

The Use of Population Census Data for Various Program Targeting

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I. Introduction

Indonesia is the fourth largest country in the world in terms of their population following China, India, and the United States. According to the 2000 Population Census the population of Indonesia was 205.1 million people in June 2000; out of these 121 million or about 60 percent live on the land of Java, the most densely populated island in Indonesia. Based on this census the population density of Indonesia in 2000 was 108 people per square kilometer, in which for Java Island the population density was 951 people per square kilometer.

Population data of small administrative area is very useful for national or regional development plans. Since a good civil registration is not yet the case in Indonesia, hence population census is the only complete data source that reflects population situation of Indonesia. Data collected by population censuses are crucial to guide the implementation of the Program of Action of the ICPD and to assess progress made in achieving its goals and objectives, as well as the Millennium Development Goals (MGDs). At the national level, census results are used to guide government decisions, including those related to budgetary allocation and political representation.

Accurate census data are critical for programs that aim to identify areas eligible for housing assistance and rehabilitation loans; housing subsidies; job training and employment services; energy cost assistance; and community economic development. Accurate census data also are critical to allocating funds for supplemental food programs and other social services for women and children.

Census data are required to determine and forecast the number of person eligible for benefits based on age, such as Social Security and Medicare to forecast the number of person eligible for Social Security disability benefits. They are necessary to develop baselines for reducing employment barriers faced by persons with disabilities and to allocate funds for vocational education and rehabilitation programs for disabled workers.

II. Population Census 2010

Indonesia is preparing for its sixth decennial census since the independence of Indonesia in 1945 which will be held in 2010. The previous population censuses were held in 1961, 1971, 1980, 1990, and 2000. The *de jure* and *de facto* approach was adopted in Indonesia Population Census whereby all persons on Census Day were enumerated including foreigners who had stayed or intended to stay in a specific area of Indonesia for six months or more.

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The 2010 Population Census has been designed to meet various data needs, including as (1) the basis for updating population data bases up to the lowest level of administrative unit (village); (2) valuable input in monitoring the progress for achieving the Millennium Development Goals (MDGs); (3) the basis for preparing small area statistics; (4) basis for preparing population projection; (5) the basic data in developing sampling frame for various surveys conducted between 2010-2020; (6) the basis for developing population registers and population administration system.

Updating population data is a very crucial issue in the upcoming population census, in the sense that since the implementation of decentralization in 2001 the number of administrative units in the regions (province, district, sub district, and village) have been increasing tremendously, such that statistical measures could not appropriately follow the changes. Prior to decentralization the number of provinces was 27, districts 297, sub districts 4.200, and villages about 65.000. At present the number of provinces is 33, districts 485, sub districts about 7.000, and villages about 75.000.

The 2010 Population Census questionnaire contains about 40 questions, consisting of information regarding the household and individual characteristics as well as information on housing conditions and facilities of the living quarters. The census questionnaires are presently being developed taking into considerations of the relevant United Nation recommendations as well as the suitability of the items collected to meet local conditions.

The peak of census operations will be during the months of May 2010 where field enumeration will be taking place simultaneously overall the geographical area of Indonesia. On the 31st May 2010, final checking will be carried out simultaneously for any recent changes of the household composition due to vital events that have occurred during the month of May in the household including births, deaths, and movement of the members as well as canvassing the homeless and nomadic population. May 31st will be designated as the Census Date of the 2010 Population of Indonesia.

During the 2010 Population Census it is estimated that the population of Indonesia would be around 232 million people who live in about 65 million households. Considering the huge number of population to be recorded and the spread of population in more than 13 thousand island (geographical difficulties), the field enumeration will require more than 700.00 field workers, which consist about 533.000 enumerators, 162.000 team coordinators, and 16.000 field coordinators. Data collection is designed to be undertaken in groups, each group (team) consist of four persons, i.e. three numerators and one team coordinator. All field workers would have undertaken a three-day training before hand.

III. Utilization of the Census Data

Population censuses are taken to obtain information on the state of population at a given point time. It gives an opportunity to find out the total number of inhabitants for an area. The 2000 Population Census data of Indonesia have been utilized in various fields of socio-economics sectors. It has been used to develop a set of benchmark data for

different purposes. It has also provided data for small administrative areas of the country on population, housing, and household facilities. The decennial census provide basic information on the number of persons and their demographic, socioeconomics, and household characteristics. Census data supplies denominators (population reference) for most of socio-economic indicators, including for the denominators of morbidity and mortality rates.

The 2000 census data have been used to prepare frames for the censuses and surveys. Sex disaggregated data on several topics included in the census have been helpful to address the current gender issues. It has provided detailed information on special groups like women, children, the aged, and the disabled along with information on caste and ethnic groups of the country. These data have been extremely used by several interest groups for advocacy as well as for planning and monitoring purposes.

IV. Census Data for Program Targeting

Appropriate targeting of areas and intended beneficiaries are essential for the success of any intervention. In order to improve the targeting of poverty alleviation, food security, educational assistant, health subsidies, conditional cash transfer as well as nutritional interventions, we need to identify the hotspots at the lowest possible statistical level so that resources can be optimally utilized for those areas and maximum benefits can be derived in terms of the desired results.

Geographic targeting of the poor is often recommended as a way to improve the impact of social spending and infrastructure investments on poverty reduction programs. One major challenge in this respect is the spatial heterogeneity of poverty - poor people tend to be clustered in specific places. Aggregated, national-level poverty data mask this sub-national variation. As poverty reduction efforts will continue to be an important endeavor in many developing countries, geographic targeting of the poor can not be accurate and effective unless the geographic units are small and, all too often, pockets of deprivation remain unrecognized alongside greater prosperity.

In Indonesia, reliable data are available only down to the provincial levels, or at most up to district level for several common indicators. With so many numbers of administrative units, conducting a household survey to collect information on developmental parameters with a sample size that is representative of all districts and sub-districts in the country is prohibitively huge and expensive.

In recent research advances, a new methodology has been developed to make estimates at a micro-level from census-based secondary data that is normally available on a whole country basis. The core of the method is to identify the predictive indicators from the census survey information that can explain the information obtained from household surveys. A household survey usually collects very detailed information on household characteristics, but the sample coverage is generally limited and only representative for a relatively large geographical unit.

On the other hand, a population census has a complete coverage of all households, but usually collects very limited information on household characteristics. Hence, the method, known as Small Area Estimation, tries to combine the advantage of detailed information on household characteristics obtained from household surveys with the complete coverage of a population census.

Data on incomes or consumption expenditures are normally collected through sample surveys that are not large enough in size to permit estimates of poverty at a highly disaggregated level. The absence of detailed information on local-level poverty, results in policymakers having often sought to use proxies. When such indicators are used for targeting rather than direct estimates of poverty, there is mis-targeting both due to the targeting errors noted above and due to problems with the proxy welfare index at the community level. Partly as a response to such mis-targeting of resources, recent years have seen growing experience with the development of “poverty maps” that combine household survey with population census data to impute income or consumption to each household in the census. The resulting household-level estimates can then be aggregated into welfare indices at different levels of geographic aggregation, and have been found to yield fairly precise estimates of welfare at the local level.

V. The 2000 Census Data for Poverty Mapping

Today’s rapid population growth rate and urbanization in demographic terms are challenges to efforts geared at improving the poverty situation in the country. The nature of poverty in Indonesia tends to be relative rather than absolute (Sumodiningrat, 1989). The exact number of people living in true absolute poverty is unknown but it is thought to be small in comparison with those living on, or near to the official poverty line. While those in absolute poverty must be given immediate assistance, it is that latter group that requires the greatest amount of attention. These are the subsistence farmers and the people who work in the informal sector of urban areas and live on the edge of economic disaster.

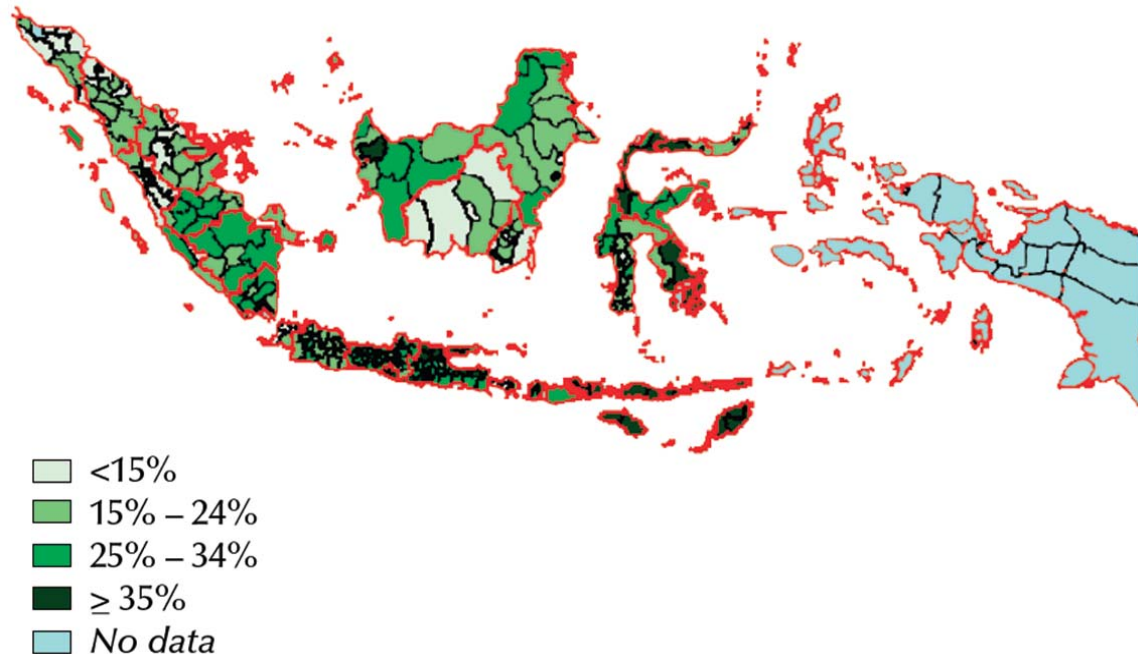
A primary task of the government is to create an environment in which the gap between rich and poor can be reduced, although relative poverty will always exist. A realistic and appropriate target is not to eliminate relative poverty but to raise the level of welfare of the poorest citizens (Sumodiningrat, 1994).

Accurate, reliable and up-to-date data about poverty are vital for both program planners and implementers as they seek to locate the precise whereabouts of the poor and ensure that program benefits are delivered to those who are most deserving of special assistance.

A group of researchers from an independent research institute have been working with BPS staff to test the feasibility of developing detailed “poverty maps” for the entire country that will provide program planners with a targeting tool to identify poverty incidence disaggregated down to lower levels of administrative authority. Spatially

disaggregated maps of the incidence of poverty can be constructed by combining household survey data and census data.

Poverty Headcount Ratio, by Regency and City, Indonesia 2000



A report on “Poverty Mapping in Indonesia” and “Malnutrition Mapping in Indonesia” was published in 2006. This exercise has combined survey and census data to estimate consumption based welfare indicators (including estimates of poverty, caloric intake and malnutrition) for small geographical areas such as sub districts. The resulting database has been projected onto geographic maps using GIS mapping techniques. The whole exercise is known as poverty and malnutrition mapping work.

The poverty and malnutrition mapping work underpinned three basic sources of data. The 2000 census provided household level data and also provide reliable estimates at highly disaggregated levels such as districts/municipalities, sub-districts and villages. National Socio-economic Survey 2002 provided detailed income and consumption expenditure information and child nutritional status which provided target variables for estimating stunting, wasting and underweight, and Village Potential Census provided reliable data on facilities and development conditions of the villages.

VI. Government Programs for the Poor

There were three main priorities of the government programs during the period of the 2004-2009 Medium Term Development Planning, namely (i) reducing poverty, (ii) reducing unemployment, and (iii) promoting high economic growth. Especially in relation to the first and second priority programs the government has been implementing various programs targeting which can be classified into two categories, i.e. individual/household targeting and geographic/area targeting. Programs related to individual targeting among others are foods (rice) stamp, health insurance, scholarship, and cash transfer, whereas programs related to geographic targeting are mostly focuses on infrastructure development.

As reference (database) for individual program targeting, especially for cash transfer program, in the middle of 2005 the government asked BPS-Statistics Indonesia to conduct a complete enumeration of household who are categorized as poor and near poor. Data gathered from this activity (may be called as poverty census) have been primarily used for Unconditional Cash Transfer (UCT) program which were implemented during October 2005-September 2006, and during June 2008-February 2009. This poverty census data were also used for allocation and direct distribution of rice subsidies, and allocation of budget for the sake of health insurance. Given limited information available in 2005 poverty census data (no individual information of household member), then several other poverty programs such as program on education were using other data sources that might be quite different with the poverty census data.

Starting in 2007 the government launched a pilot program of Conditional Cash Transfer (CCT) which is in Indonesia term called *Program Keluarga Harapan* (Hope Family Program). This program is especially intended for the very poor households that have children of age 0-15 years, and pregnant women. This program is aimed to provide additional nutrition for children under five and pregnant women, and to assure that school age children are attending school.

VII. The 2010 Population Census Data for Program Targeting

The planned questionnaire of the 2010 census will contain about 40 questions as mentioned in the attachment. Data processing will be done using scanner in which all information in the questionnaire, including name of all household members and household address would be available. From this census it would be available accurate data of population and their socio-economic aspects for all level of administrative units, down to village level, or even below village level (neighborhood). The census data would be able to directly show among others: number (and sex, age, address) of disable persons, number of school age children who are not currently at school, number of population who are still illiterate, number of labor force who are not have job, number of children born in the last 4 years, number of population deaths in the last 4 years, and number of household living in low quality of dwelling.

One main potential and very important benefit of the 2010 census data is the possibility to categorize individual household to their socio-economic (welfare) level. There are several variables of the 2010 census which might indicate the welfare level of every household, such as educational attainment (of the head/spouse of household), literacy, employment status (whether currently employed, main industry), and some variable of housing condition. A combination of the 2010 Census data with consumption/expenditure information available in the National Socio-Economic Survey data is expected to produce a reliable estimation of the population welfare at the household level, or at least at the village level.

When the estimate welfare at household level could be realized, a highly valuable database for various program targeting, especially related to poverty alleviation will come true. If the household data could be classified for example, into five classes (quintile), or even into 10 classes (decile) of their welfare level, then the government and other concern parties may focus their programs into the lowest quintile or decile of the population. With the availability of household data classified into their welfare level, then it would be possible to integrate many kinds of poverty programs by using single data source.

Meanwhile if the census data could only produce reliable estimate at village level, then the allocation of resources might be based on geographic targeting. Through GIS presentation it would be possible to create such education map, employment map, fertility map, poverty map, and many others, down to village level.

VIII. Conclusion

Indonesia is preparing for its sixth decennial census since the independence of Indonesia in 1945 which will be held in 2010. The 2010 Population Census questionnaire contains about 40 questions for individual and household information.

From the 2010 Indonesia Population Census, there would be accurate data available of population and their socio-economic and demographic aspects for all level of administrative units, down to village level, or even below village level (neighborhood). The census data would be able identified the number of disable persons, number of school age children who are not currently at school, number of illiterate population, number of labor force, number of unemployment, number of children born in the last 4 years, number of population deaths in the last 4 years, number of maternal pregnancy related mortality, number of household living in low quality of dwelling, etc.

The information on household welfare conditions can be used by the government for program targeting such as poverty alleviation and social safety net in education and health sectors. The policy package for a pro-poor growth strategy has to take in account specific country circumstances and initial conditions. The policy should also give priority to expenditure on basic human needs such as education, health and nutrition. In this respect the availability of the estimation poverty and inequality at micro-level will be helpful.

Attachment

Variable collected in the 2010 Indonesia Population Census

1. Name
2. Address
3. Sex
4. Date of Birth
5. Age
6. Relation to the Head of Household
7. Survivorship of Mother
8. Marital status
9. Place of birth
10. Difficulty seeing, difficulty walking
11. Ethnicity, citizenship
12. Place of residence 5 year before census date
13. Daily spoken language
14. Ability speak Indonesian language
15. Educational status
16. Educational attainment
17. Literacy
18. Activity a week ago
19. Employment sector
20. Employment status
21. Children ever-born
22. Children surviving
23. Birth since 2006
24. Death since 2006
25. Name of death
26. Sex of death
27. Year of death
28. Age of death
29. Death during pregnancy, delivery, 2 month after delivery
30. Ownership of house
31. Ownership land certificate
32. Size of the floor
33. Material of the floor
34. Electricity
35. Source of drinking water
36. Cooking fuel
37. Toilette facility
38. Disposal
39. Ownership of telecommunication
40. Internet access

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