

EXPERIENCE OF VIETNAM IN CENSUS MAPPING AND HOUSEHOLD LISTINGS

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1. Census history

The first real population census of an independent Viet Nam was conducted late in 1979. Given the resources and technical skills available at that time, the census provided surprisingly good benchmark data as a springboard for national level.

The first census which could really be considered as a modern census, introducing internationally recognized census concepts, design features and processing, was conducted in April 1989.

The third census was conducted in April 1999. As will be seen, many of the features of the 1989 census were incorporated into design and conduct of the 1999 census. In addition, however, the 1999 census added new questions and extended its scope in some areas to provide even more comprehensive data. The two censuses together will provide a rich source of data to analyze the current situation and key trends over past ten years.

The next census is planned to be conducted in 2009. At this moment, the preparation activities are well underway.

2. Summary of mapping and household listing experience in Vietnam censuses

2.1 The 1979 census:

It was instructed to the localities to undertake mapping and household listing operation. But due to that there was very complicated situation of the country and that there was lack of supervision, this operation have not been successfully completed.

2.2 The 1989 and 1999 census:

A successful census requires that each enumerator should have complete information about the area to be covered and the location of each household to be interviewed. A very intensive field programme is necessary to reach this goal. In general, the work on mapping usually started several years before the census but the main mapping effort and fieldwork started 6 months preceding the census time, i.e in October of the year prior to the census year. The country was divided manually into enumeration areas based on terrain and settlement's population size of each commune, with the intention that each EA would serve as a workload for an enumerator. Once these enumeration areas were formed, the task of drawing maps for each one could begin. The completed maps were required to show clear boundaries with neighboring EAs, to mark the location of each census dwelling, and to be of standard scale and easy for enumerators to follow. Quite apart from the EA maps, it was also necessary to have reliable up-to-date maps for all administrative levels-the communes, wards and urban clusters, districts, towns and provinces-as an important way of exercising control over the complex and extensive field programme involved in the census.

The next major preparatory task was to complete household listing forms for each household. The household listing work commenced in January of the census year and was completed just before the start of the training of enumerators. These listing forms provided further guidance to enumerators on the size of their EAs, helped in planning their work and ensured that census counts were accurate. The listing forms contained information about the location of each household, the name and other details about the household head, and the number of males and females usually resident in that household.

There are no cartographers working in the General Statistics Office to guide in mapping work. Thus, for the 1989 Census, three mapping specialists from the Cartography Department were involved in preparing mapping manual and they also participated in pre-tests. For the 1999 Census the same manual of instructions was used by the staff of the central and local offices who prepared the EA maps and there was no participation in the mapping activity by the staff of the Cartography Department.

At the commune level there is a staff member in the office of the Commune People's Committee who is responsible for land management. He/she is trained in cartographic techniques. This person may be recruited to take part in the census

mapping activity and function as a resource person for this activity at the commune level from the very beginning.

For the 1999 census, a hard copy (paper) of all EA maps together with household list was sent and kept centrally in the General Statistics Office. Many years after the census, this material have served a master sample frame for many other surveys of the General Statistics Office and various Ministries after the census.

The maps and lists prepared for the 1999 Census have been lost due to poor quality of paper used and bad storage and hence are not available for updating or reference for the 2009 census. Mapping and listing of enumeration areas have, therefore, to be carried out again.

2.3 Plan for the 2009 census

Suitable maps are required in planning and control of census operations, and in tabulation, presentation, analysis and dissemination of census results. The up-to-date administrative maps should be collected. Administrative maps are available for the country, province, district and commune¹. Below the commune level there are no maps for village or Enumeration Area. However, General Statistics Office does not have still the latest Commune level maps. These maps are the property of the Cartography Department of the Ministry of Natural Resources and Environment. General Statistics Office has to buy these maps from them.

The next step is to instruct province, district and commune offices to review and check the boundaries of their respective jurisdictions to ensure that all land area or population settlement belong to one and only one administrative unit. The chairman of the steering committee at the respective level will be responsible for this operation.

The General Statistics Office plans to get sketch maps of Enumeration Areas drawn by staff by actual visit to each commune. EAs are generally compact areas containing about 80 to 100 households with clear boundaries and landmarks (such as river, road, pathway etc.). A network of EAs fully covers a commune and they are numbered serially. The basic idea of EA formation is to provide uniform workload to each enumerator who will be asked to enumerate one EA during the census period of 10 to 15 days. EA maps are drawn with the help of the local or commune official and they are not drawn to any scale.

¹ These maps are drawn by the Cartography Department, Ministry of Natural Resources and Environment and can be used for software package such as MapInfo.

Each building/house/household within the EA is indicated on the map with a distinct number. Simultaneously a list of households in the EA is prepared in the prescribed form.

The system of the mapping and household listing (or simply listing) system of enumeration areas in the whole country should be set up. This involves training on EA mapping and listing. It has to estimate travel time and cost of this exercise for each commune and to prepare the budget.

In addition to the EA maps and household lists required for the census, an up-to-date listing of all administrative areas and localities is also required. Such a database should be established and continuously updated until the census time. It may also be necessary to request the authorities concerned not to effect any jurisdictional changes of administrative areas like province, district and commune during the period April 1, 2008 to June 1, 2009 in view of the population and housing census taking on the 1st April 2009.

The preparation of map for each EA is, as already noted, an important pre-census task. This map would provide complete information about the area to be covered by the enumerator and the location of each household to be interviewed. A very intensive field programme is necessary to achieve this task.

Three suggestions are made in pre-census mapping for the 2009 census:

1. The house number given at the time of EA mapping has to be painted or written on the outer wall of the building/house concerned, or a sticker containing the house number has to be pasted near the entrance. This would help easy identification of a building/house with the help of the EA map/ list.

2. The EA maps could be so drawn without cutting across various hamlets/small villages/mountain villages/wards (villages for short) so that population data for each village would be available. This may however affect uniformity in the size of EAs as it would give rise to smaller EAs in some cases (like EA with 50 or 60 households). But the workload of enumerators could be adjusted by entrusting two such small EAs to an enumerator who would be asked to keep the records of each EA separately. This system, if followed, would help build population database at the level of village which may become a viable unit for planning and administration in the long run though at present commune is the lowest administrative unit in Viet Nam.

3. The EA map (with the village maps if the above mentioned suggestion is implemented) within the digitized commune map could be drawn in the field along with measurement of coordinates (using Global Positioning System - GPS). One of the outputs of this exercise will be a polygon layer showing the notional boundaries of each EA/village within each commune. This would help in computerization of such maps and furthermore in the Geographic Information Systems - GIS applications. Apart from EA maps accompanied by list of households within each EA have to be prepared as a pre-census exercise. This would be done by training staff recruited for this purpose.

Apart from the preparation of the EA map, the preliminary census task includes listing of all households within the EA. The household listing form contains information about the number assigned to the dwelling/household, the name and some details about the head of household and the number of persons (separately for male and females) usually residing in the household. The EA maps together with the household list would serve as master sampling frame. This frame would be used for selection of the sample at the census and in future surveys.

However, in order that these materials can be used for a long time after the 2009 Census in all sample surveys of GSO as well as by other users, it must meet the following requirements: i) the EA map should be based on the commune map to ensure that the entire commune is covered by EAs without overlapping or leaving any gap (ii) good quality map drawing paper of uniform size (e.g.A3 size) should be used (iii) the drawing should be neat and clear following the legend iv) the EA maps could be scanned and computerized and iv) arrangements should be made for proper storage of the hand drawn maps. Mapping and listing operations in each EA should be launched in September 2008 (or an earlier date, if necessary) and completed well before the census date. This work will be entrusted to the commune offices with overall supervision by the Provincial/District office staff.

3. Issues relating to Geographic Information System

3.1 For the 1989 census

A small publication of thematic maps was disseminated.

3.2 For the 1999 census

i. The CD ROM for data and result of the 3% sample is produced and can be seen as one of the electronic product to meet the information needs of users.

There are two main modules in the CD ROM:

First module: Keep micro data of 3% sample (from household and individual questionnaires) in IMPS format and layout about each item can be found in the data dictionary.

In addition to the data file, the CD ROM also provides some modules of IMPS (Integrated Microcomputer Processing System) and its applications as tool for producing tables and thematic map.

In IMPS, Crosstab is a module that allows users to make their own statistics table. It is located on the CD ROM included micro data and dictionary. MapView is a module that helps users to create electronic maps on population information. It can be seen a simple electronic population ATLAS.

Second module: Contains tools for converting the original raw data files from the IMPS environment into more common file formats such as delimited text for imports to Excel, SPSS, and Microsoft Access.

ii. CD ROM as the same as above mentioned for each provinces. There are 64 CD ROM for 64 provinces.

iii. CR ROM “Census PopMap application”: This provides a database with 232 indicators of the 1999 census at level of whole country, province, districts and some basic mapping classes such as administrative units, transport lines etc.

iv. Socioeconomic atlas of Vietnam based on the 1999 Population and Housing Census titled “A depiction of the 1999 Population and Housing Census was created. This publication then also has produced in CD ROM for easy use.

3.3 Plan for the 2009 census

It is recognized that an important post-census activity would be to undertake the production and publication of thematic maps and population atlases. So beside those productions as in the 1999 census, it is planned that more publications of thematic map would be disseminated.