



Using Tablets for the 2018 Algerian Census: Mobile Census Application Quality Assessment

SPEED SESSION: Changing Landscape
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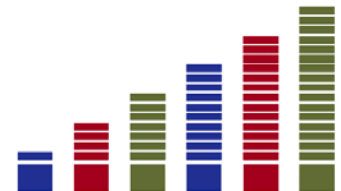
PRESENTATION OUTLINE

I- ALGERIAN STATISTICAL SYSTEM: HISTORY

II- CENSUS ALGERIA 2018: USE OF ICT

III- CENSUS ALGERIA 2018: QUALITY ASSESSMENT

CONCLUSION



I- ALGERIAN STATISTICAL SYSTEM

HISTORY

1962 → Creation of a Planning Institution with a Statistics Department.

September 1962 → Establishment of COCOES: coordination, control and statistical confidentiality.

1964 → Creation of the National Committee in charge of First Population Census.

1971 → Creation of the Commission for Census and Survey Statistics (CNRES).

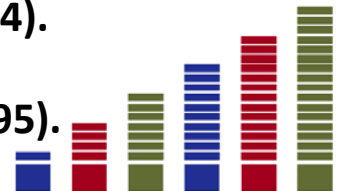
May 1971 → Decree on Regulations, Coordination and Statistical obligations.

1982 → Creation of The Office for National Statistics (ONS).

1982 → Dissolution of CNRES and transfer of its structures, resources and activities to ONS.

1994 → Algerian Statistical Law (Legislative decree N°94-01, January 15th, 1994).

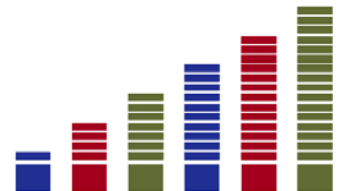
1995 → ONS statutes reorganization (Executive decree N°95-159, June 3rd, 1995).



II- CENSUS ALGERIA 2018: USE of ICT

✓ For RGPH 2018:

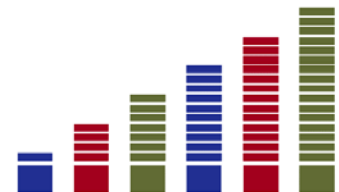
- 50,000 agents will be recruited and trained as enumerators ;
- 13,000 agents will be recruited and trained as controllers;
- The municipal delegates .



II- CENSUS ALGERIA 2018: USE of ICT (2)

✓ **The enumerator:**

Each enumerator will be equipped with a tablet for data entry and a paper district notebook that is provided by the municipal delegate.

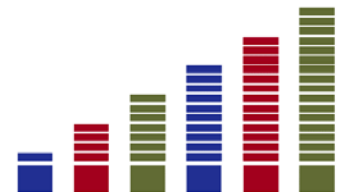
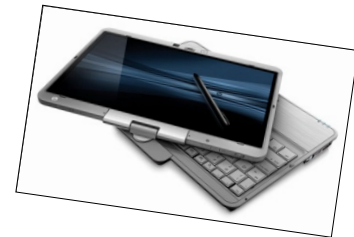


II- CENSUS ALGERIA 2018: USE of ICT (3)

✓ **The controller:**

Each controller is also equipped with a Notebook tablet (for an overall vision of the questionnaire) to:

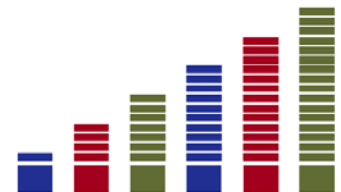
- verify the quality of work of the five enumerators, under his supervision,
- have a status of the collection in the field and daily statistics on households surveyed and enumerator performance.



II- CENSUS ALGERIA 2018: USE of ICT (4)

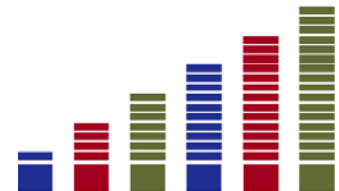
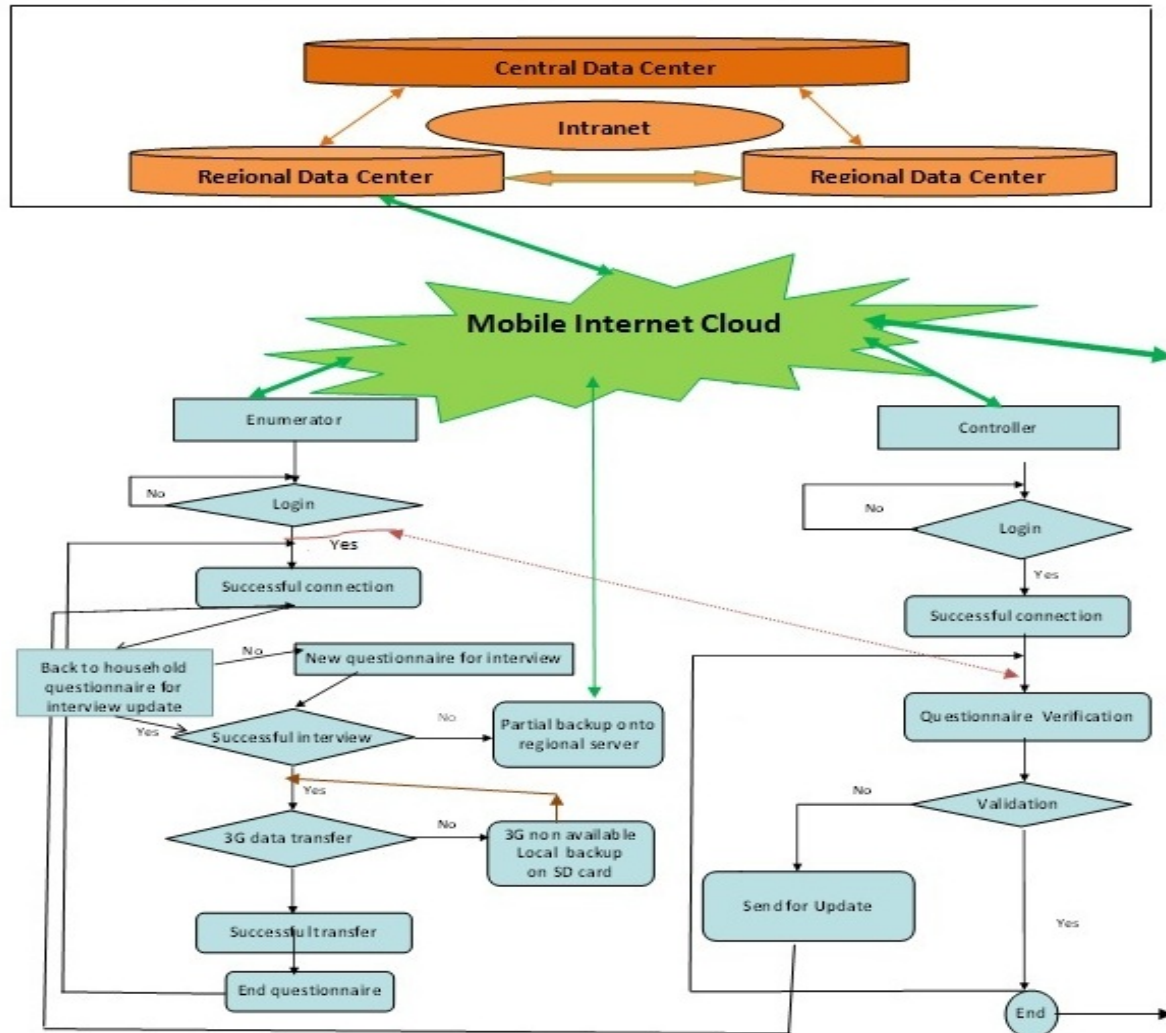
✓ Authentication of enumerators and controllers:

- Login lists (username and password) will be defined following the use of mobile chips' PINs affected by the mobile operator.
- The login could be defined as the concatenation of the wilaya, municipality and district codes (given at the conclusion of cartographic updates).



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II- CENSUS ALGERIA 2018: USE of ICT (5) Flow of Information Chart



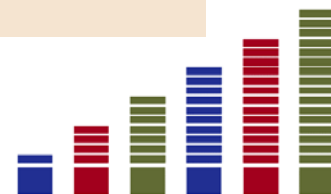
III- CENSUS ALGERIA 2018: QUALITY ASSESSMENT (1)

The mark, MImark, is a value in the range $[A_{inf}; A_{sup}]$, where:

$A_{inf} < A_{sup}$; $A_{inf}, A_{sup} \in \mathbb{IN}$; for this case we have $A_{inf} = 0, A_{sup} = 10$.

The mode of interaction indicator, MII, is determined as follows:

$$MII = \frac{MImark}{10} . \quad (1)$$



III- CENSUS ALGERIA 2018: QUALITY ASSESSMENT (2)

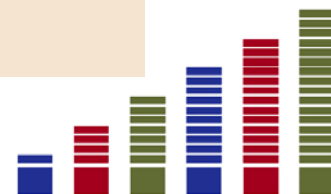
The error management indicator (EMI) is calculated using the following relation:

$$EMI = \frac{NT}{N_{total}}, \quad (2)$$

where NT is the number of successful instructions

and

N_{total} is the number of total instructions.

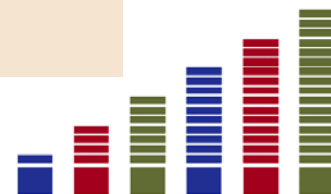


III- CENSUS ALGERIA 2018: QUALITY ASSESSMENT (3)

The data security indicator (DSI) is given by:

$$DSI = 1 - \frac{TNEU}{UT}, \quad (3)$$

where TNEU is the total number of events that are unpredictable and uncontrolled and UT is the unit of time.



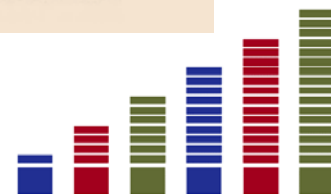
III- CENSUS ALGERIA 2018: QUALITY ASSESSMENT (4)

We consider the following 2018 Census specific
total quality management indicator (TQMI):

$$\text{TQMI} = \text{TQI} * \text{MII} * \text{EMI} * \text{DSI}, \quad (4)$$

where $\text{TQI} = (\text{successful transfers per UT}) / (\text{total transfers per UT})$,
transfers expressed in Ko/s, represents the transfer quality indicator.

Since TQMI, clearly, belongs to the interval $[0; 1]$, we will be able to assess
the quality of our mobile application by the closeness of its TQMI to 1.



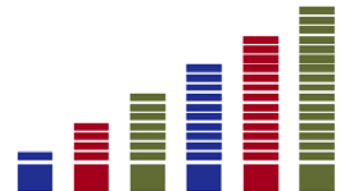
CONCLUSION

In order to test and validate these indicators, the following activities will be conducted:

development of the census mobile application;

consultation with specialists in order to determine the different values;

application of these indicators to the developed mobile application.



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THANKS!

