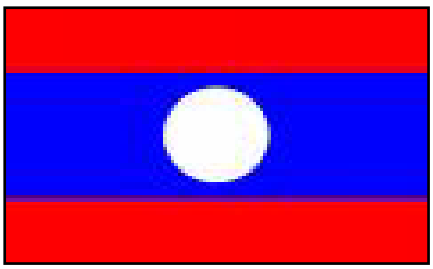

METADATA FOR NATIONAL AGRICULTURAL STATISTICS

LAO PDR

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List of Acronyms

CE	Complete Enumeration
CPI	Committee for Planning and Investment
DAFO	District Agriculture and Forestry Office
DOA	Department of Agriculture
DOLF	Department of Livestock and Fishery
DOMH	Department of Meteorology and Hydrology
DOP	Department of Planning
DOS	Division of Statistic
FAO	Food and Agriculture Organization of the United Nation
GDP	Gross Domestic Product
GOL	Government of Lao
JICA	Japan International Cooperation Agency
LECS	Lao Expenditure and Consumption Survey
Lao PDR	Lao People's Democratic Republic
MAF	Ministry of Agriculture and Forestry
MD	Meteorology Division
NSC	National Statistics Center
PAFO	Provincial Agriculture and Forestry Office
PD	Planning Division
PPS	Probability Proportional to Size
SD	Statistics Division
SIDA	Swedish International Development Authority
SPSS+	Statistical Package for Social Science (Software)
TCP	Technical Cooperation Program

CHAPTER 1. NATIONAL SYSTEM OF AGRICULTURAL STATISTICS

1.1 Legal Framework and Statistical Advisory Bodies

In Lao PDR, there is no single law like a Statistical Act. The Agricultural Statistical System is not an independent system. In August 2002, the Prime Minister's Office of the Government of Lao (GOL) published a "Decree on Organization and Activities of National Statistics System", which covers all statistical activities undertaken by the National Statistics Center (NSC), line Ministries, local government bodies, etc. It is intended to establish "management of statistical activities to make it become a national statistical system that has a uniform format and produce good quality data for the whole country" (Article 1).

"Data collected by a statistical organization are confidential and Disciplinary Actions are imposed against those who breach the National Statistical System" (Article 12 and 13 respectively).

There is no legal organization like an Agricultural Statistical Advisory Committee.

At the central level, the agricultural and forestry statistics information system is a decentralized system with a minimum coordination. It consists of 6 main divisions under 2 ministries.

1.2 Structure and Organization of the Major Agricultural Statistical Agencies

a) National Statistics Center

National Statistics Center (NSC) belongs to the Committee for Planning and Investment (CPI). It is responsible for population census and other non-agriculture surveys. The most notable survey is the Lao Expenditure and Consumption Surveys (LECS). It also undertakes Agricultural Census jointly with Department of Planning, Ministry of Agriculture and Forestry. According to the Decree 140/PM (Article 5.1), NSC is assigned with two major responsibilities:

(i) To collect, process, analyze and report official statistics on socio-economic situation within the country, and

(ii) To be a center of coordination among various agencies responsible for statistics.

The NSC has a Director General, two Deputy Director Generals and five Divisions such as Data Service and Information Technology Division, Survey Division, Administrative Division, National Accounts Division and Division of Social Statistics. The NSC has seventy (70) staff, including its Director and his deputy and 20 temporary staff.

Funding of the Institution

The budget for all statistical activities (including agricultural activities) for the latest year 2005/2006 are as follows:

Annual budget from national sources:	60,000,000 kips or 6,000 US$
Additional external funding:	4,000,000 US$ for 4 years
Currency Conversion	1US$ = 10,000 kips

b) Ministry of Agriculture and Forestry

Ministry of Agriculture and Forestry (MAF) is the major supplier and, at the same time, the consumer of agricultural statistics. Within MAF, different departments are responsible for the statistical undertakings of the ministry, namely, the four (4) technical departments and the Department of Planning (DOP) as the overall coordinator of the ministry's statistical activities and outputs.

Statistics Division (SD) of the **Department of Planning (DOP)** of the Ministry of Agriculture and Forestry is assigned on the collection and compilation of data relating to agriculture and livestock from various sources and to prepare and distribute an annual yearbook on agriculture and forestry statistics. It is also responsible for the cooperation and coordination with other relevant agencies for specific survey activities for example: rice survey, livestock survey, crop cutting survey, etc.

Statistics Division consists of Director, one Deputy Director and three units namely: Data Collection Unit, Data Processing Unit and Marketing & Price Statistics Unit. The whole division has eight (8) staff, including the Director and the Deputy.

According to the Minister's Decree No.394/MAF.PD.99 (28/7/1999), the responsibilities of SD/DOP are as follows:

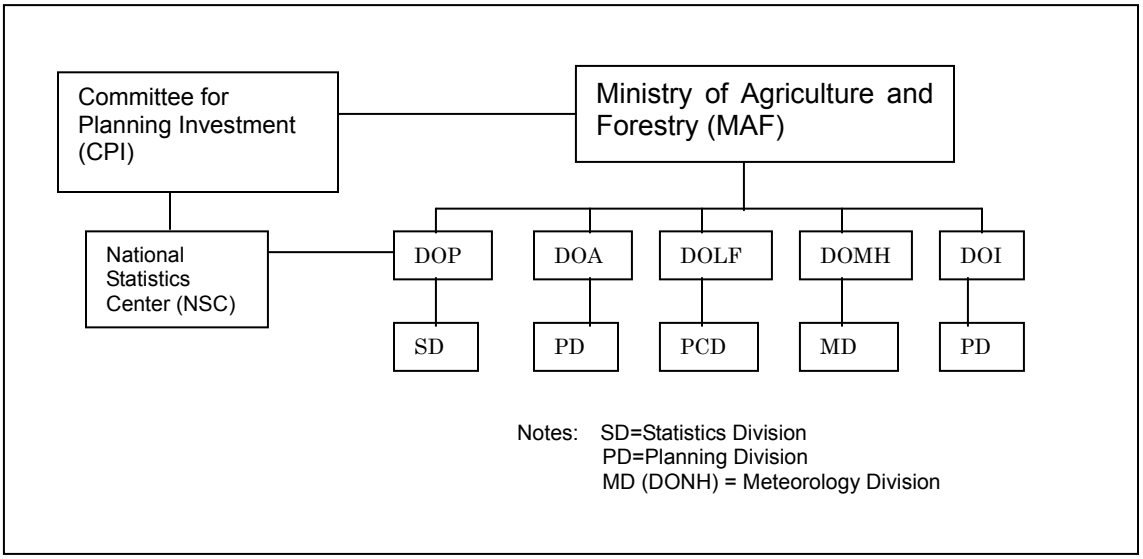
- To set rules, principles and concepts of agricultural statistics,
- To collect, use and disseminate statistical data,
- To collaborate with all departments concerned of MAF in agricultural statistics, and
- To provide data services concerning agricultural statistics and prices to agencies concerned.

Funding of the Institution

The budget for agricultural statistical activities for the latest year 2005/2006

Annual budget from national sources:	80,000,000 kips or 8,000 US$
Additional external funding:	20,000 US$
Currency Conversion	1US$ = 10,000 kips

Figure 1: Statistical Organization of the Central Government



1.3 Outputs and Dissemination of Agricultural Statistics

In Lao PDR, there are two main organizations in-charge of dissemination. These are:
a) National Statistics Center

Name: Dr. Samaychanh BOUPHA
Institution: National Statistics Center (NSC)
Committee for Planning and Investment (CPI)
Title: Directore General
E-mail: nscsp@etllao.com
Telephone: (856) 21 214740

b) National Office of Agricultural Statistics

Name: Mr. Savanh HANEPHOM
Institution: Statistics Division
Department of Planning (DOP)
Ministry of Agriculture and Forestry (MAF)
Title: Director of the Division
E-mail: savanhphom@yahoo.com
Telephone: (856) 21 415359 or 415363 Ext (102)
Mobile: 2020 5401116

Regular Statistical Reports and Publications of DOS

Title of Publication	Domains/Contents	Medium	Format	Periodicity/ Frequency	Release Calendar
Annual Agricultural Statistics	Production, Trade and Agricultural Price	Lao and English	Book	Every year	April
Agricultural Statistics 25 years	Production, Trade and Agricultural Price	Lao and English	Book	Every five years	November
Agricultural Statistics 30 years	Production, Trade and Agricultural Price	Lao and English	Book	Every five years	April

Statistical Reports and Publications of the NSC

Title of Publication	Domains/Contents	Medium	Format	Periodicity/ Frequency	Release Calendar
Statistical Yearbook ❖ Population and Labor Force ❖ Gross Domestics Product and Price ❖ Agriculture ❖ Trade	Population and Labor Production, Trade and Macro Economic Indicators	Lao and English	Book	Every year	May
Report of Household Expenditure and Consumption LECS I, 1992/93 LECS II, 1997/98 LECS III, 2002/03	Food Consumption	Lao and English	Book and Digital file	Every five years	 December December December

Additional Note: Except the free distribution to various organizations in the country, the remainder is on sale.

1.4 Dialogue with Data Users and Cooperation with International Organizations

Every year, the National Statistics Center organizes the meeting ”Demand and Supply of Official Statistics”. The meeting with data users is expected to end with some resolutions regarding the supply and demand for statistics.

The following are the user-members: state planning organization in various ministries concerned, Chamber of Commerce, private sector, media, international organizations within the country.

NSC had participated in the development of FAO and ASEAN+3 regional networks and also had collaborated with SIDA, JICA in the field of agricultural statistics.

In March, 2007 to 2009, Lao PDR will implement the Capacity Building Project for Strengthening of Agricultural Statistics System in cooperation with JICA in 3 target areas (Vientiane Capital, Luangprabang and Savannakhet provinces).

1.5 Strategic Framework

Presently, NSC is setting up comprehensive strategy for its statistical activities which are contained in the following tables:

Surveys	Category	Data Items	Reporting Schedule	Remarks
Village Book	Basic statistical data	Population Agriculture Poverty	Yearly (February)	
Annual Household Survey	Informal economy	Household consumption Household business	Yearly	1% sample (8,000 households). Changeover from LECS
Establishment Survey	Formal economy	Business tendencies (+ or -) Employment trend in enterprise sector	Quarterly	Start April 2003
Consumer Price Index (CPI)	Price	CPI	Monthly	
Reporting from line ministries	Sector growth			Reporting according to specified timetable

CHAPTER 2. MAJOR DOMAINS AND SELLECTED INDICATORS OF AGRICULTURAL STATISTICS

2.1 List of Major Domains and Selected Statistics and Indicators

Domain	Statistics/Indicators
Production ▪ Crops ▪ Livestock & poultry ▪ Macroeconomic Indicators	 Volume of rice & maize production Volume of crop production (other than rice & maize) Livestock & poultry inventory Gross Domestic Product by industrial origin at constant 1990 price Gross Domestic Product by industrial origin at current price Gross Domestic Product growth rate by industrial origin at constant 1990 price
Trade	Principal exported goods Principal imported goods Total value of agricultural exports and imports
Food Consumption	Food consumption and rice intake
Prices	Price received by farmers Agricultural input prices Average monthly prices of selected agricultural commodities in market prices Consumer price index
Population & Labor Force	Population Labor force
Others	Irrigation and Irrigated Area by Season

2.2 Metadata for Each of the Major Domains

2.2.1. Production

2.2.1.1 Concepts, Definitions and Classifications

Crops

Planted area - is the size of land area where a crop is planted. Planted area excludes the area of over 200 m^2 and infertile land such as a pond, wetland, a dike, a hut, and construction land. In case a crop has been planted then it was damaged, whether the area is replanted or not, the initial area planted should be recorded. In case the replanted area is bigger than the damaged area, the planted area is the initial planted area plus the additional replanted area.

Harvested area - **i**s the area from which crop is harvested. The area can be measured by hectare. In case damaged area is small-scattered spots, if some spots are bigger than 200 m^2. These spots of area should be subtracted from planted area and lost area is in the same case.

Production - refers to volume of actual harvests including production intended for sale, household consumption, seed and for other purposes, but excluding the production that remains in the field that has not been harvested and those bought or received from other households.

Rainfed lowland rice - refers to ordinary or glutinous rice planted in water-retained field during the rainy season of May to August.

Dry season rice - refers to ordinary or glutinous rice planted during the dry season which requires irrigation water made available from other artificial means.

Upland rice - refers to special variety of rice which can withstand drought condition different from the above-mentioned two types of rice. Upland rice field does not hold water; it is usually located on the slope of the mountain. Planting process is done by dropping seed into the hole.

Production format: - refers to the feature of production of lowland and upland rice in the form of paddy that has been harvested and dried already. Unit of measurement is ton.

1 ton = 1000 kg
1 Meun = 12 kg

Conversion of local measurement

1 Saern	= 10 Meun	= 10 x 12 = 120 kg
100 Khao	= Saern	= 100 Meun = 100 x 12 = 1200 kg

Livestock and Poultry

Livestock & poultry inventory – the actual number of animals (in head) present in the farm as of a specific reference date. Also called as livestock and poultry numbers, stocks or population.

Macroeconomic Indicators

Gross Domestic Product – the value of all goods and services produced domestically; the sum of gross value added of all resident institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the values of their outputs). The GDP at constant 1990 prices is used to measure economic growth in the country. The GDP per capita uses the GDP at current prices

2.2.1.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agency
Volume of rice & other crop production	national and sub-national levels	1976 to 2006	Provincial Report (Administrative Report)	Department of Agriculture & DOS
Livestock & Poultry Inventory	national and sub-national levels	1976 to 2006	Provincial Report (Administrative Report)	Department of Livestock and Fishery & DOS
Gross Domestic Product (GDP)	national level	1995 to 2005	NSC	National Statistics Center (NSC)

2.2.1.3 Data Processing, Estimation and Revision Methodology

A. Crops and Livestock Production

Data Processing

The processing of the Administrative Report is undertaken by Provincial and District Staff. Most of the data processing is manually done except for large surveys such as agricultural census and population census which undergo computerized data processing.

B. Gross Domestic Product (GDP)

Data are obtained from the National Statistics Center (NSC), which is the official national accounts compiler of the Lao Statistical System.

Gross Value of Output in Agriculture

Data Processing

The generation of value of production in agriculture is done at the NSC using the MS Excel program. The valuation process enables the aggregation of values to derive growth rates by sub-sector and eventually, the growth rate of the whole sector. These data are subjected to reviews initially at National Accounts Division as the lead unit and are presented first at the National Data Review with the presence of the Agricultural Statistics Officers of the MAF.

Estimation/Compilation Methodology

Valuation of agricultural outputs for the year is prepared on a yearly basis. Two ways of valuation are as follows:

a. Valuation at Constant 1990 prices

Valuation for the year (Jan to Dec)
Multiply volume for the year by average weighted price for the year to get the reported total value for the year

b. Valuation at Current Prices

The procedure is the same as that computing the value of production at constant prices except that current valuation uses the current year's average farmgate prices.

2.2.2. Trade

2.2.2.1 Concepts, Definitions and Classifications

Import Quantity and Export Quantity (FAO Definition The unit of measure is weight (metric tons) for all commodities except for live animals which are reported in units (heads) except for poultry, pigeons and rabbits which are reported in '000 heads.

As a general rule, trade data refer to net weight, excluding container. All forestry products are reported in solid volume except for wood pulp and other fiber pulp which are given in weight (air-dry = 10% moisture) and paper, paperboard and charcoal which are expressed in weight (metric ton).

Imports Value & Exports Value (FAO Definition) -. Data are in thousand US Dollars. National currencies used as legal tender in international transaction by the countries are converted by using the average annual exchange rate (RH series) provided by the International Monetary Fund. Only in a few cases are exchange rates drawn from national sources.

2.2.2.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agency
Principal Exported goods	National	1976-2005 (Annual)	Customs Department, Ministry of Finance	National Statistics Center (NSC)
Principal Imported goods	National	1976-2005 (Annual)	Customs Department, Ministry of Finance	National Statistics Center (NSC)
Total value of agricultural exports and imports	National	1976 – 2005 (Annual)	Customs Department, Ministry of Finance	National Statistics Center (NSC)

2.2.2.3 Data Processing, Estimation and Revision Methodology

Total volume /value of agricultural exports and imports

Data Processing

Processing is manually done. Copies of import and export documents collected by NSC personnel from the Customs Department in all ports and airports of entry in the Lao PDR are systematically controlled. Collected documents are sorted by month, by port, by single or multiple commodity entries and by value.

2.2.3 Food Consumption

2.2.3.1 Concepts, Definitions and Classifications

Household - is a group of people making common arrangements for food, shelter and other acts of daily living. A household usually consists of relatives such as a husband, a wife, children and parents, but sometimes includes unrelated people such as live-in household or farm workers.

Goods and services purchased or bartered on markets make up **household expenditure**, while **household consumption** is defined as household expenditure plus the value of own produced goods taken out from households' own production. The difference in the two concepts is basically caused by own produced food, free

collected firewood and the user value of own occupied houses. Thus,

CONSUMPTION = EXPENDITURE + VALUE of OWN PRODUCED GOODS taken out.

Expenditure and consumption are presented in value terms and in percent of total.

Changes in consumption patterns over time may be caused both by changes in volume and relative prices. Similarly, changes of values over time can also be caused both of changes in the volume consumed and changes in prices.

Quantities consumed have been captured as well, but quantities are not so easy to add together as the unit of quantities (kg, liter, bag, bundle, etc) varies a lot. For nutrition analysis, quantities of consumption (or eating) are essential. Household food consumption is not exactly the same as “eating”, but more or less the same for a period of a year. The amount “eating” is measured for rice (rice intake in grams per persons), meat, fish and vegetables. Changes in consumption volumes can also be obtained by deflating values with proper prices. Prices were, therefore, collected for basic goods and services.

Household consumption is only one part of all household transactions captured in the diary. Other transactions measured separately refer to household businesses, agricultural operation and household investments.

2.2.3.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/Indicators	Coverage	Availability	Data Source	Responsible Agency
Household Consumption and Rice Intake	national and provinces	1992/93, 1997/98 and 2002/03	Lao Expenditure and Consumption Survey (LECS)	NSC

2.2.3.3 Data Processing, Estimation and Revision Methodology

Data Processing

Data were continuously. entered into a database Data screening and editing were also done on a continuous basis as well as after all the data were entered.

The results in this report were based on data obtained from sample villages and blown up to be an estimate of all households in Lao PDR.

Data quality was also dependent on measurement errors, data entry errors and coding errors. Although, a lot of efforts were made to “clean“ data from various errors, there could still be some errors left, but these would not largely affect the

results. If quality was to be judged, it should be remembered that the survey in many aspects was guided by concepts of household economy which might not be clear and difficult to understand and therefore subject to different interpretation.

2.2.4 Prices

2.2.4.1 Concepts, Definitions and Classifications

Prices received by farmers - are often termed as producer prices. These are the prices the farmer receives on the farm, also referred to as the farmgate price.

Input price - refers to the prices paid by farmers for inputs required for agricultural purposes

Livestock price -refers to price per kilogram of liveweight animals (buffalo, cow (cattle, pig...). In reality, it is difficult to find the weight of live animals. The enumerator cannot get the actual purchase price because the sellers do not know the weight and sizes of the animal that they had sold. If the weight is not known, the enumerator must find the method of assessing and estimating the weight. At least, the enumerators must try to search the sizes of the animal sold by comparing with other or estimated animals. Sizes of animal are used for calculating the animal weights itself. Kum (local unit) refers to the unit of measure for size of animal which is traditionally and mostly used within the group of farmers.

Example: sold buffalo has a size of or equal 9 Kum, cost 650 000 kip
Weight=9 x 32 kg
Price=650 000 : 298=2200 kip/kg

Market prices/or retailer prices – are the selling prices of the retailers for the goods or commodities to the consumers in the marketplace

Consumer Price Index (CPI) – is the measure of the average changes in the prices of a fixed basket of goods and services usually purchased by households for their consumption.

2.2.4.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/Indicators	Coverage	Availability	Data Source	Responsible Agency
Prices received by farmers and agricultural Input prices	national and sub-national levels	1995 – 2002	Agricultural & Input Price Survey	Statistics Division, Department of Planning, MAF
Average monthly prices of selected commodities in market prices	Average for 8 selected provinces and by provinces	1991 - 2005	National Statistics Center (NSC)	NSC
Consumer Price Index	national	1991 – 2005	National Statistics Center (NSC)	NSC

2.2.4.3 Data Processing, Estimation and Revision Methodology

A. Agricultural Price Received And Agricultural Input Prices By Farmers (Crops, Livestock And Poultry And Some Agricultural Input)

Data Processing

The processing of the Agricultural Prices Report is undertaken by Central Staff in the Statistics Division under the Planning Department, MAF. The procedures are as follows:

- Manual checks were first made to verify that the questionnaire had been completed correctly
- Data from the questionnaires were entered into the computer (using a Excel program)
- A range of computer edits was then applied (using Excel) to check the correctness and consistency of the reported data. A list of errors was printed. The data were then checked and amendments were made as necessary.

Estimation and/or Compilation Methodology

Estimates for the provincial agricultural and input prices are in simple averages using the following formula:

Provincial average price (P_i)= $\sum \frac{(P_1 + P_2 + P_3 ... + P_i)}{(N_1 + N_2 + N_3 ... + N_i)}$

where:

Provincial average price - is the sum of all the prices collected in all markets in the province over the total number of respondents.

P_1, P_2, P_3 and P_i - total price collected in market 1, 2, 3 and ith.
N_1, N_2, N_3 and N_i - number of respondents interviewed in market 1, 2, 3 and ith.

At the national level, the estimate is weighted by volume of production. The following is the formula for the level of estimates.

National Average Price

$$\bar{P} = \frac{\sum_{k=1}^{N}(Q_i P_i)}{\sum_{k=1}^{N} Q_i}$$

where:

$\bar{P}$ - National Average Price
Q_i - Total Production (Tons)
P_i - Price of Production Unit

B. Market Prices for Selected Commodities

Data Processing

Processing is decentralized at the Provincial Statistics Office and is done right after the daily data collection and review to satisfy the needs of the Market News System. The monthly summaries are submitted to NSC in hard copy on or before the 20th of the following month for consolidation. The Provincial Processing Officer is responsible for checking the Price Monitoring System.

Estimation and/or Compilation Methodology

Estimates for the provincial and national prices are in simple averages using the following formula:

Provincial average price = $\sum \frac{(P_1 + P_2 + P_3 ... + P_i)}{(N_1 + N_2 + N_3 ... + N_i)}$

where:

Provincial average price - is the sum of all the prices collected in all markets in the province over the total number of respondents.

P_1, P_2, P_3 and P_i - total price collected in market 1, 2, 3 and ith.
N_1, N_2, N_3 and N_i - number of respondents interviewed in market 1, 2, 3 and ith.

National price =

$$\frac{\sum_{k=1}^{N}(P_i)}{\sum_{k=1}^{N} N_i}$$

where:
National price - is the sum of all the prices collected in all provinces over the total number of respondents.

P_i - Average price collected in province 1, 2, 3 and ith.

N_i, - number of respondents interviewed in province 1, 2, 3 and ith.

C. Consumer Price Index of Lao PDR (CPI)

Data Processing

The compilation of national CPI is done at the National Statistics Center. Production and price data obtained from different units are inputted in an MS Excel worksheet to come up with monthly and annual indices.

Estimation and/or Compilation Methodology

- Laspeyres Formula:

$$CPI_{ot} = \frac{q_b p_t}{q_b p_o}$$

q_b - basic quantity of household consumption
p_o - monthly price in the base month
p_t - monthly price in the current month

CHAPTER 3. MAJOR DATA SOURCES FOR AGRICULTURAL STATISTICS

3.1 List of Major Agricultural Censuses, Surveys and Registers

Censuses

1. Lao Agricultural Census, 1998/99

Surveys

1. Crop Survey
2. Livestock Survey

Registers

1. Administrative Report on Crop and Livestock Production

3.2 Metadata for Each of the Major Censuses

3.2.1 Census of Agriculture (CA). 1998/99

3.2.1.1 Overview

The Census of Agriculture (CA) is a large-scale government operation undertaken every ten years jointly by the National Statistics Center (NSC) and Ministry of Agriculture and Forestry (Division of Statistics under the Planning Department). The activity is geared towards the collection and compilation of statistics on the agriculture sector of the country. The collected data constitute the basis from which policymakers and planners formulate plans for the country's development.

Historical Background

The Lao Agricultural Census, 1998/99 was the first agricultural census undertaken in Lao PDR. The Swedish International Development Cooperation Authority (SIDA) provided financial and technical support.

Objectives

The main objectives of the Census were as follows:

1. To provide data on the area of all agricultural land and its use for agricultural crops; the number of all livestock, and the structural characteristics of agricultural and livestock holding; and
2. To provide a base for surveys of agriculture and livestock.

Specifically, it aims to:

1. Obtain comprehensive data on farm characteristics such as size, location, tenurial status, irrigation system, crops planted, livestock/poultry raised, etc.;
2. Determine the type and number of equipment, machineries and facilities used in the operation of agricultural activities, whether owned or rented; and
3. Provide benchmarks for the various statistical series which are designed to measure progress in agriculture.

Scope

The census was developed based on the guidelines given in FAO Statistical Development Series No.5: Programme for the World Census of Agriculture 2000 (FAO 1996), taking into account the circumstances in Lao PDR. Extra emphasis was given to the data on rice, because of its importance in Lao agriculture.

The following data items were included in the 1999 CA:

1. Holding identification
2. Demographic characteristics of the operator/hired manager
3. Legal status of the holder
4. Characteristics of the holding
5. Crops
6. Livestock and poultry
7. Equipment, machineries, facilities and other farm tools
8. Selected agricultural activities
9. Demographic characteristics of household members

Coverage

The Lao Agricultural Census, 1998/99, covered the whole of Lao PDR, including urban areas in Vientiane Capital City and elsewhere. The census covered only agricultural activities of private households, carried out on their own or in partnership with other households. Agricultural activities undertaken by government organizations, businesses, etc. were excluded.

The main statistical unit for the census was the agricultural holding, defined as an economic unit of crop and livestock production under single management.

3.2.1.2 Census Design

Sampling Frame: 1995 Census of Population (Census 1995)

Sampling Design / Statistical Unit / Selection Procedure: The sample was selected using two-stage sampling: a sample of villages was first selected, and then a sample of households was selected in each sample village. Agricultural holdings were identified by asking each sample household about their crop and livestock activities.

In most districts, a sample of 18 villages was taken, with an average of 18 households selected in each sample village – approximately 320 sample households (or 300 sample agricultural holdings) in each district. A smaller sample was taken in districts containing few villages or households. Approximately 400 households were sampled in the main urban districts of Vientiane Municipality. In each district, the sample of villages was selected using stratified systematic probability proportional to size (PPS) sampling. The list of villages was created by updating the villages in the 1995 Population Census. Villages were divided into urban and rural strata, with rural strata being sampled more heavily than urban strata because of their agricultural importance. The number of households from the 1995 Population Census was used as the size measure for PPS sampling. Villages were ordered geographically for the sample selection. Where household information from the 1995 Population Census was unavailable, such as newly created villages, equal probability sampling was used.

The sample of households in each sample village was selected using stratified systematic random sampling. A list of all households in each village was prepared, with help from the village head. The households were divided into two strata based on the village head's knowledge about whether the household had 0.02 ha or more of agricultural land.

Altogether, 2,454 villages were selected in the sample. There were 42,028 sample households, or 37,846 agricultural holdings.

Main Data Items and Variables for Operational Purposes: Area of agricultural land, number of parcels of agricultural land, land tenure, land use, area of land irrigated and source of irrigation, area of each temporary crop planted, mixed cropping, permanent crop (number of trees, area of compact plantations, productive and non-productive trees), use of agricultural inputs(improved seeds, fertilizers, pesticides), livestock numbers by type according to age and sex, use and ownership of machinery, age and sex of agricultural holder, demographic and labor force characteristics of household members, use of household and outside labour for work on the holding, miscellaneous (ethnic origin of the holder, the main use of farm produce, aquaculture facilities...)

Reference Period: The reference period for most data collected in the census was the 1998/99 agricultural year, covering the 1998 wet season (May-October 1998) and the 1998/99 dry season (November 1998-April 1999). Livestock data referred to the day of enumeration.

Date of Data Collection: From 22 February to 19 March 1999

Geographical Scope: All provinces

3.2.1.3 Conduct, Operations, Data Quality Control

Conduct of Census. The Lao Agricultural Census involved the collection of information on crops and livestock from all 800,000 households in Lao PDR.

Two types of data collection were undertaken.

(a) In some villages (so-called sample villages), enumerators collected detailed crop and livestock information from certain sample households, and some basic crop and livestock information

(b) In all other villages (so-called CE villages), enumerators collected basic crop and livestock information from all households. No detailed data collected.

Two groups of enumerators were formed for the census data collection. One group conducted the data collection in the sample villages (Sample enumerators); the other group conducted data collection in the CE villages (CE enumerators).

As a sample enumerator, data are collected two main questionnaires: the long questionnaire (Form 5) to record the detailed data from the sample household; and the short questionnaire (Form 4) to record the basic data from all other households.

Census Operation. The census data collection was undertaken from 22 February to 19 March 1999. Some 1,200 enumerators were used for the sample component and 2,200 enumerators were used for the complete enumeration component. The enumerators were government staff from districts, including teachers. Ten-day training courses were held for enumerators. Field supervisors, appointed from CPI and MAF, trained the enumerators, supervised the field operations, and checked the completed census questionnaires. Census questionnaires were returned to NSC in Vientiane for computer processing.

Timetable of the census activities:

- 3-10 February 1999: Training of enumerators.
- 11-12 February 1999: Training for area measurement.
- 22 February-19 March 1999: Data collection.
- 22 March 1999: Deadline for return of questionnaires to your supervisor.
- October-December 1999: Prepare national report
- January-June 2000 : Prepare provincial reports
- June-September 2000 : Prepare analytical report

Data Processing

All census questionnaires were returned to the Agricultural Census Office in Vientiane for processing, Processing was undertaken as follows.

a) Preliminary Processing. Questionnaires were first inspected to ensure that all questionnaires had been returned, all required questions answered, and responses clearly marked. The aim of the preliminary processing was to prepare questionnaires for data entry, not to cross-check data on the questionnaires (which was done by computer).

b) Coding. The answers to several questions needed to be coded:

c) Data entry: Data entry was done by staff of the Agricultural Census Office, using Microsoft Access. Operators keyed in the data during this phase of the processing; they were not required to verify or correct the data.

d) Editing: The data were checked for correctness and consistency by analyzing the pilot census database using Microsoft Access and SPSS. Questionnaire with incorrect or unusual data were identified for examination and amendment as necessary.

e) Tabulation: Output tables were produced using SPSS.

3.2.1.4 Statistical Report

Lao Agricultural Census, 19989/99 Highlights

A. Lao PDR
B. Provincial Break Down

3.3. Metadata for Each of the Major Surveys

3.3.1 Pilot Staple Food Crop Survey, September 1994

3.3.1.1 Overview

Historical Background

In 1993, the government of Lao PDR requested the Food and Agriculture Organization of the United Nations (FAO) for technical assistance to strengthen its data system in agriculture. The FAO immediately responded and sent a mission to develop a project proposal under the Technical Cooperation Program (TCP).

The Ministry of Agriculture and Forestry has been identified to be the base of the current project, officially known as Strengthening Agricultural Statistics (TCP/Lao/4452(T)).

MAF is determined to improve agricultural statistics for better planning, monitoring and evaluation of programs and projects. The project was intended to strengthen the statistical organization of the MAF. Moreover, an essential component of the technical assistance was to help government develop its capability to plan and undertake statistically acceptable methodologies for agricultural surveys and other data collection, processing and dissemination methodologies.

Scope

The Pilot Staple Food Crop survey was a sample survey of households undertaken in 4 provinces namely: Vientiane Capital and the provinces of Borikhamxay, Oudomxay and Champasack. The survey covered both urban and rural areas. Agricultural activities undertaken by government organizations, businesses, etc. were excluded.

Objective

The objective of the survey was to generate estimates on rice areas, production and yield.

Purpose

The survey aimed to evaluate the use of the sampling methodology for the collection of crop statistics; to provide experience for MAF staff in undertaking such survey; and to provide paddy area and production statistics for the four areas covered by the survey.

Contents

The survey collected data on 1994 wet season rice crop. The Information gathered from each selected household were as follows:

area of farm holding
area of irrigated and non-irrigated land
paddy crop information (for 12 types of rice: improved/local by short/medium/ long maturing by lowland/upland)
area planted, amount of seed applied, time of seed, time of transplanting, area harvested
comparison of harvest with previous year (local/improved by lowland/upland)
time of paddy harvest (lowland/upland)
use of inputs (lowland/upland)
household size

3.3.1.2 Survey Design

Survey: Staple Food Crop Survey (Rice Survey)

Sampling Frame: The sampling frame for the selection of the sample of villages was created from list of villages in each district, obtained from the National Statistics Center of the Committee for Planning and Investment.

Sampling Design / Statistical Unit / Selection Procedure:

Within each province, a two stage sample design was used.

- At the first stage, a stratified sample of villages was selected with probability proportional to the area of agricultural land in the village. The stratification was by geographic area.
- Within each selected village, a sample of households with agricultural land was selected using systematic random sampling.

The sample selection was done in such a way that all households with agricultural land in a given province had the same overall probability of selection in the sample.

Main Data Items and Variables for Operational Purposes: Area planted/harvested and production by farm/crop type and seed type, monthly distribution of production and area harvested, farm household disposition/ consumption of production.

Reference Period: December 1994 and January 1995

Date of Data Collection: First 10 days of the quarter

Geographical Scope: 4 pilot provinces.

3.3.1.3 Conduct, Operations, Data Quality Control

The data collection work was coordinated and administered by the Director of the Agriculture and Forestry Office in each province. Officers from MAF, Vientiane, were assigned to each province during the field operations to act as provincial field supervisors, and were responsible for the training of field staff and provide assistance in the management of the field enumeration.

Enumerators were recruited from the staff of the District Agriculture and Forestry Office (DAFO). Staff from the Agriculture and Forestry Office in the provinces (PAFO) were used as field supervisors, who were responsible for the allocation of enumeration workloads, monitoring and supervision of the work of enumerators and checking the completed survey materials.

As part of the quality control measures implemented at various stages of the survey, rounds of reviews were made before the survey instruments were reproduced for

field operations. Before the results were summarized, field data editing, which includes item-by-item checks on the consistency, completeness and acceptability of the data, was done during and after data collection.

Processing of the survey was undertaken by the project staff in Vientiane Capital as follows:

- Manual checks were first made to verify that the questionnaires had been completed correctly.
- Data from the questionnaire were entered into the computer (using a DBASE IV program)
- A range of computer edits were then applied (using DBASE IV) to check the correctness and consistency of the reported data. The data were then check and amendments were made as necessary.
- The output tables were prepared using SPSS.

3.3.1.4 Statistical Report

Report on Staple Food Crop Pilot Survey 1994.

3.3.2 Livestock Pilot Survey, May 1995

3.3.2.1 Overview

Historical Background

The livestock pilot survey was one of two pilot surveys being undertaken by MAF with the project's assistance TCP/LAO/4452(T). (The other survey- the Staple Food Crop pilot survey-was undertaken in December 1994/95 and the results were presented in a report issued in May 1995).

Scope

The livestock pilot survey was a sample survey of households undertaken in Vientiane Capital and in the provinces of Borikhamxay, Oudomxay and Champasack. The survey covered both urban and rural areas. The survey covered all households with livestock, defined as households satisfying either one of the following two conditions:

- operating some agricultural land; or
- owning at least one of the three types of livestock: cattle, buffaloes, pigs.

The survey excluded livestock in the institutional sector; i.e. government farms, commercial farms, etc. All cattle, buffaloes and pigs owned by households were covered. For the other livestock and poultry, the survey did not cover animals owned by out-of-scope households; i.e. those with no agricultural land and no cattle, buffaloes or pigs.

Objective

The objective of the survey was to generate estimates on livestock number, age/sex structure, number of new borns

Purpose

The survey aimed to evaluate the use of sampling methodology for the collection of livestock statistics; to provide experience for MAF staff in undertaking such survey; and to provide statistics on livestock numbers for the four areas covered by the survey.

3.3.2.2 Survey Design

Sampling Frame: The sampling frame for the selection of sample of villages was created from list of villages in each district, obtained from the National Statistics Center of the Committee for Planning and Investment.

Sampling Design / Statistical Unit / Selection Procedure:

The sample design was based on two stage sampling, with villages as the primary sampling unit and households with livestock as the second stage sampling unit.

Villages were first formed into two strata- (i) Stratum A: villages with agricultural land; and (ii) Strata B: villages without agricultural land. A different sample selection scheme was used in the two strata.

For Stratum A, all villages were within the scope of the staple food crop pilot survey. The sample design for the livestock pilot survey was based on the design used by the staple food crop pilot survey. The design was a self-weighting two stage design with probability proportional to size (farm area) selection of village at the first stage and a systematic random sample of households within sample villages selected at the second stage.

The sample selection for the livestock pilot survey was carried out as follows:

- The same sample villages as selected in the staple food crop pilot survey were retained for the livestock survey.
- Within each sample village, a systematic random sample of households with livestock was selected using the same sampling fractions as for the staple food crop pilot survey.

For Stratum B, the following sampling scheme was used:

- A sample of villages was selected with probability proportional to the number of households in the village.
- Within each selected village, a sample of households with livestock was selected using systematic random sampling. The sampling fractions were determined in such a way that, within a given province, all households with livestock had the same overall probability of selection in the sample as for Stratum A.

Main Data Items and Variables for Operational Purposes: Livestock & poultry population, household with livestock, age/sex structure of livestock, egg production in the last week, the rate of increase in livestock numbers, …

Reference Period: May 1994 to May 1995

Date of Data Collection: May 1995

Geographical Scope: 4 pilot provinces

3.3.2.3 Conduct, Operations, Data Quality Control

The data collection work was coordinated and administered by the Director of the Agriculture and Forestry Service in each province. Officers from MAF, Vientiane, were assigned to each province during the field operations to act as provincial field supervisors and they were responsible for training of field staff and provide assistance in the management of the field enumeration.

Enumerators were recruited from the staff of the District Agriculture and Forestry Office (DAFO). Staff from the Agriculture and Forestry Services in the provinces (PAFO) were used as field supervisors and were responsible for the allocation of enumeration workloads, monitoring and supervision of the work of enumerators, and checking completed survey materials.

As part of the quality control measures implemented at various stages of the survey, rounds of reviews were made before the survey instruments were reproduced for field operations. Before the results were summarized, field data editing, which includes item-by-item checks on the consistency, completeness and acceptability of the data, was done during and after data collection.

Processing of the survey was undertaken by project staff in Vientiane Capital as follows:

- Manual checks were first made to verify that the questionnaires had been completed correctly.

- Data from the questionnaire were entered into the computer (using a dBASE IV program)
- A range of computer edits were then applied (using dBASE IV) to check the correctness and consistency of the reported data. The data were then check and amendments were made as necessary.
- The output tables were prepared using SPSS.

3.3.2.4 Statistical Report

Livestock pilot survey, May 1995 Results

3.3.3 Agricultural and Input Prices Survey

3.3.3.1 Overview

Historical Background

From 1995 to 2002, MAF published the Report of Agricultural Product Prices. It carried, in a 60-page publication, monthly farm-gate price data for agricultural products by province. It covered approximately 30 commodities. It was useful reference for policy makers, private sector and researchers.

Unfortunately, the publication was discontinued after seven years. Budget shortage forced the publication to stop. Another reason was that many provinces could not report the data, because of declining capability of provincial staff in-charge of statistics.

The data system on agricultural & input prices was carried on by the Division of Statistics (DOS) under the Planning Department, MAF from 1995 to 2002. The purpose of agricultural and input price data collection is to keep farmers aware if the farmgate price is fair or profitable for the crop and livestock production. However, if the farm prices are too low, the Government has to immediately find out appropriate solution to help the farmers. It is a good incentive to support farmers continuously in increasing their production.

Scope

The Agricultural & Input Prices Survey was a national survey covering all provinces.

Objective

The main objective of the survey was to generate estimates of producers' prices or price received by farmer and input paid by the farmers

Purpose

The survey aimed to formulate uniform/standard system of data collection on price for each district and each province of Lao PDR and to collect data, disseminate data report on agricultural and input prices

Contents

The Agricultural and Input Prices Survey contains information on prices received by producers at the first point of sale.

3.3.3.2 Survey Design

Sampling Design / Statistical Unit / Selection Procedure:

Purposive or judgmental selection was used. The samples were selected using two-stage sampling: a sample of villages (market) was first selected in each district, and then a sample of households (producer) was selected in each sample village. Agricultural holdings were identified by asking each sample household about their agricultural and input prices. Commodities chosen can be representatives of the wider group.

In most districts, a sample of 3-5 villages was taken, with an average of 5 households selected in each sample village, approximately 15-25 sample households in each district.

Main Data Items and Variables for Operational Purposes: Quantity sold, price per local unit.

Reference Period: Days 1 to 30 of the reporting months

Date of Data Collection: Twice a month such as: 1st and on 15th of every month

Geographical Scope: All provinces in the country

3.3.3.3 Conduct, Operations, Data Quality Control

Staff from the provincial Agriculture & Forestry Service were appointed as field supervisors for the data collection in each district. The duties of enumerators in each district were as follows:

- To select the purposive sample market/s in each district, with the help of trade district office
- To select the sample households in each sample market, with the help of village chief

- To visit each sample household and to collect the agricultural and input price data with the use of the form
- If sample village/or sample household is not selling/or buying product, it needs to ask the nearby village.

Quality Control for Data Processing

Manual data processing involved the review of the entries for completeness and acceptability. Machine processing included computer editing of entries for consistency of data items, summarization of data according to provincial/basket formats, further evaluation and final tabulation of results

3.3.3.4 Statistical Report

One part of Annual Agricultural and Forestry Yearbook

3.4 Metadata for Each of the Major Administrative Registers

3.4.1 Administrative Register: Crop Statistics Report

3.4.1.1 Responsible Agency: Department of Agriculture (DOA)

Background

Planning Division (PD) of Department of Agriculture (DOA) collects and compiles data on crop situation and prepares monthly and seasonal reports on important economic crops based on information received from provincial and district offices of the department.

3.4.1.2 Description of Contained Information

Coverage

Statistical reports cover mostly production-related data such as area planted/harvested, amount of production, yield by commodity, area irrigated, etc. The statistical data are reported twice a year: at the end of the wet season and dry season

Statistical Domain and data items: namely planted, harvested area, production and yield of total paddy rice, lowland paddy, irrigated paddy, upland paddy and other crop such as maize, edible oil crop (soyabean, peanut and mungbean), coffee, tobacco, tea, sugarcane, vegetable, cotton, potatoes, cassava, etc.

3.4.1.3 Data Sources

Sources of Information

The conduct of a regular agricultural production survey has yet to be set up in the Ministry of Agriculture and Forestry (MAF) of Lao PDR. Heretofore, its main source of agricultural information is the report submitted by the village heads to the district agricultural officers. The district officers normally prepare summary reports out of this village information and transmit them to the Province Agriculture and Forestry Service. The officer in-charge of statistics in the province in turn prepares a provincial report using the inputs provided by the districts and transmits it to the Technical Department concerned of the MAF.

Data Collection

Depending on data collected and village conditions, interviews are made with village heads, heads of household groups within the village, and individual households. After the data are obtained, the enumerator and village chief sign the recorded paper. Two copies are made: one for village and another for DAFO

Data Processing

In technical departments, Planning Divisions are equipped with PC's and their calculation and documentation are mostly done through computers.

Provincial level computerization is not well known. It is estimated that most provinces process the data through computers.

District level computerization is less advanced. In some district of some provinces, no computer was found in the office and reports were handwritten and typewritten.

3.4.2 Administrative Register: Livestock and Fisheries Statistics Report.

3.4.2.1 Responsible Agency: Department of Livestock And Fishery (DOLF)

Background

Department of Livestock and Fishery (DOLF) collects and compiles data on the numbers and diseases of various livestock reported by provincial, district and village level officers.

Data for L&F sub-sector, according to DOLF, are divided into 4 categories namely: basic information: to be published by MAF through SD/DOP, management information, specific information: such as standards, animal vaccine, fish hatcheries, etc.and animal health information

3.4.2.2. Description of Contained Information

Coverage

Coverage of basic information, to be considered as statistical information, is considerably wider than those available at present. Presently, only animal and poultry inventory is indicated here. Its coverage, according to DOLF, must be expanded to include the following: Indigenous herds production, Industrial animal production, exports/imports

3.4.2.3 Data Sources

The same as Crop Statistics