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2020 WORLD ROUND OF POPULATION AND HOUSING CENSUSES –
PACIFIC ISLAND COUNTRIES' CENSUS PLANNING MEETING:
INTERNATIONAL RECOMMENDATIONS/STANDARDS, CONTEMPORARY TECHNOLOGIES AND REGIONAL COOPERATION

Noumea, New Caledonia, 27 July – 31 July 2015

PART 3: CAPI – Windows-based using Notebooks/Laptops

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Introduction

1. This paper briefly describes the field testing of the CAPI technology using notebooks, during the 2012 Tuvalu census. The main objective was to test its comparative effectiveness and strengths relative to traditional paper-based interviews.
2. CAPI which stands for *Computer Assisted Personal Interviewing,* a surveying technique that uses a computer-based questionnaire, where census or survey enumerators record people's responses straight into a notebook or laptop.
3. Tuvalu, as the last PIC to undertake a census in the 2010 round of census, in November 2012, provided a good opportunity to field-test the CAPI methodology, and evaluate its usefulness and viability for use across the region, prior to the start of the 2020 round of census.
4. Four small notebooks were purchased and used for the testing of the CAPI Application with the assistance of a consultant who had vast experience with CAPI applications and data processing. The application was tested in two census enumeration areas (EAs) on the main island of Funafuti, where two teams were selected to undertake field enumeration with the assistance of the SPC data processing staff who accompanied them during the trial.
5. The application was designed in CSPro and is menu-based where enumerators select the menus for specific tasks. The main menus were the actual data entry menu and the execution of the batch editing program to edit the data and the results are verified with the members of the household immediately.
6. Since Tuvalu does not have a very efficient internet access, any update to the application or the transferring of data was done manually where the enumerators had to connect their notebook to the supervisor notebook through a network cable to transfer information.

Key achievements

7. The most important feature of CAPI is the QUALITY of data being captured. With all the in-built checks in addition to the questions and instructions in the application assures a high degree of correctness in the data being captured.

8. All necessary logic/consistency checks, filtering and skips are incorporated in the application which really helps the enumerators while they are doing the interview and the recording of information. They don't have to worry about skips and logics in the responses as the system does it for them.
9. Questions and instructions for each question are shown on screen. This again helps the enumerators to guide them on how the questions should be answered.
10. Use of listing data for referencing questions. The system uses the listing information to cross-check against what is being captured during the interview and it uses the person's names to reference in the questions.
11. Batch edits are executed after the completion of each household. At the completion of each household, the enumerators then select an option in the menu to run the batch edit for that household. Any errors detected are verified instantly there with the household members. Data are fully edited after the completion of each batch editing.
12. *Timeliness in data capture*. Fast to complete a household compared to manual filling of questionnaires (paper interview).
13. Since all information is captured during the interview, *there is no need for double entry*, as long as all the necessary internal consistency/logic checks are included in the system.
14. *The need for imputation is minimised* (with this process ideally becoming obsolete), as data verification takes place in real-time, while the interview is proceeding.
15. Summary information and cross-tabulations for provisional/preliminary results can be easily generated from the data being collected.
16. Cost effective. Saves a lot of printing cost, data entry cost, coding and less training time required of filling questionnaires.

Main challenges

17. *Availability of IT support*. With the use of laptops/notebooks/tablets requires the availability of technological support in terms of:
    i. Networking and internet access for sharing/transferring of data and application files.
    ii. IT support for troubleshooting of hardware/software. Technical assistance to be readily available if there is a problem with the system.
18. *Power.* Batteries need to be charged especially if used in the outer and remote areas where electricity is not available. One solution is to purchase a spare battery for each computer, where one could be charged while the other is being used.
19. *Backing up of data*. The provision of external drives or USBs for the enumerators to backup the data. Having internet access would be more reliable by transferring data to a central location.
20. *Coding of occupation and industry codes.* This facility is not available in the current version of CSPro and one solution is to train the enumerators on coding techniques and the system uses 'pull-down' menus for them to select the codes from the list.
21. *Remoteness of EAs.* The issue of remoteness will always be an issue when using technologies and one option is to do a dual mode of collection where the CAPI system could be used in the areas with good technological infrastructure and use the manual data collection (paper questionnaires) in these remote areas.

Proposed way forward

22. It is anticipated that National Statistics office (NSO) will be introduced with new data collection tools that will improve data collection and dissemination. The adoption of these new technologies will largely improve the quality of data being collected as well as the timeliness of collection, processing and dissemination of information.

23. Usage of new technologies means new skills, knowledge and experience, hence, the need to build capacity and provide the necessary training to NSOs on the use of these technologies, data processing software and IT.

Conclusion

24. Given demonstrated gains in data quality and overall gains in enumeration effectiveness and efficiency, and with enumerators quickly adapting to this new technology, this technology could be readily implemented during the 2020 round of censuses, pending a careful country-by-country consideration of cost-benefits and the risks involved compared to traditional paper-based interviews.