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# **Preparation for the Lao Census in 2005**

Lao PDR is planning to take a Population and Housing Census in 2005. The Census will give results for the specific conditions in 2005 but also form a link in the time series of censuses. As the time series is a very important tool in measuring the development in a country it is eminent not to break the present series built on the Censuses in 1985 and 1995. In the Strategic Plan for Lao PDR, covering the period up to 2020, certain goals have been set for the socio-economic development especially in the field of education and health. A National poverty eradication program (NPEP) has also been set up. Census information will be a very important tool, directly and indirectly, to evaluate and monitor these goals.

The Lao PDR being a member of the international community, specifically in the Asian region, as a member of ASEAN, is obliged to provide information regarding specific areas of common interest. A major tool to provide this information is the statistical system comprising the Population Censuses and the sample survey program and the UN recommends Censuses be carried out with an interval of maximum 10 years.

Another specific reason for the Lao Census 2005 is to lay the basis for a Vital Registration system, closely linked to the Village book system. New approaches, such as the GIS and data processing (scanning) areas, are planned to be used for this Census.

The tentative plan for Census 2005 will be outlined in this paper.

## **Background**

Each census or survey will have its value added by comparison with the previous ones, i.e. establish reliable time series to measure change, which is the core function of official statistics. Comparisons will also be of help technically to avoid repeating mistakes, to improve methods and making possible the assessment of the quality of estimates, particularly their consistency.

1. The 1985 Population Census gave the baseline figures on population size by administrative divisions, sex, age and family composition, ethnic group, education, occupation and the location and sector of work. This Census was carried out with financial and technical support from UNFPA and expertise from ESCAP.

The unit of enumeration was the family rather than the household. It was a de jure enumeration of usual residents, both present and absent. The basic tables were manually tabulated but a ten percent sample was entered for computer tabulation and analysis. This Census enumerated the population in Lao PDR as of March 1985 to be 3.58 million.

2. The 1995 Population and Housing Census, Lao Census 95 - fully carried out according to the UN recommendations - gave comprehensive information about the households in Laos. In addition to the information regarding, sex, age and household composition, ethnic group, education, occupation and industrial sector of work, it also gave information on fertility and mortality. Furthermore the Census gave information on housing characteristics, such as type of dwelling, electricity, water and toilet facilities etc. The population of Laos was 4.57 million according to enumeration. The Census 1995 was carried out with financial and technical support from Sida - the technical support given through Statistics Sweden.

In addition to serving as a basis for decision making, the Census database has served as sampling frame for National Statistical Center (NSC): household surveys from 1997 and onwards. Among these surveys can be mentioned the Lao Expenditure and Consumption Surveys, LECS-2 and -3, in 1997 and 2002 respectively, and the Agricultural Census in 1999. A head count was carried out in 2000 giving a population of 5,06 million inhabitants, to be compared with 5.15 million inhabitants according to the population projection for year 2000 made in the Lao Census 95.

## Objectives of the Lao Census 2005

The Lao Census in 2005 is needed to provide up to date information at national, provincial, district and village level. It will give an up to date statistical basis to plan, monitor and evaluate the impacts of Governments various development policies.

The long-term objective with a support to the Lao Census 05 is to provide Lao PDR with information and data for social and economic planning and monitoring on all regional levels in the country and also to monitor the outcome of the Strategic as well as the 5year plan.

The principal objective of a Census is to count all people in the country, i.e. to get a complete coverage with no double counting or omission.

Another objective is to collect more detailed information about the population and about housing. The information about the population normally concerns age, sex, fertility, mortality, education and economic activity.

The Lao Census 2005 plans to fulfil both these principal objectives and also cover housing information.

It will provide estimates for i.e. population growth, internal migration and for population forecasts. It will also serve as a basis for improving the Vital Registration system to be handled by the village chiefs. The Census will also – like earlier censuses - constitute a sampling frame for subsequent statistical surveys. Hence it will be used as a basis in designing a National Master Sample frame to be maintained within Lao PDR.

As stated earlier a very important contribution from the Lao Census 05 will be to provide the next step in the time series, which started with the Lao Census in 1985, continued through the Lao Census 95. A time series like that is a major tool in analysing the structure of the population and measuring the development in the country.

### Main steps of the Census 2005

A Census can be characterized by three main phases.

The *pre-enumeration phase* is dominated by the listing work, creation of enumeration areas, various pilot tests, discussions and workshops with Census data users, decision on and design of questionnaires, dissemination plans etc. and start of the publicity and awareness campaign. The most important outcome from this period is the household lists and the census maps, which will serve as a guideline during the enumeration. The final need of enumerators will also be based on the number of households listed.

Other important activities are to plan and install relevant data processing equipments as well as to plan and procure vast amounts of equipment for the enumeration.

The *enumeration phase* of a Census starts a couple of months before the enumeration day. The listing and other pre-enumeration work should be through at that time. Procurement of all equipment needed for the enumeration and for the data processing should have been completed. The printing of all Census documents needed for the enumeration should be well under way.

During this phase the field workers will be trained for their different tasks. All sorts of equipment - manuals, questionnaires etc. - will be dispatched out to the regions. After the training the field workers will be transferred to their enumeration areas, EAs.

The actual enumeration will start on the enumeration day and should be finalised as soon as possible. To have the enumeration stretched out over a period more than five days is not recommendable.

The enumeration phase can be defined to include also the manual compilations of the first Census result. The principle objective with this compilation is to publish quick basic population statistics from the questionnaire. The following procedure will be adopted. The supervisors will summarise for their areas and submit the results to the District Census Officials. They will sum up for each District and forward the results to the Provincial Census Officials. Finally NSC can compile a report with basic population statistics for the entire country and for each Province, District and Village.

The third phase is the *post-enumeration work*. This includes above all data processing and work with report writing, preliminary analysis and dissemination. A post-enumeration survey (PES) is in discussion in order to find out the quality of the enumeration. However, it is still to be discussed whether such a survey will be needed in Lao PDR. The final analysis can be carried out in different ways depending on the user needs. Anyhow, demographic analysis will be carried out, though.

The post-enumeration period is usually the longest of the three phases. It is also the period when it is very easy that the process will slow down. Depending on the resources available it is not unusual that the data entry takes about one year. And it can take even longer time if not carried out under very tight supervision.

It should be kept in mind that a census is carried out on behalf of the users not of the census takers themselves. Hence, it is very important to deliver the results as soon as possible and in ways that it can be understood and be used.

Experiences show, that it is relatively easy to fullfill the workload, time and other requirements for the post enumeration stage. But difficulty is to keep data processing and report writing going on as planned.

## **Census Organisation**

According to the present planning the Census Organisation will be formed in a strictly hierarchical way, matching the administrative divisions from the national level down to the village. At the highest level, a Census Steering Committee, with NSC as secretariat, has the overall responsibility for the Lao Census 05. The Director of NSC will be the Census Manager.

The Census secretariat within NSC will partly be set up from the present divisions. In addition there will also be a need for recruitment of some new employees specifically for the Census work.

The secretariat within NSC will consist of two temporary divisions each comprising three units, giving a total of about 40 persons working with Census. This means that a number of "ordinary tasks" will put on hold during certain parts of the Census. But it will also mean that there is a need to employ some persons on a temporary basis.

There will also be strong collaboration with other relevant Government agencies.

The second level in the Census hierarchy will be the Province. In each Province there will be a Census Office, in all 18 offices, headed by a Provincial Census Director. The

number of staff members will differ by the size of the Province, giving 1 + (2-4) persons per province.

The third level comprises the District Census Offices, all in all 142 offices, headed by a District Census Director. There will also be some staff members in the District Census Offices, giving 1 + (2-3) persons per district.

The link between the District Census Director and the Enumerators will be the Supervisors. There is a need for about 1 200 Census Supervisors during the enumeration. There will be one supervisor for about every 10 Enumerator.

The number of Enumerators will be around  $11 - 12\,000$  depending on the outcome of the household listing. Each enumerator will be responsible for one EA.

#### **Census Contents**

The Census is proposed to have the following preliminary contents (will be finally settled through the user contacts and the Pilot Census results):

Demographic and social characteristics

- name
- relationship to head of household
- sex
- age
- ethnic group
- marital status citizenship

Geographical and migration characteristics, i. a.

- place of usual residence
- place of previous residence
- place of birth

Fertility and mortality characteristics, i. a.

- children born alive
- children living
- live births in twelve months preceding census
- deaths of infants born within twelve months
- maternal mortality
- mortality

Educational characteristics, i.a.

- school attendance
- educational attainment
- literacy

Economic characteristics, i.a.

- activity status
- occupation

- industry

and for each household:

Housing conditions, i.a

- type of house
- size of dwelling areas
- toilet facilities
- water facilities
- cooking facilities

### Activities will be taken during the pre-enumeratoin phase

In this paper only the activities linked to the *pre-enumeration phase* of the Lao Census 2005 are outlined in more details. The Census date will probably be set to the night February 28 and March 1, 2005. All people residing in Lao PDR on the Census Night, except for diplomats with families, will be enumerated in their usual place of residence, i.e. de jure system (basis).

The Cartographic work, comprising listing of households and the production of Census maps, must start during the 1<sup>st</sup> quarter of 2004 and will cover a period of at least 6 months. The listing work for the Lao Census 2005 will aim at listing all households in the villages, describe the boundaries, collect household lists and a population estimate for each village and list names of village officials, distance from district and provincial headquarter, respectively. The household lists and maps will serve as a frame/guide for the enumerators during the enumeration phase.

Regarding the Census maps and linking the village/EA to the overall mapping system, this will be made through the use of GPS. All the province and district borders in Laos have been digitised and in addition all the villages are identified, in this respect, through a single pair of coordinates. The cartographic work in the Census 2005 should aim at checking and – if need be – updating the village coordinates.

NSC will give training to staff members in the statistical units on province and district level. Tentatively, this training will be given in some four places in Lao PDR. Secondly, the province and district representatives will train the village chiefs and the GPS teams on a suitable number of places. Tentatively there is a need for around 100 teams, each of which to be equipped with suitable GPS equipment.

The final result of the cartographic work of the Census will be the division of the entire country into Enumeration Areas (EA). Each EA/village will be identified through coordinates linked to the maps, hence laying the basis for a GIS-oriented presentation of the results later on.

Lao PDR comprises about 11 000 villages. They constitute the smallest geographical unit in the administrative set up for Lao PDR. Hence it is obvious, that the villages are important for the forthcoming Census. The villages will be the foundation to create the EA:s. The villages are of various sizes, though. This will imply that in some cases one village will be subdivided in more than one EA, which will be done using the household lists. The intention is to assign one enumerator to each EA in order to complete the forthcoming enumeration within 5 days.

Various pilot tests aiming at testing different aspects of the Census will take place during this phase. The Lao Census 2005 will have a draft questionnaire to be discussed with the users in the end of May. The draft questionnaire and manuals will be tested during the Pilot Census half a year prior to the main Census (September 2004).

To prepare questionnaires, tables, plans for the dissemination etc. includes several contacts and discussions with users, i.a. politicians and planners. Separate advisory groups will be formed. Workshops will be carried out.

After the Pilot Census a final decision on the contents and layout of the questionnaire and the manuals will be taken. A final decision on the tabulation plan is needed when the design of the census databases and the data entry routines starts.

#### Resources needed

Carrying out a Census is a huge logistic undertaking depending on different types of resources working together to get a good result. Above all there are a great number of people involved with different skills, within the central as well as the regional organisation.

The institutional co-operation between NSC and Statistics Sweden, which has been going since 1992 and strengthens the overall capability within NSC, has laid the basis for a much better situation regarding the possibilities to carry out a census compared to the preconditions, in this respect, 1995. However, there are still some specific skills to be added.

Among those skills, which need to be added are skills in more advanced systems and database design, scanning technique, knowledge in GIS, analysis of demographic and labour data. These skills ought to be procured through technical assistance.

Skilled people are necessary, but manpower alone will not be enough to carry through a Census. There is also a need for equipment to be used in different areas – above all when it comes to computer equipment, such as servers, eventually scanning equipment as well as workstations to be linked to the scanner and server.

The Census will put heavy demand on transport, particularly during the cartographic work and the household listing, and in the actual enumeration. Temporarily means to

transport the about 12 000 field workers as well as all material for the enumeration will be provided by the Government.

The more permanent need of transport for the enumeration work and for supervision from chiefly NSC must be covered through foreign support. Above all efficient transport facilities are basic preconditions for the cartographic work. The present stock of vehicles at NSC and in the provinces is far from sufficient for this purpose.

As for the different phases of the Census the needs for resources can be described as follows.

- 1. The pre-enumeration phase will need fieldwork resources in terms of the teams to carry out the cartographic work, these resources will be provided by the Lao government. Furthermore economic resources will be needed to finance equipment, such as cars and mapping (GIS) equipment. In addition resources are needed for the preparations regarding questionnaire and systems design, e.g. how to use scanning as a means of data capture must be supported.
- **2.** The enumeration phase will put a heavy burden on the Lao government, since some 11 12 000 persons will be involved. However, this phase will also encompass finalising and printing the questionnaires, training the field workers and to construct the preliminary reports. As for the printing costs there is a need to have external financial resources.
- **3.** *The post-enumeration phase* will require that the processing capability in different ways be strengthened. However, even now a lot of efforts will be geared towards logistics, i.e. the logistics within NSC. About 900 000 questionnaires will have to be taken care of.

The major resources will concern data processing, through training in modern systems and database design and also through procurement of equipment, i.a. setting up if the scanning system. Meanwhile data processing, presentation and dissemination routines should be looked into. Support in a limited way should cover different areas such as report writing, etc. Parallel to this the analysis of the results should go on. Support through certain assistance in the field of general analysis and demography should be given.

**4.** *Integrated census taking*. It should be noted that even if the three phases in the Census are rather clearly separated from each other during the production period, there is a need to focus on an integrated census taking approach when designing the overall system. I.e. it is important to build systems and databases in a way that that they support all the three phases, not only when it comes to the final data processing. There is a need for support in this specific respect.