIS
Esri CityEngine
Esri Maps for SharePoint
ArcGIS Pro

Insights for ArcGIS
Workforce for ArcGIS
ArcGIS Maps for Adobe Creative Cloud
Configurable Apps
Esri Business Analyst
ArcGIS Open Data
Photo Survey
Operations Dashboard for ArcGIS

ArcGIS Earth
Quick Report
Esri Community Analyst
Crowdsouce Reporter
AppStudio for ArcGIS
Explorer for ArcGIS
ArcMap
Survey123 for ArcGIS

Navigator for ArcGIS
Web AppBuilder for ArcGIS
Crowdsourc Manager
Crowdsource Polling
More…
Field Operations

- Field data collection
- Field data verification and quality checks
- Field operations management
- Optimized workloads and routes
- Monitoring of progress of census operations
- Project management oversight and ID of trouble spots
- Updating or correcting enumeration area maps
- Quality control and quality improvements to base maps
ArcGIS Platform for Statistics Organizations
Understanding our world.