

The 2014 Population and Housing Census of Myanmar:

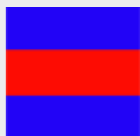
What is happening at the Census Office



Ministry of Immigration and Population

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Introduction

To appreciate the enormous task of the analysis of the census data of Myanmar, a trip to the Census Office in Nay Pyi Taw is a “must”. It’s like entering a beehive. There is activity everywhere. The number of boxes containing the questionnaires from the census is overwhelming. A vast storage area has been built specifically for this purpose. An assessment was completed by the fire department to ensure that the questionnaires are safe and secure.

Twenty thousand boxes containing 11 million questionnaires were sent out across the whole of Myanmar and returned to the Census Office by the 4 May 2014. Each township was given the exact date on which to deliver their questionnaires.

Two hundred and eighty staff have been employed to complete the census data analysis process. A confidentiality clause is included in their contract.

The entire data analysis process is seamless, with distinct stages for each of the census data analysis process, which has 10 aspects.

1. Storage of the Census Data



- Over 11 million questionnaires are catalogued in the storage area
- Boxes are sealed in stacks in a strict order
- Tough measures are in place to ensure data is confidential
- The storage area is locked and only authorised staff can access it



When the boxes containing the census data were returned from the field to the Census Office, they were arranged by state/region, district, township, and ward or village tract and Enumeration Areas. Myanmar was divided into 81,744 Enumeration Areas prior to the census. An Enumeration Area (EA) is the geographic area where the population is counted by a census enumerator. The boxes are stored on shelves using a catalogue system. This means a questionnaire can be retrieved for any household if necessary but only by authorised personnel. There is also a detailed map of the storage facility. The questionnaires in the storage room are always guarded, and must be signed for when removed for analysis. Once the data capturing processes have been completed, all boxes are sealed, returned and then placed on their designated shelf in the storage area. Coloured stickers on boxes indicate whether the questionnaires have been prepared for scanning (blue), registered in the scanning system (green), or already scanned (orange).

2. The Receiving Process



- Township Census Officers have accounted for the number of questionnaires received and returned for their Enumeration Areas
- They have provided explanations for Enumeration Areas and households that have not been accounted for in an Enumeration Area



All Township Census Officers visited the Census Office to account for the number of questionnaires they received and returned for their Enumeration Areas. If Township Officers had received questionnaires for 50 Enumeration Areas and had only returned 48, they had to explain why. Often it was because of recent changes to the Enumeration Area maps or some Enumeration Areas had split or been merged. In addition, if there were any missing households in any Enumeration Area they had to account for these. This process was completed on the 3 July 2014. After checking the questionnaires for each Enumeration Area, the Township Census Officer, in addition to the person counting the number of questionnaires, recorded and signed a form and the boxes were then resealed.



3. Enumeration Summary (EA) Sheet



- The information on the Enumeration Area Summary Sheets was manually entered into a computer database. This process was completed by 8 July 2014
- The Enumeration Area Summary Sheet collected information on the total number of males and females present in a household on the Census Night. It recorded the household type, whether it was private or institutional and the total population for each Enumeration Area. These were completed daily during enumeration
- This information will show the total population of Myanmar



If the totals do not add up correctly for every household in each Enumeration Area, the data has to be added up in Microsoft Excel. Khin San Myint and Tin Tin Hla, who are Staff Officers in charge of this section, said: "When we receive the Enumeration Area Summary Sheets, we enter the number of males and females, the number of private and institutional households and the total population for each Enumeration Area. There are 12 people in our team. We enter 2,500 Enumeration Summary Sheets every day. The data is entered manually. If the total population for the Enumeration Area is wrong, it has to be added up in Microsoft Excel which is very slow."

4. The Preparation Process



- Staff check the Enumeration Area codes
- They remove staples and check that the questionnaire is not damaged and then split the questionnaire in two along a perforated line in preparation for scanning
- They then complete a 'folio form' detailing the number of questionnaires for each Enumeration Area



The sealed boxes are opened and the Enumeration Summary (EA) Sheet is removed and put in a separate file. The number of questionnaires inside the box is counted for each Enumeration Area. Staff remove all blank questionnaires, all staples and check that the households are in sequence e.g. 1 to 25. Staff check the state/region, district, township, ward or village tract and the Enumeration Area number, pre-allocated during the mapping process. If a questionnaire does not belong to a particular Enumeration Area it is taken to the right box.

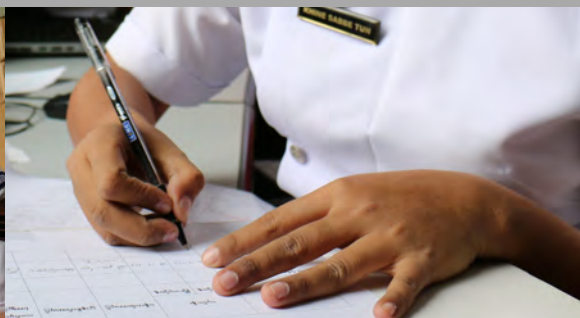
Specially trained staff visually inspect each questionnaire. On every questionnaire there is a sample of how the numbers should be written. In the few cases where the marking or number is not properly filled in inside the box, the mark or number is moved and placed inside the box that was initially incorrectly filled in. All such corrections can be traced back to the original checking office. If the questionnaire is damaged or has been filled in using ink, then the information from the questionnaire is transcribed on to a new questionnaire and is then signed by the supervisor. No data is changed at this stage.

Once this process is completed a 'folio form' is filled out - this form has information on the number of questionnaires for each Enumeration Area by state/region, district, township, ward or village tract as well as whether it is a rural or urban area. A "blue sticker" is then put on the box to indicate that the preparation process is complete and the Registration Process can begin.

Daw Thida, in charge of the Preparation Process explained her role, she said: "After the data has been received, I check how many household and private institution questionnaires there are in each box. Then I check the Enumeration Area list to see if there are any questionnaires missing. If any questionnaires are missing, I correct the 'folio' form. I oversee a team of 93 people who complete about 25 to 35 Enumeration Areas a day."



5. The Registration Process



- A database in the registration area already contains all the Enumeration Area codes for Myanmar which were entered prior to the census taking place
- If the Enumeration Area number is wrong the computer flashes up that the Enumeration Area does not exist or that the Enumeration Area has already been scanned
- Once the 'folio forms' have been entered a "Batch Header" is printed which shows the Enumeration Area and the number of questionnaires



Daw Naing Naing Lwin, Immigration Officer, said: "I and five others receive the 'folio' forms from the preparation area and enter the information in to the computer. If there are any mistakes I inform the supervisor as only she can make corrections. We enter about 900 forms a day." Once the 'folio' forms have been entered a Batch Header is printed which shows the state/region, district, township, ward or village tract and enumeration area and the number of questionnaires. The registration and scanning databases are linked, so the scanner knows how many questionnaires it should receive for each Enumeration Area. A "green" sticker is put on the box to show the questionnaires have been registered.



6. The Scanning Process



- The census office has eight state of the art scanners
- Around 150,000 questionnaires are scanned a day
- The Batch Header is scanned and the scanner confirms that the questionnaires have been registered
- The state of the art scanner can tell if there is a difference between the number of questionnaires on the Batch Header and the number it has scanned
- The scanner rejects any damaged forms



U Aung Phyo Han, Assistant Director of the scanning process said: "I am in charge of a team of 11 people. When I receive the Batch Header from registration with the number of questionnaires for each Enumeration Area, they are scanned. If there are any errors, such as the number of questionnaires does not match the total on the Batch Header, or there is dirt on the form, the scanning machine rejects the questionnaires. If the number on the Batch Header does not match the number of questionnaires, I go back to the Registration Team. If there are errors on over 10 questionnaires, I go back to the Preparation Team. We scan around 75,000 forms a shift. The machines are very fast and accurate." As the forms are scanned, the information is automatically captured in a database. Once the questionnaires have been scanned an "orange sticker" is put on the outside of the box to show that the scanning process has been completed.

7. Character Inspection



- This team looks at possible errors in the numbers written on the form, for example, a 3 may look like an 8
- The computer flashes up the characters it cannot accurately classify
- Trained computer operators highlight the characters which need to go to key corrections
- The database deliberately plants errors to check that staff are continuously scrutinising the forms for character anomalies



Daw Mar Mar Oo, Staff Officer of the Department of Population, said: "When we receive the data from the scanned forms, the computer software flashes up the characters it cannot recognise. For example a 3 may look like an 8. The mistake is highlighted and then sent to the key correction team".

8. Key Corrections



- Key correction operators check the highlighted numbers on each questionnaire by clicking on the number to enlarge it
- Some numbers are written in Myanmar, so the computer cannot recognise them
- Some numbers are written in English, but a 5 may look like an 8, or a 3 may look like a 9
- If the operator is unsure about the correction he/she consults with their supervisor



Daw Mar Mar Oo, Staff Officer of the Department of Population, said: "When we receive the possible corrections from the Character Inspection team we have to make corrections by checking the highlighted number in the questionnaire. Sometimes the scanner does not identify the correct number because of poor handwriting. The operator clicks on the highlighted number to enlarge it and is able to see what the number should be and makes the correction."

9. Monitoring and Evaluation



- At any time supervisors can look at a database that shows them, for example, how many forms have been scanned or how many characters have been inspected
- Staff can be reallocated to other data processing areas where there is a backlog that is slowing the data processing process down



At any given time supervisors can look at a database that shows them the progress of the data processing, for example how many forms have been scanned or how many characters have been inspected. This allows for appropriate movement of staff to ensure that they have the skills to perform their job as well as to increase staff in certain areas where a backlog is slowing the process down.

10. Storage of Data



- The Census Office has state of the art computer technology
- All census data is backed up every day both at Nay Pyi Taw and remotely
- Teams of IT experts in Bangkok and New York monitor the functioning of the IT system and servers and are ready to intervene in the event repairs are needed



The Census Office has state of the art computer technology, to ensure that all census data is stored in a safe and efficient way. A strong safety component of this system is that all census data is backed up locally and remotely every day.

Conclusion



The above information illustrates the many stages of analysing the data collected during the census and that quality assurance for data analysis is a key component of this entire process. It also shows that conducting a census is a huge and time consuming undertaking. However, when the results of the recent nation-wide census are published they will help to formulate development policies and projects to improve the current and future lives of all people in Myanmar.

Before publication of any census data, special controls or data editing takes place. In all censuses, both in developed and developing countries, there are cases where some of the information collected in the field may not be consistent with normal expectations. For example a 5 year old child may be recorded as having completed secondary education or a 6-year old girl having given birth to two children. Such inconsistencies are thoroughly checked with other information about the person, after which a decision is made using computer programmes and demographic methods. The United Nations has produced guidelines and procedures to use to facilitate this process. This process is done carefully when all data have been scanned and exported to analysis software. It is to ensure consistency and improve the quality of information being generated from the census.



To find out more information visit:

www.dop.gov.mm

<http://myanmar.unfpa.org/census>

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