



**Census Coverage
and Approach**

CENSUS COVERAGE AND APPROACH

The census of population is the single largest statistical project covering the whole population and collecting a wide range of information. It is a complete count of the number of inhabitants in the country and provides information on the characteristics of the population and households for research and planning purposes.

The Population Census 2000 was the fourth census carried out in Singapore since independence. The previous censuses were conducted in 1970, 1980 and 1990. Prior to Singapore's independence in 1965, population censuses had been taken regularly at ten-year intervals, except for the brief disruption during the period of World War II. The history of census-taking in Singapore could be traced back more than one hundred years ago, to 1871 when the first census was taken.

Census Coverage

The Population Census 2000 adopted the de jure population concept. Under the de jure concept of "usual residence", all Singapore residents (citizens and permanent residents) with valid local addresses were included in the total population count. Non-residents who stayed in Singapore for one year or more were also included in the total population. The non-resident population comprised foreign workers and students and other foreigners who were not granted permanent residence in Singapore. The transient population such as tourists was excluded.

Based on the concept of "usual residence", the total population covered in the Census is defined under two groups :

<i>Present in Singapore</i>	Persons who are usually living in their registered addresses. They include those who are temporarily overseas for business or leisure for periods not exceeding six months.
<i>Absentee/Overseas</i>	Persons with addresses in Singapore, but whose location of employment or course of study is overseas, and the duration of such employment or course of study is six months or more. They also include those who are not working or studying, but intend to stay abroad for at least six months.

During the Population Census 2000, detailed data collected for a 20 per cent sample of households covered only persons present in Singapore, excluding those who were away for six months or more. The detailed data pertain to topics on education, literacy and language, religion, marriage and fertility, economic characteristics, income, mode of transport, household and housing characteristics.

Register-based Population Census

Key demographic data on the size, growth and structure of the total population in 2000 were obtained from the Singapore Department of Statistics' Household Registration Database (HRD). The HRD captured basic individual information (including those of persons classified as absentee/overseas) such as sex, age, ethnic group, country of birth and type of house. Such information was updated by linking with existing government databases through unique identification numbers.

20 Per Cent Sample Enumeration

For the 20 per cent sample enumeration, the Population Census 2000 adopted a tri-modal data collection strategy. This comprised Internet enumeration, Computer Assisted Telephone Interviewing (CATI) and face-to-face interviews.

The option of Internet Enumeration was made available to all households selected for the 20 per cent sample enumeration. This was a first in Singapore's census-taking history. Some 15 per cent of selected households completed their census questionnaire on-line.

Households which did not submit their returns by Internet were automatically scheduled and dialled up for CATI interview after a cut-off date. The CATI system allowed the interviewer to perform multiple tasks of interviewing, data entry and simple coding simultaneously.

Fieldwork was carried out for households which could not be contacted by Internet and CATI. Trained interviewers visiting these households conducted face-to-face interviews. For households which could not be contacted at earlier rounds of field operation, appointment letters were left at their homes for further follow-up.

Data collected via Internet and CATI were captured in the Census database without the need for data entry. Additional processing had to be undertaken for data obtained from fieldwork. Data items in the questionnaires were captured in the Census database using high-end scanning technology and superb recognition software. Coding of data on occupation and industry was carried out through the Advanced Coding Environment (ACE), a windows-based software using artificial intelligence techniques. The final processing of the census data involved the editing and verification of erroneous and inconsistent records.

On completion of data processing, census tabulations were generated with the FASTAB (Flexible and Swift Tabulation) software. This software operated on a client-server windows-based environment and eradicated the need for specialised computer programming.