

population and housing censuses in Viet Nam:
experiences of 1999 census and main ideas for the next
census
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In Vietnam, census is the best way to provide a comprehensive collection of information on characteristics and living conditions of the population. It forms base for evaluating the performance of the socio-economic renovation programs of the country, especially the strategy on population and family planning.

The last census in Viet Nam was conducted on 1 April 1999, following a ten-year cycle since 1979. According to the Statistical Law, which was passed by the National Assembly in 2003 and got effective on 1 January 2004, the next census will be conducted in 2009. This paper mainly summarizes experiences of the last census in 1999.

Census organization

In Viet Nam, the General Statistics Office (GSO) is by Law responsible for implementation of the censuses. Every census is decided by a Prime Minister's decree. Since there is not a permanent and continuously working organization for implementing the censuses, a census steering committee is set up consisting of a group of managers and experts from the GSO and line-agencies for each census. The committee is established at all administrative levels from the central to commune - the lowest administrative level in Viet Nam.

The Central Census Steering Committee of the 1999 census was formed almost two years prior to the field work, and began to work with discussing the census objectives, reviewing previous censuses' experience and considering the statistical topics. As the discussions started, the significance of recognizing the data users

needs in all stages of the job, especially in deciding the census content - the topics, concepts and definitions adopted - was deeply concerned.

Coverage of the census

A census is characterized by its attempt to cover all persons. As in previous Censuses, the 1999 census enumerated all persons defined as usual residents in Viet Nam at the time of the census, which was determined to be at midnight between 31 March and 1 April 1999. In detail, these included:

- All Vietnamese and foreigners (excluding those working at foreign embassies, diplomatic corps and their dependants) usually residing in Vietnam by the time of the census;
- Vietnamese who were authorized to go abroad for a certain period of time, and by the time of the census they were still in overseas;
- Inhabited dwellings throughout Vietnam's territory.

As in the 1999 census, household was used as enumeration unit, the way of conducting the census was to assign each person to a household according to usual resident rules. In most cases it was straightforward to determine a person's household of usual residence. But an elaborate set of rules was prepared to ensure that even in the most complex cases, a person who was determined to be resident in Viet Nam was properly assigned to a household and included in the census. Essentially the rules were framed with reference to a 6-month period.

Scope of the census

The 1999 census consists of three integrated data collection components: the core population census covering the entire population; the census of housing covering dwellings; and a sample survey covering births and deaths with a size of approximately three percent

of the population. Below is a summary of the key information covered by each of these components:

- Contents of the core population census
 1. Size and distribution of the population;
 2. Ethnicity and religion of the population;
 3. Internal migration levels and trends;
 4. Educational levels, technical and professional qualifications, and literacy;
 5. Marital status of the population;
 6. Economic characteristics of the population;

- Sample survey
 7. Birth, death and population growth rates;

- Housing census
 8. Housing situation;
 9. Household facilities and amenities;

Compared to the 1989 population census, the 1999 census collected more Comprehensive socio-economic information. Beside the information that is similar to earlier censuses including gender, age, ethnicity, education level, marital status, demographic characteristics and economic activity, the 1999 census collected information on a few more indicators in order to get a more comprehensive picture of religion, housing, migration, household amenities such as use of electricity, clean water and ownership of a TV or radio. Of particular interest is the information collected on means of production especially in rural areas to facilitate research on the process of industrialization and modernization of agriculture and rural areas as well as the level of cultural consumption and household environmental conditions in rural areas.

Two questionnaires were used in the 1999 census, similar to the 1989 population census, but with a few changes in the design of contents and format. The first is the short form used to interview 97 percent of the

population. The second is the long form used to interview the remaining three percent of the population. Questions in the long form are the same as in the short form, but additional questions are asked on births and deaths.

Sampling design

The sample for the survey component was randomly selected to be representative of the country and provincial level, and of the urban and rural areas. For the core population and housing components, census data, once processed, could be generated for each administrative area (down to the lowest administrative level: commune/wards), as well as for small sub-groups of the population, such as minority groups or specific religions.

Based on estimates of expected sampling errors and experience gathered from the 1989 population census, a sample size of approximately three percent of the total population was selected for the population and housing census 1 April, 1999. This sample size allowed precise estimation at the national and regional levels, and tolerably good results for each province and municipality.

Sample size was determined on the basis of representation of each of the 61 provinces and municipalities cross-classified into urban and rural areas. To ensure this representation a stratified cluster sample design was used. Sixty-one provinces and municipalities constituted the main clusters with two sub-clusters within each representing rural and urban areas. Thus, the sample size involved the formation of 122 area sub-samples (61 provinces x 2 areas). To guarantee reliability of data for all sub-samples in the estimation of demographic, labour force and housing characteristics, a minimum sample of at least 20,000 per sub-cluster was set to provide sufficient reliability at the lowest level of desegregation.

Mapping and household listing

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. The country was divided into enumeration areas, each of which was then assigned to an enumerator for data collection. Two types of maps, base maps and enumeration area maps were created. Base maps were prepared of every commune/ward - lowest administrative unit in Vietnam, and each base map showed the location of all enumeration areas in that commune/ward. Each enumeration area map showed the EA boundaries, streets/roads, lanes, canals, ponds, landmarks, and location of every house to be visited by enumerators and other physical features. Together with this map, each enumeration area had to prepare a list of households locating within boundaries of the EA. Unlike previous censuses, all these maps and lists were sent to GSO, where they have been maintaining for further uses, especially for being used as mainframe for sample surveys.

Data processing

The keyboard method was used to capture the 1999 census data. Data entry was decentralized to nine regional computer centers (compared with three for the 1989 census). These centers are almost equally distributed among the major regions in Vietnam: North, Central and South. Among these nine regional centers that at the GSO (Central Data Processing Center - CDPC) had played the leading role.

Each center established a computer network for census data processing with a HP LH3 server and 12 to 53 PCs. For the entire country, 240 PCs were used for processing and 10 servers (two in the CDPC). A total of 450 data entry operators were engaged to work in two shifts. The network in each regional computer centers is connected to the CDPC network through a telephone dial-up system. Thus, as data entry was completed in each province, data files were transferred to the CDPC

server. All editing and tabulation operations were undertaken at the CDPC.

Data dissemination and utilization:

In the 1999 census, efforts were made to provide census products and services to the public as much and easy as possible. Thanks to the rapid development in computer technology, apart from the traditional mode of census data dissemination through printed publications, electronic media such as CD-ROM, data bases, were being used to release the 1999 census results.

The GSO also established two databases of the census results, one on 3% sample data and results and the other on completed census results. While the former contains both micro and macro data files of the 3% sample results, the latter is a macro data file of the completed census results. However, by now these databases are just operating within the GSONet - a local area network (LAN).

The next census

As the three national population censuses in Viet Nam in 1979, 1989 and 1999 were carried out with technical and financial support of UN agencies and followed the standard international procedures, there is no much difference from one census to the other, especially the last two censuses. However, after the census in 1999 changes have been taking place in Viet Nam, creating new characteristics in economy and society's life. Based on the 1999 population and housing census, the main characteristics, which should be taken into consideration when preparing, designing and implementing the next census in 2009, are:

1. By the time of the next census, the population of Viet Nam would increase by 10 million people in comparison with the last census in 1999. This is added with changes in administrative boundary in many localities. By the 1999 census the whole country had 61 provinces, it is now increased to 64. The separation of

administrative units at district and commune levels is more often than the provincial level. This could cause problems to the mapping and listing work and to the tracing of census data over time.

2. The process of urbanization is taking place rather rapidly. The population statistics has shown that the percent of urban population was 20.9% in 1995, it increased to 23.6% in 1999 and 25.8% in 2003. Cities in Vietnam are classified into 3 categories: I, II and III. By the 1999 census the country had 2 cities of category I (Hanoi and Ho Chi Minh City), now we have 4 (Hai Phong and Da Nang upgraded to join the category I). Many cities, towns and district centers were upgraded.

3. Migration with a main stream of migration from rural to urban centers, industrial parks and processing zones to look for jobs and education opportunities is a matter of concerns today. Results of the survey of population change in 2004 have shown a high in-migration rate in some provinces: Hanoi - 20.4 per thousand, Da Nang - 19.3 per thousand, Ho Chi Minh City - 18.0 per thousand, or Binh Duong - 29.4 per thousand. Migration is an important topic for censuses, but it is also a main factor likely causing duplication and omission when counting the population.

4. Due to the advocacy of international integration and globalization, many Vietnamese emigrated to find jobs abroad, and also foreigners came to work in Vietnam, creating a flow of international migration. This is concerned topic worth to be added in the next census. If so, this is the first time questions on international migration would be asked in the census.

5. The process of industrialization, urbanization and internationally economic integration is leading to changes in labour structure in Vietnam and appearance of new occupations. The proportion of labour in Group I (agriculture, forest and fishery) decreased from 71% in 1996 to 61% in 2003. Labour, employment and income are topics of great concern by leaders, planners, policy-

makers and researchers at various branches and levels. Thus, this should be paid with special consideration when designing the census.

6. Vietnam is encouraging a market-based economy with socialism orientation and international integration. The reverse side of the market-based economy and international integration can have a significant impact on perception and thinking of the people, especially to social problems, including census because it has to collect information from the people.

7. By the time of the next census the population of Vietnam is projected at about 86 - 87 million people. With such a large population size and the tendency of separation of administrative units being taken place at all local levels, the data processing, tabulation and dissemination become a big exercise. Because of use of keyboard data entry method, for processing and tabulating the 1999 census data it had to establish 9 regional computer centers with 240 PCs, 10 servers, and other information facilities. Keyboard method is preferred in Vietnam, but we should think of the fact that new applications of the advanced information technology were successful in some countries in Asia, especially the adoption of Intelligence Character Recognition and Optical Mark Recognition to data capturing.

8. We well understand that the 2009 population census is a huge work with considerable implications for the country, and the cost of conducting it is definitely very high. It is important to find ways to enhance its cost-effectiveness. For the time being, what we could think of are applications of sample survey to extend the census scope, IT to mapping, to data capturing, and to data dissemination.

*Hanoi, 18 February
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