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COUNTRY PAPER: BRUNEI DARUSSALAM

**DEPARTMENT OF STATISTICS
DEPARTMENT OF ECONOMIC PLANNING AND DEVELOPMENT (*JPKE*)

PRIME MINISTER'S OFFICE

BRUNEI DARUSSALAM**

Population and Housing Census in Brunei Darussalam

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 the Island of Borneo, alongside the South China Sea. The total area land area of Brunei is 5,765 square kilometers, 78 percent covered in tropical rain forest. Brunei Darussalam is divided into four administrative districts, namely Brunei Muara, Belait, Tutong and Temburong district. The capital, Bandar Seri Begawan is located in the Brunei Muara district.

I Organisation Structure of Department of Statistics (DOS)

In 2001, Department of Economic Planning and Development (JPKE), Prime Minister's Office was restructured. It is now headed by a Permanent Secretary, a Director General, assisted by two Deputy Director Generals and comprised of five Departments. The Departments are: Department of Planning (DOP), Department of Policy and co-ordination (DOPC), Department of Policy Implementation (DOI), Department of Administration and ICT (DOA), Department of Statistics (DOS). Each Department is headed by a Director.

The main statistical agency in Brunei Darussalam is the Department of Statistics (DOS) JPKE. DOS consisted of two main Divisions namely, Economic Statistics Division and Social Statistics Division. Each Division is headed by an Assistant Director. The Survey Section is under the Social Statistics Division.

DOS acts as a focal point for all matters pertaining to statistical activities and development at national, regional and international level. DOS is responsible for conducting decennial Population and Housing census including large-scale household surveys for collection of statistical data such as Labour Force Survey (LFS), Household Expenditure Survey (HES) etc. It is responsible for conducting the economic census and establishment surveys through its National Account Section, Foreign Direct Investment (FDI) census/survey through Balance of Payment Section of the Economic Statistics Division. The department also compiles data from administrative sources from government ministries and departments and also from the private sectors.

Population Growth

Brunei Darussalam had a small population consisted of locals and migrant workers. In 2005, the estimated population was 370,100 persons. In 2006, the provisional mid-year estimated population was 383,000. The last census in 2001 population's count was 332,844 persons. Between the inter-census periods of 1991-2001, the average growth was 2.5 percent per annum. The growth rate had gradually declined compared to 1981-1991 average annual growth of 3.0 percent, and the rate of 3.5 percent during the 1971-1981 periods. If the current growth rate continues, the country's population will double in 28 years.

Brief History of the Population and Housing Census

Censuses of population were held in Brunei Darussalam in 1921, 1931, 1947, 1960, 1971, 1981, 1991 and 2001. The first two censuses were conducted as part of the censuses of the Strait Settlements with which Brunei Darussalam then formed one unit. The 1947 census was conducted in conjunction with Sarawak and the census in 1960 was administered by a specially created joint Census Department for Brunei Darussalam Sarawak and Sabah (then known as North Borneo) set up in Kuching, East Malaysia.

The 1971 census was the first conducted independently by Brunei Darussalam with the assistants of experts from UN. A local superintendent and two Deputy Superintendents of Census were appointed. The census enumeration started on 11 August 1971, the night of 10 August was taken as the census night. The enumeration field data collection ended on 18 August. The final census count was 136,256 persons, a figure close to the estimated figure based on house numbering stage. A post-enumeration survey was organized from 11 Nov to 30 Nov 1971. It was found that the under-enumeration was less than one percent

In August 1981, Brunei Darussalam conducted its second independent decennial census of Population and Housing. The concepts and definitions used in the 1981 Population and Housing census followed closely the Asia and the Pacific Recommendations for the 1980 Population and Housing censuses with some variations to suit national requirements. Considerations were also given for the need to maintain, as far as possible comparability with the 1971 census.

A decade later, also in the month of August, Brunei Darussalam conducted the 1991 census. The 1991 census data provide an invaluable benchmark and background for the formulation of the nation's socio-economic development plans and policies for the period of the 1990s.

Legislation

There are two legislation governing the collection of statistics in Brunei Darussalam namely, the Census Act and Statistics Act. The legal authority to conduct a census of population and housing is provided through Chapter 78 from the Laws of Brunei Darussalam—1974 Census Act. The legislation empowers census officers to collect relevant information and provides that it to be kept confidential and stipulates penalties in the case of unauthorised disclosure. All persons who stayed in the country at the time of the census were obliged to provide the required information to census officers.

II. Observation and Experiences on Planning, Management and Operation Issues in the Implementation of Population and Housing Census 2001

In August 2001, the Government of His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam through the Department of Economic Planning and Development (JPKE), Prime Minister's Office conducted the fourth independent, decennial census of Population and Housing. This census was conducted on a *de facto* basis. It enumerated all persons who spent census night (midnight 21 August 2001) in Brunei Darussalam. For visitors to the country, a short and simplified was used to capture basic characteristics. The census was conducted in two stages:

The First stage, conducted in June 2001 involved a house -listing of dwelling units and household. The second Stage, carried out in the month of August, which involved obtaining information on individuals members, household and dwelling characteristics through personal interviews between census with Heads and members of household.

Uses of Population Census

As in the previous censuses, the main purpose of the population census was to provide information on the demographic, socio-economic and related characteristics of the country's population such as size, distribution, as well as households characteristics and housing stock. The findings from census made it possible to assess the trends and changes of Brunei's population over time.

The Population and Housing census provided the Government the most reliable, comprehensive source of information. In Brunei Darussalam, census data was used mainly for Five-Year Development Plan (NDP). It enabled a quantitative assessment of some of the achievements and progress that have resulted from Brunei Darussalam's Five-Year NDP such as the Sixth NDP (1991-1995) and the Seventh NDP (1995-2000). Further, the 2001 census data was extensively used to provide invaluable information for the formulation of policies and the monitoring and evaluation of programmes in the nation's various areas of socio-economic development plans and policies for eight NDP (2000-2005) and the ninth NDP (2006-2010).

Census results are also used in policy development of HRD, management of national affairs such as comparable between two administrative districts population; rural development; and welfare purposes; housing programmes. Census data on fertility can provide bench-mark check on the reliability of the country's current vital registration system. It also provide a framework for many other statistical activities in the country such as sampling frame, small area analysis etc. An important use of census data was in the formulation of the country's Town and Country Master Plan. In depths studies on specific topics by users was also possible using detailed census data. Other objectives included administrative purposes, research and private sector use as well as information for the general public. The data generated from census are also used for regional and international comparison purposes.

Structure of Organization

Census undertaking was a large scale nationwide operation, involving various preparation stages of activities. Due to the technical and administrative complexity involved, DOS, JPKE conducted the census with the cooperation of relevant government Ministries and departments as well as different administrative offices in particular, District Offices to get involved, each played an important role during different stages of census implementation.

In year 2001, the then First Deputy Director General of Department of Economic Planning and Development (JPKE) was appointed as the Superintendent of the Census. A small, Census Technical Committee (CTC) was established in January 1999 to coordinate and implement the various census activities. Members of CTC were staff from Department of Statistics and Department of Administration and Information

Technology (ICT) under JPKE. The Survey Section of DOS was tasked as the census central office in charge and coordination of various activities.

Initially, the CTC met every two months, and more frequently at a later stage ie closer to census execution, to discuss detailed technical matters including administration, finance, budget, recruitment, training, logistics, field work, census topics, data processing, tabulations, analysis and dissemination. A time schedule for the census activities was drawn up by the CTC. In March 2001, relevant government ministries and departments were requested to submit topics to be included in the census questionnaire. A timetable for the census activities was prepared .Provisional dates of key activities were decided upon by the CTC .Each activities was monitored to ensure targets can be achieved. (Appendix 1) A Gantt chart was also drawn for easy reference to see progress of activities.

In February 2001, a National Coordinating Committee of Census (NCCC) was formed. The NCCC appointed members included officers from the relevant ministries and Government agencies with JPKE as the secretariat. The NCCC was mandated to co-ordinate the Census at national level, where four main working committees were formed, each responsible for different task.

- Mapping Working Committee
- Security working committee
- Publicity and sponsorship Working Committee
- Information Technology Working Committee

The NCCC was formed to consider particular policy aspects related to the implementation of the Census and also to assist in the coordination of the actual census activities. The first NTCC meeting was held in February 2001, discussing the census activities and calendar of work. Similarly, the respective working committees held their own meeting discussing the relevant topics in reference census activities undertaken. With each working committee, matters pertaining to activities such as publicity campaigns, census pass, and all other administrative activities were able to carry out. Problems encountered during the census were also able to be resolved. The CPC from JPKE took charge from the early planning stage including questionnaire design, instruction manuals demarcation of enumeration areas, mapping staff recruitments, were decided by CPC.

Pre-test of Census Questionnaires

A pre-test of Census Questionnaires was held six month before the actual census was conducted. This was undertaken to test the suitability of the population and housing questionnaires, the detail field instructions and the time taken to conduct interviews. It was done in a small-scale basis. After the assessment, an approximate time to have a fully answered questionnaire and changes made to further improve the layout of the questionnaires.

Questionnaire

The questionnaire was designed and developed by DOS. The items in the questionnaire were based on UN Principles and Recommendations. Some selected government agencies were contacted to allow inclusion of relevant/specific questions in the census, with the consideration of NCCC. The Census questionnaires for population Households schedule consisted of a total of 47 questions. Total Questions for Housing was 21 questions. For the first time, the 2001 census asked certain eligible or targeted sub-population on knowledge and usage of computers and internets; persons receiving medical or health services and at which health centers, and smoking behaviors. These questions were deliberately chosen so as to enable gathering of baseline information for policy and planning purposes.

The questions on ICT provided a benchmark on the stocktaking of statistical measurement of ICT in the country, as in general, knowing how to use internet is an essentially a phenomenon of the young adults nowadays. It was also aimed to provide findings or estimate of the penetration rates or diffusion of computer and internet knowledge and usage of socio-demographic groups in Brunei Darussalam. The four questions on Knowledge and Usage of computers and internets were 1) Does the person know how to use computer; 2) Did the person use computer last week; 3) Does the person know how to use Internet; 4) Did the person use Internet last week.

The health questions provided information on rates of population seeking medical or health services in the country as well as the utilization of government and private health centers. The profiles of smokers and the prevalence of smoking by different socio-demographic groups were important information for public health planning and related policy. Overall, the findings from these specialized questions will also assist government in the planning of the e-Government, e-Business and e-Society as well as e-Health. The Literacy, Education, Recreation and Health questions were asked to all household members aged 3 years and above. However, for analysis purposes, questions on knowledge and usage of computers and internets, literacy and smoking, the cut-off age used was 9 years and over.

Field Operation - structure

Appointment of Deputy Superintendent and five Assistants Superintendent of Census, chief Supervisors were from senior staffs of JPKE. All senior staffs of DOS were involved in census operation. Supervisory staffs and enumerators in both census stages were recruited from civil service and private sectors and those seeking for employment including students on vacation at time of census. All the five Assistant Superintendents were assigned to five census districts with the assistance of Chief Supervisors, and the actual fieldworkers which consists of Supervisors and Enumerators (Numbering Stage) / Interviews (Census Stage). In the first stage of Household Heads listing stage, a total of 40 Supervisors and 200 Enumerators were recruited, for the numbering stage and a total of 137 Supervisors and 875 Interviewers were recruited for the Census Stage. Each census district has its own census headquarter, which became the meeting points for staffs and field workers to discussed and problem-solving during field operations. The field staffs recruited was persons who lived in the same district. These facilitate the field operation due to the fact that they are more familiar with the local areas and environment.

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 led the training in the two-stage census operation. Training was conducted in each of the census districts except for Bandar Seri Begawan, where it was combined with Brunei Muara census district. The split in training for each district was aimed to make training more effective; increase the quality of trained staffs by concentrating with smaller groups. During training practical exercises were strongly emphasized with mock exercises at end of during training period. During the house-numberers/enumerators training, supervisors were also involved in assisting the enumerators understanding of training manuals.

A well-planned and adequate training programmes 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, theory and practical; knew their responsibilities and achieve consistency in their field of work. There were also special sessions held for the discussion of practical problem. The use of computer audio-visual equipment during training were greatly emphasized. For each stage of the census, one day of the training period was assigned to familiarization of enumeration areas.

Adequate and competent supervisors during field operation were essential. For this, chief supervisors consistently check and control the quantity and quality of field work in particular after the first day of enumeration census fieldwork operation to ensure minimum errors. Maintenance of satisfactory work was monitored through supervisors daily-report to chief supervisors. A systematic assessment was done by supervisors for the field enumerators performance.

Difficulties were encountered when recruited trained fieldworkers was not able to continue work throughout the field enumeration period. In order not to delayed data collection, the census office had always selected reserved staffs for replacement. Another approach was deployed DOS staffs, if no replacement can be found. A number of DOS staffs were trained together during the training stage so as to filled vacancies in case of high turnover of field workers.

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. Publicity was intensified through mass media and RTB (Radio Television Brunei) local radio and TV. A press conference was held during the data collection period. A similar publicity campaign was also used during the house numbering stage. Radio announcements were made to inform the general public who were not enumerated to call the relevant Headquarters. During the first stage of house numbering/listing, letters to all Heads of Household were delivered. It aimed to raise awareness of Census, requested all Heads of Household to give full cooperation during the two stages of census. It also highlights the objectives of the nation-wide census; Census Acts to collect data; confidentiality of personal information; general particulars or types of information required from members of household; and characteristics on housing and household.

Data processing

The data processing of the census was in two phases. Both the phases of data processing were done in the mainframe system. This approach was aimed for early production of the output. In the first phase, basic demographic data and a question on economic activity of the population were processed to enable an overall preliminary count of the population including growth rate and basic demographic characteristics of the population to be released in the preliminary report. In the coding of first stage, almost all the demographic questionnaires were pre-coded; with only a few remaining questionnaires to be coded. In the second phase of coding, four different groups of coders were formed to expedite the process. For data-entry process, all the data was manually entered using a terminal screen into the mainframe program system. A computer edit procedure and online validation were devised to detect punching errors and missed records. Error listings were produced and verified, edit and re-entered. The clean database was down loaded on to personal computers for production of tabulations needed for preparation of summary tabulation report, data analysis and write-up purposes for the demographic report. The applications software SPSS was used to generate tabulations for the population reports

Recruitment of IT staffs is very crucial for data-handling and production of census data. During 2001 census data processing, DOS depended on the DOA /ICT for processing of data before clean data were transferred to PC for tabulations. The Lack of IT skilled staff in usage of software package to produced tabulation caused some delays in the early production of tabulations in census 2001. Also due to the fact that there was no data processing of the small pilot-test or pre test census data, it was not able to record difficulties encountered of any kind during data processing of tabulations for improvements purposes although some systems of validations were executed. One major concern is development of skilled computer personnel. There is a compelling need to develop the appropriate skills in computer data generating packages for DOS staffs in the production of tabulation. A problem of personnel management was difficulty to recruit skilled computer personnel in DOS; and incidence of high turnover among skilled computer personnel. In future plan of next census, DOS will address these issues and make improvements in the development of IT skilled personnel within DOS. Also because of the urgent need for some specific data or information, and extra time for checking the validity of these data, considerations will be given to preparation of these in the form of advance data generation.

Dissemination

A press conference was held during the release of the Preliminary Report of the Population and Housing Census 2001, Brunei Darussalam in May 2002. A brief summary highlights was included in this report. The main report was also produced consequently followed by other series by stages.

III. Conclusion

DOS recognized the complexity of census undertaking including involving huge team of human resource during census fieldwork operation and at the same time, realizing managing various user demands of statistics or expectations from future census is a challenging factor.

In view of the small team of statistical staffs in DOS at present and Brunei Darussalam's plan to schedule the country's next Population and Housing Census in 2011, DOS acknowledged the importance of statistical leadership and management. Undoubtedly, there is a need to strengthen capacity building and statistical capabilities in DOS. Thus human resource management plays an important role. Also as the list of data- user grows larger, there is need to increase IT skilled personnel and strengthening its capacity building in order to be able to meet user need of timely data.

Part of DOS future plan for preparation of the next census is early planning of census activities; implementation strategy including co-ordinate implementation of census through the newly formed National Statistics Committee. Brunei Darussalam will follow closely the UN Principles and Recommendations of the Population and Housing Census guidelines in the 2010 census.

Problems encountered in the previous Census will also be addressed to the new National Statistics Coordinating Committee, the National Census Coordinating Committee and the National Technical Committee to make census 2010 management strategies more effective in terms of strategies work plan, new technology and management of census operation to achieve a new goal of improve timely and quality data.

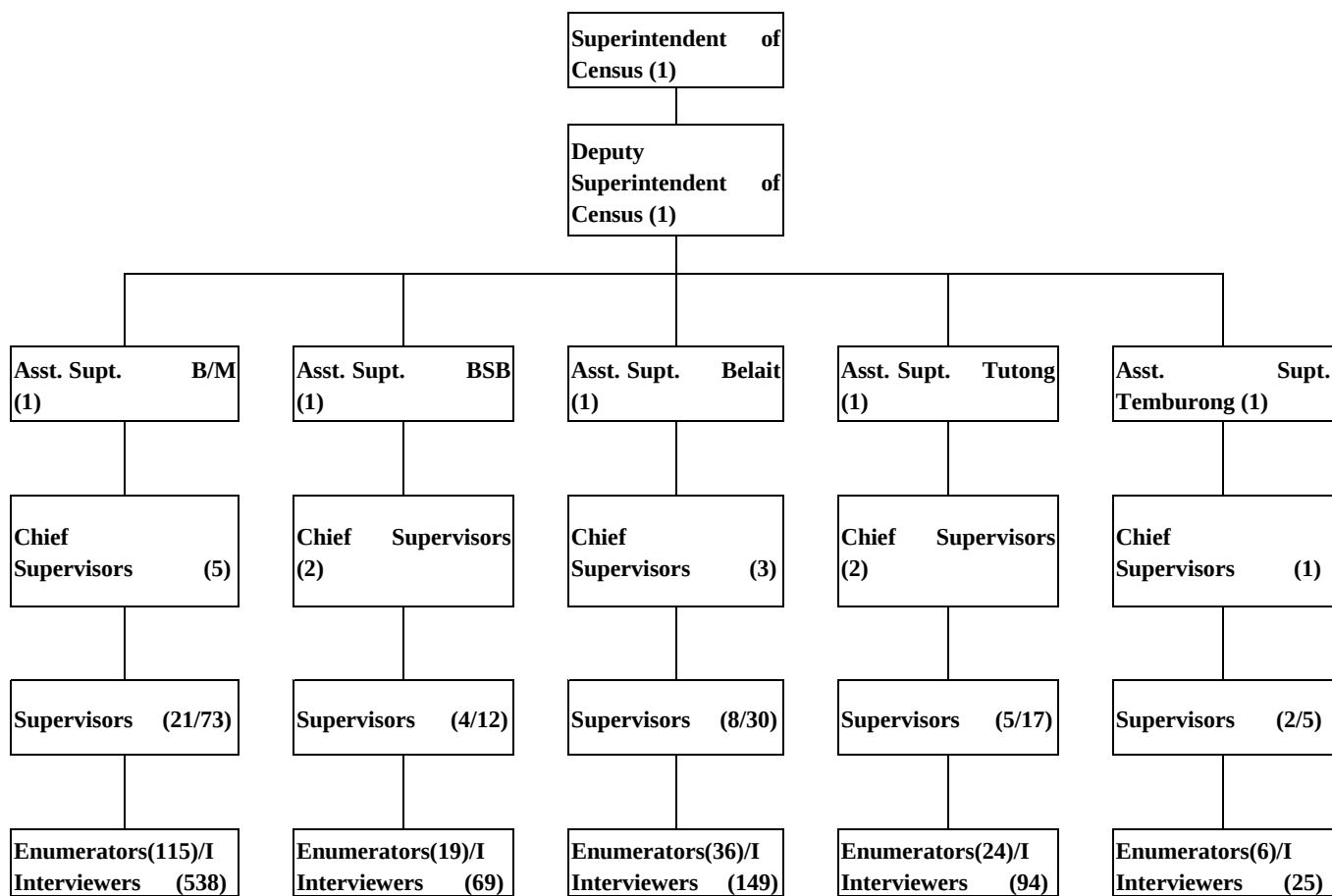
Through this management seminar, more knowledge and experiences will be gained from different participating countries and resource persons. The knowledge learned from this management seminar will be very useful and will be applied in DOS's 2011 Population and Housing Census of Brunei Darussalam to enhance the efficiency of census operation, to improve coverage of groups of persons where under enumeration is thought to be high through recruitment strategy, improvements in various aspects of the census, and to enhance its capacity building of human resource management and HRD including strengthening capacity building in ICT and also in managing statistical activities.

Appendix: 1

**TABLE A1: TIMETABLE FOR BRUNEI DARUSSALAM'S 2001
POPULATION AND HOUSING CENSUS**

ACTIVITY:	DATE:
Census Preparations begin	January 1999
'Pre-test' of Population and Housing Census Questionnaires	23 – 25 March 2001
Preparation Finalisation of Census Questionnaire, Manual For Numberers and Supervisors (numbering stage), printing Census logistics	January - May 2001
Advertisements and Recruitment of Census Officers for Numbering Stage	February - March 2001
Endorsment of Census 2001 Questionnaires and Schedules	April – May 2001
Training of Supercisors (Numbering Stage)	6 June 2001
Training of Housenumbers	7 – 9 June 2001
Familiarisation of Enumeration Areas for Census Officers (Numbering Stage)	10 June 2001
Housenumbersing Stage	11 – 18 June 2001
Final preparation of Census, division of enumeration areas, Advertisement and recruitments of Census Officers for Census Stage	May – August 2001
Training of Supervisors (Census Stage)	16 August 2001
Training of Interviews (Census Stage)	18 & 20 August 2001
Familiarisation of Census Enumeration Areas	21 August 2001
Census Night	21/22 August 2001
Census Stage	22 – 31 August 2001
Editing, Coding, Verification and Data Processing phase I	Sept 2001 – April 2002
Editing, Coding, Verification and Data Processing phase II	May 2002 – Dec 2002
Tabulations and Preparation of reports and press releases	May 2002 – March 2003

**FIGURE A1: ORGANISATION STRUCTURE OF 2001 CENSUS STAFF,
BRUNEI DARUSSALAM**



NOTE:BSB=Bandar Seri Begawan; BM=Brunei Muara I= interviewer

TABLE A2: ESTIMATED AND ACTUAL STAFF NUMBERS AND COSTS
FOR DIFFERENT CENSUS ACTIVITIES

Staff and Activity	Numbers		Cost B \$	
	Estimate	Actual	Estimate	Actual
2001 Numbering Stage				
Assistant Superintendents	5	5	2,100	2,100
Chief Supervisors	20	13	7,680	7,680
Supervisors	40	40	13,440	13,440
Housenumberers	200	200	55,000	55,000
Total	265	265	78,220	78,220
2001 Census Stage				
Assistant Superintendents	5	5	2,450	2,450
Chief Supervisors	20	13	8,960	6,372
Supervisors	131	137	51,352	53,704
Interviewers	783	875	254,475	285,650
Total	939	1,030	317,237	348,176