**Regional Workshop on the 2020 World Programme on Population and Housing Censuses: International standards and contemporary technologies
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Session 14

Management and Monitoring Systems

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Management and Monitoring Systems

❑ Establish a centralized system for an effective management, monitoring and controlling operational activities;

- o On-site monitoring and tracking the risks and making right decisions

- o Integrated systems with field operations and should be available to different level of field staff/managers

Management and Monitoring Systems

❑ Whatever census methodology/technology used in conducting censuses:

o Management and monitoring of field enumeration should be maintained by information systems and support mechanisms

o Careful planning is required for determining:

– **what information will be collected,**

– **who will be users**

– **What will be responsibilities/duties of users**

– **how the system will be integrated with data collection**

Management and Information Systems

❑ Management and Information Systems should focus on aspects of the operation that matter most, in particular:

o **understanding the status of recruitment of field staff;**

o **understanding the status of logistical issues**

o **understanding the status of the progress of the field enumeration, ensuring that the field operation proceeds according to schedule**

o **identifying levels of non-response or under-coverage;**

o **status of data transfer**

o **identifying trouble spots;**

Management and Information Systems

❑ A number of software solutions can be developed for management and monitoring which can be classified into three groups:

1. Management of recruitment of field staff, logistical and financial issues

2. Data collection management

3. Management and information system (MIS) for operational control

Management of recruitment of field staff, logistical and financial issues

❑ Registration of field staff, their personal information, payments, contract status, etc.

❑ Identification of hierarchy between field staff

❑ Distribution of electronic devices and materials –linking with users of devices

❑ Information for electronic devices –type of device, broken, stolen, etc.

❑ Information for Data Collection Stations, Regional Offices (address, phone number, etc.)

Personnel Module

Financial Module

Funds Transferred from Budget Division to RSSO

[TRANSFER FUNDS TO RSSO]

Search Records by Office
[   ]

Search by Operational Phase
[- Any -   ▼]

Search Records by Object of Expense
[- Any -   ▼]

[APPLY]

Parent Fund ID	Operational Phase	Fund Transferred To	Object of Expense	Amount Transferred	Date of Transfer	Date Received by RSSO	Remaining Funds for Transfer to F.O.	Remarks	
575579	Entire 2015 PopCen	NCR	Other General Services	610,900.00	10/09/2015	10/09/2015	610,900.00	Funds from Current Appropriations	EDIT RECORD
575580	Entire 2015 PopCen	CAR	Other General Services	337,934.00	10/09/2015	10/09/2015	0.00	Funds from Current Appropriations	EDIT RECORD
575581	Entire 2015 PopCen	Region I	Other General Services	278,479.00	10/09/2015	10/09/2015	193,797.00	Funds from Current Appropriations	EDIT RECORD
575582	Entire 2015 PopCen	Region II	Other General Services	377,037.00	10/09/2015			Funds from Current Appropriations	EDIT RECORD

1 2 3 4 5 6 7 8 9 ... NEXT ›

Financial Module

All Operational Phases

As of May 2015

RSSO	Amount Requested by NCS for Transfer to RSSO	Amount Transferred by Budget Division to RSSO	Amount Received by RSSO	Amount Transferred by RSSO to PO	Amount Utilized	Utilization Rate
Region I	858,000.00	813,000.00	322,000.00	316,000.00	96,000.00	29.81
Meals	402,000.00	402,000.00	0.00	0.00	0.00	0.00
Supplies	134,000.00	89,000.00	0.00	0.00	0.00	0.00
Gasoline	6,000.00	6,000.00	6,000.00	0.00	0.00	0.00
Travel Expenses/Per Diem	315,000.00	315,000.00	315,000.00	315,000.00	95,000.00	30.16
Other Expenses	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	100.00

Data collection management

❑ Number of applications can be developed for field staff

- o **Fieldwork management systems for the field staff**

  - **Regional coordinator**

  - **IT Support team**

  - **Supervisors**

  - **Enumerators**

  - **…**

Data collection management and monitoring modules for field staff

❑ **Number of modules for each level of field staff can be developed**

o *Field staff management:* through which the regional coordinator can identify enumerators and their immediate supervisors according to hierarchical structure. It should also provide information on the handheld devices - type and features - used by each member of the field staff

o *Tasks distribution:* through which the work is assigned from the regional coordinator to the local supervisors and then to the enumerators according to the various tasks assigned to them

Data collection management and monitoring modules for field staff

❑ **Number of modules for each level of field staff can be developed**

o *Data transmission:* through this module, the authorized staff (usually coordinators and supervisors) can view data transmission between the handheld devices and the central database

o *Work approval and review*: this module is used to review and approve the work submitted by the enumerators. If the supervisor refuses to approve the work, then the work is returned to the enumerator to make any appropriate changes

o *GPS tracking:* this module allows the supervisors to monitor each enumerator's progress in his/her area, tracking their daily movement

A view of filling the questionnaire out of the EA, Brazil

Data collection management and monitoring modules for field staff

❑ **Regional coordinator`s module**

o Assigning the enumeration areas to the field supervisors and to ensure all EAs are covered by the field staff;

o Monitoring daily progress of the enumeration based on operational performance indicators and reports generated by the system;

o Monitoring the changes in the number of the enumerators and supervisors and electronic devices to ensure there are no problems that may affect the performance;

o Good communication with headquarters and field staff on urgent issues;

o Ensuring timely payments of the field staff;

Data collection management and monitoring modules for field staff

❑ **IT support team module**

o Providing handheld devices to field staff and follow up problems related to devices (broken, stolen, etc.) ;

o Monitor technical problems and provide the first line support in the field for resolving technical problems encountered by the enumerators/supervisors;

o Monitoring operational difficulties related to data transmission

o Communications with the headquarters and regional commissions in case of emergency

Data collection management and monitoring modules for field staff

❑ **Supervisor`s module**

  o Assigning the EAs to the enumerators and ensure complete coverage with no overlapping or omission;

  o Monitoring the daily progress of the enumeration in terms of the number of housing units visited and each enumerator`s assignments and their status;

  o Approving or rejecting the completed questionnaires submitted by enumerators;

  o Following-up non-response and refusals;

  o Providing information for specific cases or situations or possible risks;

  o Communicating with enumerators, other supervisors and coordinators at the local and central level;

  o Displaying the entered data at aggregate and individual levels for checking purposes;

  o Controlling/performing data transmission to headquarters

Data collection management and monitoring modules for field staff

❑ **Enumerator`s module**

o Data transmission (?)

o Approved and rejected enumeration (and reason for rejection)

o Results of enumeration for each unit in EA

– Completed,

– Refused,

– No contact,

– Interview rescheduled (including information on reason and appointment time/date),

– Vacant dwelling,

– Addresses/buildings not used for residential purposes

– Other explanation

Management Information System for operation control (MIS)

❑ This system is fundamental for identifying problems and taking appropriate actions

❑ **Tools for operation control**

  o Performance indicators

  o Alerts for identifying potential risks

  o Geospatial information for monitoring

  o Geo-tracking tool

Management Information System for operation control (MIS)

❑ **Performance indicators**

➢ Key indicators

- Status of enumeration –Completed, Refused, Interview re-scheduled, No contact, Non-residential, Vacant, etc.

- Enumerated population by sex, age

- Average number of population/housing unit per day

- Number of data transmissions per day by geographical area

- Number and percentage of devices that have to be renewed (CAPI)

- Counts of submitted completed questionnaire/incomplete questionnaires

- Comparisons between actual return and planned returns

- Housing units enumerated by mode of data collection for timely monitoring non-response

Management Information System for operation control (MIS)

❑ **Alerts for identifying potential risks**

o Other information that can be potentially useful in monitoring the field enumeration is what might be termed 'supervision alerts', created from a comparison of data actually collected during the enumeration with what might be expected, such as:

– Population count below/above expected

– Male population proportion below/above expected

– Proportion of population under X years and above Y below/above expected

– Housing units count below/above expected

Management Information System for operation control (MIS)

❑ **Geospatial information for monitoring**

    o   It is suggested that advantage should be taken of GIS tools for presenting data collected for monitoring the field enumeration. In particular, the data on performance indicators and alerts can be integrated with GIS that make it easier to recognise problematic geographic areas and to get a better view of regional performance.

❑ **Geo-tracking tool**

    o   The MIS could make use of geo-referenced information on the location where the enumerator has started an interview (captured by the device's GPS), thus identifying possible enumerator fraud attempts
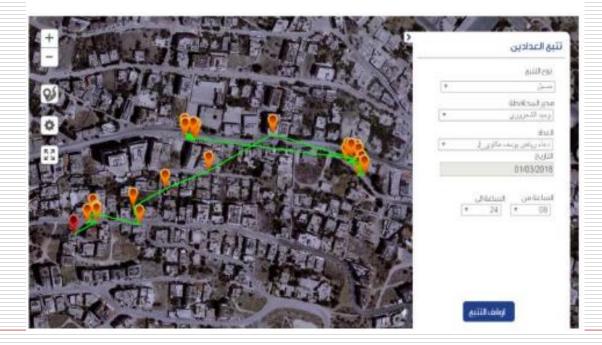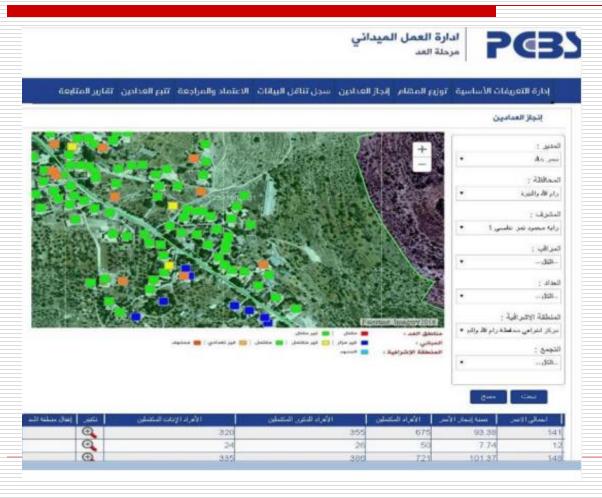
Tracking system

MIS application automatically can record the field worker route

2017 Census of Palestine
Field management and monitoring

Snapshot screen explains achievement follow up per enumeration area per building through different colours:

- not visited
- completed
- deleted buildings
- on-census building
- incomplete

2017 Census of Palestine
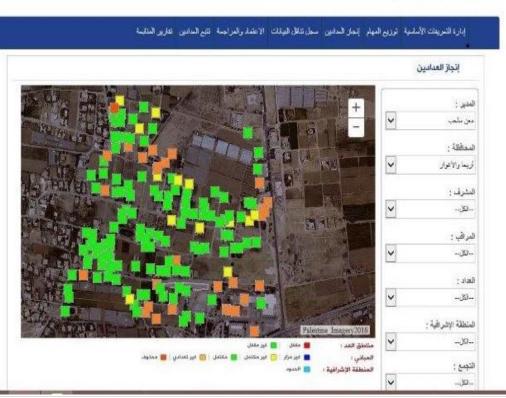# Field management and monitoring

Snapshot screen explains achievement follow up per enumeration area per building through different colours:

- ■ not visited
- ■ completed
- ■ deleted buildings
- ■ on-census building
- ■ incomplete

Management Information System for operation control (MIS)

❑ **Centrally managed systems for operational control**

- ▪ It provides reports on productivity and performance indicators through tables, charts and electronic maps

- ▪ This system may also provide interactive reports to keep regional coordinators/supervisors and headquarters informed about problematic areas
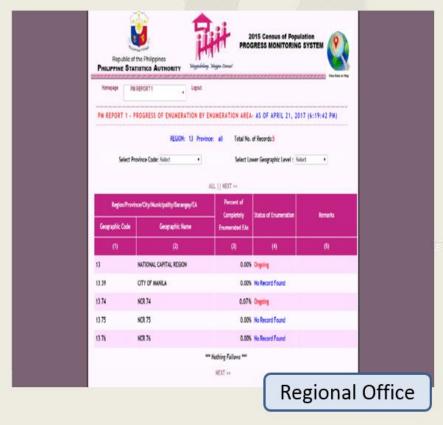
Philippines, 2015 Census

Status of Enumeration (on-going/completed, percent completed)

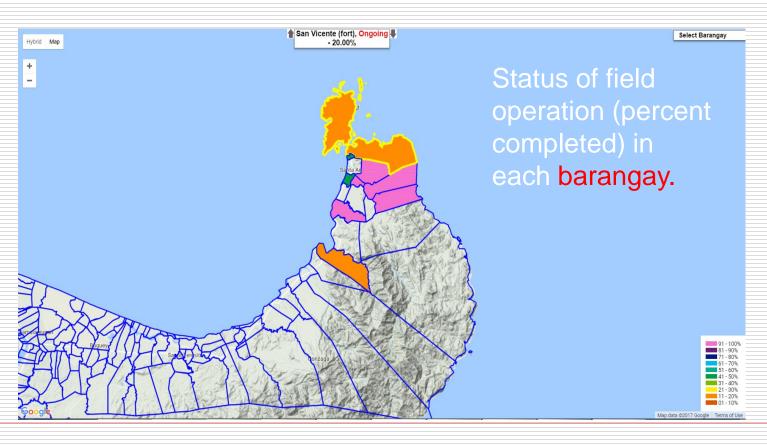Progress Monitoring System (PMS) report where input data come from text messages sent to the CO Server

Central Office

Regional Office

Incident Report Module

Enumeration Disruptions

Area	Description	Reported	Resumed	Remarks
Kitaotao, Bukidnon	Enumeration in Kitaotao Bukidnon (Barangay Calapaton, Barangay Pagan, Barangay White Kulaman and Barangay Sagundanon) was postponed due to encounter between military and NPAs	8/19/2015		
Bgy Mendis, Pangantucan, Bukidnon	Suspended due to military and NPA encounter	8/19/2015		
Batanes	Suspension caused by heavy rains and gusty winds due to typhoon INENG	8/21/2015	8/24/2015	
Laak, Compostela Valley	Brgy Melale and Bgy Sabud was temporarily suspended due to presence of paramilitary men	8/17/2015		
Pagsabangan, New Bataan, Compostela Valley	Enumeration did not commence as scheduled due to fire fight between military and NPA	8/24/2015		
Cagayan Province	Suspended due to typhoon INENG	8/21/2015	8/24/2015	
Rizal, Nueva Ecija	Cases of Meningococcemia per DOH	8/21/2015		

Status of Enumeration (on-going/completed, percent completed)

Status of field operation (percent completed) in each barangay.

Main Functions of Call Center

Hotline (Census helpline)
Support for respondents and enumerators

Interviewing

Arranging visits for census enumerators

Review and validation of data

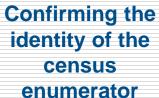**Confirming the identity of the census enumerator**

Main Functions of Call Center

❑ **Support for respondents -Internet**

- ✓ Provide a support for completing census questionnaire
- ✓ Provide technical support to access online questionnaire
- ✓ Provide information about census methodology and operation
- ✓ Provide information about the field staff , especially for identification of enumerators and supervisors who have direct contact with households

Main Functions of Call Center

❑ **Technical support to field staff**

- o logistical support for field staff in the local and regional offices;

- o helping enumerators and supervisors in the field for organizing the field work

- o IT technical support for field staff in the local and regional offices

- o clarification on methodological issues (such as definitions and response categories) and the duties of field staff

- o solving IT-related problems remotely

Main Functions of Call Center

❑ **Quality control and Validation**

○ Call center can also be used for reviewing and verification of data for:
   ✓ Incomplete questionnaires
   ✓ Missing values
   ✓ Inconsistency in data
   ✓ Double counting

THANK YOU...