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TECHNOLOGIES FOR DATA CAPTURE,
METHODOLOGY AND PRACTICE OF DATA
EDITING, DOCUMENTATION AND ARCHIVING
2010 ROUND WORLD POPULATION AND
HOUSING CENSUS**

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Brunei Darussalam experience in 2001 Census Data Processing in Brief

COUNTRY PRESENTATION : BRUNEI DARUSSALAM

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BRUNEI DARUSSALAM EXPERIENCE IN CENSUS DATA CAPTURE AND DATA PROCESSING 2001 POPULATION CENSUS

Introduction

Brunei Darussalam is a Malay, Islamic Monarchy and an independent sovereign Sultanate governed on the basis of a written constitution. Brunei Darussalam is situated on the northwest of Borneo island, alongside the South China Sea. It has a total land area of 5,765 square kilometers, of which about 78 percent covered in tropical rain forest. Brunei Darussalam is divided into four administrative districts, namely Brunei Muara, Belait, Tutong and Temburong district. The largest district is Brunei Muara , where the capital town, Bandar Seri Begawan is located.

The main statistical agency in Brunei Darussalam is the Department of Statistics (DOS) Department of Economic Planning and Development (JPKE), Prime Minister's Office. The DOS is responsible for conducting decennial population and housing census, large scale household surveys for collection of statistical data. It is also responsible for conducting the economic census and establishment surveys through its Economic Statistics Division. The country statistical system is decentralized. DOS acts as the focal point as national statistics office with its mission as authority in national statistics. Thus, the department compiles data from administrative sources from government ministries and departments and also from the private sectors for its published report.

Population

Brunei Darussalam had a small population consisted of local and migrant workers. In 2001 census population count, its total population was 332,844 persons of which foreign population made up of 26.6 per cent during census. Between the inter censal period of 1991-2001, the average growth was average growth per annum was 2.5 percent per annum. The rate had declined compared to 1981-1991 average annual growth of 3.0 percent, and the rate of 3.5 percent during the 1971-1981 period. With this growth rate, the country's population is expected to double in 28 year's time. The current provisional estimate in 2008 was 398,000 persons. In 2007, the estimated population was 390,000 persons.

Census provides comprehensive information of the population. It enables the planners and policy makers to plan and assess the trend, changes and characteristics of Brunei Darussalam's population. It also enables a quantitative assessment of some of the achievements and progress that have resulted from Brunei Darussalam's Five-Year National Development Plans of which he current Plan is the 9th NDP for year 2007-2012. Further, census data provide an invaluable

benchmark and background for the formulation of the nation's socio-economic development plans and policies, with the Outline of Strategies and Policies for Development (OSPD) 2007-2012 (which has 50 points policy directions, and sets out the eight strategies in the next decade 2017-2012: i) Education strategy ii) Economy strategy iii) Security Strategy iv) Institutional Development Strategy v) Local business Strategy vii) Infrastructure Strategy viii) Social Security Strategy viii) Environmental Strategy. The Wawasan (Vision) Brunei 2035 however, has three main objectives: i) The accomplishment of its well educated and highly skilled people ii)The quality of life and iii) The dynamic sustainable economy.

The legislation to conduct a census of population and housing is provided through Chapter 78 from the Laws of Brunei–1974 Census Act (revised in 1984). DOS, Department of Economic Planning and Development (JPKE) Prime Minister's Office. JPKE was the responsible agency to conduct decennial census of Population and Housing Census in 2001

Census Organisation

The organization of 2001 round structure closely follows the previous Censuses. Department of Statistics had small staff strength, and so all senior staffs were appointed from Assistant superintendent to chief supervisors level The first Deputy Director General, JPKE was appointed as Commissioner of Census, with the assistant director of statistics as the coordinator of Census .The hierarchy was the appointment of Commissioner of Census, followed by the Assistant Superintendent Census, chief supervisors, supervisors and enumerator. A Census Technical Committee (CTC) will be established. During 2001, there was no National Committee (NCS) of Statistics. So a National Coordinating Committee of Census (NCCC) which consisted of representatives from various relevant government department was formed.

Questionnaire

The 2000 round Census questionnaires had a long questionnaire, with introduction of new additional questions on ICT, health, leisure ,internal migration and other users request questions.

Field Organisation

For the 2001 Census, maps provided by Department of Survey was fully utilized.

Training of field staffs

For the training of supervisors and enumerators/interviewers, instruction manual were prepared. In order to achieve a standard approach and to adhere to the definitions of the census, the Assistant Superintendents and the Chief Supervisors were trained in using this manual. The Assistant Superintendents lead the training in the two-stage (first stage House listing and second stage actual enumeration) census operation. Adequate training of field staff was a crucial factor

for making a successful census. Hence, training programs were designed so that the field staff would gain a thorough knowledge of various aspects of census procedures, knew their responsibilities and achieve consistency in their field of work. During training, mock exercises were strongly emphasized. There were also special sessions held for the discussion of practical problem.

Publicity

The publicity campaign for the 2001 census was officially launched in June 2001, prior to the conduct of the actual census. Several media techniques were used to ensure public awareness of the census. A similar publicity campaign was also used during the house numbering stage. Letters to the head of households explaining the census act and the confidentiality of personal information were delivered. Publicity was intensified through radio and TV and a press release was held during the data collection period.

Data Capture

The 2001 round Census followed the same manual data capture by personal interview in 1991 which was face to face interviewing during field work. The fieldwork lasted for 10 days (22 August to 31 August 2001) with census night as 21/22 August. There was no on telephone assisted interview, Internet or self enumeration. Optical Mark Character Recognition (OMR) / Intelligent Character Recognition / Intelligent Recognition were not used for data capture.

Data processing

The data processing of the last census was done in two phases. Both the phases of data processing were done in the mainframe system. This approach was chosen with the aim of early release of population count and brief characteristics such as by gender and districts and mukim (a mukim is made up of several villages- the hierarchy level is district ,mukim, villages). However, it was found that more time was taken than expected and was more difficult compared to one phase. Thus, for next census it will not divided into two phases data processing.

The work plan target calendar of release need to be closely monitor in order to achieve timeliness release of data. A preliminary count of the population including growth rate and basic demographic characteristics of the population by gender and district was published in after data collection.

For data-entry process, all the data were manually entered by direct data entry (DDE) using terminal screen into the mainframe program system. The then system was using Ingres. Manual edit were done before data entry. The DDE was done by the data processing section. The staffs was divide into two shifts during the day. A computer edit was devised to detect data entering errors and missed records. The clean database was then down loaded on to personal computers.

Macro data detection of errors were done, from generation of tables using SPSS. These error were produced, verified and corrected. The applications software SPSS was used to generate tabulations for the production of census tabulations needed for data analysis, preparation of summary tabulation report and, write-up purposes for the demographic report .DOS did not had experts in SPSS, thus in house basic training on SPSS was done on adhov to enable officers involved to generate simple cross tabulatinons. For some tabulation these were referred to ICT personnels. Department of Statistics was working closely with the Department of Administration and Information Technology/ICT within JPKE, of which it provide ICT support in all aspects related to information technologies.

Dissemination

It was in DOS plan than that it will always try to expedite its release of Census data . The first release was Preliminary report on population count by gender,district and mukim levels, followed by Summary Tabulations and the full report. The report of Census is also available in softcopy electronic form upon request.

III. Issues of concerns of the Census 2010

The following may be considered as concerns areas:

- Additional time was taken in generating new specialized questions such as ICT, Health
- There was no questions on disability due to the complexity of concepts and definitions.
- Lack of expert assistance to analyze and interpret findings, in particular new specialized topics
- Lack of skilled IT staff hinder delays in the early production of tabulations.
- The Questionnaire of Population schedule was considered large
- There was no post enumeration survey (PES) after data collection to ensure under-enumeration
- number of enumerators in the second stage/ enumeration stage were underestimated in the 2001 Census due to increase questions requested by users; but early budget was based on fewer questions –final budget was not revised
- capability building

IV: DOS Plans on Census 2010 ROUND WORLD POPULATION AND HOUSING CENSUS

DOS, JPKE is schedule to undertaking the next census in 2011. It will explore new technologies such as Optical Mark Character Recognition (OMR) / Intelligent Character Recognition / Intelligent Recognition, Internet used for data capture, and intend to use GIS mapping. Dissemination of data will be in DOS website, JPKE-db, electronic form , CD-ROM and GIS dissemination.

DOS is in the process of preparing a work plan regarding Census 2010 for submission to its management, and also to inform the National Statistics Committee (NSC). The NSC was formed a few years ago which will look into statistical activities and development in Brunei Darussalam .

There will be new recruitment, training to enhance capacity building.

DOS will participate UNSD, UNESCAP, ASEAN ILO and any other international and regional activities such as workshops, seminars in view of improvement for future quality, timeliness and dissemination mechanism of next census data