



**United Nations Regional Workshop on
The 2020 World Programme on Population and Housing Censuses:
International Standards and Contemporary Technologies**

SESSION 6:

A QUALITY ASSURANCE IN POPULATION AND HOUSING CENSUSES

A QUALITY ASSURANCE STRATEGY IN MALAYSIA 2020 POPULATION AND HOUSING CENSUS

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1. OBJECTIVES OF PRESENTATION

2. INTRODUCTION TO QUALITY ASSURANCE IN MALAYSIA POPULATION AND HOUSING CENSUS

- i. Planning & Operational
- ii. Census Coverage Evaluation Survey (CCES) 2010
- iii. Quality Control Mechanisme

3. LESSONS LEARNT FROM CENSUS 2010

4. QUALITY ASSURANCE STRATEGY FOR MyCensus2020

- a. Planning –
 - i. Malaysia Census Transformation Programme (MyCTP)
 - ii. Malaysia Integrated Population Census System (MyIPCS)
- b. Quality Assurance Measurement – Systems & Procedures
 - i. Census Tracking
 - ii. Operation Quality Checking
 - iii. Processing Quality Checking
 - iv. Post Enumeration Survey (PES)

5. POTENTIAL CHALLENGES IN UNDERTAKING QUALITY ASSURANCE PROGRAMMES FOR MyCensus2020



1. Introduction to Quality Assurance in Malaysia's Population and Housing Census
2. To share lessons learnt from Census 2010
3. To share a Quality Assurance Strategy for MyCensus2020 through MyCTP & MyIPCS
4. To discuss Potential Challenges In Undertaking Quality Assurance Programmes for MyCensus2020

DOSM's Policy on Quality

The Department of Statistics Malaysia is committed to provide data and statistical services which are user oriented, timely and of quality. This is to be achieved by the use of up-to-date and relevant statistical techniques and technology and by continuously improving the knowledge and skill of the Department's staff at various levels.

2. Introduction to Quality Assurance in Malaysia's Population and Housing Census



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Purpose of QA is to minimize coverage and content errors

- Coverage errors consist of living quarters, household or population
- Content errors were based on erroneous on basic demographic characteristics such as sex, age and ethnic group.
- Data are fit to be used.

Quality Control mechanism during census operation had been instituted through Standard Operation Procedures and Work Instructions.

Census Coverage Evaluation Survey (CCES) 2010 was conducted to estimate coverage and content errors. The CCES is a sample survey in which all households in the selected enumeration blocks (EBs) will be re-enumerated.

Differences between the CCES and Census resulting the under enumeration rates which was later used as a base in adjusting the population, households and living quarters obtained from Census.



Objectives of CCES:

1. To estimate the extent of coverage error in Census 2010 in terms of living quarters, households and person so as to provide a basis for adjusting the results of Census 2010.
2. To evaluate content error by studying differences in response on selected characteristics of persons enumerated in the Census and CCES; and
3. To be made as a guide in the planning and implementation future censuses and surveys.

Coverage of CCES 2010

Geographically covering Urban (Metropolitan + Urban Large) and Rural (Urban Small and All rural) areas – determined by the stratum of Enumeration Blocks (EB)

Population lives in private living quarters only

Sampling Design : A single stage stratified sample design with the EB as a sampling unit.

What do you need to conduct PES?

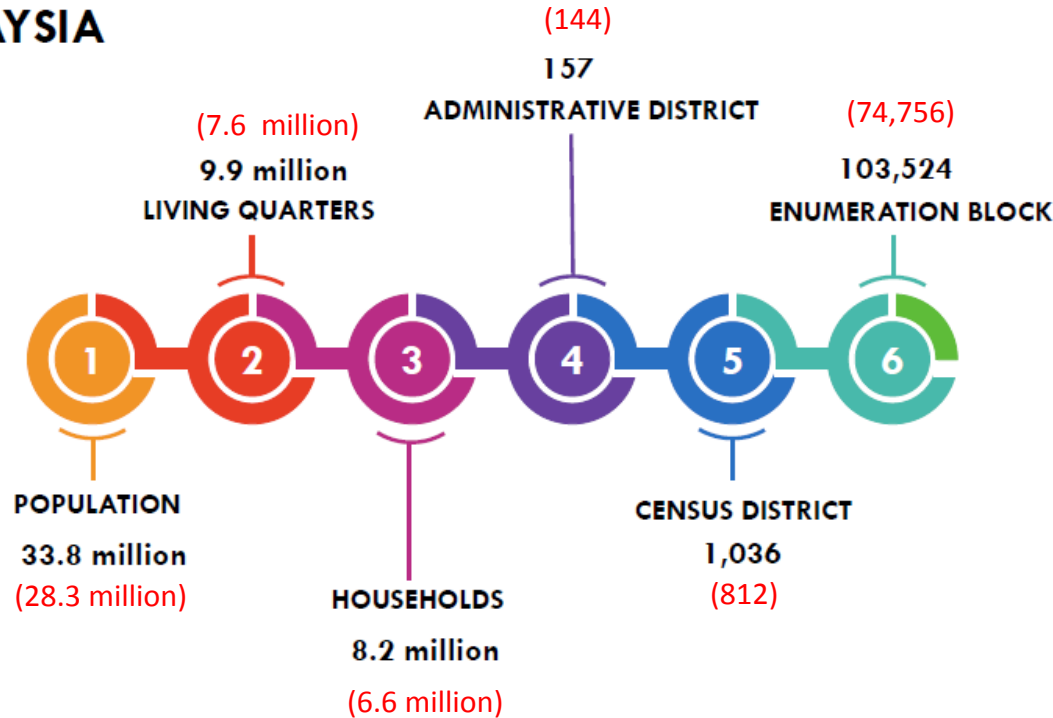
1. Methodological Framework
2. Reliable and updated EBs and Household Frame
3. Fast and reliable Census Processing System and PES Processing System
4. Well trained and Independent PES Team
5. Costs of PES should be budgeted in Total Census Cost

CCES has recommended the following :

1. To ensure greater public awareness about the Census by enhancing the publicity effectiveness
2. To ensure greater access and coverage of urban areas – to improve the quality of listing of the living quarters and closer supervision during enumeration period.
3. To improve and ensure concepts adopted in Census can be easily understood by enumerators the respondents
4. To improve training processes by involving more experienced staff.
5. To improve and invent more efficient CCES System
6. Many more ...



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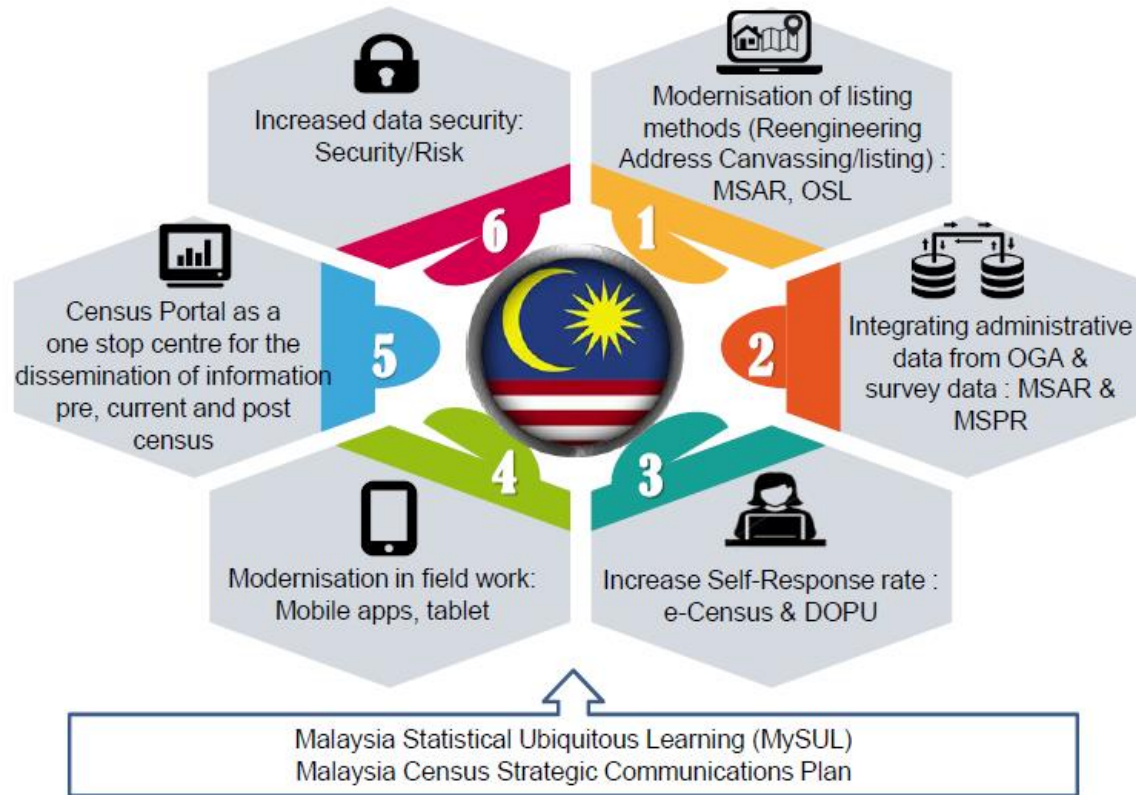


- DOSM’s Policy on Quality
- Client’s Charter
- Fundamental Principal of Official Statistics
- Generic Statistical Business Process Model
- Generic National Quality Assurance Framework – GNQAF

Handbook on the Management of Population and Housing Censuses Rev. 2



MALAYSIA CENSUS TRANSFORMATION PROGRAMME (MYCTP)

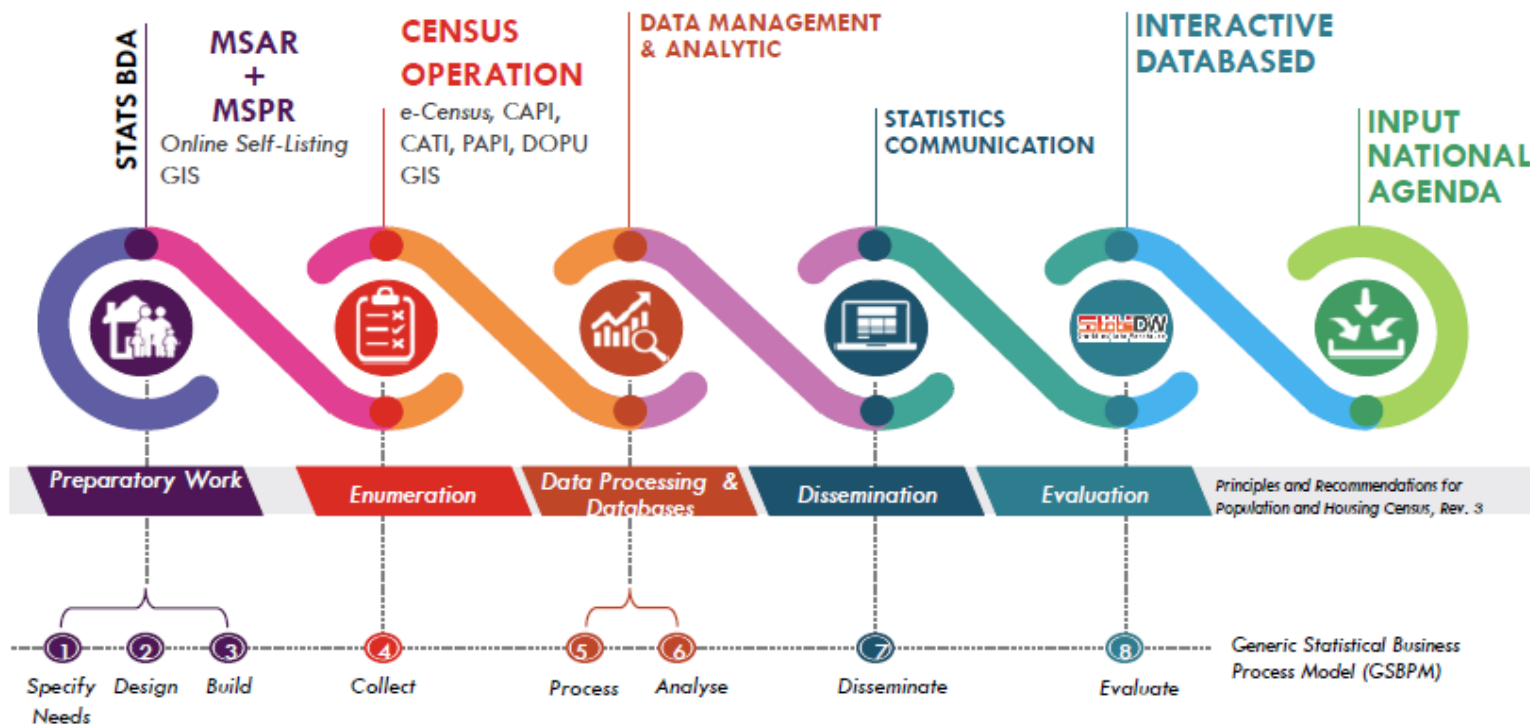


MALAYSIA INTEGRATED POPULATION CENSUS SYSTEM (MYIPCS)

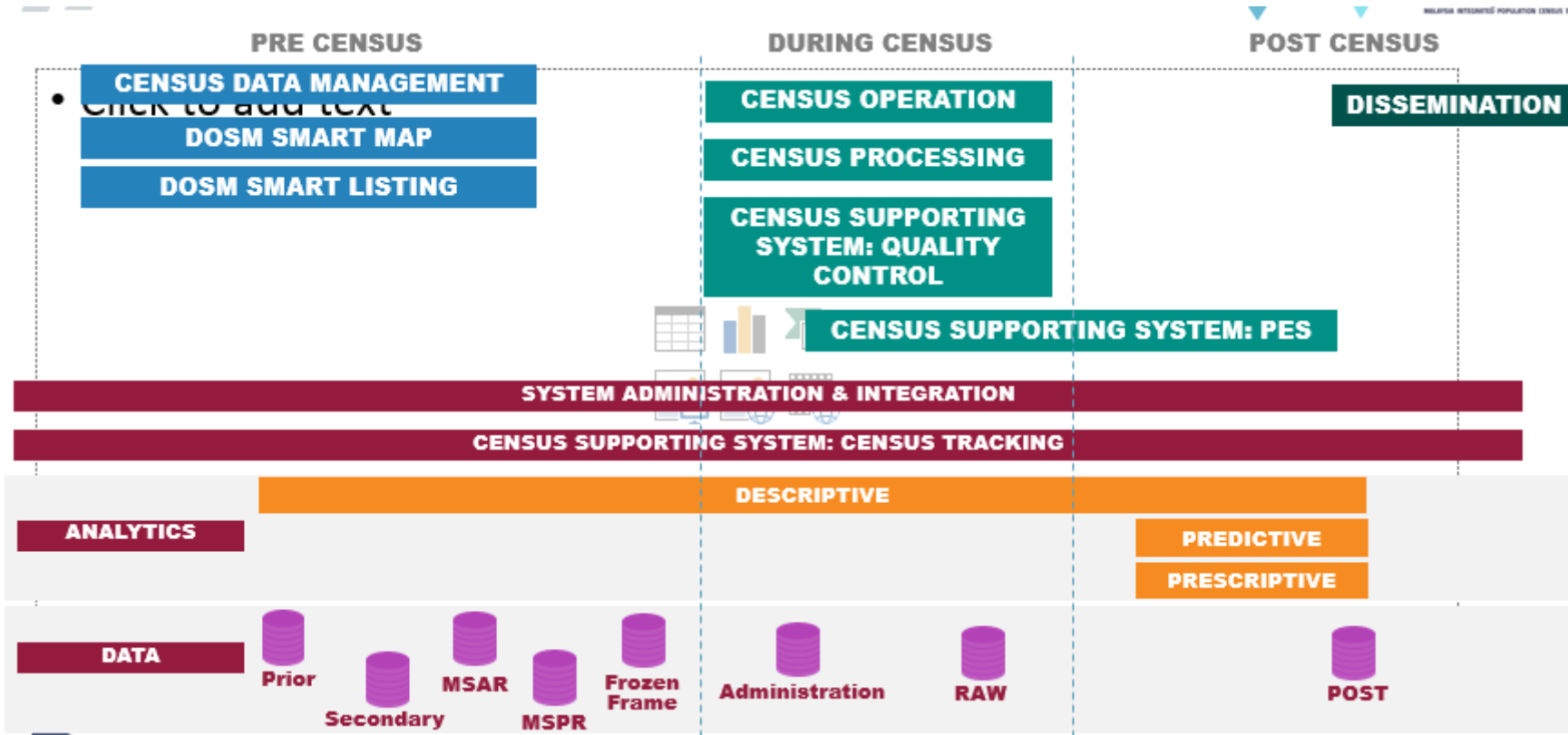


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OVERALL MYIPCS BY PHASES



Objectives of Quality Control System

The objectives of Quality Control System are:

1. To provide online platform to do QC Operation and QC Processing.
2. To increase QC productivity by providing tools such as:
 - Generating samples.
 - Auto detect possible errors.
 - Custom flow form for QC Operation.
 - Ability to compare Census data vs QC data.
 - Ability to compare Census data (e-Census) vs Frozen Frame.

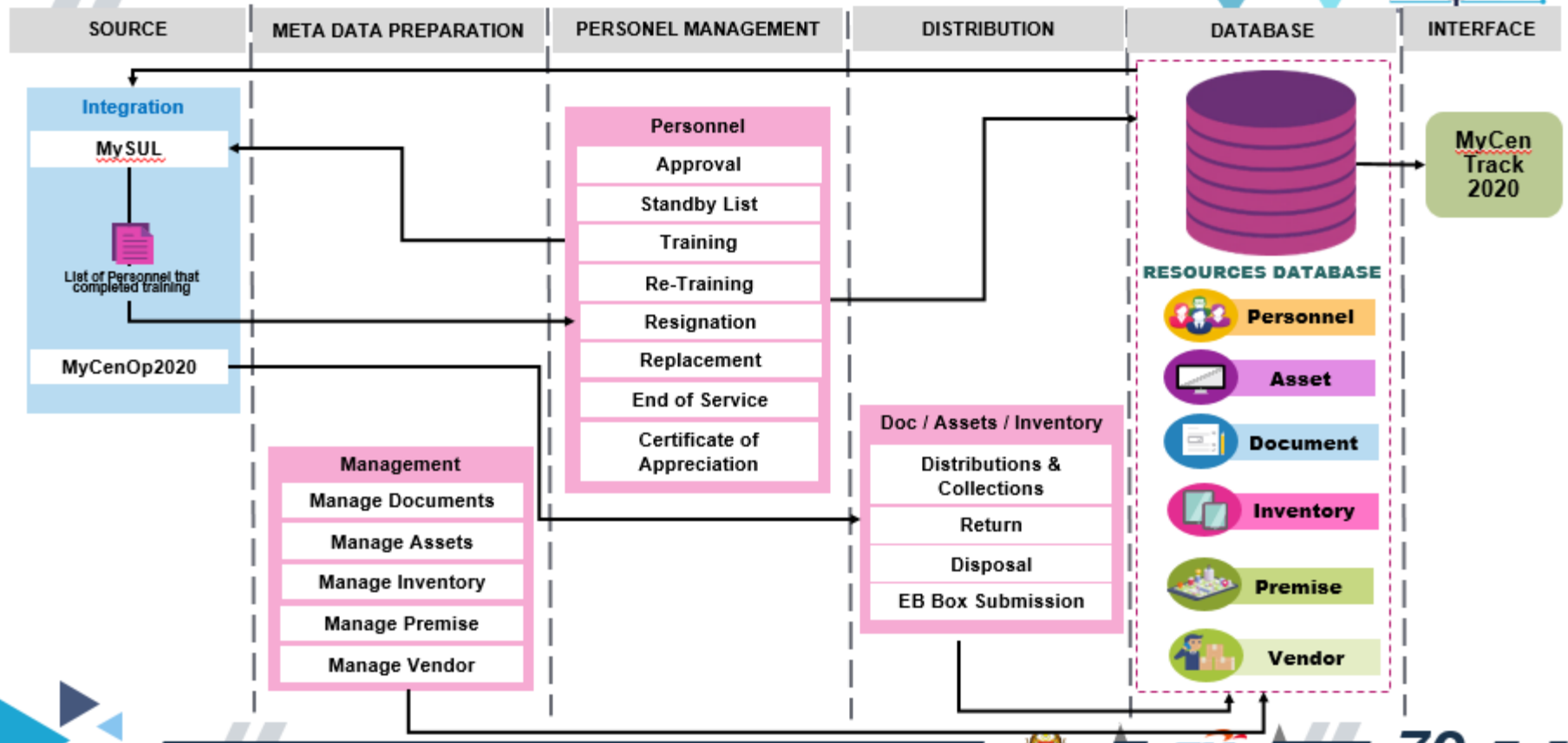
The Census Tracking module consists of **six (6) components, which are Document, Asset, Inventory, Personnel, Premise and Vendor.**

Objectives of Census Tracking

The main objectives of Census Tracking are as follows:

1. To ensure all key components are tracked for each census phases in order to measure the efficiency of Census activities.
2. To ensure accurate reporting and tracking of logistical activities **for Document, Asset, Inventory, Personnel, Vendors and Premises** across different phases of the census.
3. To enable users to track deployment of key resources and components based on data collected against planned deployment during the census.
4. To allow users to track Document, Asset, Inventory, Vendors and Premises deployed in localised areas in near real-time during census operation.
5. To enable users to monitor summary listing of Distribution Records, Collection Records and Census Equipment.

Conceptual Model : CENSUS TRACKING (DURING & POST CENSUS)



Census 2020, QC on Census Operation

- The activity involves four (4) Census Mode namely **CAPI, CATI, PAPI and DOPU**.
- The activity of QC Operation will be executed by Operation Supervisor (OS) and District Superintendent (DS) while Assistant Commissioner (AC) and Deputy Commissioner (DC) will monitor QC Report.
- Implementation of QC requires field work to verify selected variables from eDoc1, eDoc2 and Doc2 using QC system or hardcopy form.

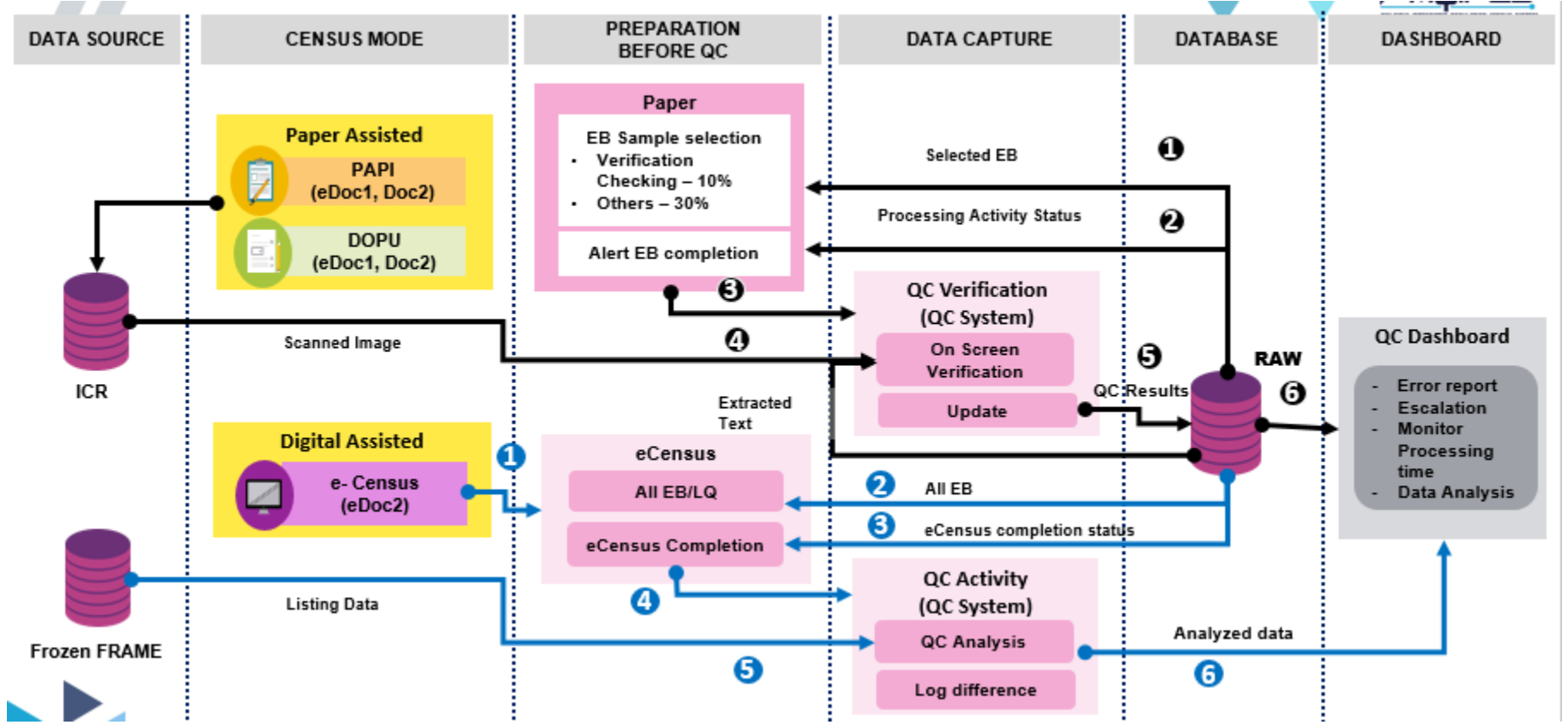
QC Processing

QC Processing activity in Census 2020 involves two objectives.

For PAPI/DOPU, the objective is to re-verify the processed ICR image and extracted text in order to produce good data quality.

Meanwhile, for e-Census, the objective is **to compare and analyse data** between Listing Data captured by DOSM staff in Frozen Frame with respondent's input which mode is e-Census. Thus, the next section is explained based on the Census mode.

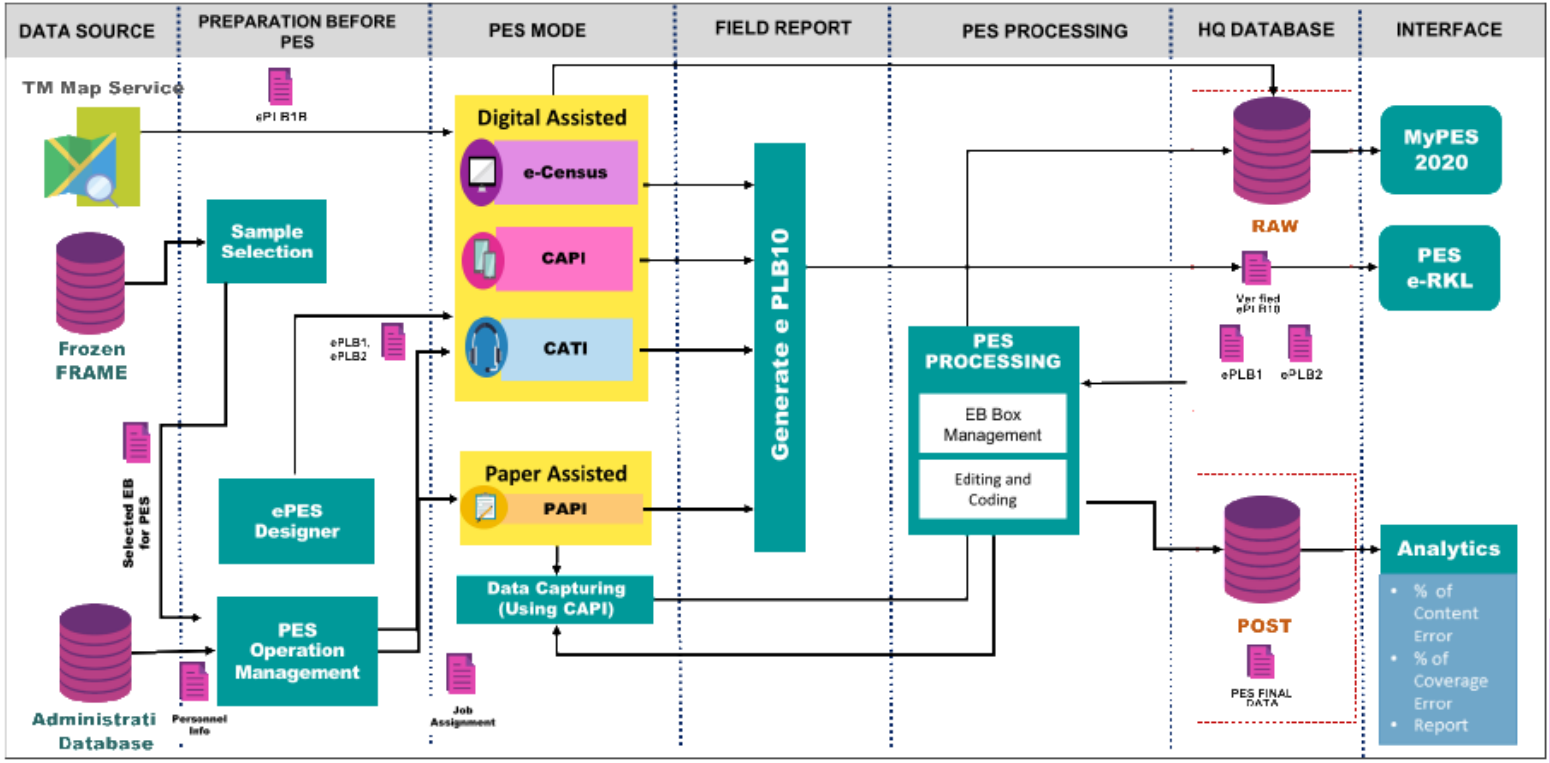
CM - QC on Data Processing



Through rapid growth of technology, PES 2020 in MyIPCS is specifically developed with the goals of:

- a. Supplying an Integrated platform especially with the Operation and Processing Database
- b. Modernizing the operational work via Mobile Applications (CAPI), CATI and e-Census.
- c. A platform that can facilitate in data comparison
- d. Percentage error; Content and Coverage Error can be precisely attained.

The PES will start after Census Operation. The survey will be conducted using four (4) interview modes – CAPI, PAPI and CATI as well as self-enumeration (e-Census). In Census 2020, modernizations are to take place in PES Operation and PES Processing



Legend

- Within Module
- Other Modules
- PES Modes

5. POTENTIAL CHALLENGES IN UNDERTAKING QUALITY ASSURANCE PROGRAMMES

| | Area of concern | Resolution |
|----|--|--|
| 1. | Process Reengineering – Modernization, Digitalization and Digitization, Multi-mode Data Collection | <ul style="list-style-type: none">i. Strategic Partnership with stakeholders and system developer.ii. Setting up- technical committee early comprises of permanent staff.iii. Extensive pre-test, test, and trial census.iii. Advocating data analytic skills from DOSM's Projects i.e StatsDW and StatsBDA |
| 2 | Staffing and Human Resource – Permanent, Temporary, Part Time and contract for service. | <ul style="list-style-type: none">i. Leveraging on Census Actii. Strategic Collaboration with Ministries/Department/Agencies.iii. Engagement with NGOs. |

5. POTENTIAL CHALLENGES IN UNDERTAKING QUALITY ASSURANCE PROGRAMMES cont'd



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| | Area of concern | Resolution |
|----|---|---|
| 3. | <ul style="list-style-type: none">• Changes in Demography Characteristic• Urbanization• The increase of gated living quarters | <p>Greater engagement and effective publicity strategy.</p> <p>Strategic collaboration with NGOs</p> |
| 4. | <p>Adequate Financial Support ?</p> | <p>Proper planning mechanism – full support from the government and MyCensus2020 is funded through Development Expenditure.</p> <p>Do more with less.</p> |



5. POTENTIAL CHALLENGES IN UNDERTAKING QUALITY ASSURANCE PROGRAMMES cont'd



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| | Area of concern | Resolution |
|----|------------------------------------|--|
| 5. | Census Products and Dissemination | Data Analytic element in MyCensus2020. User needs analysis. Dissemination strategy. Utilizing the current StatsDW and the incoming StatsBDA |
| 6. | Census Quality Assurance Framework | To establish Malaysia Quality Assurance Framework and Strategy for MyCensus2020. |





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Thank You

