



**METADATA FOR
NATIONAL AGRICULTURAL STATISTICS**

PHILIPPINES

TABLE OF CONTENTS

	PAGE
List of Acronyms	v
CHAPTER 1. NATIONAL SYSTEM OF AGRICULTURAL STATISTICS	
1.1 Legal Framework and Statistical Advisory Bodies	1
1.2 Structure and Organization of the Major Agricultural Statistical Agencies	2
1.3 Outputs and Dissemination of Agricultural Statistics.....	9
1.4 Dialogue with Data Users and Cooperation with International Organizations..	14
1.5 Strategic Framework.....	15
CHAPTER 2. MAJOR DOMAINS AND SELECTED INDICATORS OF AGRICULTURAL STATISTICS	
2.1 List of Major Domains and Selected Indicators.....	17
2.2 Metadata For Each of the Major Domains	18
2.2.1 Production	
2.2.1.1 Concepts, Definitions and Classifications	18
2.2.1.2 Coverage, Availability, Data Sources and Responsible Agencies ..	23
2.2.1.3 Data Processing, Estimation and Revision Methodology.....	26
2.2.1.4 Other Reference Information	45
2.2.2 Trade	
2.2.2.1 Concepts, Definitions and Classifications	46
2.2.2.2 Coverage, Availability, Data Sources and Responsible Agencies ..	47
2.2.2.3 Data Processing, Estimation and Revision Methodology.....	47
2.2.2.4 Other Reference Information	49
2.2.3 Food Consumption	
2.2.3.1 Concepts, Definitions and Classifications	49
2.2.3.2 Coverage, Availability, Data Sources and Responsible Agencies ..	50
2.2.3.3 Data Processing, Estimation and Revision Methodology.....	51
2.2.3.4 Other Reference Information	53
2.2.4 Prices	
2.2.4.1 Concepts, Definitions and Classifications	53
2.2.4.2 Coverage, Availability, Data Sources and Responsible Agencies ..	56
2.2.4.3 Data Processing, Estimation and Revision Methodology.....	57
2.2.4.4 Other Reference Information	61
2.2.5 Agricultural Machinery	
2.2.5.1 Concepts, Definitions and Classifications	62
2.2.5.2 Coverage, Availability, Data Sources and Responsible Agencies ..	62
2.2.5.3 Data Processing, Estimation and Revision Methodology.....	62
2.2.5.4 Other Reference Information	62
2.2.6 Fertilizer	
2.2.6.1 Concepts, Definitions and Classifications	63
2.2.6.2 Coverage, Availability, Data Sources and Responsible Agencies ..	63
2.2.6.3 Data Processing, Estimation and Revision Methodology.....	64

2.2.6.4 Other Reference Information	64
2.2.7 Pesticides	
2.2.7.1 Concepts, Definitions and Classifications	64
2.2.7.2 Coverage, Availability, Data Sources and Responsible Agencies ..	65
2.2.7.3 Data Processing, Estimation and Revision Methodology	66
2.2.7.4 Other Reference Information	66
2.2.8 Land Use	
2.2.8.1 Concepts, Definitions and Classifications	66
2.2.8.2 Coverage, Availability, Data Sources and Responsible Agencies ..	67
2.2.8.3 Data Processing, Estimation and Revision Methodology	68
2.2.8.4 Other Reference Information	68
2.2.9 Labor and Employment	
2.2.9.1 Concepts, Definitions and Classifications	68
2.2.9.2 Coverage, Availability, Data Sources and Responsible Agencies ..	69
2.2.9.3 Data Processing, Estimation and Revision Methodology	69
2.2.9.4 Other Reference Information	72
2.2.10 Others	
2.2.10.1 Concepts, Definitions and Classifications	72
2.2.10.2 Coverage, Availability, Data Sources and Responsible Agencies	73
2.2.10.3 Data Processing, Estimation and Revision Methodology	73
2.2.10.4 Other Reference Information	73
CHAPTER 3. MAJOR DATA SOURCES FOR AGRICULTURAL STATISTICS	
3.1 List of Major Agricultural Censuses, Surveys and Registers	74
3.2 Metadata for Each of the Major Censuses	74
3.2.1 2002 Census of Agriculture	
3.2.1.1 Overview	74
3.2.1.2 Census Design	76
3.2.1.3 Conduct, Operations, Data Quality Control	78
3.2.1.4 Statistical Report	82
3.2.2 2002 Census of Fisheries	
3.2.1.1 Overview	82
3.2.1.2 Census Design	84
3.2.1.3 Conduct, Operations, Data Quality Control	85
3.2.1.4 Statistical Report	85
3.3 Metadata for Each of the Major Surveys	
3.3.1 Rice (Rough Rice) and Corn (Maize) Production Survey	
3.3.1.1 Overview	85
3.3.1.2 Survey Design	87
3.3.1.3 Conduct, Operations, Data Quality Control	88
3.3.1.4 Statistical Report	89

3.3.2 Palay and Corn Households Stocks Survey	
3.3.2.1 Overview	89
3.3.2.2 Survey Design	90
3.3.2.3 Conduct, Operations, Data Quality Control	91
3.3.2.4 Statistical Report	92
3.3.3 Crops (Other than Palay and Corn) Production Survey	
3.3.3.1 Overview	92
3.3.3.2 Survey Design	95
3.3.3.3 Conduct, Operations, Data Quality Control	96
3.3.3.4 Statistical Report	98
3.3.4 Livestock and Poultry Production Surveys	
3.3.4.1 Overview	98
3.3.4.2 Survey Design	102
3.3.4.3 Conduct, Operations, Data Quality Control	105
3.3.4.4 Statistical Report	107
3.3.5 Fisheries Production Survey	
3.3.5.1 Overview	107
3.3.5.2 Survey Design	109
3.3.5.3 Conduct, Operations, Data Quality Control	112
3.3.5.4 Statistical Report	114
3.3.6 Farm Prices Survey	
3.3.6.1 Overview	114
3.3.6.2 Survey Design	115
3.3.6.3 Conduct, Operations, Data Quality Control	116
3.3.6.4 Statistical Report	118
3.3.7 Agricultural Labor Survey	
3.3.7.1 Overview	118
3.3.7.2 Survey Design	119
3.3.7.3 Conduct, Operations, Data Quality Control	120
3.3.7.4 Statistical Report	120
3.3.8 Integrated Agricultural Marketing Information System/Agricultural Marketing News Service	
3.3.8.1 Overview	121
3.3.8.2 Survey Design	123
3.3.8.3 Conduct, Operations, Data Quality Control	124
3.3.8.4 Statistical Report	125
3.3.9 Costs and Returns Surveys	
3.3.9.1 Overview	125
3.3.9.2 Survey Design	126
3.3.9.3 Conduct, Operations, Data Quality Control	128
3.3.9.4 Statistical Report	129

3.4 Metadata for Each of the Major Administrative Register

3.3.1 Foreign Trade Statistics

3.4.1.1 Responsible Agency	129
3.4.1.2 Description of the Contained Information	130
3.4.1.3 Data Sources.....	131

List of Acronyms

AFD	Administrative and Finance Division
AFMA	Agriculture and Fisheries Modernization Act
AFSIS	ASEAN Food Security Information System
AGMARIS	Integrated Agricultural Marketing Information System
AgSTAT	Agricultural Statistical System
ALS	Agricultural Labor Survey
AMNEWSS	Agricultural Marketing News Service
ASDP	Agricultural Statistical Development Program
ASEAN	Association of South East Asian Nations
ATs	Agricultural Technicians
BAEcon	Bureau of Agricultural Economics
BAI	Bureau of Animal Industry
BAR	Bureau of Agricultural Research
BAS	Bureau of Agricultural Statistics
BFAR	Bureau of Fisheries and Aquatic Resources
BLPS	Backyard Livestock and Poultry Survey
BSS	Barangay Screening Survey
CA	Census of Agriculture
CF	Census of Fisheries
CIS	Communal Irrigation Projects/Systems
CLPS	Commercial Livestock and Poultry Survey
CODA	Cotton Development Administration
CPH	Census of Population and Housing
CPS	Corn Production System
CRS	Cost and Returns Survey
CSD	Crops Statistics Division
DA	Department of Agriculture
DILG	Department of Interior and Local Government
DTI	Department of Trade and Industry
FAO	Food and Agriculture Organization
FIDA	Fiber Industry Development Authority
FIES	Family Income and Expenditures Survey
FPS	Farm Price Survey
IAC AFFS	Agency Committee on Agriculture Fishery and Forestry
IAS	Integrated Agricultural Survey
ICTD	Information and Communications Technology Division
IMPS	Integrated Microcomputer Processing System
IPDCP	Indonesia Philippines Data Collection Project
ISS	Information Service Section
LFS	Labor Force Survey
LGU's	Local Government Units
LOM	Livestock "Oksyon" Market

MCFS	Municipal and Commercial Fishing Survey
MINA	Marketing Information Needs Assessment
NEDA	National Economic and Development Authority
NFA	National Food Authority
NIS	National Irrigation Projects/Systems
NMIS	National Meat Inspection Service
NSCB	National Statistical Coordination Board
NSO	National Statistics Office
NTA	National Tobacco Administration
PASO	Provincial Agricultural Statistics Officer
PCA	Philippine Coconut Authority
PCHSS	Palay and Corn Households Stocks Survey
PEZA	Philippine Economic Zone Authority
PFDA	Philippine Fishery Development Authority
PMS	Price Monitoring System
POCs	Provincial Operations Centers
PPS	Palay Production System
PRAISE	Personnel Rewards and Incentives for Service Excellence
PSA	Philippine Statistics Association
PSCC	Philippine Standard Commodity Classification
PSP	Personnel Selection Plan
PSS	Philippine Statistical System
QCPS	Quarterly Coconut Production Survey
RASO	Regional Agricultural Statistics Officer
RCPS	Rice and Corn Production Survey
ROCs	Regional Operations Centers
SDASAS	Statistical Development and Analysis in Support of the Agribusiness Sector
SITC	Standard International Trade Classification
SOCD	Statistical Operations Coordination Division
SRA	Sugar Regulatory Administration
USAID	United States Agency for International Development

CHAPTER 1. NATIONAL SYSTEM OF AGRICULTURAL STATISTICS

1.1 Legal Framework and Statistical Advisory Bodies

There is no single law like a Statistical Act in the country. The basic legal framework of the agricultural statistical system in the Philippines is found on Executive Order Number 116 (EO 116) which was signed by the President of the Republic of the Philippines and issued on January 1987. The EO 116 which created the Bureau of Agricultural Statistics (BAS) out of the then Bureau of Agricultural Economics (BAEcon) mandates the BAS to do the following:

- 1) collect, compile, and release official agricultural statistics;
- 2) exercise technical supervision over data collection centers; and
- 3) coordinate all agricultural statistics and economic research activities of all bureaus, corporations and offices under the Department of Agriculture.

The Philippine Republic Act No. 8435, otherwise known as the Agriculture and Fisheries Modernization Act (AFMA) mandates the BAS to do the following:

- 1) serve as central information source and server of the National Information Network of the DA; and
- 2) provide technical assistance to end-users in accessing and analyzing product and market information and technology.

EO 116 provides for the independence of the statistical system. Similarly, the law requires that the statistical system gives due regard to the confidentiality of information provided by survey respondents. For this reason, household or enterprise level data may be accessed but this does not carry identification anymore. This EO 116 serves as the legal basis for conducting various surveys and other statistical inquiries related to the agriculture sector.

On the other hand, the National Statistics Office (NSO) is the major statistical agency responsible in collecting, compiling, classifying, producing, publishing and disseminating general-purpose statistics as provided for in Commonwealth Act (CA) No. 591. It also has the responsibility of carrying out and administering the provision of the Civil Registry Law as provided for in Act No. 3753 dated February 1931. Specifically, the NSO is tasked to:

- 1) prepare for and undertake all censuses on population, agriculture, commerce and industry (Section 2, CA 591; Section 1, Batas Pambansa Bilang. 72);
- 2) conduct statistical surveys by enumeration, sampling and other methods (Section 2, Batas Pambansa Bilang. 72);
- 3) compile and classify other statistical data and information (Section 2, CA 591);

- 4) conduct social and economic studies and make projections of population, agricultural production, income and the number of livestock (Section 2, CA 591);
- 5) publish and disseminate all information related to the above functions (Section 2, CA 591);
- 6) assist the National Statistical Coordination Board (NSCB), formerly the Statistical Advisory Board of the National Economic and Development Authority, in the formulation of a continuing comprehensive statistical program for the government (Section 5, Presidential Decree 418);
- 7) provide technical assistance and support to projects of other statistical agencies and institutions (Section 5, PD 418);
- 8) carry out and administer the provisions of Act No. 3753, entitled "An Act to establish a Civil Register" (Section 2, CA 591) and other laws on civil registration; and
- 9) issue authorization to solemnizing officers in accordance with the provisions of Article 7 of the Family Code of the Philippines (Executive Order No. 209 effective August 3, 1988).

The operations and delivery of products and services of the agricultural statistical system in the Philippines benefit from the review and advice of experts' groups with stakes and interests on the development of the agriculture sector, in general and of the agricultural statistics, in particular. Lodged in the National Statistical Coordination Board (NSCB), is the Inter-Agency Committee on Agriculture, Fishery and Forestry Statistics (IAC-AFFS). The IAC's main function is to serve as a forum for the discussion and resolution of issues pertaining to the generation of agriculture, fishery and forestry statistics. Under this IAC are Technical Working Groups (TWGs) by agriculture sub-sector and/or commodity.

Other than the IAC-AFFS, the BAS which serves as the focal agency for agricultural statistics, is represented and participates in various IACs and TWGs. A few examples are the IACs on Survey Designs, Poverty Statistics, Gender Statistics, Statistical Standards and Classifications, Labor, Income and Productivity and several TWGs and Task Forces under these IACs. Likewise, the interests and concerns of the agricultural statistical system are brought to some kind of advisory bodies which are lodged at the Department of Agriculture and the offices under it. Here, the areas of interest are more on the use of statistics, financial support and the like.

1.2 Structure and Organization of the Major Agricultural Statistical Agencies

The Bureau of Agricultural Statistics (BAS) is a staff bureau under the Department of Agriculture (DA) and serves as the source of official statistics on agriculture. As a major player in the Philippine Statistical System (PSS), its statistical systems and procedures are governed by standards and such other rules or norms set in the PSS. The other major players are the National Statistics Office (NSO) which is in charge of conducting the Census of Agriculture and Fisheries (CAF) and other

censuses and surveys as well as foreign trade compilation of which agriculture-based data are accessed by BAS and the National Statistical Coordination Board (NSCB) which serves as the coordinating and policy making body of the PSS.

In the Philippines, the major and the focal agency for agricultural statistics is the Bureau of Agricultural Statistics (BAS). The Bureau is headed by a Director with the following contact details:

Director Romeo S. Recide

Telephone numbers: (632) 371 2050; 371 2086

E-mail address: rsrecide@mozcom.com

Under the present organizational structure, there is one Assistant Director and ten (10) Division Chiefs. There are on-going efforts to rationalize the Philippine Bureaucracy and the BAS will have its share of some changes in its structure. The main adjustments will be the reduction of the number of Division Chiefs from 10 to eight (8), the increase in the number of professional staff just below the level of the Division Chief and the creation of additional positions for the heads of regions and provinces. For the details of the organizational structure of the BAS, we can refer to Figures 1 and 2.

Fig. 1. Existing BAS Organizational Structure

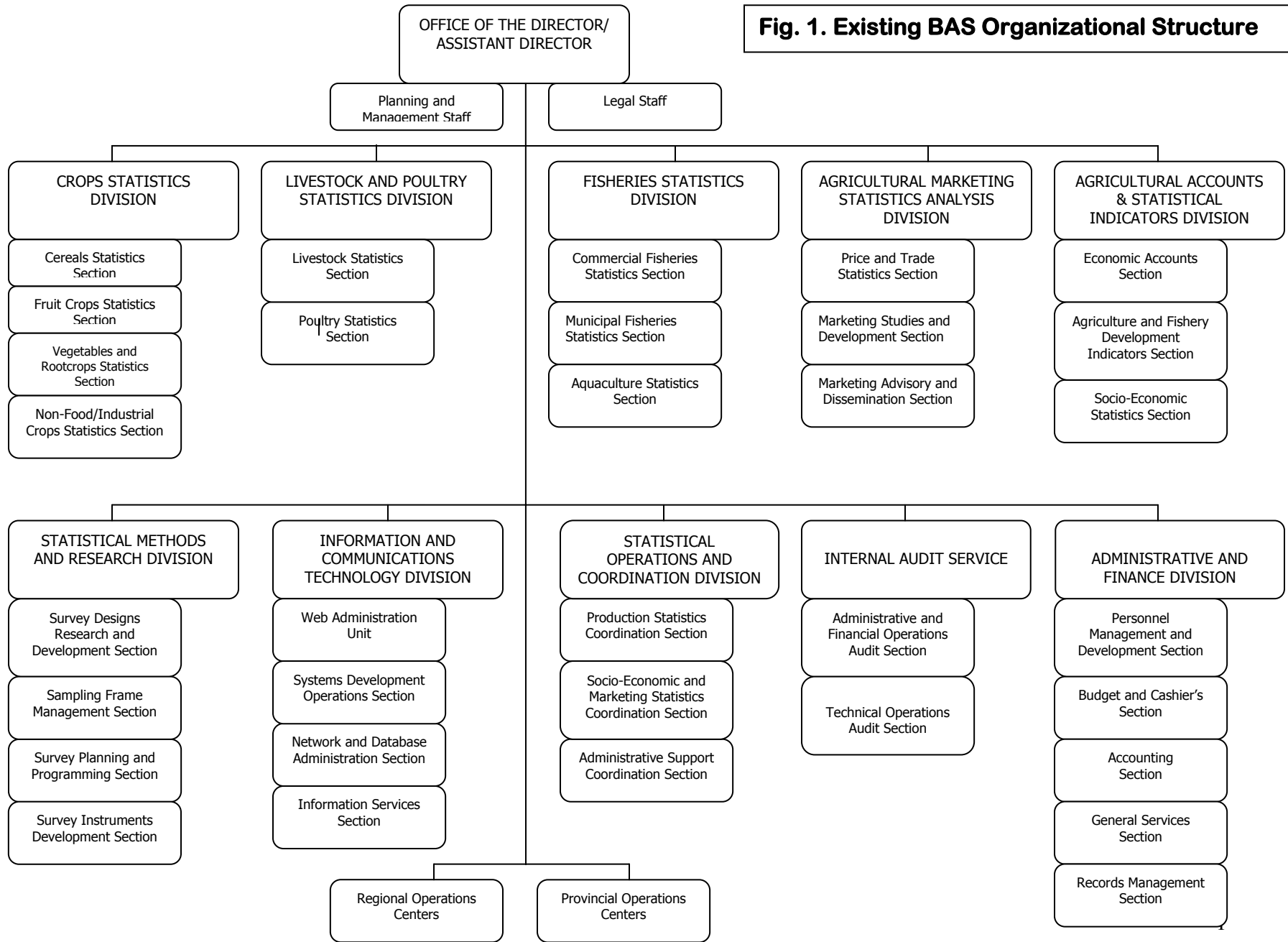
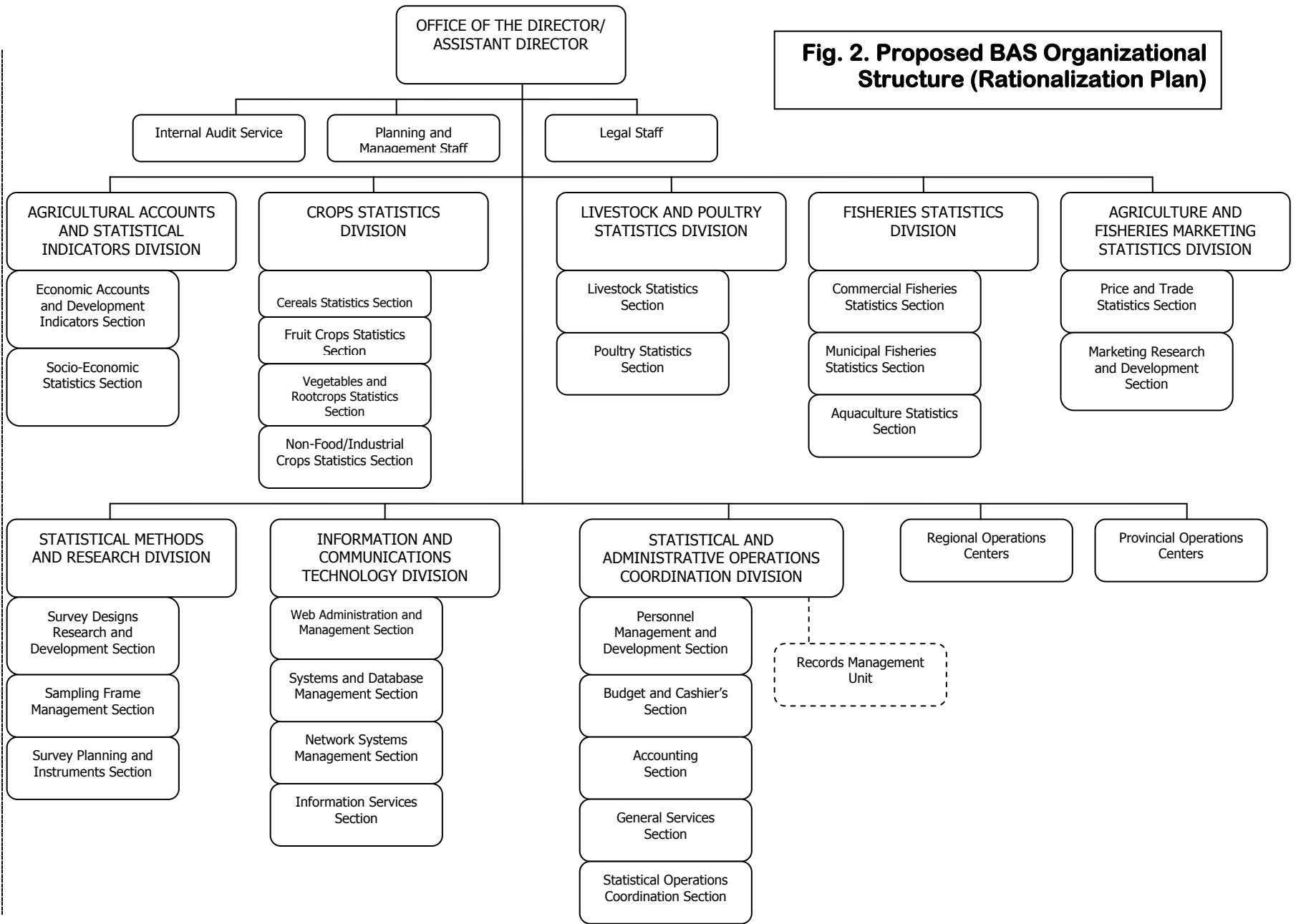


Fig. 2. Proposed BAS Organizational Structure (Rationalization Plan)



Below is the presentation of the primary functions of the key operating units of the BAS.

a. Office of the Director/Assistant Director

The Office of the Director/Assistant Director provides the general direction, control and supervision of the BAS. It formulates, develops and oversees the implementation of plans, programs, operating standards and administrative procedures for the promotion and fulfillment of the Bureau's mission, mandates and functions.

b. Planning and Management Staff (PMS)

The Planning and Management Staff assists the management in the preparation of the Bureau's strategic, operational and project plans; prepares annual and other progress reports concerning BAS statistical operations; and maintains liaison between the Bureau, DA Planning Service and other government agencies relative to planning and management activities.

c. Legal Staff

The Legal Staff provides advice and support to the management pertaining to legal and administrative actions.

d. Agricultural Accounts and Statistical Indicators Division (AASID)

AASID is in-charge of the development and maintenance of statistical frameworks that will enhance the preparation of an integrated system of agricultural and fisheries statistics and the generation of socio-economic statistics in the agriculture and fisheries sector.

e. Crops Statistics Division (CSD)

CSD is primarily responsible for the organization, review and analysis of crop production and production-related data as well as the timely release of crop statistics.

f. Livestock and Poultry Statistics Division (LPSD)

LPSD is primarily responsible for the organization, review and analysis of livestock and poultry production data as well as the timely release of livestock and poultry statistics.

g. Fisheries Statistics Division (FSD)

FSD is primarily responsible for the organization, review and analysis of fisheries production data as well as the timely release of fisheries statistics.

h. Agricultural Marketing Statistics Analysis Division (AMSAD)

AMSAD is primarily responsible for the organization, review and analysis of agricultural marketing and market-related data, as well as the timely release of agricultural marketing statistics.

i. Statistical Methods and Research Division (SMRD)

SMRD is primarily responsible for research and development and implementation of statistical methods to support the needs of the technical divisions by developing and improving survey designs and instruments, maintaining up-to-date sampling frames, planning and programming all survey operations, and developing and maintaining statistical standards and classification systems.

j. Information and Communications Technology Division (ICTD)

ICTD is primarily responsible for the planning, implementation and maintenance of IT services to all organic units of BAS and for the packaging, publication and release of statistical reports and other related information on the agriculture and fisheries sectors. It will also assume the tasks of providing data for the DA's National Information Network, once it becomes operational.

k. Administrative and Finance Division (AFD)

AFD is primarily responsible for the provision of general administration and financial management services to ensure the efficient and effective delivery of BAS' products and services.

l. Internal Audit Service (IAS)

IAS is primarily responsible for the provision of internal audit services aimed at enhancing and strengthening financial and operational controls systems within the BAS.

There are 16 Regional Operations Centers (ROCs) and 81 Provincial Operations Centers (POCs) throughout the country. They serve as the agricultural information resource centers at the regions and in the provinces, respectively.

The **Regional Operations Centers** (ROCs) exercise technical and administrative supervision and coordination of all activities and personnel of the POCs in their respective areas of jurisdiction; extend technical assistance to end-users at the regional level in accessing and analyzing agriculture and fishery information; and assume responsibility for the maintenance of the NIN at the regional level, once it becomes operational.

The **Provincial Operations Centers** (POCs) implement all statistical activities of the BAS; compile, organize and maintain up-to-date data on agriculture and fisheries sectors for the province; assist local end-users in accessing and analyzing agriculture and fishery information; and maintain the NIN at the provincial level, once it becomes operational.

The BAS is composed of Technical and Administrative Staff as follows:

Technical Staff:

Central Office- 226

Regional/Provincial Operations Centers- 642

Administrative Staff:

Central Office- 78

Regional/Provincial Operations Centers- 61

Following are information about the budget of the BAS

A) From the regular (government) funds

Expenditure item	2005 (actual)		2006 (estimated)		2007 (proposed)	
	In Ph Pesos	In US\$	In Ph Pesos	In US\$	In Ph Pesos	In US\$
Personal services	193,315,747.99	3,790,504.86	187,396,000	3,674,431.37	199,402,000	3,909,843.14
Maintenance and other operating expenses	26,787,248.23	525,240.16	30,446,000	596,980.39	30,446,000	596,980.39
Capital outlay	85,423.25	1,674.97	100,000	1,960.78	100,000	1,960.78
ALL ITEMS	220,188,419.3	4,317,419.99	217,942,000	4,273,372.54	229,948,000	4,508,784.31

B) From the Commodity Development Programs of the Department of Agriculture

Expenditure items	2005 (actual)		2006 (estimated)		2007 (proposed)	
	In Ph Pesos	In US\$	In Ph Pesos	In US\$	In Ph Pesos	In US\$
Maintenance & other operating expenses	17,411,399.66	341,399.99	29,920,000	586,666.67	28,100,000	550,980.39
Capital outlay	-	-	2,280,000	44,705.88	12,053,200	236,337.25
ALL ITEMS	17,411,399.66	341,399.99	32,200,000	631,372.55	40,153,200	787,317.64

C). From foreign donor agencies

Source	2005		2006		2007	
	In Ph Pesos	In US\$	In Ph Pesos	In US\$	In Ph Pesos	In US\$
AFSIS	382,910	7,508.04	394,126.75	7,727.96	-	-
IPDCP	1,500,000	29,411.26	1,255,525	24,618.14	-	-
TOTAL	1,882,910	36,919.3	1,649,651.75	32,346.1		

Notes: 1) DA commodity programs have their own budgets which can be accessed by offices under the DA.
 2) the exchange rate used is PHP51 = US\$1
 3) AFSIS means ASEAN +3 Food Security Information System
 4) IPDCP means Indonesia, Philippines Data Collection Project

1.3 Outputs and Dissemination of Agricultural Statistics

The BAS, being the focal agency for agricultural statistics in the country, serves as the focal point for the dissemination of agricultural statistics. This function is largely a shared responsibility among the operating units of the BAS, both in the Central Office and in the Operations Centers. Structurally, however, the mandate of disseminating statistical reports and publications rests mainly on the Information Services Section of the Information and Communications Technology Division (ISS - ICTD). The contact details of this unit are as follows:

Officer-in-charge: Ms. Epifania Gonzales
 Telephone no.: (632) 372- 3820
 Fax no.: (632) 372- 3820
 E-mail address: info@bas.gov.ph
infobas@mozcom.com

The Philippine National Statistics Office (NSO) undertakes censuses and surveys which results get into the agricultural statistical system. It generates statistical reports containing results of the Census of Agriculture and Fisheries and other reports pertaining to agriculture and fisheries. The dissemination arm of the NSO is the Databank and Information Services Division with the following contact details:

Officer-in-charge: Mr. Vincent Morris Olaivar
 Telephone no.: (632) 713-7081
 Fax no.: (632) 714- 1715
 E-mail address: info@census.gov.ph

BAS Regular Statistical Reports And Publications

Title of Publication	Domains/Contents	Medium	Format	Periodicity/ Frequency	Release Calendar
Selected Statistics on Agriculture		English	PDF, Handbook, CD	Annual	June
Performance of Philippine Agriculture January to December January to March January to June January to September	Production, prices	English	PDF, Bulletin	Quarterly	18-Jan 15-May 15-Aug 11-Nov
Crops Statistics Rice and Corn Situation and Outlook	Production	English	PDF, Bulletin	Quarterly	May/Aug/Nov/F eb
Seasonally Adjusted Rice Production and Prices	Production, prices	English	PDF, Bulletin	Quarterly	May/Aug/Nov/F eb
Commodity Situation Reports, Selected Commodities	Production, trade prices	English	PDF, Bulletin	Annual	No specific calendar
Commodity Statistics Non Food and Industrial Crops Selected Fruits Selected Vegetables and Rootcrops	Production	English	PDF, Book PDF, Book PDF, Book	Annual Annual Annual	September September September
Performance of Livestock and Poultry Industry (By Type of Animal, Dairy)	Production, trade, prices	English	PDF, Bulletin	Annual	End of May
Fisheries Statistics of the Philippines	Production	English	PDF, Book	Annual	No specific calendar
Prices and Trade Producers Price Index in Agriculture Cereals Price Update Fertilizer Price Update Foreign Trade Quarterly Updates	Prices Prices Prices Trade	English	PDF, Book PDF, Bulletin PDF, Bulletin PDF, Bulletin	Semi - Annual Weekly/Monthly Monthly Quarterly	February, August, Every Monday 1 wk after ref mo. April/June/Sept /Dec

Title of Publication	Domains/Contents	Medium	Format	Periodicity/ Frequency	Release Calendar
BAS Media Service		English			
Price Bulletin	Prices		PDF, Bulletin	3x a Week	Tues/Thurs/Sat
Market Situation	Prices and indicators of market situation		PDF, Bulletin	Weekly	Mid Week
Agricultural Indicators System (National), by Module		English	Bulletin	Annual	
Access to Technical Information	Source of technical information				October
Agricultural Credit	Credit				July
Agricultural Exports and Imports	Trade				September
Agricultural Structure and Resources	Land use				April
Economic Growth	Macroeconomic indicators				November
Food Consumption and Nutrition	Food consumption				September
Food Sufficiency and Security	Production, consumption, trade				September
Inputs	Fertilizer, pesticide, labor				December
Output and Productivity	Production				August
People's Participation	Cooperative organizations				May
Population and Labor Force	labor & employment				July
Poverty Alleviation with Equity	Poverty				December
Prices and Agricultural Marketing	Price indices, disposition of farm produce				December
Redistribution of Land	Agrarian reform				October
Role of Women in Agriculture	Female employment				October

Title of Publication	Domains/Contents	Medium	Format	Frequency	Release Calendar
Agricultural Indicators System (International) Development Trends in Agriculture: International Comparison	Production, macroeconomic indicators, trade, land use	English	Book	Biennial	December
Regional Agricultural Production Accounts	Production, prices	English	Book	Annual	July
Supply and Utilization Accounts of Selected Agricultural Commodities, Philippines	Production, trade, utilization	English	PDF, Book	Annual	November
Supply and Utilization Accounts, Selected Asian Countries	Production, trade, utilization	English	Book	Biennial	April
Commodity Fact Sheet	Production, trade, prices, consumption	English	PDF, Book	Annual	October
Agricultural Wages Trends in Agricultural Wage Rates	Labor inputs in agriculture, wage rates	English	Book	Annual	August
Production Costs and Returns Updated Production Costs and Returns for Rice and Corn and Other Selected Commodities	Production, profitability indicators	English	Book	Biennial	September

BAS Major Adhoc Statistical Reports and Publications

Title of Publication	Domains/Contents	Medium	Format	Year Released
Food Consumption Survey Consumption of Selected Food Commodities in the Philippines (National and Regional Levels) Vol. 1 Consumption of Selected Food Commodities in the Philippines (Regional and Provincial Levels) Vol. 2.1-2.16 Consumption of Selected Agricultural Food Commodities (By Socio-Economic Class of Households) Vol. 3	Consumption	English	Monograph	2001
Integrated Farm Household Survey Income of Farm Households in the Philippines Farm Household Income in the Philippines Socio-Economic Characteristics of Farm Households in the Philippines, 2002-2003 (National and Regional) Some Facts and Figures on Farming Households in the Philippines, 2002-2003 Land Tenure and Investments of Farm Households in the Philippines, 2002-2003 Income and Expenditure of Farm Households in the Philippines, 2002-2003	Farm household income, production, farm and household expenditures, other farm characteristics	English	Monograph	1990 1994 2006 2006 2006 2006
Costs and Returns of Palay Production by Seed Type, 2005	Production, Input use, prices	English	Monograph	2006
Rural Sector Statistical Information System – Rural Profile	All domains	English	Book	2005

Additional Notes on Information Dissemination

Pricing policy. Until this time, all the statistical reports and publications released by the BAS are being made available for free. However, efforts are now underway towards a cost recovery scheme which will make some of the outputs of the BAS available for a certain price. Following the systems being done in other government agencies, the BAS intends to tap the services of a marketing arm to take charge of “selling” the publications.

Ministerial commentary. As a matter of practice, the Secretary of the Department of Agriculture, through the Press Office, schedules a press conference to announce and present the report on the performance of agriculture. This normally happens about two (2) weeks before the report on the performance of the national economy is presented in a press conference. The press conference signals the release of the report to the general public. The report on the situation and outlook for palay and corn is also presented by the Secretary at about the same time.

Changes in methodology. The agricultural statistical system does not go through frequent nor abrupt changes in methodology. If ever, the changes are documented and are made part of the report containing the results of the particular statistical activity that has gone through some changes in methodology.

Websites of major statistical agencies. Through the BAS website, the websites of all other statistical agencies can easily be accessed through its link module. The internet addresses of the major statistical agencies are as follows:

BAS- <http://www.bas.gov.ph>
NSO- <http://www.census.gov.ph>
NSCB- <http://www.nscb.gov.ph>
SRTC – <http://www.srtc.gov.ph>
BLES – <http://www.bles.gov.ph>

1.4 Dialogue with Data Users and Cooperation with International Organizations

The conduct of dialogue with the users of agricultural statistics has already been mainstreamed in the BAS.

In the Central Office, internal and external fora are being held and during these occasions, the needs of the clients and stakeholders are deliberated on. The Users’ Forum deliberations are expected to end with some resolutions regarding the supply and demand for statistics.

The BAS is also benefiting from cooperation with international organizations. The Bureau has been a beneficiary of the World Bank’s Trust Fund for Statistical

Capacity Building. This Grant enabled the BAS to establish the Rural Sector Statistical Information System and to pioneer a Community Level Statistical Information System.

The BAS is a partner of the Food and Agriculture Organization in the promotion of quality agricultural statistics. The FAO provided a grant to the BAS for the establishment of an Agricultural Indicators System which it has since improved and maintained. Through another FAO grant, the BAS has demonstrated the feasibility of establishing a farm record-based data collection and community level processing and analysis to promote data utilization.

The Asian Development Bank has also been a donor towards the improvement of the agricultural statistical system in the country.

Presently, the BAS represents the Philippines in the ASEAN +3 Food Security Information System (AFSIS). The AFSIS provides some financial support for the establishment of the AFSIS in the Philippines. The BAS is also implementing a data system for fisheries under the Indonesia - Philippines Data Collection Project (IPDCP). It is given some amount to address the objectives of the Project.

1.5 Strategic Framework

The BAS has just completed its Strategic Plan for 2006 to 2010. The Bureau continues to pursue its main strategic directions of being a statistical organization that:

- delivers quality products and services that satisfy its clients;
- attracts, develops and maintains a competent workforce; and
- adopts strategic management approach towards achieving its mission.

In support of the first strategic direction, the BAS is committed to undertake the following strategic actions:

- a. conduct of regular national surveys and other statistical activities for generating statistics on agriculture and fisheries which include but not limited on production, prices and farm economics;
- b. formulation and implementation of statistical Research and Development Program;
- c. enhancing the use of statistical frameworks for improving the BAS statistical products and services;
- d. enhancement of the review process to improve the BAS data system;
- e. optimum and rational adoption of ICT-based strategies;
- f. development and maintenance of an efficient and effective information service system of the BAS; and

- g. enhancing the capacity of farmers and fisherfolk in accessing and analyzing agricultural information.

To move along the second strategic direction, the BAS takes on the following strategic actions:

- a. advocacy for more effective implementation of the following: Personnel Selection Plan (PSP), the Personnel Rewards and Incentives for Service Excellence (PRAISE), and the Grievance Machinery;
- b. transforming the Bureau into a learning organization;
- c. development and implementation of a career development program for BAS personnel.
- d. rationalizing deployment of BAS personnel;
- e. mainstreaming activities that enhance personnel welfare; and
- f. enhancing the Bureau's physical working environment.

In pursuing its third strategic direction, the BAS focuses on the following strategic actions:

- a. formulation and advocacy for the implementation of a long-term Agricultural Statistical Development Program (ASDP);
- b. institutionalization of a systematic and formal strategic planning at national and sub-national levels;
- c. sustaining a review system for the BAS mandates, organizational structure, strategy and culture;
- d. strengthening the BAS linkages and working relationships with all stakeholders;
- e. institutionalization of effective governance principles and practices across all operations; and
- f. mainstreaming of the plan for marketing and promotion of the Bureau's products and services.

CHAPTER 2. MAJOR DOMAINS AND SELECTED INDICATORS OF AGRICULTURAL STATISTICS

2.1 List of Major Domains and Selected Statistics and Indicators

Domain	Statistics/Indicators
Production <ul style="list-style-type: none"> ▪ Crops <ul style="list-style-type: none"> Volume of rice & corn production Value of rice & corn production Rice & corn inventory Volume of crop production (other than rice & corn) Value of crop production (other than rice & corn) ▪ Livestock & poultry <ul style="list-style-type: none"> Volume of livestock & poultry production Value of livestock & poultry production Livestock & poultry inventory ▪ Fishery <ul style="list-style-type: none"> Volume of fishery production (municipal, commercial, aquaculture) Value of fishery production (municipal, commercial, aquaculture) ▪ Macroeconomic indicators <ul style="list-style-type: none"> Gross National Product Gross Domestic Product Gross Value Added in Agriculture Gross Value of Output in Agriculture 	
Trade	<ul style="list-style-type: none"> Total value of exports & imports Total volume of agricultural exports and imports Total value of agricultural exports and imports
Food Consumption	<ul style="list-style-type: none"> Food Balance Sheet Supply and Utilization Accounts for agriculture
Prices	<ul style="list-style-type: none"> Average monthly prices of selected agricultural commodities Producer price index for agriculture Consumer price index
Agricultural Machinery	<ul style="list-style-type: none"> Number of agricultural machineries (tractor, harvester, sheller, etc.)

Domain	Statistics/Indicators
Fertilizer	Domestic production Imports and exports Sales Prices
Pesticides	Prices
Land Use	Total farm area Irrigated area Area planted/area harvested of crops
Labor & Employment	Rural population Labor force in agriculture Active population in agriculture Total employment Employment in agriculture Nominal and real wage rates by sector
Others	Farm household income Agricultural credit Rural infrastructure

2.2 Metadata for Each of the Major Domains

2.2.1 Production

2.2.1.1 Concepts, Definitions and Classifications

A. Crops

Volume of rice and corn production

Volume of crop production - is expressed in million metric tons; average per hectare production is expressed in metric ton.

Palay (paddy) production - quantity of palay produced and actually harvested during the reference period from both farm types or ecosystem (irrigated and rainfed); includes those harvested but damaged, stolen, given away, consumed, given as harvester's share, reserved, etc.; excludes those produced but not harvested due to low price, lack of demand and force majeure or fortuitous events, etc.

Irrigated palay - requires standing water for its normal growth not confined to lowland but also to high places where paddies are built for planting rice; requires irrigation water made available through artificial means (gravity, force, power pumps, etc.)

Rainfed palay - palay crop that depends solely upon rainfall for water supply; usually planted through transplanting or direct seeding in fields with dikes that retain water. There may be dikes in the field to hold water in the case of lowland-rainfed, or none in the case of upland palay.

Corn production - quantity of corn produced and actually harvested during the reference period from both crop types (white and yellow); includes those harvested but damaged; stolen, given away, consumed, given as harvester's share, reserved, etc.; excludes those produced but not harvested due to low price, lack of demand and force majeure or fortuitous events, etc.

White corn - grown and used mainly for human consumption, and manufacture of corn by-products such as cornstarch, corn oil, syrup, dextrans, glucose, gluten, etc.

Yellow corn - used mainly as feed grains; includes all types of corn other than white.

Area harvested - actual area from which harvests are realized; excludes crop area totally damaged.

Yield - indicator of productivity derived by dividing total production by the area.

Crop estimates / Crop forecasts - on production, area harvested and yield.

"Estimate" refers to actual harvest for the *previous quarter*.

"Forecast" refers to harvests for the next two quarters:

- *current quarter* forecast is based on standing crop
- *next quarter* forecast is based on farmers' planting intentions

Value of crop production - is derived by multiplying the volume of production by the producer's (farmgate) price.

Farmgate prices - refer to payments received by farmers for the sale of their produce at the first point of sale regardless of whether sold in the farm or elsewhere.

Bearing trees/hills/vines - are trees/hills/vines where harvesting has been made in the past but may or may not bear fruit during the reference period.

Industrial Crops - are those crops used as inputs to industries.

Planting density - is the ratio of the number of plants/ hills/ trees per unit of area.

B. Livestock and Poultry

Production - refers to the volume of animals disposed for slaughter in live weight equivalent including weight gained within the reference period (i.e. including meat

equivalent of exported live animals and excluding meat equivalent of landed weight of imported live animals); condemned meat excluded.

Volume of meat production - aggregate volume of meat recovered from locally raised animals (i.e. including meat equivalent of exported live animals and excluding meat equivalent of imported live animals); condemned meat excluded.

Total slaughtered/dressed - the actual number of animals slaughtered (number of head) or poultry dressed (number of birds) within the reference period.

Total milk production (in the farm) - refers to the aggregate milk produced by all dairy animals in the farm during the reference period. It is inclusive of milk delivered to cooperatives, sold to others, consumed at home and milk fed to calves.

Meat supply - aggregate volume of meat recovered from slaughtered animals including imported meat and excluding exported meat

Milk production - amount of milk produced by dairy animals including suckled or fed to calves from calving to the dry period.

Total value of livestock & poultry production – is derived by multiplying the volume of production by the producer's price or the farmgate price.

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.

Commercial farm - refers to any farm which satisfies at least one of the following conditions:

Livestock:

at least 21 head of adults and zero young

at least 41 head of young animals

at least 10 head of adults and 22 young

Poultry:

500 layers or 1,000 broilers

100 layers and 100 broilers if raised in combination

100 head duck regardless of age

Backyard farm - any farm that does not qualify as a commercial farm.

Abattoirs (slaughterhouses) - the premises/facilities used in the slaughter of livestock, classified as follows:

Accredited - the premises/facilities registered and approved by the National Meat Inspection Service (NMIS) for use in the slaughter of livestock for human consumption.

Non-accredited - abattoirs that have not satisfied the pre-stated set of criteria by the NMIS but allowed by the local government units (LGUs) and by concerned government institutions to be used for such purposes. These include slaughterhouse for animals and dressing areas for chicken in villages that are without a facility or structure.

Dressing plants - the premises/facilities used in the slaughter of poultry. Also classified as accredited and non-accredited.

Dairy farm - is where dairy animals are raised for milk production and classified as:

Full-time dairying - operators engaged in dairying all throughout the year

Incidental dairying - operators engaged in dairying occasionally and/or incidental to the giving birth of dams.

C. Fisheries

Volume of fishery production (commercial, municipal, and aquaculture) - quantity of fish harvested/produced; presented in kilograms.

Commercial fishing - the catching of fish with the use of fishing boats with a capacity of more than three gross tons for trade, business or profit beyond subsistence or sports fishing, to be further classified as:

Fishing boat - type of watercraft, such as motorized/non-motorized banca, sailboat, motorboat, etc., either licensed or not, used for fishing purposes.

Municipal fishing - fishing within municipal waters using fishing vessels of three (3) gross tons or less, or fishing not requiring the use of fishing vessels.

Municipal waters - include not only streams, lakes, inland bodies of water and tidal waters within the municipality which are not included within the protected areas as defined under Republic Act No. 7586 (*The NIPAS Law*), public forest, timber lands, forest reserves or fishery reserves, but also marine waters included between two lines drawn perpendicular to the general coastline from points where the boundary lines of the municipality touch the sea at low tide and a third line parallel with the general coastline including offshore islands and fifteen (15) kilometers from such coastline.

Inland municipal fishing - the catching of fish, crustaceans, mollusks and all other aquatic animals and plants in inland waters like lakes, rivers, dams, marshes, etc. using simple gears and fishing boats some of which are non-motorized with a capacity of less than three (3) gross tons; or fishing not requiring the use of fishing boats.

Aquaculture - fishery operations involving all forms of raising and culturing of fish and other fishery species in fresh, brackish and marine water areas.

Aquafarm - is the farming facility used in the culture or propagation of aquatic species including fish, mollusk, crustaceans and aquatic plants for purposes of rearing to enhance production.

Fishpond - is a land-based type of aquafarm; a body of water (artificial or natural) where fish and other aquatic products are cultured, raised or cultivated under controlled conditions.

Fish pen - is an artificial enclosure constructed within a body of water for culturing fish, fishery/aquatic resources made up of bamboo poles closely arranged in an enclosure with wooden material, screen or nylon netting to prevent escape of fish.

Fish cage - a stationary or floating fish enclosure of synthetic net wire/bamboo screen or other materials set in the form of inverted mosquito net ("hapa" type) with or without cover with all sides either tied to poles staked to the water bottom or with anchored floats for aquaculture purposes.

Oyster/mussel farm - is an aquafarm involved in the cultivation of oyster/mussel in shallow brackish or marine areas by any method for production purposes.

Seaweed farm - is an aquafarm involved in the cultivation of seaweed in suitable water areas by any method with appropriate intensive care for production in commercial quantities.

Brackishwater environment - refers to mixed seawater and freshwater and salinity varies with the tide. Examples are estuaries, mangroves, and mouth of rivers where seawater enters during high tide.

Freshwater environment - refers to water without salt or marine origin. It is pure fresh water. Examples of no mixture of seawater (Laguna de Bay, Taal Lake, Candaba Swamps, Liguasan Marsh and rivers, canals, dams and paddy fields and rice fields.)

Seawater/Marinewater environment - inshore and open waters and inland seas in which salinity generally exceeds 20%.

Value of fishery production (municipal, commercial and aquaculture) – is derived by multiplying the volume of production by the price paid by producers or the farmgate price.

D. Macroeconomic Indicators

Gross National Product (GNP) - the Gross Domestic Product adjusted with the net factor income from the rest of the world. It refers to the aggregate earnings of the factors of production (national) plus indirect taxes (net) and capital consumption allowance.

Gross Domestic Product (GDP) - 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).

Gross Value Added (GVA) - total payment to factors of production namely: wages, interest, profit and rent. It also includes capital consumption allowance and indirect taxes. It is estimated by deducting from the gross value of output the sum of non-factor cost such as raw materials, fuel, advertising and other non-industrial overhead cost.

Gross Value of Output (GVO) - total value of production in agriculture which is derived by multiplying the volume of production by price received by the producers.

Classifications

The BAS data systems for production use or conform with the existing statistical standards and classifications in the Philippine Statistical System (PSS).

2.2.1.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agency
Crops				
Volume of rice & corn production	national and sub-national levels	1970 – 2 nd qtr 2006	Rice and Corn Production Survey	BAS

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agency
Value of rice & corn production	national level	1988 - 2005	Rice and Corn Production Survey	BAS
			Farm Prices Survey	BAS
Rice & corn inventory	national and sub-national levels	1980 – 2005 (monthly data for national; annual data for sub-national level)	Palay and Corn Households Stocks Survey	BAS
			NFA's Commercial Stocks Survey	National Food Authority
Volume of crop production (other than rice & corn)	national and sub-national levels	1982 - 2005	Crops Production Survey	BAS
			Records from concerned agencies for the following crops: Sugarcane- (for canes milled for centrifugal sugar) Sugar Regulatory Administration Fiber Crops- Fiber Industry Development Authority Cotton- Cotton Development Administration	Sugar Regulatory Administration/ Fiber Industry Development Authority/ Cotton Development Authority
Value of crop production (other than rice & corn)	national level	1988 – 2005	Crops Production Survey	BAS
			Farm Prices Survey	BAS
Livestock and Poultry				
Volume of livestock & poultry production	national and sub-national levels	1980 - 2005 (for national level)	Backyard Livestock and Poultry Survey	BAS
			Commercial Livestock and Poultry Survey	BAS
		1996 - 2005 (for sub-national level)	Survey of Abattoirs and Dressing Plants	BAS
			Semestral Survey of Dairy Enterprises	BAS

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agencies
Value of livestock & poultry production	national level	1988 - 2005	Backyard Livestock and Poultry Survey	BAS
			Commercial Livestock and Poultry Survey	BAS
			Survey of Abattoirs and Dressing Plants	BAS
			Semestral Survey of Dairy Enterprises	BAS
			Farm Prices Survey	BAS
Livestock & poultry inventory	national and sub-national levels	1950 - 2005	Backyard Livestock and Poultry Survey	BAS
			Commercial Livestock and Poultry Survey	BAS
			Semestral Survey of Dairy Enterprises	BAS
Fishery				
Volume of fishery production (municipal, commercial, aquaculture)	national and sub-national levels	1980 - 2005	Survey of Commercial/Municipal Fish Catch	BAS
			Quarterly Survey of Commercial/Municipal Fish Catch and Prices	BAS
			Aquaculture Surveys	BAS
			Quarterly Fish Catch Survey of Inland Municipal Fishing Households	BAS
			Administrative Records from PFDA (Philippine Fishery Development Authority), LGUs (Local Government Units) and Privately Managed Landing Centers	PFDA, LGUs, Privately-Managed Landing Centers
Value of fishery production (municipal, commercial, aquaculture)	national level	1988 - 2005	Survey of Commercial/Municipal Fish Catch	BAS
			Quarterly Survey of Commercial/Municipal Fish Catch and Prices	BAS

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agencies
			Aquaculture Surveys	BAS
			Quarterly Fish Catch Survey of Inland Municipal Fishing Households	BAS
			Administrative Records from PFDA (Philippine Fishery Development Authority), LGUs (Local Government Units) and Privately Managed Landing Centers	PFDA, LGUs, Privately- Managed Landing Centers
Macroeconomic Indicators				
Gross National Product	national level	1970 – 2005	National Income Accounts	NSCB
Gross Domestic Product	national and sub-national levels	1970 – 2005 (national level) 1990 – 2005 (sub-national level)	Regional Income Accounts	NSCB
Gross Value Added in Agriculture	national and sub-national levels	1990 – 2005 (sub-national level)	National Income Accounts	NSCB
Gross Value of Output in Agriculture	national level	1988-2005	BAS production and Prices Surveys	BAS

2.2.1.3 Data Processing, Estimation and Revision Methodology

A. Crops

Volume of Rice and Corn Production

Data Processing

Data from the Rice and Corn Production Survey are processed using a customized DOS-based program developed by the Information and Communications Technology Division (ICTD). Two computerized systems, the Palay Production System (PPS) for palay and the Corn Production System (CPS) for corn, were developed using the U.S. Bureau of Census' Integrated Microcomputer Processing System (IMPS) and Cobol.

Decentralized processing is applied for both the PPS and CPS. At the Provincial Operations Center (POC), processing activities include encoding of data items from survey questionnaires; computerized editing, completeness check, generation of correction factor and generation of output tables. These procedures are the same for both PPS and CPS.

Prior to data encoding, the accomplished survey returns are manually edited and coded. Manual editing involves the checking of data items based on pre-set criteria, data ranges, completeness and consistency with other data items. Coding is the assignment of alphanumeric codes to questionnaire items to facilitate data entry.

To validate, encoded data are subject to computerized editing using a customized editing program. The editing program takes into consideration the validation criteria such as validity, completeness and consistency with other data items. This activity is done to capture invalid entries that are overlooked during manual editing. An error listing is produced as output of the process. The errors reflected in said lists will be verified vis-à-vis the questionnaires. The data file will be updated based on the corrections made. Editing and updating are performed iteratively until a clean, error-free data file is generated.

Completeness check is done to compare the data file against a master file of barangays to check if the sample barangays have been completely surveyed or not. This activity is done after a clean, error-free data file is generated.

The “cleaned” data undergo a series of procedures to produce the appropriate weights or correction factor that will be used in the estimation.

Output table generation is performed only after the activities of completeness check and generation of correction factor have been done. Two kinds of output tables are generated; one using adjusted weights and another using unadjusted weights. Soft copies of provincial data, specifically the clean data and the barangay master file, are submitted to the ICTD for national consolidation while hard copies of the provincial reports are submitted to the Crops Statistics Division (CSD).

Estimation and/or Compilation Procedure

Each replicate (represented by the sample psu) in a stratum will yield an independent estimate for the stratum. Hence, there will be four independent estimates and the mean of these four estimates will be the unbiased estimate for the stratum.

For the h^{th} stratum of the k^{th} province, the independent estimate of total from the i^{th} psu is obtained from the equation.

$$\begin{aligned} x'_{khi} &= \left(\frac{P_{kh}}{P_{khi}} \right) \cdot \left(\frac{N_{khi}}{n_{khi}} \right) \cdot w_{khi} \cdot \sum_{j=1}^{n_{khi}} x_{k hij} \\ &= b_h \cdot R_k \cdot x_{hi} \\ &= 4 \cdot R_k \cdot x_{hi} \end{aligned}$$

where

$x_{k hij}$ = value obtained from the j^{th} sample farm household of the i^{th} barangay in the h^{th} stratum of the k^{th} province;

x_{hi} = weighted total for the i^{th} barangay in the h^{th} stratum;

$$= w_{khi} \cdot \sum_{j=1}^{n_{khi}} x_{k hij}$$

and

w_{khi} , n_{khi} , P_{kh} , and b_h are the ones defined in the sampling design.

The unbiased estimate of total for the h^{th} stratum is simply the mean of the four independent estimates, that is,

$$\begin{aligned} x'_{kh} &= \left(\frac{1}{b_h} \right) \cdot \sum_{i=1}^{b_h} x'_{khi} \\ &= R_k \cdot x_h \end{aligned}$$

where x_h is the weighted total for the h^{th} stratum.

a. Provincial Estimates

Estimates of total for the province are obtained simply by aggregating all the stratum estimates in the province. Hence, the estimate of total for the k^{th} province is given by

$$x'_k = \sum_{h=1}^{H_k} x'_{kh}$$

where H_k is the total number of strata in the k^{th} province (domain) and its variance is estimated by the sum of stratum variances, that is,

$$v(x'_k) = \sum_{h=1}^{H_k} v(x'_{kh})$$

b. Regional and National Estimates

Estimates of total for the region and for the whole country, together with their respective variances, are obtained in the same manner as those for the province, that is, by aggregating relevant stratum estimates. These may also be obtained by aggregating relevant provincial estimates (for the region) and aggregating relevant provincial estimates (for the whole country).

Revision of Estimates

The BAS has adopted a policy on revision of estimates. It basically informs producers and users of agricultural statistics generated by the BAS that estimates can be subject to revision within a quarter after the first release. This happens when additional statistics and/or indicators are made available to support the change in the original data.

Volume of Crop Production Other Than Palay and Corn

Data Processing

Responses from farmer-respondents consist of estimates of actual levels on production, area and bearing trees. However, the overall percent changes shall be computed taking into account the contribution of small farms and large farms in the province. The concerned Provincial Agricultural Statistics Officer (PASO)/field staff shall determine weights of small farms and large farms/plantation based on their best judgment and assessment.

The first step is to compute for the total of the estimates of actual levels for each period (current and same period last year) separately for small farms and large farms/plantations. Percent change is then computed using the formula:

$$\%Change = \frac{\sum_{i=1}^n P_c - \sum_{i=1}^n P_p}{\sum_{i=1}^n P_p} \times 100$$

Where:

- P_c -sum of the current period of sample farmers
- P_p -sum of same period last year production of sample farmers
- n -number of sample farmers

The resulting percent change of each type of farm shall be given the corresponding weights as determined by the PASO. The sum of the weighted percent change for

each type of farm shall be the overall percent change for the province. Said percent change shall then be applied to the final estimates of the previous period to get the level of the current period. To compute for the current estimates on production, area and number of bearing trees for the province:

$$E_c = E_p \times \left[1 + \frac{\% \text{ Change}}{100} \right]$$

Where:

E_c -current estimate on production/area/bearing trees
 E_p -previous estimate on production/area/bearing trees
i.e the base data

The regional level data is the aggregate of the provinces within the region while the total of the regional level is for the national level.

Estimation and/or Compilation Procedure

The existing Crops Compilation System (CCS) adopted by BAS is in MS Excel-based template that utilizes the links and protection commands. The system electronically consolidates the different data sets from the provinces to the region up to the national level. An identical and independent system is provided for each of the three sub-commodity groups. These are contained in two data files, one for production and the other file for area and bearing trees. All the worksheets provided are protected except in cells for the reference periods covered in each reporting period. Updating the links and formulae are limited in these reference periods. Thus, the need to use the updated file intended for the specific reporting period. Otherwise, the data in the un-updated files could not be captured which could result to underestimation of the regional and national totals.

The POC files comprise several worksheets by reference period and another worksheet consolidating the data in all reference periods by crop. The data series in the system is from 1999 to the most current period. For the current year, a column is provided for the preliminary estimates and another column for the final estimates. Preliminary estimates are reported in the current reference period and final data for the previous reference period. POCs encode the provincial estimates in the Crops Compilation System, which electronically computes the totals and percent changes of the current period as against the same period last year. The compiling system also electronically computes for the planting density and yield by crop. This shall facilitate the checking of the computed levels against the parameters by crop. Hard copies of the corresponding worksheets are simultaneously submitted to the ROC

and the Central Office as advanced copies and ready reference. Aside from the hard copy, the POCs provide the ROCs with the soft copy to electronically generate the regional total.

The ROC compiling system also comes in two files. The files have worksheets corresponding to the POCs' files. Additional worksheets are provided as summary worksheets by reference period showing the data by province to facilitate comparison and summarization of reasons. Another summary worksheet presents the electronically computed planting density and yield by crop showing the data by province. No encoding is done at the ROC except for the summary of the reasons for changes. The regional total and the corresponding percent change for all crops and data items are electronically computed using the links command and formulae. The ROC takes note of the problematic entries and observations on the submitted reports. These are referred back to the concerned POC for appropriate action prior to submission to the Central Office.

The central compiling system is maintained at the Central Office. The data submitted in soft copy are pasted on the corresponding worksheets of the central compiling system. This ensures that any unauthorized data adjustment in the submitted files would not corrupt the main file. Otherwise, the data in the main file would become inconsistent to released data. Pasting the data on the main file is done in several workstations and accessed through the Local Area Network (LAN) facility. The system electronically generates the national level data. As an added measure and for quick reference, upon the release of data, summary tables are generated deleting the links. As done at the ROC, the problematic entries and observations on the provincial and regional reports are referred back to the concerned reporting unit for appropriate action.

Apart from the provincial and regional files, the Central Office also maintains commodity files. Separate files are maintained for the data series on production, area and bearing trees. From these files, planting density and yield by commodity are generated for use in the data review.

For crops covered by specialized agencies of the government, the scheme varies. For sugarcane, the data for centrifugal sugar in ton canes are obtained from the Sugar Regulatory Administration (SRA). These are from the reports of sugar mills operating in the country. The BAS Operations Centers collect data on production of canes for chewing, basi and muscovado through the Quarterly Crop Production Survey. These two data sets are incorporated to account for the production of sugarcane.

In the case of fiber crops, the national total is the summary comprising the data from both the Fiber Industry Development Authority (FIDA) and BAS. Data of FIDA are from the baling stations while the data of provinces with no baling stations are derived from the Quarterly Crop Production Survey of the BAS.

For cotton, the Cotton Development Administration (CODA) provides the bureau with data from their monitoring system. This includes the 10 CODA monitored provinces which are also covered in the BAS Quarterly Crop Production Survey. Meanwhile, for coconut, the data is a product of the reconciled data of the Quarterly Coconut Production Survey (QCPS), a joint undertaking of the Philippine Coconut Authority (PCA) and BAS, and the Quarterly Crop Production Survey of BAS.

For tobacco, data is obtained from the Quarterly Crop Production Survey of the BAS. In the review and analysis of data, the National Tobacco Administration (NTA) is consulted and it also provides auxiliary information, which serves as inputs for data checking.

Revision of Estimates

Please refer to the discussion under Rice and Corn Data System.

B. Livestock and Poultry

Inventory of Backyard Livestock and Poultry

Estimation and/or Compilation Procedure

a. Provincial Estimates

The provincial estimate is given as follows:

$$\hat{Y}_{ip} = \sum_{j=1}^2 N_j \sum_{k=1}^{n_j} \frac{y_{ijk}}{n_j}$$

where:

\hat{Y}_{ip} - estimated total number of heads by animal type in the p^{th} province for i^{th} animal type during the specified period;

y_{ijk} - observation from the k^{th} sample of the j^{th} category from the i^{th} animal type;

n_j - number of responding household in the j^{th} category

N_j - total number of households in the j^{th} category.

j - number of category such that : 1 for farming household; 2 for non-farming household

The estimate of the total number of heads by animal type in the province is simply obtained by:

- i. Multiplying the average number of head by animal type held by the reporting households by the total number of households under the farming and non-farming category; and then
- ii. Adding the estimated heads of animal type held by the farming and non-farming households.

b. National Estimates

The national estimate is obtained by summing up all the estimates of all the provinces as follows:

$$\hat{Y} = \sum_{p=1}^{80} \hat{y}_{ip}$$

Inventory of Commercial Livestock and Poultry

a. Provincial Estimates

Estimation of totals for each of the provinces covered in the survey depends on whether the farms are completely enumerated or sampled. Provincial totals for the completely enumerated farms are obtained simply by summing up all the observations in the province such as

$$X_{p'} = \sum_{c=1}^{N_{p'}} X_{p'c} + \sum_{j=1}^{N_{p'm}} X_{p'mj}$$

where,

$X_{p'mj}$ - observation for the j^{th} farm located in the province p' but gathered from its Metro Manila (MM) office

$X_{p'c}$ - observation from the c^{th} farm in the province p'

$N_{p'm}$ - total number of farms located in the province p' but whose information are gathered from its MM office

$N_{p'}$ - total number of farms in the province p'
 $X_{p'm}$ - total for all those farms located in the province p' but whose information are gathered from its MM office

$X_{p'}$ - total for the province p'

Note that p' is used to designate a "completely enumeration" province.

The total for Metro Manila includes observations from all farms located in Metro Manila only. Farms located in the province outside of MM but whose data are gathered from its MM office shall be accounted in the province where the farm is actually located.

For the sampled provinces, the estimated provincial total is obtained simply by aggregating all the stratum estimates in the province. Hence, the estimate of total for the p^{th} province is given by

$$\hat{x}_p = \sum_{s=1}^H x_{ps}$$

where,

$$\hat{x}_{ps} = \frac{N_{ps}}{n_{ps}} \sum_{i=1}^{n_{ps}} x_{psi}$$

x_{psi} - observation from the i^{th} sample farm belonging to the s^{th} stratum in the p^{th} province

\hat{x}_{ps} - unbiased estimated total of the s^{th} stratum in the p^{th} province

N_{ps} - total number of farms in the s^{th} stratum of the p^{th} province

n_{ps} - number of sample farms belonging to the s^{th} stratum in the p^{th} province

H - number of strata in the p^{th} province

\hat{x}_p - estimated total for the p^{th} province

A measure of accuracy of the estimated provincial total is given by the variance formula,

$$\hat{\text{var}}(\hat{x}_p) = \sum_{s=1}^H N_{ps}^2 \hat{\text{var}}(\hat{x}_{ps})$$

where,

$$\hat{\text{var}}(\hat{x}_{ps}) = \left(1 - \frac{n_{ps}}{N_{ps}}\right) \frac{\sum_{i=1}^{n_{ps}} (x_{psi} - \hat{x}_{ps})^2}{n_{ps}(n_{ps} - 1)}$$

where,

$$\hat{x}_{ps} = \frac{1}{n_{ps}} \sum_{i=1}^{n_{ps}} x_{psi}$$

$\hat{\text{var}}(\hat{x}_{ps})$ - estimated variance of the estimated total of the sth stratum in the pth province

$\hat{\text{var}}(\hat{x}_p)$ - estimated variance of the estimated total for the pth

province and x_{psi} , n_{ps} , N_{ps} , H , \hat{x}_{ps} , and \hat{x}_p are those defined in preceding pages.

b. National Estimates

The estimated total for the whole country is the aggregate of the estimates from the completely enumerated provinces and sampled provinces, which is given by

$$\hat{x}_{phil} = \hat{x}_p + \hat{x}_{ps}$$

Dairy Production

a. Provincial Estimates

Estimated total milk production for a province:

$$\hat{Y}_p = M_p \frac{1}{n_p} \sum_{i=1}^{n_p} \frac{y_{pi}}{m_{pi}}$$

Estimated total number of animals per category for a province:

$$\hat{A}_p = N_p p_p, \quad p_p = \frac{a_p}{k_p}$$

b. National Estimates

Estimated total milk production in the Philippines:

$$\hat{Y} = M \frac{1}{l} \sum_{p=1}^l \frac{1}{n_p} \sum_{i=1}^{n_p} \frac{y_{pi}}{m_{pi}}$$

Estimated total number of animals per category in the Philippines:

$$\hat{A} = Np, \quad p = \frac{a}{k}$$

where:

y_{pi} - value obtained from the i^{th} sample proprietor of the p^{th} province

n_p - number of sample proprietors in the p^{th} province

m_{pi} - number of milking animals of the i^{th} sample proprietor in the p^{th} province

M_p - number of milking animals in the p^{th} province

M - number of milking animals in the Philippines

l - number of sample provinces

N_p - total number of existing stocks in the p^{th} province

N - total number of existing stocks in the Philippines

a_p - sample number of existing stocks in the p^{th} province falling in the specified category

a - sample number of existing stocks in the Philippines falling in the specified category

k_p - sample number of existing stocks in the p^{th} province

k - sample number of existing stocks in the Philippines

Volume of Animals Slaughtered in Abattoirs and Dressing Plants

Data Processing

The survey of abattoirs and dressing plants requires daily recording of slaughter by the meat inspectors assigned in the facility. In the case of accredited facilities, the NMIS Meat Officers in the province or region gather the questionnaires monthly for consolidation and compilation.

The BAS regular personnel, on the other hand, using the prescribed questionnaires gather data from the non-accredited abattoirs and dressing plants in two approaches i) meat inspectors fill up the daily records of slaughter using the questionnaire or ii) gather data from the monthly records of meat inspectors.

Estimation and/or Compilation Procedure

BAS personnel (point person for the activity) summarizes the data into a quarter total with monthly breakdown of animals slaughtered/dressed using MASA Form 2. (Quarterly Report Form). The MASA Form 2 is submitted to BAS Central Office, copy furnished Regional Office, for regional and national consolidation.

Revision of Estimates

Please refer to the discussion of the topic under Rice and Corn Production Data System.

C. Fishery

Commercial and Marine Municipal Fishery Production

Data Processing

Probability survey

MCSys is a DOS-based computerized system designed for data processing of the probability survey. It was developed using the IMPS (Integrated Microcomputer Processing System) and dBase3+. It is a decentralized processing system in the province, however, it can also be installed and used at the central office.

Initially, the questionnaires are edited by checking the accuracy, completeness and consistency of entries. Afterwards, entries in the questionnaires are encoded. To further ensure the quality of data, computerized editing serves as an essential facility of the system. Here, an error list is generated and provided to the data processor who in turn validates from the questionnaire then corrects and updates the data files. This is an iterative process until all errors are corrected. Once the data files are error-free, the final step is to generate output tables for analysis.

Non-probability survey

To facilitate the output generation of the non-probability survey, the Commercial/Municipal Data Generation System (Datagen) has been developed. These are MS Excel 2000 worksheets linked together to achieve the purpose.

Entries from the monitoring forms are encoded at the provincial worksheet. These are compiled and summarized at the regional worksheets.

Estimation and/or Compilation Procedure

Estimating total volume of fish catch based on probability survey is illustrated as follows:

$$\hat{Y}_p = \sum \frac{L}{l} \sum \frac{D}{d} \sum \frac{B}{b} \sum Y$$

where:

- \hat{Y}_p - probability survey estimate of volume of fish catch in the province
- L/l - total/sample landing center in the stratum
- D/d - total/sample survey days in a month
- B/b - total/sample boat unloading in a day
- Y - volume of fish unloaded

Estimating total volume of fish catch based on non-probability survey is done using the following formula:

$$\hat{Y}_{np} = \sum \frac{L}{l} \sum \frac{\sum Y}{3}$$

where:

- \hat{Y}_{np} - non-probability survey estimate of volume of fish catch in the province
- L/l - total/sample landing center in the stratum
- Y - volume of fish unloaded

Both probability and non-probability surveys take into account the traditional landing centers. For non-traditional landing centers like PFDA, LGU and privately managed landing centers, as mentioned in the previous section, data sets are gathered from administrative records.

The estimate of the volume of fish catch in the province is the sum of the estimates of probability, non-probability surveys and other data sources

Estimating total volume of fish catch for the province is done as follows:

$$\hat{Y} = \hat{Y}_p + \hat{Y}_{np} + \hat{Y}_o$$

Where:

\hat{Y}

- estimate of provincial fish catch

\hat{Y}_P

- estimate of fish catch from probability survey

\hat{Y}_{np}

- estimate of fish catch from non-probability survey

\hat{Y}_O

- estimate of fish catch from other sources

Inland Municipal Fishery Production

Data Processing

Inland Fishing Information System is a customized window-based data processing system, which aims to facilitate the generation of provincial, regional and national tables of the Survey of Inland Municipal Fishing Households. It was developed using multiple program-software such as HTML, PHP and Java script for its front-end application and MS SQL 2000 for its back-end.

The POC is responsible for the data collection. The accomplished forms are submitted to the Central Office then manual editing and coding will be done to facilitate data entry.

Fisheries Statistics Division (FSD) is responsible for the data entry of forms then, it will generate provincial, regional and national tables such as Volume by Fishing Ground Class, Volume and Value by Quarter and Volume, Value and Average Price by Fishing Ground Class.

Estimation and/or Compilation Procedure

Estimating total volume of fish catch

$$\hat{Y} = \frac{N}{n} \sum Y$$

where:

\hat{Y}

- estimate of volume of fish catch in the province

N/n - total/sample household in the province

Y - volume of fish catch

Aquaculture Production

Data Processing

Probability survey

The Aquaculture Survey System is a DOS-based computerized system designed for data processing of the probability survey. It was developed using the IMPS (Integrated Microcomputer Processing System). It is a decentralized processing system in the province, however, it can also be installed and used at the central office.

Initially, the questionnaires are edited by checking the accuracy, completeness and consistency of entries. Afterwards, entries on the questionnaires are encoded. To further ensure the quality of data, computerized editing is an essential facility of the system. Here, an error list is generated and provided to the data processor who in turn validates from the questionnaire then corrects and updates the data files. This is an iterative process until all errors are corrected. Once the data files are error-free, the final step is to generate output tables for analysis.

Non-probability survey

To facilitate the output generation of the non-probability survey, the Aquaculture Data Generation System (Datagen) has been developed. These are MS Excel 2000 worksheets linked together to achieve the purpose.

Entries from the monitoring forms are encoded at the provincial worksheet. These are compiled and summarized at the regional worksheets and ultimately at the national level.

Estimation and/or Compilation Procedure

Estimating aquaculture production based on probability survey is done as follows:

$$\hat{Y}_p = \sum \frac{S}{s} \sum Y$$

where:

\hat{Y}_p

- estimate of production in the province

S/s - total/sample aquafarm in the stratum

Y - production in the aquafarm

For non-probability survey, the percentage change is computed as follows:

$$\% \Delta = \frac{\sum Y_{TQ}}{\sum Y_{SQLY}} - 1$$

where:

$\% \Delta$ - percentage change for the province

Y_{TQ} - production this quarter of the sample aquafarms

Y_{SQLY} - production same quarter last year of the sample aquafarms

Estimated production of the province is represented by:

$$\hat{Y}_{TQ} = \% \Delta Y_{SQLY}$$

where:

\hat{Y}_{TQ} - estimate of production of the province this quarter

\hat{Y}_{SQLY} - estimate of production of the province same quarter last year

Revision Methodology

Please refer to this topic under the rice and corn data system.

D. Palay and Corn Households Stocks

Data Processing

Like in the RCPS, the processing of stocks data is decentralized. In the Operations Centers, although, this is still done manually. The resulting provincial estimates are summarized using the prescribed format and forwarded to the Central Office for review and consolidation.

Estimation and/or Compilation Procedure

The estimator is computed as the samples came from a simple random sampling.

$$\hat{Y}_{ip} = \sum_{j=1}^2 \sum_{k=1}^{n_j} y_{ijk} \frac{N_j}{n_j}$$

where:

\hat{Y}_{ip} - estimated total stock in the pth province for the ith type cereal during the specified period

y_{ijk} - observation from the kth sample in the jth category (farming or non-farming) for the ith type cereal

n_j - number of responding households in the jth category

N_j - total number of households in the jth category (as provided)

Note that the sampling frame used was based on 1991 CAF. To expand the estimated household palay/corn stocks, the use of correction factor was introduced. This correction factor accounted for the difference of current total population (N_c) and

the 1991 population (N_p), that is, $\frac{N_c}{N_p}$. Thus, the formula to estimate the total palay/corn stocks is given as follows:

$$\hat{Y}_{ip}^* = \frac{N_c}{N_p} \sum_{j=1}^2 \sum_{k=1}^{n_j} y_{ijk} \frac{N_j}{n_j}$$

The rice and corn grain equivalents of the estimated palay and corn stock are computed using the formula below:

$$\text{rice equivalent} = \text{estimated palay stock} * 65\%$$

$$\text{corn grain equivalent} = \frac{\text{corn grits}}{68\%}$$

E. Macroeconomic Indicators

Gross Domestic Product/Gross National Product/ Gross Value Added in Agriculture

Data are obtained from the National Statistical Coordination Board (NSCB), which is the official national accounts compiler of the Philippine Statistical System (PSS).

Gross Value of Output In Agriculture

Data Processing

The generation of value of production in agriculture is done at the Central Office 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 AASID as the lead unit and are presented first at the National Data Review with the presence of the Regional Agricultural Statistics Officers (RASOs).

Estimation and/or Compilation Procedure

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

A. Valuation at Constant 1985 prices

1. Valuation for the first quarter (Jan to Mar)
 - 1.1 Compile and review the first quarter data on volume of production and farmgate prices of crops, livestock, poultry and fishery
 - 1.2 Compute for the first quarter value
First Qtr Value = volume of production (Jan to Mar) X average farmgate price (Jan to Mar 1985 price level)
2. Valuation for the first semester (Jan to June)
 - 2.1 Compile and review the second quarter data on volume of production and farmgate prices of crops, livestock, poultry and fishery
 - 2.2 Compute for the second quarter value ((April to June)
Second Qtr Value = volume of production (April to June) X average farmgate price (April to June 1985 price level)
 - 2.3 Add first quarter value and second quarter value to get the first semester value
 - 2.4 Add first quarter volume and second quarter volume to get the first semester volume
 - 2.5 Divide first semester value by first semester volume to get the average weighted price for first semester
 - 2.6 Multiply first semester volume by first semester average weighted price to get the reported total value for the first semester
3. Valuation for the first nine months (Jan to Sept)
 - 3.1 Compile and review the third quarter data on volume of production and farmgate prices of crops, livestock, poultry and fishery
 - 3.2 Compute for the third quarter value (July to Sept)
Third Qtr Value = volume of production (July to Sept) X average farmgate price (July to Sept 1985 price level)

- 3.3 Add first semester value and third quarter value to get the first nine-month value
- 3.4 Add first semester volume and third quarter volume to get the first nine months volume
- 3.5 Divide first nine-month value by first nine-month volume to get the average weighted price for first nine months
- 3.6 Multiply first nine months volume by first nine months average weighted price to get the reported total value for the first nine months

4. Valuation for the year (Jan to Dec)

- 4.1 Compile and review the fourth quarter data on volume of production and farmgate prices of crops, livestock, poultry and fishery
- 4.2 Compute for the fourth quarter value (Oct to Dec)
Fourth Qtr Value = volume of production (Oct to Dec) X average farmgate price (Oct to Dec 1985 price level)
- 4.3 Add first nine-month value and fourth quarter value to get the value for the year
- 4.4 Add first nine-month volume and fourth quarter volume to get the volume for the year
- 4.5 Divide value by volume for the year to get the average weighted price for the year
- 4.6 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.

Some of the prices of commodities are weighted because of varietal classification/type. These commodities with variety are corn, banana, mango, coconut, tobacco, coffee, onion and type of poultry products i.e. backyard, commercial.

In the case of sugarcane, there are no available prices on sugarcane. The BAS' Farm Price Survey generates data on prices of muscovado and centrifugal sugar per kilogram. To satisfy the requirements of agricultural performance reporting, the following procedure is adopted:

- The volume of raw sugar is multiplied by its price.
- The resulting value is multiplied by 0.65 to indicate that 65 percent of the total volume of raw sugar produced is product of agriculture. The 65-35 planter-miller sharing system is adopted in the valuation process. The total value

credited to agriculture is divided by the total volume of sugarcane to derive the average price of sugarcane.

In the case of “other crops”, the average farmgate price is derived from the prices of selected indicator commodities. Growth rates in the prices of these indicator commodities are computed. The resulting rate of change is used in updating the price of the aggregated “others”.

2.2.1.4 Other Reference Information

1. All the statistical surveys and selected activities at the BAS are backed up by Manual of Operations which discusses the objectives, scope and coverage of the survey as well as the sampling methodology, estimation procedure and the instruction in filling up the questionnaire. The available Manuals in the BAS are as follows:

- Palay Production Survey
- Corn Production Survey
- Semestral Dairy Production Survey
- Backyard Livestock and Poultry Farm Survey
- Commercial Livestock and Poultry Farm Survey
- Survey of Commercial/Municipal Fish Catch and Fish Prices
- Aquaculture Survey
- Integrated AGMARIS AMNEWSS
- Agricultural Labor Survey

2. The following manuals provide standard processes used in the review and validation of data on crops, livestock, poultry, fisheries and prices:

- Manual on the Procedures and Techniques for the Validation on Commercial, Industrial and Other Crops Statistics
- Fisheries Statistics Review and Validation Manual
- Manual on Data Validation for Livestock and Poultry
- Data Review/Validation Guidelines for Farm Prices

3. The following manuals contain the data processing scheme and estimation procedures adopted for crops, fisheries, prices and supply and utilization accounts

- Crops Estimation Procedure
- Data Compiling System for Other Crops
- Survey of Commercial/Municipal Fish Catch-MCSysData Processing
- Farm Prices Survey Computerized Data Processing System
- Handbook on Supply and Utilization Accounts

2.2.2 Trade

2.2.2.1 Concepts, Definitions and Classifications

Volume of agricultural exports and imports - refers to the quantity of goods exported/imported expressed in kilograms (kg) for most items; live animals in number of head; coconut in number of nuts; and abaca in bale.

Bale - unit of measure used in fibers in trading centers; one bale measures approximately 55 cm. in width, 60 cm. in height, 100 cm. in length, and weighs 125 kilograms.

Value of agricultural exports and imports - F.O.B and C.I.F. values for imports; F.O.B. value for export.

Free on Board (F.O.B.) Value - the value of the goods free on board the carrier at the frontier of the exporting country. It includes inland freight, export duty and other expenses. Ocean freight, insurance and consular fee are, however, excluded.

Cost Insurance Freight (C.I.F.) Value - derived by adding the three components costs of the commodity, namely: the F.O.B. value, the insurance cost and the freight cost from the exporting country's frontier to its destination.

Exports - all goods leaving the country which are properly cleared through the Customs.

Domestic exports - export for goods grown, mined or manufactured in the Philippines.

Re-exports - exports of imported goods which do not undergo physical and/or chemical transformation in the Philippines.

Export duties - levies collected on wood, mineral, plant vegetable and animal products, as provided for under P.D. 230 that are shipped out of the country based on the value thereof.

Freight - the cost of transporting goods from one place to another either by land, rail, air or sea.

Imports - all goods entering any of the seaports or airports of entry of the Philippines properly cleared through the Customs or remaining under Customs control, whether the goods are for direct consumption, for merchandising (global manufacturing, global wholesaling/retailing, and commodity dealing that is settled by trade in commodities), for warehousing or for further processing.

Country of Origin - is the country where the commodity is grown, mined or manufactured. Further processing or material added to it in another country must bring about a material transformation to render such country as the country of origin. It should remain unchanged if the commodity is subjected to mere sorting, grading, cleaning, packaging or similar processing.

Country of Destination - is the country of ultimate destination/shipment. It is not necessarily the country where the commodity/shipment is to be unloaded, as in the case of shipment unloaded from one ocean liner but is destined to a country that is landlocked. In which case, the country of destination is the landlocked country.

Balance of Trade - the difference between the value of the nation's exports and the value of its imports. When exports are higher than imports, there is a trade surplus. While when imports exceed exports, there is a trade deficit.

2.2.2.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agency
Total value of exports & imports	International (by country of origin and destination)	1970 – 2005 (annual) 1991- 2006 (monthly)	Foreign Trade Statistics	NSO
Total volume of agricultural exports and imports	International (by country of origin and destination)	1970 – 2005 (annual) 1991- 2006 (monthly)	Foreign Trade Statistics	NSO
Total value of agricultural exports and imports	International (by country of origin and destination)	1970 – 2005 (annual) 1991- 2006 (monthly)	Foreign Trade Statistics	NSO

2.2.2.3 Data Processing, Estimation and Revision Methodology

Total volume /value of agricultural exports and imports

Data processing is done both mechanically and manually. Manual and Transcribing ED/IERD to NSO prescribe processing sheets T-8-E & T-8-I.

Copies of import and export documents collected by NSO personnel from the customs houses in all ports and airports of entry in the Philippines are systematically controlled. Collected documents are sorted by month, by port, by single or multiple commodity entries and by value. About 100 entries are assigned control numbers and bundled together for the convenience of coders, computers and encoders. The bundles then undergo the following stages of processing.

1. coding – process of translating each item of information to be culled into its equivalent alphabetic and/or numeric code in accordance with the commodity, country, nationality of trader, flag or registry of carrier of port classification used.
2. code verification – process of determining the appropriateness of codes used.
3. computation – process of converting the declared values appearing in the entries into FOB value, insurance and freight in US dollars.
4. computation verification – process of checking the accuracy of computed data.

Quality control of coding and computation for both imports and exports is carried through sample verification. This method enables the verifier to decide after a number of entries have been verified whether to reject, continue or accept the bundle. The number and type of errors are recorded and brought to the attention of the coder or computer. Further training is given on pinpointed causes of errors of processors to improve the quality of their work.

After the necessary corrections are effected on erroneous figures, the monthly tabulations are finally produced. When all monthly tabulations for a year have been completed, the annual tabulations are then prepared.

The coverage of the annual publication is usually higher than the sum of monthly coverage, since it includes data from documents which arrive too late for inclusion in their respective months. Separate tabulations for late entries are prepared to enable users to correct monthly preliminary figures.

At the BAS , the monthly and annual Import and Export Data coming from National Statistics Office (NSO) are consolidated using the Excel program. At present, there is no system yet used in coming up with a swift aggregation of statistical tables for trade data. The compiled data include the volume and value for the top ten major import and export commodities and their corresponding country of origin and destinations and the aggregation by commodity or sub-commodity groupings. Further processing of data includes C.I.F. computations for imports data and the quarterly data series. Manipulations through Excel are done to derive other information such as ranking of commodities by value and agricultural trade balances which are used for the publication on quarterly trade performance. The Excel-based data are converted to PX-files through the PC-Axis. These facilitate faster provision of data series on trade.

The BAS is still working on the enhancement in order to quickly respond to the statistical requirement of the growing number of data users.

2.2.2.4 Other Reference Information

The BAS produces regular quarterly memorandum/bulletin on developments regarding agricultural foreign trade. This is submitted to the Office of the Secretary of Agriculture for the Secretary's information and appropriate action.

2.2.3 Food Consumption

2.2.3.1 Concepts, Definitions and Classifications

Food Balance Sheet - covers all potentially edible commodities, processed or unprocessed, whether they are actually eaten or used for non-food purposes. It presents a comprehensive picture of the country's pattern of food supply and utilization during a specified period. It also gives an indication of the adequacy of food supply relative to nutritional requirements of the population. As such, it is a useful tool in the formulation of policy and trade programs to improve the nutrition of the populace.

Supply and Utilization Accounts for Agriculture - is a comprehensive framework for the physical accounting of agricultural commodities produced in the country. It has the following components:

Supply - is comprised of Beginning Stocks, Production and Imports.

Utilization - is comprised of Seeds, Feeds and Waste, Processing, Exports and the residual which represents the net food disposable

Seeds - the amount of commodity allotted for seeds or in general for production purposes.

Feeds - the amount of food commodity allotted for animals or livestock/poultry during the reference period.

Wastage - the amount of food commodity lost during the reference period at various stages from farm to retail level as in processing, storage and transport.

Beginning Stock - quantity of the commodity available at the beginning of the reference period. This includes stocks held at various levels from the farm to final consumption or consumers of the commodity usually at the household level. It also includes that part of imports in stocks.

Production - relates to the total domestic production that takes place during the reference period. It includes commercial and backyard production.

Imports - all goods entering any of the seaports or airports of entry of the Philippines properly cleared through the Customs or remaining under Customs control, whether the goods are for direct consumption, for merchanting (global manufacturing, global wholesaling/retailing, and commodity dealing that is settled by trade in commodities), for warehousing or for further processing.

Exports - all goods leaving the country which are properly cleared through the Customs.

Processed commodity - the volume of the commodity used as inputs or raw material for manufacturing into food and non-food items.

Net Food Disposable - the volume of food commodity available in its original (unprocessed) form for human consumption. This is usually equated or made equivalent to the quantity consumed. Net food disposable (NFD) is a residual, i.e., it is the remainder after all the "use" parameters are taken into account. The net food disposable in per capita per year and in per capita per day are expressed in kilograms and grams, respectively.

Ending Stock - the stock of commodity available at the end of the reference period. This includes stock held at the various levels, i.e., households, traders, government and commercial warehouses.

Per Capita Consumption - refers to the food consumed by the households during the period under study. It is expressed in terms of kilograms per year per person.

2.2.3.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agencies
Food Balance Sheet	National level	1952 – 2001	Various statistical reports	NSCB
Supply and Utilization Accounts for Agriculture	National level	1978 – 2006 (data series of selected commodities available from 1989-2006)	Various statistical reports	BAS

2.2.3.3 Data Processing, Estimation and Revision Methodology

A. Food Balance Sheets

Data Processing

The NSCB which compiles, analyzes and disseminates the Food Balance Sheet for the Philippines obtains the data inputs from various data sources and the major source agencies are BAS, NSO, Food and Nutrition Research Institute (FNRI) and specialized commodity agencies.

Estimation and/or Compilation Procedure

The estimation and/or compilation of these accounts is based on the following equations or formula:

$$\begin{aligned} \text{Total Domestic Supply (TDS)} &= \text{Production} - \text{Change in Stocks} + \text{Net Imports} \\ \text{Changes in Stocks} &= \text{Ending Stocks} - \text{Beginning Stocks} \\ \text{Net Imports} &= \text{Total Imports} - \text{Total Exports} \end{aligned}$$

$$\begin{aligned} \text{Total Domestic Utilization (TDU)} &= \text{Net Available Food Supply} + \\ &\quad \text{Non-Food Utilization} + \text{Processed for Food} \end{aligned}$$

$$\text{Net Available Food Supply (NAFS)} = \text{TDS} - \text{Non-Food Utilization} - \text{Processed for Food}$$

$$\begin{aligned} \text{Annual Per Capita Food Supply (APCFS) In Kgs.} \\ &= [\text{NAFS (in MT)}/\text{Population}] \times 1000 \text{ kgs.} \end{aligned}$$

$$\begin{aligned} \text{Daily Per Capita Food Supply (In Gms.)} \\ &= [\text{APCFS (in Kgs.)}/365] \times 1000 \text{ gms} \end{aligned}$$

$$\begin{aligned} \text{Daily Per Capita Nutrient Supply} \\ &= (\text{Daily Per Capita Food Supply} \times \text{Factor Rate})/100 \end{aligned}$$

$$\begin{aligned} \text{Sufficiency of Supply} &= \frac{\text{Daily Per Capita Food Supply}}{\text{Recommended Energy and Nutrient Intakes}} \times 100 \\ \text{Available for Consumption} &= \frac{\text{Daily Per Capita Food Supply}}{\text{Recommended Energy and Nutrient Intakes}} \times 100 \\ \text{Per Day} & \end{aligned}$$

B. Supply and Utilization Accounts

Data Processing

The supply and utilization accounts are generated using the web-based processing system following the given formula and conversion ratios and parameters used.

Estimation and/or Compilation Procedure

The updating of SUA is based on the following conversion ratios and parameters.

- a. Conversion ratios for rice, livestock and poultry
Conversion ratios were adopted for palay in terms of milling recovery rate and for livestock and poultry in terms of liveweight and dressed weight equivalents of meat and offals.
- b. Parameters used in the estimation of seeds, feeds, wastes and processing

Food Commodity

Estimation of Gross Supply (GS)

$$GS = \text{Beginning Stock} + \text{Production} + \text{Imports}$$

Estimation of Net Supply Disposable (NSD)

$$NSD = \text{Gross Supply} - (\text{Exports} + \text{Ending Inventory})$$

Estimation of Net Food Disposable (NFD)

$$NFD = NSD - (F + S + W + FU + NFU)$$

where: NSD = net supply disposable
F = quantity used for feeds
S = quantity used for seeds
W = quantity lost/spoiled (waste)
FU = quantity processed for food use
NFU = quantity processed for non-food use

Estimation of Per Capita Consumption (PCC)

$$PCC \text{ (kg/yr)} = \frac{\text{Total NFD}}{\text{Population}} \times \text{ConFactor}$$

ConFactor=1,000 (if NFD is metric tons) or 1,000,000 (if NFD is thousand metric tons)

$$\text{PCC (grams/day)} = \frac{\text{PCC (kg/yr)}}{365 \text{ (days)}} \times 1,000$$

Non-Food Commodity

Estimation of Total Supply (TS)

$$\text{TS} = \text{Beginning Stock} + \text{Production} + \text{Imports}$$

Estimation of Domestic Use (DU)

$$\text{DU} = \text{Total Supply} - \text{Exports}$$

2.2.3.4 Other Reference Information

- A. Food Balance Sheet of the Philippines
- B. The preparation of the Supply and Utilization Accounts is backed up by the guidelines contained in the Handbook on Supply and Utilization Accounts. This can be available to researchers upon request.

2.2.4 Prices

2.2.4.1 Concepts, Definitions and Classifications

Farmgate prices - refer to prices received by farmers for the sale of their produce at the first point of sale regardless of whether sold in the farm or elsewhere.

Wholesale prices - prices which can be either wholesale buying and/or wholesale selling prices.

Wholesale buying price - is the price that traders pay for commodities they buy in bulk from farmers/raisers/fishermen and fellow traders.

Wholesale selling price - refers to the price at which traders or distributors sell their commodities in bulk to retailers and other distributors.

Traders - buy and sell goods or commodities.

Wholesalers - are those who buy in bulk from farmers/raisers/fishermen and fellow traders.

Livestock "Oksyon" Market (LOM) - a registered pooling place or ready market for livestock particularly large animals for slaughter. It is a trading center accredited by the government to operate livestock trading with the presence of marketing facilities such as weighing scale, holding pens, loud speaker, etc. and the services of the weighmaster and local government staff to record and supervise transactions.

Pooling place - any place of business wherein livestock and poultry were offered for sale without the necessary animal market facilities and where transactions were conducted in an unorganized form

Distributor - refers to trader who sells commodities to other traders and consumers. Since his business is primarily to sell than to procure, he provides more services to his buyers than to his suppliers. Distributors are classified into:

- a. **Small distributor** - sells to retailers within the same market; may sell to several small eateries ("carinderias") nearby; handles only a small volume of goods.
- b. **Medium distributor** - sells to traders coming from other markets in the same province; may also sell to a few institutional buyers (hotel, restaurant, hospital, military camp); sells a larger volume than the Small Distributor.
- c. **Large distributor** - usually sells to traders from other markets within and outside the province; may also sell to several institutional buyers; handles the largest volume among the three types of distributors.

Assembler - a type of trader who sources and procures his stocks from contract growers or independent farmers in several barangays in a specific municipality, and transports the produce to a trading or market center. Usually has agents or relatives responsible for procurement and assembly. Assemblers may be classified into:

- a. **Barangay Assembler** - procures from only one barangay.
- b. **Municipal Assembler** - procures from two or more barangays.
- c. **Provincial Assembler** - procures from two or more municipalities within a province, regardless whether or not it is the reference province.
- d. **Regional Assembler** - procures from two or more provinces.
- e. **Interregional Assembler** - procures from two or more regions.

Agent - given cash advance by the trader; procures on behalf of the trader; adds his profit margin to the price he buys from the farmer. He does not take possession of the commodity; classified into:

- a. **Sales agent** - negotiates the sale between the livestock owner and the prospective buyer; does not use money or cash; based and transacts business in the LOM or pooling place.

- b. **Procurement agent** - procures on behalf of a trader; may or may not have been given cash advance by trader for buying livestock; may be paid on salary, commission or sharing basis.
- c. **Consignment agent** - sources livestock from supply areas where the animal is entrusted to him by the owner for selling at the LOM; pays owner only after selling the animal at the LOM.

Commission agent - acts as an intermediary between farmers and traders. He is paid a commission by the trader. He does not take possession of the commodity.

Institutional buyer - includes hotels, restaurants, military camps, and hospitals which buy in bulk to be consumed by their clients.

Wholesale market - a place where large volumes of commodities coming from production areas are assembled, traded and transported to other markets within and outside the province. This type of market involves heavy volume of transactions between sellers and buyers of goods for further distribution to other areas/markets.

Retail prices - is the price at which retailers sell their goods or commodities to consumers in the marketplace.

Retailers - a trader who sources his stocks either directly from farmers or distributors and sells to consumers.

Retailers can be:

- a. **Permanent stall holder** - rents a permanent stall in the market.
- b. **Space holder** - does not have a permanent stall but rents a space recognized as his permanent place of business; may display his commodities on top of a table; usually located outside the market structure; occupies the same space everyday or every market day.
- c. **Ambulant vendor** - has neither permanent stall nor space in the market; moves around in looking for buyers; usually has a cart to facilitate mobility.

Consumers - are end-users; they acquire goods or services for direct use or ownership and not for manufacture or resale.

Supermarket - sells multiple commodities to consumers; acts as another type of trader since it sells fresh produce at a profit.

Retail market - a place recognized in the locality where transaction of goods involves small volume and intended for final consumers. Majority of the marketing participants are retailers and consumers. This type of market caters the immediate needs of consumers.

Market basket - refers to a sample of goods used to represent all goods sold to consumers by a particular group of retailers in a particular area.

Simple averages - were estimated by adding all the prevailing prices collected for each commodity and divide it by the number of respondents.

Prevailing price - is the modal price or the price that appeared the most frequent among the prices collected.

Producer Price Index for Agriculture – refers to the index numbers which show the change over time (relative to a base period) on the prices received by farmers for the sale of their agricultural products.

Consumer Price Index (CPI) - 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 Agencies
Average monthly prices of selected agricultural commodities	national and sub-national levels	1969 – 2006 (farmgate, wholesale and retail prices)	Farm Prices Survey Market (Wholesale and Retail) Prices: Integrated AGMARIS-AMNEWSS	BAS
Producer Price Index for Agriculture	national and sub-national levels	1995 - 2005 (base year=1994) 1989 – 1995 (base year =1988)	Production Surveys Farm Prices Survey	BAS
Consumer Price Index	national and sub-national levels	1957 - 2005	Price surveys and monitoring	NSO

2.2.4.3 Data Processing, Estimation and Revision Methodology

A. Farm Prices for Agricultural Crops, Livestock and Poultry

Data Processing

Decentralized processing of survey returns is done for the Farm Price Survey (FPS) where a customized program which is IMPS-based is installed in every POC. Editing, encoding and generation of monthly provincial reports are done in the POCs. Prior to encoding, the accomplished questionnaires are manually edited for validity and consistency. The data file undergo validation using an editing program based on pre-set validation criteria such as consistency check, range check and acceptability and validity of data.

The clean data will then serve as input to the tabulation programs to come up with the monthly provincial reports. These reports, together with the clean data, are submitted to the BAS – Central Office in soft and hard copies for national consolidation. National consolidated reports are generated at the Central Office.

Estimation and/or Compilation Procedure

At the provincial level, the estimate is weighted by volume sold, while in the regional/national level it is weighted by volume of production. The following are the formula for the different levels of estimates.

Provincial Farmgate Price

$$\bar{y} = \frac{\sum_{j=1}^n [(y_{ij} x_{ij}) - (z_{ij})]}{n \sum_{j=1} x_{ij} w_{ij}}$$

where :

y_{ij} - refers to the price per local unit of the i^{th} commodity of the j^{th} sample respondent

x_{ij} - refers to the total quantity sold in local unit of the i^{th} commodity of the j^{th} sample respondent

z_{ij} - refers to the freight charges/total transport cost of the total quantity sold of the i^{th} commodity of the j^{th} sample respondent

w_{ij} - refers to the weight per local unit of the i^{th} commodity sold by the j^{th} sample respondent

n – refers to the number of sample respondents of the i^{th} commodity of the k^{th} province.

National/Regional Farmgate Price

$$Y_{PHIL}^{-} = \frac{\sum_{k=1}^N (y_{ik}^{-} x_{ik})}{\sum_{k=1}^N x_{ik}}$$

where:

y_{ik}^{-} - refers to the average farmgate price per national unit of the i^{th} commodity in the k^{th} province.

x_{ik} - refers to the total production during the quarter of the previous year in national unit of the i^{th} commodity of the k^{th} province.

N - refers to the total number of producing provinces nationwide of the i^{th} commodity

The computation for Regional Farmgate Price follows the same procedure as that for the National Farmgate Price but with provinces limited only to the provinces in the particular region.

B. Market Prices for Agricultural Commodities

Data Processing

The AGMARIS-AMNEWS utilizes a DOS-based data processing software-Integrated Microcomputer Processing System (IMPS), a free-ware provided by the U.S. Census Bureau-which aims to facilitate the aggregation and computation of averages for wholesale and retail prices. Processing is decentralized at the POCs and is done right after the daily data collection and review to satisfy the needs of the Market News System (MNS). The monthly summaries (PMS) are submitted to CO in soft and hard copies on or before the 15th of the following month for consolidation. The Provincial Processing Officer (PPO) is responsible for checking the generation of the MNS and the Price Monitoring System (PMS).

Estimation and/or Compilation Procedure

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

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

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.

$$\text{Regional average price} = \frac{\sum (P_{a1} + P_{a2} + P_{a3} \dots + P_{ai})}{(N_{a1} + N_{a2} + N_{a3} \dots + N_{ai})}$$

where:

Regional average price - is the sum of all the prices collected in all provinces in the region over the total number of respondents.

P_{a1}, P_{a2}, P_{a3} and P_{ai} - total price collected in province 1, 2, 3 and ith.

N_{a1}, N_{a2}, N_{a3} and N_{iai} - number of respondents interviewed in province 1, 2, 3 and ith.

$$\text{National price} = \frac{\sum (P_{r1} + P_{r2} + P_{r3} \dots + P_{ri})}{(N_{r1} + N_{r2} + N_{r3} \dots + N_{ri})}$$

where:

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

P_{r1}, P_{r2}, P_{r3} and P_{ri} - total price collected in region 1, 2, 3 and ith.

N_{r1}, N_{r2}, N_{r3} and N_{iri} - number of respondents interviewed in region 1, 2, 3 and ith.

In case of computer breakdown or AGMARIS program failure at the POC, collected data must follow consolidation procedures. The Market Reporter with the help of the PPO will compute for the aggregate daily prices to arrive at the average monthly and price in national unit for each of the commodities for the various operating level, namely: provincial, regional and national level. They also determine the weekly

prevailing price by market. There is no computer-aided system for prevailing prices determination.

C. Producer Price Index (PPI) for Agriculture

Data Processing

The compilation of regional and national PPIs is done at the Central Office. Production and price data obtained from different units are inputted in an MS Excel worksheet to come up with semestral and annual indices.

Estimation and/or Compilation Procedure

PPI for agriculture adopts the theoretical Paasche Formula where current volume of production is used as the weighting factor. In its aggregative form, it is expressed as follows:

$$PPI = \frac{\sum P_t Q_t}{\sum P_o Q_t} (100)$$

P_t = price in the current year

P_o = price in the base year

Q_t = volume of production in the current year

The base year in the current system is 1994 but rebasing to 2000 is ongoing.

PPIs for agriculture are computed in semi-annual basis; 3 months after the reference semester for the national PPI and 9 months after the reference semester for the regional PPIs. Average semi-annual prices are computed by adding the 6 average monthly prices and dividing the result by 6. The volume of production for the current period is used as weights in generating the index for commodity groups and for the whole agriculture sector.

For the annual index, the total semi-annual values are added to account for the year's total values.

Selection of commodities in the market baskets

The commodities included in the current PPI basket are based on the value of production of all agricultural commodities in 1994. Commodities contributing 95% to

total value of production were included with ranking done by commodity group and by region.

Procedures in selecting commodities for the Regional Market Basket:

- a. compile data on production and price of agricultural commodities
- b. compute the individual total values of all commodities (volume of production x average farmgate price)
- c. rank the commodities by group according to their value
- d. establish the cut-off point at 95% per commodity group
- e. validate the baskets through the commodity/subject matter specialists (PASOs and RASOs)
- f. prepare the “final” market baskets

Market basket composition

In the selection of commodities, there are cases when items in the PPI market basket are not monitored in the current FPS. There are also cases when particular crop, livestock or poultry item is not covered in some provinces. To suit the needs of the PPI, the regional and provincial FPS coverages are adjusted. FPS commodity coverage by province was revised to include the PPI commodities.

Seasonality of price and production data

If there is a price but no data on production, only a 1st semester PPI which will be considered also as the annual PPI.

In case both production and prices data are available only during the season of the crop. Thus during off-season, there will be no PPI computed. The available PPI will also be the annual PPI.

2.2.4.4 Other Reference Information

The BAS produces regular weekly and monthly memorandum/bulletin on price updates. These are prepared as memo to the Secretary of Agriculture and for general releases on Mondays to provide data users with a more timely statistics.

Researchers are invited to visit the main BAS website (<http://bas.gov.ph>)– Situationer/Price Watch menu, for the weekly and monthly price updates which are available in PDF file format.

2.2.5 Agricultural Machinery

2.2.5.1 Concepts, Definitions and Classifications

Plow - an animal driven implement used to cut, lift and turn over soil

Thresher - machinery used in separating rice grains from panicles.

Harvester - is a tool used in cutting of the stem and leaves of the plants (rice & corn)

Tractor - is a machinery either four or two wheels used primarily for tillage operation (plowing, harrowing, furrowing) in the field to break the soil surface.

Harrow - a cultivating implement set with spikes, spring teeth or disks and used primarily for pulverizing and smoothing the soil and sometimes for mulching, covering seeds and removing weeds.

2.2.5.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agencies
Number of agricultural machineries (tractor, harvester, sheller, etc.)	national and sub-national levels selected Asian Countries	1991, 2002	Census of Agriculture FAOStat	NSO
		1990-2003		FAO

2.2.5.3 Data Processing, Estimation and Revision Methodology

The BAS obtains the data on agricultural machinery from the NSO and FAO.

Data on the numbers of farm equipments by type and the number of farms using the farm equipment were collected. The percentage of farms using the particular type of farm equipment is also computed. Likewise, the ratio of man to farm equipment is estimated.

2.2.5.4 Other Reference Information

The statistical tables containing data on agricultural machinery are presented in the report under the Agricultural Indicators System's module on Inputs. Another report is the Development Trends in Agriculture: International Comparisons which presents this statistical indicator on agricultural machinery across selected Asian countries.

2.2.6 Fertilizer

2.2.6.1 Concepts, Definitions and Classifications

Fertilizer - a substance (as manure or chemical mixture) used to make the soil more fertile.

Fertilizer prices (dealers' prices) - are the selling prices of dealers of agricultural inputs and/or fertilizers. Prices are quoted in Philippine currency (peso) per sack of 50 kilograms.

Fertilizer production - total volume of fertilizer manufactured by the local fertilizer company.

Imports - volume of fertilizer brought into the country by the fertilizer importer.

Exports - volume of fertilizer sold outside the country by registered exporters.

Domestic sales - sum of importer's warehouse withdrawals of fertilizer intended for domestic use. It does not include the raw materials use for further processing. It involves marketing and distribution of imported and locally manufactured chemical fertilizers

2.2.6.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agencies
Domestic production	National level	1990 – 2005	Records of Fertilizer Companies	Fertilizer Companies
Imports and exports	National level sub-national level	1990 – 2005 1970 – 2005	Imports: Records of Fertilizer Companies, NSO and VAT Certification Issuances of Fertilizer and Pesticide Authority (FPA)	Fertilizer Companies
				NSO FPA
			Exports: Records of Fertilizer Companies	Fertilizer Companies
Sales	National level	1990 – 2005	Records of Fertilizer Companies	Fertilizer Companies

Prices	national and sub-national levels	1989 - 2006	Weekly Cereals and Fertilizer Price Monitoring component of Integrated AGMARIS-AMNEWSS	BAS
--------	----------------------------------	-------------	--	-----

2.2.6.3 Data Processing, Estimation and Revision Methodology

Data on production and sales are obtained from the Fertilizer and Pesticide Authority (FPA). Foreign trade data are sourced from the foreign trade statistics of the NSO. No further processing is being done except for presenting them in the desired formats.

In the case of prices, the BAS maintains a data system for fertilizer prices. There is weekly data collection of prices across trading centers of the country. The respondents are input dealers. Simple averages of prices by grade by trading center are being computed.

2.2.6.4 Other Reference Information

The BAS submits a memorandum that contains a bulletin on fertilizer prices. This is being prepared on a weekly basis. There are other reports that contain data and information regarding fertilizers namely; Rice and Corn Situation and Outlook Report, Agricultural Indicators System' module on Inputs and reports on Costs and Returns of Production (palay, corn, other crops, milkfish, tilapia)

2.2.7 Pesticides

2.2.7.1 Concepts, Definitions and Classifications

Pesticides - are substances or any mixtures of substances intended for preventing, destroying or controlling pests, including vectors of human or animal diseases, unwanted species of plants or animals causing harm during or otherwise interfering with the production, processing, storage, transport or marketing of food, agricultural commodities, wood or wood products, or animals feed stuffs.

Prices paid by farmers for Pesticides - are the buying prices of farmers for pesticides such as weedicides, fungicides, insecticides and rodenticides. Prices are quoted in Philippine currency (peso) per kilogram for solid type and peso per liter for liquid type of farm chemical.

Insecticides - are chemical compounds used to control insects. Subdivided by different modes of action.

- a. **Contact insecticides** - are those that kill primarily through direct contact with the insect.
- b. **Stomach poisons** - are insecticides which must be eaten by the insect in order to be effective.
- c. **Systemic insecticides** - are compounds which, when applied to plants, are absorbed by and flow through the system of that plant in sufficient quantity to protect it against the insect (at points remote from the point of application).
- d. **Fumigants** - are insecticides which vaporize and effect control by contacting the insect in vapor form.

Weedicides/Herbicides - are chemical compounds which are used to kill or inhibit undesirable plant growth may be sub-divided according to their selectivity and mode of action.

- a. **Contact herbicides** - are those that kill primarily by contact with plant tissue rather than as a result of translocation. Only the portion of the plant that has been in contact with these pesticides is directly affected, and the effect is usually rapid.
- b. **Translocated herbicides** - acts more slowly, taking perhaps several weeks for maximum effect. These are also capable of being moved by the plant following absorption, away from the site of application.

Fungicides - are chemicals which control fungi that cause many plant diseases. There are two types of fungicides:

- a. **Protective fungicides** - are applied before the invasion of the disease and will destroy any spores as they germinate.
- b. **Eradicant fungicides** - will control fungi which are already established in the host plant.

Rodenticides - are chemicals used to control rodents.

2.2.7.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agency
Prices	national and sub-national levels	2000 - 2006	Prices paid by farmers for agricultural inputs (rider to the Farm Prices Survey)	BAS

2.2.7.3 Data Processing, Estimation and Revision Methodology

Decentralized processing of survey returns is done for the FPS of pesticides where a customized program, which is IMPS-based, is installed in every POC. Editing, encoding and generation of monthly provincial reports are done in the POCs. Prior to encoding, the accomplished questionnaires are manually edited for validity and consistency. The data file undergo validation using an editing program based on pre-set validation criteria such as consistency check, range check and acceptability and validity of data.

The clean data will now serve as input to the tabulation programs to come up with the monthly provincial reports. These reports, together with the clean data, are submitted to the BAS - Central Office in soft and hard copies for national consolidation. National consolidated reports are generated at the Central Office.

Monthly prices of pesticides are consolidated and aggregated to come up with the annual data series using the Excel program. The compiled data include the pesticide type, form and brand names and their corresponding provinces and regions.

2.2.7.4 Other Reference Information

On an adhoc basis, the BAS conducts the Costs and Returns Survey (CRS). This serves as a very good source of data on pesticides. Statistical reports on the results of these surveys are available at BAS.

2.2.8 Land Use

2.2.8.1 Concepts, Definitions and Classifications

Irrigated area - the total area within the service area of an irrigation system served in a particular season - wet (1st crop) and dry (2nd crop) seasons including any third crop. This refers to the area served during the wet season plus any area submerged during the wet season that is served in the dry season.

Irrigation - the controlled application of water to arable lands to supply water requirement not satisfied by rainfall or it is the artificial method of conveying water to the plant which the plant needs for its growth.

Potential Irrigable Area (PIA) - the maximum area which an irrigation project can serve considering the extent of arable lands and the available water supply.

Service area - the area of an irrigation system that is presently provided with irrigation and drainage facilities and irrigation and drainage service could already be rendered.

National Irrigation Projects/Systems - are large and medium schemes projects constructed by NIA usually with service area of more than 1,000 hectares. These projects/systems are basically operated and maintained by the NIA. Portions or whole systems maybe jointly managed by NIA and irrigator's associations.

Communal Irrigation Projects/Systems - are small-scale schemes generally with service area of less than 1,000 hectares. These projects /systems are constructed by NIA with participation of farmer-beneficiaries thru their irrigator's associations (IA). The operation and maintenance of CIS is turned over to IA upon project completion. Farmers amortize the chargeable cost for a period not exceeding 50 years at zero interest. The repayment scheme is pre-arranged and acceptable to both NIA and the IA.

Private Irrigation Systems - are private initiatives which are constructed with or without technical assistance from National Irrigation Administration (NIA) or other government agencies.

2.2.8.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agencies
Total farm area	national and sub-national levels	1971, 1980, 1991, 2002	Census of Agriculture	NSO
Irrigated area	national and sub-national levels	1990 – 2000 except 1992 (national and sub national levels) 2002 – 2005 (systems level)	Records of the Irrigation Systems	National Irrigation Administration (NIA)
Area Planted/Area Harvested of Crops		1970 – 2006 (rice and corn) 1982 - 2006 (national level)	Rice and Corn Production Survey	BAS
		1982- 2005 (sub- national level)	Other Crops Survey	BAS

2.2.8.3 Data Processing, Estimation and Revision Methodology

The data on total farm area and area irrigated are obtained from the sources indicated in the table and they are integrated in some tables on statistics and indicators that form part of the BAS reports such as, Agricultural Indicators System's modules on Agricultural Structure and Resources.

On the other hand, the data processing for area planted/area harvested of crops is earlier presented as an integrated part of the production data system for rice and corn and other crops (please refer to 2.2.1.3).

2.2.8.4 Other Reference Information

Data on area planted/area harvested are presented and analyzed in the BAS reports on Palay (rice) and Corn Situation and Outlook Report, Commodity Situationers and Agricultural Indicators System.

Data on Land Use and related statistics are presented in the BAS annual publication entitled Selected Statistics on Agriculture.

2.2.9 Labor and Employment

2.2.9.1 Concepts, Definitions and Classifications

Rural population - total number of individuals living in the rural areas. These areas which include all poblacions or central district and all barrios that do not meet the requirements for classifications as urban. (expressed in thousand persons)

Employment - persons in the labor force who are reported either at work or with a job or business although not at work during the reference week. (expressed in thousand persons)

Farm Wage Rate - is an indicator of progress and welfare of farm workers. It tells us the rate of pay received by farm workers on the basis of some units of payment for services rendered in the farm operation.

Nominal Wage Rate - amount of wages a farm worker actually received and is measured in current prices.

Real Wage Rate - is the nominal or money wage deflated by the consumer price index.

2.2.9.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Sources	Responsible Agencies
Rural population	national and sub-national levels	1980, 1990, 2000	Census of Population and Housing	NSO
Labor force in agriculture	national and sub-national levels	1990- 2006	Labor Force Survey	NSO
Total employment	national and sub-national levels	1990 - 2006	Labor Force Survey	NSO
Employment in agriculture	national and sub-national levels	1990 - 2006	Labor Force Survey	NSO
Nominal and real wage rates in agriculture	national and sub-national levels	1985 - 2005	Agricultural Labor Survey	BAS

2.2.9.3 Data Processing, Estimation and Revision Methodology

A. Rural Population, Labor Force and Employment

Data on rural population, labor force and population are sourced from the NSO and are being used by the agricultural statistical system to enhance presentation and analysis of agricultural conditions. The BAS does not do any further processing of data from the source.

B. Agricultural Wage Rates of Farm Workers

Data Processing

Survey returns of the Agricultural Labor Survey (ALS) are processed using a customized DOS-based program developed by the Information and Communications Technology Division (ICTD). The software used in developing the ALS computerized system is the Integrated Microcomputer Processing System (IMPS) by the U.S. Bureau of Census and Cobol.

Central processing is applied for the ALS twice a year because ALS is conducted on a semestral basis. The POC is responsible for data collection only and some manual editing. The accomplished questionnaires are submitted to the Central Office and received by the Records Section for recording purposes then released to the Statistical Operations Coordination Division (SOCD) for counter editing and coding. Manual editing involves the checking of data items based on pre-set criteria, data ranges, completeness of related items, and consistency with other data items. Coding is the assignment of alphanumeric codes to questionnaire items to facilitate data entry.

The manually edited and coded questionnaires are submitted to the ICTD for encoding, computerized editing and generation of output tables.

In computerized editing, a validation program is used to check the validity of the encoded data using the same criteria set in the manual editing. The data file undergoes computerized editing to capture errors that escaped manual editing. The errors are reflected in error lists. Said lists will be verified vis-à-vis the questionnaires. The data file will be updated based on the corrections made. Editing and updating are performed iteratively until a clean, error-free data file is generated.

The clean provincial data files are then merged and consolidated in preparation for output table generation. Output tables generated are regional and national by crop.

Estimation and/or Compilation Procedure

Nominal Wage Rate Estimation for Palay, Corn, Coconut and Sugarcane

a. Provincial Estimates

The average wage rate, \bar{Z}_i , for province i, is estimated by

$$\bar{Z}_i = \frac{\sum Y_{ijk}}{\sum X_{ijk}}, \quad \text{for } k=1, 2, \dots, n_{ij}$$

where:

\bar{Z}_i - ratio of the total amount paid to laborers and total mandays of laborers for the province.

Y_{ijk} - amount paid to laborers in the k^{th} sample farming hh from the j^{th} stratum of the i^{th} province

X_{ijk} - mandays of laborers in the k^{th} sample farming hh from the j^{th} stratum of the i^{th} province

b. Regional Estimates

Estimates of the average wage rate \bar{Z}_r , for region r, are obtained by taking the sum of the amounts paid to laborers for all provinces (the numerator) and dividing it by the sum of mandays for all provinces (the denominator).

Real Wage Rate Estimation for Palay, Corn, Coconut and Sugarcane

$$RWR_t = \frac{NWR_t}{CPI} \times 100\%$$

where:

- RWR_t - real wage rate of a given year
- NWR_t - nominal wage rate of a given year
- CPI - Consumer Price Index

Wage Rate Estimation for Agriculture

To arrive at the composite index for agriculture, wage relative by sector or commodity are weighted by the number of farms by type. For purposes of establishing agricultural wage rate indices (WRI_A), only farms used in the production of palay, corn, coconut and sugarcane obtained from the 2002 Census

of Agriculture (CA) are included and are equated to 100 percent. Thus,

$$q_i = \frac{N_i}{N}$$

where:

q_i = weight of the i^{th} crop

$$i = \begin{cases} \text{p, palay} \\ \text{c, corn} \\ \text{cn, coconut} \\ \text{s, sugarcane} \end{cases}$$

N_i - number of farms for the i^{th} crop

N - total number of farms for the four crops

Note that : $\sum q_i = q_p + q_c + q_{cn} + q_s = 1$

The wage rate index for agriculture is computed as follows:

$$WRI_A = \sum q_i WR_i$$

2.2.9.4 Other Reference Information

Data on rural population, labor force, employment and agricultural wage rates are also presented and analyzed in the Agricultural Indicators System's modules on

Population and Labor Force and on Inputs. A report entitled "Trends in Agricultural Wage Rates" also contains the data on agricultural wage rates. Researchers are also encouraged to visit the NSO website to check on the metadata for the CPH and LFS. Meanwhile, the survey instruments for the ALS can be easily accessed at the BAS.

2.2.10 Others

2.2.10.1 Concepts, Definitions and Classifications

Agricultural credit - comprises all advances and/or loans given to farmers to finance activities relating to the agriculture sector which includes crops, livestock and poultry, fisheries and forestry. The activities include production, processing, storage and distribution. (expressed in million Pesos)

Family Income

Total family income - includes primary income and receipts from other sources received by all family members during a specific calendar year as participants in any economic activity or as recipients of transfers, pensions, grants, etc.

Primary income - includes salaries and wages, commissions, tips, bonuses, family and clothing allowance, transportation and representation allowances, honoraria, and other forms of compensation and net receipts derived from the operation of family-operated enterprises/activities and the practice of a profession or trade.

Income from other sources - include imputed rental values of owner-occupied dwelling units, interests, rentals including landowner's share of agricultural products, pensions, support and the value of food and non-food items received as gifts by the family (as well as the imputed value of services rendered free of charge to the family). Expressed in peso per year.

2.2.10.2 Coverage, Availability, Data Sources and Responsible Agencies

Statistics/ Indicators	Coverage	Availability	Data Source	Responsible Agencies
Rural family income	national and sub-national levels	1985, 1988, 1991, 1994, 1997, 2000	Family Income and Expenditure Survey	NSO
Agricultural credit	national level	1980 - 2005	Administrative Records	Agricultural Credit and Policy Council (ACPC)
Rural Infrastructure (Not yet Organized)				

2.2.10.3 Data Processing, Estimation and Revision Methodology

Data are obtained from the sources and do not undergo further processing at BAS.

The indicator for family income and expenditure is the percentage distribution by income decile, which are directly collected from the statistical reference book. Data at the national level and by region are compiled and tabulated separately for urban and rural areas.

For agricultural credit, the amount of agricultural loan/credit at current and at constant prices is collected annually. The annual growth rate and the percentage of agricultural loan to total loans are computed. Agricultural loans granted by type of institution are likewise compiled and the percentage shares of the loans by source are estimated.

2.2.10.4 Other Reference Information

For the metadata or other information about income and credit, researchers are encouraged to visit the websites of NSO and ACPC.

Other sources of information for agricultural credit are the following: Development Indicators for the Philippine Agriculture: Agricultural Credit; Selected Statistics on Agriculture; Report on Lending to Agriculture and the Year-End Agricultural Credit Report.

Information on family income may also be sourced from the Family Income and Expenditure Survey.

CHAPTER 3. MAJOR DATA SOURCES FOR AGRICULTURAL STATISTICS

3.1 List of Major Agricultural Censuses, Surveys and Registers

Censuses

1. 2002 Census of Agriculture (CA)
2. 2002 Census of Fisheries (CAF)

Surveys

1. Rice (Rough Rice) and Corn (Maize) Production Survey (RCPS)
2. Palay and Corn Households Stocks Survey (PCHSS)
3. Crops (Other than Rice and Corn) Production Survey
4. Livestock and Poultry Production Surveys
 - Backyard Livestock and Poultry Survey
 - Commercial Livestock and Poultry Survey
 - Semestral Survey of Dairy Enterprises
 - Monitoring of Animals Slaughtered in Abattoirs and Dressing Plants (MASA)
5. Fisheries Production Survey
 - Survey of Commercial/Municipal Fish Catch
 - Quarterly Survey of Commercial/Municipal Fish Catch and Prices
 - Aquaculture Surveys
 - Quarterly Fish Catch Survey of Inland Municipal Fishing Households
6. Farm Prices Survey (FPS)
7. Agricultural Labor Survey (ALS)
8. Integrated Agricultural Marketing Information System/Agricultural Marketing News Service (AGMARIS-AMNEWSS)
9. Costs and Returns Surveys (CRS)

Register

1. Foreign Trade Statistics

3.2 Metadata for Each of the Major Censuses

3.2.1 2002 Census Of Agriculture (CA)

3.2.1.1 Overview

The Census of Agriculture (CA) is a large-scale government operation undertaken every ten years by the Philippine National Statistics Office (PNSO). The activity is geared towards the collection and compilation of statistics on the agriculture sector of

the country. The collected data constitute the bases from which policymakers and planners formulate plans for the country's development.

Historical Background

The collection of data for agriculture was first included in the Economic Census (EC) in 1903, 1918, 1939 and 1948. However, in 1960, and every ten years thereafter, the Census of Agriculture (CA) was undertaken separately from the EC. From 1971 to 1991, the CA was undertaken together with the Census of Fisheries (CF), thus these two activities were collectively known as the Census of Agriculture and Fisheries. For 2002, however, the CA and the CF were undertaken separately (the CA in March 2003 and the CF in September 2003) since these two censuses differ in scope/coverage and the needed expertise of enumerators and field supervisors, thus the activity title "2002 Censuses of Agriculture and Fisheries" (CAF). The 2002 CA is the fifth of the series of decennial censuses on agriculture in the country.

Objectives

The 2002 CA was envisioned with the following objectives:

1. To determine the structure and characteristics of Statistical holdings;
2. To determine the number and distribution of and enterprises engaged in agriculture and to gather information on the operation of these households and enterprises;
3. To provide the basis for sampling frame for other statistical undertakings, and;
4. To provide basic data for use in national as well as sub-national development planning.

Specifically, it aims to:

1. Obtain comprehensive data on farm characteristics such as size, location, tenure 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 following data items are included in the 2002 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

All cities/municipalities in the country's 17 regional groupings and 80 provinces were treated as the domains of 2002 CA and the barangays of each city/municipality, as the sampling units. Barangay is the smallest political subdivision of the country.

All households from the sample barangays, whether they are in urban or in rural areas, were listed to determine whether any member was engaged in any agriculture or fishing activity anytime from January 1 to December 31 2002. All agricultural operators in the sample barangays were included in the 2002 CA enumeration.

3.2.1.2 Census Design

Sampling Frame

2000 Census of Population and Housing (Census 2000) and 1991 Census of Agriculture and Fisheries (CAF)

(The sampling frames were constructed by integrating the Census 2000 barangay lists based on June 2002 update and number of households by barangay with data on TFA from 1991 CAF.)

Sampling Design / Statistical Unit / Selection Procedure

The 1,592 cities and municipalities were the domains of the census and the ultimate sampling units were the barangays.

The 2002 CA adopted a systematic sampling of an ordered total farm area (TFA) from the 1991 CAF and total number of households based on Census 2000.

All barangays in a municipality except in the National Capital Region (NCR) were grouped into three strata, as follows:

- (i) Barangay with the largest TFA in each municipality in the 1991 CAF was classified in Stratum 1;
- (ii) All other barangays covered in the 1991 CAF classified in Stratum 2.
- (iii) All other barangays in Stratum 3.

Barangays in each city/municipality for each province (excluding NCR) were ranked by descending values of TFA. Barangays that did not have TFA values (in stratum 3) because they were not sampled during the 1991 CAF were arranged in ascending order of total number of households based on the Census 2000. The barangay with largest TFA was automatically part of the sample and this is referred to as the certainty barangay. Certainty barangay that was split, its daughter barangay automatically became a certainty barangay also. Then 25 percent of the remaining barangays were selected systematically.

On the other hand, NCR was subdivided into six districts, namely:

- (i) NCR I – Manila;
- (ii) NCR II – Quezon City;
- (iii) NCR III – San Juan, Cities of Mandaluyong, Marikina and Pasig;
- (iv) NCR IV – Malabon, Navotas, Cities of Kalookan and Valenzuela;
- (v) NCR V – Pateros, Taguig and Makati City, and;
- (vi) NCR VI – Cities of Pasay, Las Piñas, Muntinlupa, Parañaque

The sampling was done independently in each district. The above sampling procedure was followed, except that the sampling rates for strata 2 and 3 were 50 percent and 10 percent, respectively.

Laguna, Isabela, Bukidnon and Batanes were taken as full samples.

All agricultural establishments as identified in the 2002 List of Establishments, regardless whether located in CA 2002 sample barangays or not, were enumerated. These included new-formed agricultural establishments during the time of census enumeration. However, agricultural establishments that had stop operation or no longer existing were excluded. About 1,613 agricultural establishments were enumerated.

Main Data Items and Variables for Operational Purposes

Size of farm parcel, farm location, tenure of farm, land use, presence of irrigation, physical area of temporary crops planted by parcel by cropping, effective area of temporary crops planted by parcel, total number of trees/vines/hills and of productive age and physical area for scattered and compact planting of permanent crops, inventory of livestock and poultry, inventory of equipment, machinery, facilities and other farm tools

Reference Period

2002 except for livestock and poultry inventory which is as of the time of visit

Date of Data Collection: March 2003

Geographical Scope: All Provinces

3.2.1.3 Conduct, Operations, Data Quality Control

The Philippine National Statistics Office (PNSO) is in-charge of the over-all conduct of the 2002 Censuses of Agriculture and Fisheries (CAF 2002). Specifically, PNSO is responsible for the planning and preparation, conduct of the census, data processing, analysis and publication of census reports, and data dissemination.

To ensure the success of the census activity, the office coordinated and established partnerships both with concerned government and non-government agencies for the inclusion of their data needs in the census, for logistics support and assistance, among others. The office also adhered on the concepts, data requirements for international comparability and recommendations of the Food and Agriculture Organization (FAO) on the conduct of the census.

One of PNSO's main partner agencies during the conduct of 2002 CAF was the Department of Agriculture (DA) through the Bureau of Agricultural Statistics (BAS), the Department's primary agency for all official statistics on agriculture, fishery and other related fields. During the enumeration phase, the Provincial Agricultural Statistics Officer (PASO) served as the Assistant Provincial CAF Officer and the BAS field staff served as Census Area Supervisors (CAS) in areas where there were no available Statistical Coordination Officers (SCO). Likewise, selected staff from the Bureau of Fisheries and Aquatic Resources (BFAR) were tapped as trainers especially in the conduct of 2002 CF.

The PNSO also teamed up with the Department of Interior and Local Government (DILG). The provincial governors and city/municipal mayors acted, respectively, as chairpersons of the provincial and City/Municipal Census Coordinating Boards (P/C/MCCB), while the officials from the various local government units including the Civil Registrars were tapped as members. The census coordinating boards were tasked to assist the NSO in providing logistics for 2002 CAF.

Following are the areas of activities carried out in the conduct of the two censuses.

Preparatory Phase

- Coordination and conduct of public fora with data users
- Preparation and design of questionnaires and other census forms
- Preparation of instruction manuals for census data gatherers/supervisors and other manuals for field operations
- Conduct and preparation of pretests and pilot census reports
- Preparation of workload analysis, budget and other logistics requirements
- Recruitment and hiring of census data gatherers/supervisors

Training and Enumeration

- Conduct training to personnel involved in listing/enumeration
- Listing/enumeration of agricultural/ fishing operators, including supervision
- Field editing of questionnaires and other census forms
- Evaluation of quick count of agricultural/ fishing operators and selected characteristics

Data Processing

- Manual editing at Provincial Offices
- Data capture at Regional Offices
- Computer editing at the Central Office
- Tabulation and evaluation of Census results

Other Post Enumeration Activities

- Preparation of publication (Census Results)
- Conduct of national/regional data dissemination
- Computation and analysis of standard errors (SE)
- Preparation of data quality assessment reports

The planning and preparation of 2002 CAF started as early as the middle of 2000 by creating the Task Force on the 2002 Census of Agriculture and Fisheries (TF-CAF) on through NSCB Memorandum Order 006 Series of 2000 with NSO and the Department of Agriculture (DA) as Chair and Vice-Chair, respectively. Members of TF-CAF included government offices concerned on agriculture and fisheries, other statistical agencies and the academe. Their main functions were to recommend programs on methodology and strategies for more efficient census operation, and ascertain that relevant variables/data items were to be gathered, among others.

At the PNSO Central Office, a Census Steering Committee for 2002 Census of Agriculture and Fisheries (CSC-CAF) and the different Working Groups (WG-CAF) were likewise created to provide over-all directions for the activities of 2002 CAF and to lay out plans and strategies for the census, respectively. The CSC-CAF was chaired by the NSO Administrator with the Deputy Administrator as Vice-Chair and assisted by the different Department Directors. The NSO field personnel were also consulted concerning field operation. Meanwhile, the Household Statistics Department (HSD) coordinated and monitored all matters pertaining to 2002 CAF while the Census Planning and Operations Division (CPOD) was the subject-matter division mainly responsible for the conduct of the census.

All authorities pertaining to the operational procedures of census implementation emanated from the PNSO Administrator. These authorities were delegated through a chain of command. On the other hand, the Director of the Household Statistics Department (HSD) spearheaded the 2002 CAF Project Staff (2002 CPS) which served as the monitoring hub and communications action center for the census.

In the field, the PNSO Regional Director was responsible for the monitoring, coordination and supervision of the activities of all provinces within the region, reporting the status of census taking, and problems encountered, if any, to the PNSO Administrator. The BAS Regional Agricultural Statistics Officer (RASO) assisted the RD in implementing the census in the region.

At the province level, overall supervision was lodged to the Provincial Statistics Officer (PSO), who was assisted by the BAS Provincial Agricultural Statistics Officer (PASO). The PSO would report to the RD the information and/or major decisions he/she made related to census taking in the province.

The District Statistics Officer (DSD) served as the link between the PSO and the Census Area Supervisors in cities/municipalities within a particular district.

The overall supervisor in a given city/municipality is called Census Area Supervisor (CAS). This task was delegated to the NSO Statistical Coordination Officers (SCO), or to the BAS field staff in areas where there is insufficient number of CASs. The CASs directly supervised all the Team Supervisors (TS) within the city/municipality. The TSs, on the other hand, was responsible in supervising a given number of enumerators in their assigned areas.

To sustain quality of data collected for the CAF 2002, the following quality control measures were implemented:

Training:

- Training guide was efficiently designed to conform to a uniform and standard training program across the country.
- All training programs were conducted by levels wherein subject matter specialists were tapped as the main trainers on the first level of training. Selected participants who attended the first level training became trainers of the next levels.
- Selected staff of the Bureau of Agricultural Statistics (BAS) / Bureau of Fisheries and Aquatic Resources (BFAR) served as resource person in all levels of training.

Supervision:

- Selected staff of PNSO – Central Office and key Field Office staff monitored the enumeration throughout the country with the assistance of selected staff of the BAS / BFAR.
- Spot-checking of enumerators was done in order to determine if they adhered to the procedures laid out for CAF.
- Field editing of accomplished questionnaires for missing and questionable entries on accomplished questionnaires were likewise done in order to correct the errors while enumeration were still on going in the sample barangays.

- Non-sampling errors were monitored and minimized using forms designed to compare data gathered by enumerators.
- Ensured complete coverage of sample barangays through the use of maps with defined boundaries and/or landmarks.

Quick Count:

- CAF Form 9 (Worksheet for Agriculture) and CAF Form 10 (Worksheet for Fisheries) were designed and utilized to provide summary of selected farm characteristics and fishing/aquafarm operations, respectively. Farm characteristics monitored were the number of farms, physical farm area in hectares, number of livestock/poultry raised by agriculture operators, and the type of fishing operation (municipal or commercial) and/or aquafarm operations including the physical area/volume of the aquafarm operated. All ENs were tasked to accomplish daily CAF Forms 9 or 10 and submit these to field supervisors on a designated date and place.
- Devised a Quick Count (QC) System based on CAF Forms 9 or 10 inputs that generated QC reports on the progress of enumeration and summary statistics of selected farm and fishing/aquafarm characteristics.
- Evaluation of QC reports was done by PNSO Provincial Offices while enumeration was still on going. Further evaluation of the preliminary results was done by the central office staff. In evaluating the Quick Count reports, the PNSO Provincial Offices used information of the land area for a city/municipality and the 1991 Census of Agriculture and Fisheries (CAF) results such as the maximum number of heads for livestock and poultry for a barangay. The total farm area of a city/municipality should not exceed the reported land area. On the other hand, the number of livestock/poultry was checked whether these can be accommodated with the farm area reported.

Data Processing

- The CAF 2002 processing of census questionnaires consisted of two primary procedures: manual processing at the provincial office and machine processing at the regional office and central office.
- Manual data processing involved the review of the entries for completeness and acceptability, checking the count of accomplished forms, verification of geographic identification (GeoID) and coding some of the entries. The PNSO Provincial Offices were responsible for manual processing of questionnaires.
- Machine data processing, which was done at the Regional Office, involved data capture, computer editing of entries for consistency of data items within and between records. Machine processing was also done in the C.O. However, this included imputation of missing entries and summarization of data according to predetermined table formats, further evaluation and final tabulation

3.2.1.4 Statistical Report

2002 Census of Agriculture Final Report

Volume I- Residence of the Operators

- A. Philippines
- B. By Region, with Provincial Breakdown

Volume II- Location of Farms

- A. Philippines
- B. By Region, with Provincial Breakdown

3.2.2 2002 Census of Fisheries (CF)

3.2.2.1 Overview

The Census of Fisheries (CF) is a large-scale government operation undertaken every ten years by the Philippine National Statistics Office (NSO). The activity is geared towards the collection and compilation of statistics on the fisheries sector of the country. The collected data constitute the bases from which policymakers and planners formulate plans for the country's development.

Historical Background

The collection of fisheries data was first included in the Economic Census (EC) in 1903, 1918, 1939 and 1948. From 1971 to 1991, the Census of Fisheries (CF) was undertaken together with the Census of Agriculture (CA), thus these two activities were collectively known as the Census of Agriculture and Fisheries. For 2002, however, the CA and the CF were undertaken separately (the CA in March 2003 and the CF in September 2003) since these two censuses differ in scope/coverage and the needed expertise of enumerators and field supervisors, thus the activity title "2002 Censuses of Agriculture and Fisheries" (CAF). The 2002 CF is the fourth of the series of decennial censuses on fisheries in the country.

Objectives

The 2002 CF was envisioned with the following objectives:

1. To determine the structure and characteristics of fishing and aquafarm operators;
2. To determine the number and distribution of households and enterprises engaged in fishing and to gather information on the operation of these households and enterprises;
3. To provide the basis for sampling frame for other statistical undertakings; and

4. To provide basic data for use in development planning.

Specifically, it aimed to:

1. Gather basic fishing operations such as type of fishing operation, fishing gears, fishing boats/vessels, type and size of aquafarm;
2. Determine the type and number of equipment and machineries used in the operation of fishing activities;
3. Measure the participation and involvement of household members in fishing operation; and
4. Provide benchmarks for the various statistical series, which are designed to measure progress in fisheries.

Scope

The following items were included in the 2002 CF:

Municipal and Commercial Fishing

1. Fishing operation identification
2. Characteristics of the operator/hired manager
3. Category of fishing
4. Legal form of organization
5. Fishing gears/accessories/devices used
6. Fishing boats/vessels used
7. Demographic characteristics of household members

Aquaculture

1. Aquafarm operation identification
2. Characteristics of the operator/hired manager
3. Type of aquafarm
4. Characteristics of aquafarm
5. Equipment and facilities used
6. Demographic characteristics

Coverage

All cities/municipalities in the country's 17 regional groupings and 80 provinces were treated as the domains of 2002 CF and the barangays of each city/municipality, as the sampling units. Barangay is the smallest political subdivision of the country.

All fishing and aquaculture operators in the sample barangays who were listed during the April 2003 listing operation and during the CA 2002 in March 2003 whether they are in rural or urban areas, were covered in the September 2003 CF enumeration. The list of fishing and aquaculture operators during the period January 1 to December 31, 2002 served as the frame for this undertaking. Among the operators in the list, only

those who were engaged in fishing/aquaculture activity anytime from September 1, 2002 to August 31, 2003 were enumerated.

3.2.2.2 Census Design

Sampling Frame

2000 Census of Population and Housing (Census 2000) and 1991 Census of Agriculture and Fisheries (CAF)

(The sampling frames were constructed by integrating the Census 2000 barangay lists based on June 2002 update and number of households by barangay with data on TFA from 1991 CAF.)

Sampling Design / Statistical Unit / Selection Procedure

The 2002 CF adopted a systematic sampling of an ordered total number of fishing households based on the 2001 Municipal and Commercial Fishing Survey (MCFS), 1999 Barangay Screening Survey (BSS) and total number of households based on Census 2000.

All barangays in a municipality except in the National Capital Region (NCR) were grouped into three strata, as follows:

- (i) Barangay with the largest TFA in each municipality in the 1991 CAF was classified in Stratum 1;
- (ii) All other barangays covered in the 1991 CAF classified in Stratum 2;
- (iii) All other barangays in Stratum 3.

Barangays in each city/municipality for each province (excluding NCR) were ranked by descending values of TFA. Barangays that did not have TFA values (in stratum 3) because they were not sampled during the 1991 CAF were arranged in ascending order of total number of households based on the Census 2000. The barangay with largest TFA was automatically part of the sample and this is referred to as the certainty barangay. Certainty barangay that was split, its daughter barangay automatically became a certainty barangay also. Then 25 percent of the remaining barangays were selected systematically.

On the other hand, NCR was subdivided into six districts, namely:

- a. NCR I – Manila;
- b. NCR II – Quezon City;
- c. NCR III – San Juan, Cities of Mandaluyong, Marikina and Pasig;
- d. NCR IV – Malabon, Navotas, Cities of Kalookan and Valenzuela;
- e. NCR V – Pateros, Taguig and Makati City, and;
- f. NCR VI – Cities of Pasay, Las Piñas, Muntinlupa, Parañaque

The sampling was done independently in each district. The above sampling procedure was followed, except that the sampling rates for strata 2 and 3 were 50 percent and 10 percent, respectively.

Leyte was taken as full sample.

All fishing and aquaculture establishments as identified in the 2002 List of Establishments, regardless of whether located in CF 2002 sample barangays or not, were enumerated. These included fishing and aquaculture establishments newly formed during the time of census enumeration. However, fishing and aquaculture establishments that stopped operation or no longer existing were excluded. About 1,239 fishing and aquaculture establishments were enumerated.

Main Data Items and Variables for Operational Purposes

The main data items were Inventory of fishing gears/accessories/devices, inventory of fishing boats/vessels, gross tonnage of fishing boats/vessels and period of operation of fishing boats/vessels.

Reference Period: September 1, 2002 to August 31, 2003

Date of Data Collection: September 2003

Geographical Scope: All provinces

3.2.2.3 Conduct, Operations, Data Quality Control

Please refer to the discussion in Section 3.2.1.3 of this report.

3.2.2.4 Statistical Report

2002 Census of Fisheries Final Report, Philippines, Volume I

3.3 Metadata for Each of the Major Surveys

3.3.1 Rice and Corn Production Survey (RCPS)

3.3.1.1 Overview

Historical Background

Over the years, the BAS has developed and implemented a statistical system for palay

(rough rice) and corn (maize), which dates back to as early as 1954 when it was still a division (Agricultural Economics Division) of the Department of Agriculture and Natural Resources (DANR). The system presently includes the quarterly Rice and Corn Production Survey (RCPS) and the monthly Palay and Corn Households Stock Survey (PCHSS). The former has for its predecessor the Crop and Livestock Survey (CLS, 1954-1968); the Integrated Agricultural Survey (IAS, 1968-1985); and the Rice and Corn Survey (RCS, 1985-1993). Prior to 1986, the RCS employed a two-stage stratified sampling design with municipality as the domain. However, in 1986, the RCS adopted a three-stage sampling design with province as the domain. The RCPS design evolved from a statistical research undertaken in 1989 jointly by the Philippine Statistics Association (PSA) and BAS under a grant from the USAID. It was conceived as an improvement to the RCS with a completely different sampling frame and design.

Scope

The Rice and Corn Production Survey covers sample farming households in sample barangays in all provinces including Zamboanga and Davao Cities, but excluding the province of Batanes. This is conducted quarterly with the quarters as the reference periods, i.e. the reference periods for April, July, October and January rounds are January to March, April to June, July to September, and October to December, respectively.

Objective

The objective of the survey is to generate estimates and forecasts on palay and corn areas, production and yield.

Purpose

The purpose of this survey is to provide data inputs for policy and programs on rice and corn.

Contents

The survey contains the following information:

1. Area planted/harvested and production by farm/crop type and seed type.
Data collected are specific for each quarter. Data on area and production are broken down further by crop type (i.e., *irrigated or rainfed for palay/ white or yellow for corn*) and by seed type (i.e., *high-yielding, hybrid, traditional for palay / hybrid, OPV and traditional for corn*).
2. Monthly distribution of production and area harvested
This refers to the relative monthly disaggregation of area harvested and production.

3. Farm household disposition/consumption of production
Relative distribution of production utilization in item (a) according to the manner of disposition as follows: quantity given to landlord, sold, used for food and other uses.
4. Area with standing crop
Measurement of area with standing crop as of last day of the completed quarter forms basis of forecast of production for the current quarter.
5. Planting intentions indicator
Farmers' intention to plant within the current quarter and the corresponding area he plans to cultivate is determined to form basis of production forecast for the harvest following the survey period.
6. Use of seeds and fertilizers
Amount of seed used for planting and amount of fertilizer applied during a specific survey period.

3.3.1.2 Survey Design

Survey: Rice (Rough Rice) and Corn (Maize) Production Survey

Sampling Frame

The 1991 Census of Agriculture and Fisheries (CAF) provides the basis of the sampling frame of the RCPS. The list contains information on area devoted to palay/corn production by each farming household.

Sampling Design / Statistical Unit / Selection Procedure

A replicated two-stage stratified sampling design is used with barangays as the primary sampling unit (psu) and farming households as the secondary sampling unit (ssu). The barangays are stratified based on their size and are selected using probability proportional to size (pps) scheme. Four (4) replicates i.e., four independent sets of sample barangays per stratum are drawn. From the selected barangays, households are drawn through systematic sampling

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, area with standing crop, planting intentions indicator.

Reference Period

January to March, April to June, July to September, October to December

Date of Data Collection: first 10 days of the quarter

Geographical Scope

79 provinces and 2 chartered cities (Davao City and Zamboanga City). This excludes the province of Batanes.

3.3.1.3 Conduct, Operations, Data Quality Control

The Bureau of Agricultural Statistics (BAS) is entrusted in monitoring and releasing of official statistics on the country's cereal crops - palay and corn. It has been conducting the Rice and Corn Production Survey (RCPS) on a quarterly basis to provide updated production and area estimates of the said crops. Its funds are part of the Bureau's budget.

A technical working group (TWG) on Cereals Statistics is created to address related issues and concerns of the sub-sector.

All authorities pertaining to the operational procedures of the RCPS emanate from the Director. These authorities are then delegated to the field supervisors through the Chief of the Bureau's Statistical Operations and Coordination Division (SOCD), the Regional Agricultural Statistics Officers (RASOs) and finally, the Provincial Agricultural Statistics Officers (PASOs).

During survey operations, the SOCD serves as the link between the Central Office (CO) and the Operations Centers. Consequently, the following flow of communication is observed:

- All communications coming from the BAS Central Office and going to the field operations centers emanate from the Office of the Director through the SOCD.
- All communications coming from the field operations centers are addressed to the Office of the Director through the SOCD, Attention: Crops Statistics Division.

In the field, the RASO is responsible for the monitoring and supervision of the survey of all provinces within the region with the PASO as the overall supervisor in the province.

Contractual data collectors (CDCs) carry out the data collection. During field operations, training of the CDCs is conducted to ensure that the procedures and concepts are correctly understood. Mock interviews and dry-run exercises are made part of the training. Meanwhile, the supervisors carry out close supervision to the CDCs during data collection. Part of a supervisor's job is the conduct of spot-checking and back-checking activities.

As part of the quality control measures implemented at various stages of the survey, rounds of reviews are made before the survey instruments are reproduced for field operations. Before the results are summarized, field data editing, which includes item-by-item checks on the consistency, completeness and acceptability of the data, is done during and after data collection. Another layer of consistency and completeness check is made during electronic data processing. Once table generation is done, series of reviews on the results follow before the data are finally presented and disseminated. Completion goes hand in hand with the success of the survey. Completion is reached when the estimates generated are affirmed at the end of the National Data Review and made part of the Report on the Performance of Philippine Agriculture.

3.3.1.4 Statistical Report

- Rice and Corn Situation and Outlook Bulletins
- Quarterly Seasonally Adjusted Rice Production and Prices

3.3.2 Palay and Corn Households Stocks Survey (PCHSS)

3.3.2.1 Overview

Historical Background

Information on supply condition is vital as it enables the government to maintain food balance. The occurrence of typhoons and other calamities, as well as the volatile grains market call for the need to monitor stocks situation of the staple grains to ensure supply and demand equilibrium, access, and price stability. Information on stocks holdings guide policy makers how much and whether to export or import rice or corn in the immediate future.

The Bureau of Agricultural Statistics (then Bureau of Agricultural Economics) in coordination with the National Food Authority came up with the survey in monitoring level of rice and corn stocks in the country (household stocks for BAS; commercial and NFA stocks for NFA).

PCHSS has been a continuing activity of the BAS for the past 30 years.

Scope

The reference period is as of the first day of the reference month. This covers the 79 provinces, 2-chartered cities (Davao City and Zamboanga City) and Metro Manila.

Objective

The survey aims to generate estimate of the current stock of rice, palay, corn and corn grits in farm and non-farm households.

Purpose

The purpose of the survey is to guide policy makers on how much and whether to export or import rice or corn in the immediate future.

Contents

The survey contains the stock level of palay, rice, corngrain and corngrits in the household.

3.3.2.2 Survey Design

Survey: Palay and Corn Households Stock Survey (PCHSS)

Sampling Frame

The PCHSS uses the sampling frame of the RCPS which is the 1991 CAF, limiting the sample barangays to one replicate. The PCHSS uses the sampling frame of the RCPS which is the 1991 CAF, limiting the sample barangays to one replicate.

Sampling Design / Statistical Unit / Selection Procedure

For pure palay and pure corn provinces (those provinces whose produce are either palay only or corn only), one replicate consisting of ten (10) sample barangays is covered. For overlap palay and corn provinces (those provinces producing both palay and corn), five (5) barangays is drawn randomly from one replicate of the palay samples and five (5) barangays from one replicate of the corn samples. For other provinces (neither corn nor palay is the major produce), only five (5) sample barangays are drawn.

In the selection of sample households (SSU), the PCHSS incorporates non-farming household, in addition to farming household of the RCPS. Selection of the 5 non-farming households is done thru the right coverage approach with a defined starting point and random start.

Main Data Items and Variables for Operational Purposes

Stock level of palay, rice, corngrain and corngrits in the household

Reference Period: as of the 1st day of the reference month

Date of Data Collection: 4 days of the reference month

Geographical Scope

79 provinces and 2-chartered cities (Davao City and Zamboanga City). This excludes the province of Batanes.

3.3.2.3 Conduct, Operations, Data Quality Control

The Palay and Corn Stocks Survey is one of the activities conducted by the Bureau of Agricultural Statistics whose logistics form part of the agency's budget. To ensure the smooth and successful conduct of the activity, a technical working group (TWG) on Cereal Statistics was formed. The TWG serve as the focal point from survey conceptualization down to the presentation and dissemination of its results. An important function of the TWG is to serve as clearing-house for the various activities concerning the Cereals sub-sector.

All authorities pertaining to the operational procedures of the survey emanate from the Director. These authorities are then delegated to the field supervisors through the Chief of the Bureau's Statistical Operations and Coordination Division (SOCD), the Regional Agricultural Statistics Officers (RASOs) and finally, the Provincial Agricultural Statistics Officers (PASOs).

During survey operations, the SOCD serves as the monitoring hub and communication action center of the Bureau. Consequently, the following flow of communication is observed:

- All communications coming from the BAS Central Office and going to the field operations centers emanate from the Office of the Director through the SOCD.
- All communications coming from the field operations centers are addressed to the Office of the Director through the SOCD, Attention: Crops Statistics Division.

In the field, the RASO is responsible for the monitoring and supervision of the survey of all provinces within the region. At the provincial level, the overall supervisor is the PASO. The Assistant PASO, aside from his/her assignment as assistant supervisor in the province, may be given a specific area of supervision, upon the discretion of the

PASO. On the other hand, the POC staffs are tapped to gather the needed information for the survey.

In order to minimize non-sampling errors, quality control measures are instituted at various phases of the activity. Rounds of reviews are made before the survey instruments are reproduced for field operations. During field operations, much attention is given to the conduct of training to ensure that the procedures and concepts are correctly understood. Mock interviews and dry-run exercises are made part of the training.

Close supervision is a must during data collection. Part of the PASOs job as field supervisor is the conduct of backchecking activity. The procedure involves re-contacting a portion of the respondents to check some details regarding the interview and the interviewer; the objective is to find out if data collection was indeed conducted and if so, determine the extent of the difference between the respondent's answers during the data collection proper and the back-checking activity.

Item-by-item checks on the consistency, completeness and acceptability of the data are done during and after data collection, before the results are summarized. Once table generation is done, series of reviews on the results follow before the data are finally presented and disseminated.

Completion goes hand in hand with the success of a particular activity. In the case of PCHSS, completion is reached when the estimates generated are made part of the Supply and Utilization Accounts for Rice and Corn.

3.3.2.4 Statistical Report

- Monthly Rice and Corn Stocks Inventory
- Quarterly Reports on the Deseasonalized Rice Stock Data

3.3.3 Crops (Other than Rice and Corn) Production Survey

3.3.3.1 Overview

Historical Background

In 1970s and 1980s, data collection for other crops was done simultaneously with the regular Rice and Corn Survey. The sample respondents of the Rice and Corn Survey were also asked on information about other crops, which they have also grown. The estimation followed that of rice and corn.

During the period 1980 – 1985, the then Bureau of Agricultural Economics (BAEcon) field staff and Agricultural Technicians (ATs) detailed with the BAEcon under the Regional Agricultural Data Delivery System – Ministry of Agriculture Integrated Management Information System (RADDs-MAIMIS) project were responsible for data collection.

At that time, estimation of area and production was based on indicators such as average size of farms and number of growers. Reporting forms were not standardized. Provincial estimates for area and production for all crops were submitted on semestral basis for consolidation at Central Office.

In 1987 under Executive Order No. 116 when BAS assumed the mandate as the principal agency responsible for Agricultural Statistics, some improvements have been introduced. A separate data collection system for other crops was established. In this system, the provincial offices submitted estimates of the percent changes in area, production and total number of trees based on field observations and interview of key informants. Production estimates of about 20 major crops and 9 additional priority crops were computed quarterly. Production of the rest of the crops including the estimates on area and bearing trees was estimated on semestral basis.

In 1987, only the provinces contributing 80 percent of the total production of the major crops during the last three years were required to submit the Quarterly Report on Production. This system of reporting went on until late 1990s when all provinces were required to submit the Quarterly Report on Production regardless of the contribution to the national total. This requirement was an improvement since even the minor provinces could make significant differences in the estimates.

The Bureau also considers the production data of commodity specialized agencies like Sugar Regulatory Administration (SRA) on canes milled for centrifugal sugar, National Tobacco Administration (NTA) for native tobacco, Fiber Development Authority (FIDA) for all fiber crops and Cotton Development Authority (CODA) for cotton production.

In 1996, a joint activity entitled Improvement of Data Collection Methodology for Production-Related Statistics for Coconut was conducted with the Philippine Coconut Authority (PCA). The Bureau was responsible for the survey methodology and data processing while the PCA was responsible for the data collection.

The domain of the survey was municipality, which were classified as coastal flat, coastal upland, inland flat, and inland upland. It employed three-stage sampling. The barangays were also classified according to the classification used for the municipalities serve as the first stage. The second stage was the two coconut farmers from each sample barangay drawn using simple random sampling. The third stage was the 10 sample coconut trees lying along the longest diagonal line bisecting the parcel.

The survey was piloted in Davao Region provinces that started on the fourth quarter of 1996. This was replicated in the Western Visayas provinces in the first quarter of the

following year. The provinces in the rest of the regions started to conduct this survey in June 1997. The PASOs and the Provincial Coconut Development Managers jointly validated the results. The PASOs forwarded the result to the region for further joint review by the RASOs and the Regional Managers.

Scope

The survey is being conducted nationwide although the commodity coverage varies by province and by region. Below is the list of commodities covered:

FRUITS	QUARTER	Banana (bungulan, cavendish, lacatan, latundan, saba, other varieties), Calamansi, Mango (carabao, piko, other varieties), Pineapple, Durian, Lanzones, Mandarin, Mangosteen, Sweet Orange, Papaya, Rambutan, Watermelon, Starfruit, Tamarind
	SEMESTRAL	Avocado, Guava, Soursop, Jackfruit (ripe), Melon, Pummelo, Santol, Starapple
	ANNUAL	Breadfruit, Sapota, Java Plum, Sugarapple, Lime, Mabolo, Marang, Jamaica Plum
	EVERY THREE YEARS	Camachile, Canisel, Grapes, Lemon, Macopa, Passion fruit, Strawberry, Custard Aple, Lamio, Salamander tree, Kalumpit, Pomegranate, Great Hog Plum, Gooseberry, Lipote, Longans, Strawberry Tree, Indian jujube, Persimon, Rattan fruits, Chinese berries, Zapote
VEGETABLES	QUARTER	Cabbage, Cassava, Eggplant, Garlic, Mungbean, Onion bulb (bermuda, native multiplier), Peanut, Sweet potato, Tomato, Asparagus, Banana blossom, Bitter gourd, Bottle gourd, Broccoli, Carrots, Cauliflower, Chayote, Dasheen (cocoyam, tannia yautia), Ginger, Greater yam, Irish potato, Lady finger, Lettuce, Morning glory, Pechay (chinese cabbage, native pechay) Pepper (finger), Pepper (sweet), Snap beans, Squash fruits
	SEMESTRAL	Black pepper, Cucumber, Dishrag gourd (angled loofah), Leeks (spring onion), Radish, String beans, Sweet peas, Sweet potato tops, Turnips
	ANNUAL	Arrowroot, Celery, Chili pepper (fruit), Cowpea (cowpea green, cowpea dried), Dasheen leaves/stem, Horseradish, Horseradish leaves, Jackfruit young, Malabar spinach, Pao (galiang), Papaya Green, Tugue
	EVERY THREE YEARS	Alucon/Bungon, Annato, Bago leaves, Bamboo shoot, Bawing sulasi, Beets, Bilimbi, Bitter gourd leaves, Blackbeans, Cassava tops, Chayote tops, Chick pea, Citronella, Coconut sap/pith, Cowpea tops, Dulaw/Kalawag, Fern (edible), Garden Pea, Jews Mallows, Katuray, Kentucky beans (Kidney beans red, kidney beans white), Kidney beans, Kinchay, Kulibangbang, Laurel, Likway, Lima beans, Lumbia, Lupo, Mushroom, Mustard, Pandan, Papait, Parsley, Pepper chili leaves, Pigeon pea, Red beans, Sabidokong, Samsamping, Sangig, Seeded breadfruit, Soybeans, Spinach, Squash tops/flowers, Sugod-sugod, Talinum, Tamarind flower, Watercress, Wax gourd, Winged beans, Wonder beans, Yambeans

NON-FOOD AND INDUSTRIAL CROPS	QUARTER	Abaca, Coconut (matured, young), Coffee (arabica, excelsa, liberica, robusta, other varieties), Rubber, Sugarcane, Tobacco (native, virginia, other varieties), Cacao, Cashew, Cotton, Oil palm, Kaong, Bromeliad, Euphorbia, Green Cornstalk, Rice Hay, Coconut wine and vinegar
	SEMESTRAL	Pili nut, Coir, Jute, Kapok, Maguey, Ramie, Salago, Chrysanthemum, Gladiola, Orchids (dendrobium, vanda), Roses, Coconut leaves, Cogon
	ANNUAL	Romblon, Tiger grass/laza/tambo, Banana leaves, Nipa wine
	EVERY THREE YEARS	Anthurium, Aster, Azucena, Baby's breath, Carnation, Daisy, Gerbera, Heliconia, Ilang-ilang, Sampaguita, Stalice, Guinea grass, Napier grass, Castor beans, Sesame, Sorghum, Buntal, Pineapple fiber, Spraymum, Oil Palm leaves, Indian mulberry, Banaba, Bettle nut, Ikmo/Boyo, Dahlia, Dawa, Flamingia, Ginseng, Ipil-ipil leaves, Lagundi, Ngalog, Oregano, Palm ornamentals, Peter bettle, Rattan, Rensoni, San Francisco, Santan, Tikog, Water lily, Yellow bell, Herba buena, Puto-puto

Objective

The activity aims to generate basic production statistics for crops other than cereals at the national and sub-national levels.

Purposes

The survey addresses the following purposes:

1. to support the data needs of planners, policy and decision makers and other stakeholders in the agricultural sector, and
2. to provide periodic updates on crop related developments.

Contents

The survey contains the following data items as presented in its survey instrument:

1. Identification Particulars
2. Production (kg)
3. Area (ha)
4. Number of bearing trees
5. Justifications/Reasons for Changes

3.3.3.2 Survey Design

Survey: Crops (Other than Rice and Corn) Production Survey

Sampling Design / Statistical Unit / Selection Procedure

Two-stage sampling design with municipality as the primary sampling unit and farmer-producer as the secondary sampling unit.

For small farms of crops covered under Farm Price Survey including the non-Farm Price Survey crops but identified as priority crops of the province / region, top five producing municipalities based on the volume of production were chosen. In each municipality, five sample farmer-producers were enumerated.

For small farms of all other crops not covered under Farm Price Survey, top two to three producing municipalities were chosen. In each municipality, three sample farmer-producers were enumerated.

For plantation farms, a maximum of 5 plantations based on the suggested cut-off area.

Main Data Items and Variables for Operational Purposes

Volume of production, area harvested/planted, bearing trees/hills/vines

Reference Period: Quarter

Date Of Data Collection: Last week of the 2nd month of the reference quarter

Geographical Scope

79 provinces and 2 chartered cities (Davao City and Zamboanga City). This excludes the province of Batanes.

3.3.3.3 Conduct, Operations, Data Quality Control

Crops Production Survey is a regular survey undertaken by the Bureau of Agricultural Statistics (BAS) that sources its funds from the Bureau's national government's budget.

As one of the regular surveys conducted nationwide, each stage in the conduct of the survey is being attended by concerned divisions. The statistical methods division in coordination with the crops division takes the lead in the review of the survey design being implemented. The division prepares the quality control in the data collection for implementation.

To review and address the crops related issues and concerns, a TWG on crops is being created for the purpose. Members of the TWG are the technical staff representing the commodity/accounts and indicators division, statistical methods division, data processing division and statistical operations and coordination division. The TWG conducts in depth study on the issues and concerns based on its findings and makes recommendations to the management. Any revision on the methodology

including any phase in the data generation is discussed and assessed by the TWG.

Whenever revisions are to be implemented, all authorities pertaining to the operational procedures of the different surveys of the Bureau including the Crops Production Survey, emanate from the Director. These authorities are then delegated to the field supervisors through the Chief of the Bureau's Statistical Operations and Coordination Division (SOCD), the Regional Agricultural Statistics Officers (RASOs) and finally, the Provincial Agricultural Statistics Officers (PASOs).

During survey operations, the SOCD serves as the monitoring hub and communication action center of the Bureau. Consequently, the following flow of communication is observed:

- All communications coming from the BAS Central Office and going to the field operations centers emanate from the Office of the Director through the SOCD.
- All communications coming from the field operations centers are addressed to the Office of the Director through the SOCD, Attention: Crops Statistics Division.

In the field, the RASO is responsible for the monitoring and supervision of the activities of all provinces within the region. He/she reports the progress of the survey to the Director and Assistant Director through the SOCD chief.

The overall supervisor in the province is the PASO. The Assistant PASO, aside from his/her assignment as assistant supervisor in the province, may be given a specific area of supervision, upon the discretion of the PASO. Like the Assistant PASO, the Officer-In-Charge PASOs have also specific area of supervision especially undermanned provinces.

Data collection, processing, data analysis and dissemination are undertaken by the regular field staff. Whenever there are revisions in the data generation, any of the two strategies have been employed. One strategy is to conduct orientation to Central Office technical staff who would be deployed to the regions and provinces to act as trainers. The other strategy is to convene the RASOs, PASOs and the crops point persons for the orientation. They shall serve as trainers in their respective areas.

The non-sampling errors and quality control measures are instituted at various phases of the activity in terms of the forms used and procedures. The bases come from the field observations of the Central Office staff, feedback from the field supervisors and field staff on their implementation and based their submitted reports. The statistical methods division and the statistical operations and coordination division in coordination with the crops division develop the quality control measures.

The RASOs, PASOs and OIC-PASOs conduct personal supervision and backchecking. While doing so, they also conduct their own observation to strengthen

and enhance the regional and provincial estimates. Personal supervision is done by accompanying the field staff during the data collection. While backchecking calls for the PASOs/OIC-PASOs to visit the collection areas where he/she has not accompanied by the field staff during the data collection. In most cases, backchecking involves asking some sample respondents on the information asked during the data collection proper, getting the patterns and trends on the levels of data of a commodity and interviewing the Barangay Chairman or its officers if the field staff has indeed visited the area during the period.

For commodities with specialized agencies, the data they have generated would serve as data check, except for sugarcane where the canes milled data from the

Sugar regulatory Administration (SRA) is adopted. Almost all the canes produced nationwide come from plantations that are completely milled at the milling stations.

Results undergo series of reviews. The first being at the provincial office where the whole staff discusses and deliberates on the estimates using the parameters as their guideposts and be able to support estimates all the way to the national data review done at the Central Office. Certain data are ready for dissemination once these are incorporated in the Quarterly Report of the Performance of Agriculture. Otherwise, the data are ready for release annually, which falls second quarter of the following year.

3.3.3.4 Statistical Report

- Commodity Situation Reports (Banana, Tomato, Mango, Cabbage, Coffee, Garlic, Sugarcane, Coconut, Camote, White Potato, Cassava, Coconut, Calamansi, Carrots, Onion, Rubber, Tobacco and Abaca)
- Situationer on Highland Vegetables
- Crops Statistics of the Philippines
- Statistics of Major Crops

3.3.4 Livestock and Poultry Production Surveys

Backyard Livestock and Poultry Survey (BLPS)
Commercial Livestock and Poultry Survey (CLPS)
Semestral Survey of Dairy Enterprises
Monitoring of Animals Slaughtered in Abattoirs and Dressing Plants (MASA)

3.3.4.1 Overview

Historical Background

The livestock data system can be traced as far back as 1954 when the annual crop and livestock survey was first instituted to capture primarily data on rice and corn

production, and secondly, livestock population. The Agricultural Economics Division of the Department of Agriculture (DA-AED) then spearheaded the survey. The DA-AED was restructured into the Bureau of Agricultural Economics (BAEcon) when R.A. 3627 was signed into law in 1963. About ten years later, the livestock data were generated by the Integrated Agricultural Survey (IAS), which was first conducted in 1973 under the BAEcon. In that survey, livestock data on population of animals were included primarily to get indications of feed consumption in the (backyard) households.

In January 1974, however, the Bureau of Animal Industry (BAI) took initiatives to jointly undertake the IAS with BAECON introducing major improvements in the livestock data capture. It was a milestone in so far as livestock data system was concerned, because data capture in commercial farms was introduced for the first time, covering about 420 ranches for cattle, 910 hogs and poultry farms. This survey covering commercial farms was conducted independently of the IAS which still covered the backyard section. The said system of data collection of livestock data and information was sustained until 1982 when an attempt to generate small area statistics (by municipality) was undertaken under the “Regional Agricultural Data Delivery System - Ministry of Agriculture Integrated Management Information System” or “RADDs-MAIMIS”. This project covered around 12,000 sample barangays with municipality as the domain. It was stopped after 1986, due to budgetary constraints. Henceforth, statistical re-designing was instituted consisting of reducing the number of samples and reverting back to the “Province” as the domain.

The structural reform of the Philippine bureaucracy in the mid-eighties was seen as an opportunity by the Philippine Statistical System to reshape itself and be responsive to the needs of the times. It was during this time when the Agricultural Statistical System (AgSTAT) in particular did its best to respond to the demand for efficiency and quality information on the sector. The BAEcon, which was then the lone agency under the Department of Agriculture producing primary agricultural data along with other functions, was restructured to become the major producer of agricultural statistics. Thus, by virtue of Executive Order No. 116 signed into law by then Pres. Corazon C. Aquino in January 1987, BAEcon was renamed as the Bureau of Agricultural Statistics (BAS). Its mandate called for the generation, organization and official release of agricultural statistics.

Up to 1990, the livestock statistical system in place at BAS remained one of the weakest spots in the agricultural data system. Varied problems and issues related to adequacy, reliability and timeliness of information had beset the sub-sector. The ability of the BAS to respond efficiently and adequately to the sub-sector’s data needs was severely constrained by the following areas of concerns:

- Inadequate sampling frame
- Information not responsive and accessible to users
- Lack of coordination in the data systems of livestock and poultry agencies and institutions

Improvement Measures Undertaken

In 1991, the United States Agency for International Development (USAID) provided a grant for the improvement of agricultural statistics under the “Statistical Development and Analysis in Support of the Agribusiness Sector (SDASAS)” Project. It provided high priority to the improvement of statistics on chicken (layer and broiler) and swine.

In 1992, the Livestock and Poultry Enterprise Survey (LPES) was conducted which aimed to update and build the List Frame of L&P farm establishments (commercial farms). In 1994 and 1997, the 2nd and 3rd LPES for layer, broiler and swine were conducted, respectively.

Also in the same year, the BAS-NMIS networking on slaughter statistics was conceptualized and implemented. It was designed to collaborate in the data collection, compilation and summarization of data up to validation and data sharing. The networking strategies between BAS and NMIS was aimed 1) to reduce cost of data collection because overlap activities were streamlined, 2) to improve timeliness and, 3) to come up with consistent data on slaughter.

In 1991, the Census of Agriculture was conducted, the results of which was used as sampling frame for re-designing the BLPS along with the Rice and Corn Survey (RCS). Along with the improvement of L&P survey design was the enhancement of the survey instruments employed, such that data items were modified in order to be adequately responsive to the need of the agribusiness in their production planning as well as policy making in government.

Scope

The BLPS and CLPS are undertaken in all provinces except Batanes. This cover four (4) major livestock commodities i.e. carabao, cattle, swine and goat; and seven (7) poultry commodities i.e. chicken by type (native, broiler, layer), native chicken eggs, commercial layer eggs, duck and duck eggs.

The Monitoring of Slaughtered Animals in Abattoirs and Dressing Plants (MASA) covers the same type of livestock and only broilers for chicken. It is undertaken in all provinces nationwide with data obtained from a complete enumeration of accredited

abattoirs and dressing plants as well as LGU supervised slaughter facilities. The monitoring of accredited abattoirs is being undertaken in collaboration with the NMIS.

The Semestral Survey of Dairy Enterprises is conducted in forty-six (46) provinces where dairying activity exists. It covers carabao/buffalo, dairy cattle and dairy goat. Animals raised in backyard farms for draft but also produced milk for human/household consumption (dual purpose) is covered in the survey.

Objectives

The BLPS and CLPS are the two major surveys, which aim to generate primary data on supply and disposition of animals from backyard farms (small holder raisers) and commercial farms.

The Monitoring of Animals Slaughtered in Abattoirs and Dressing Plants (MASA) complements the BLPS and CLPS. It aims to generate data on animals slaughtered and, birds dressed in a slaughter/dressing facility or structure accredited by NMIS and/or supervised by the Local Government Units.

The Semestral Survey of Dairy Enterprises generates data on inventory of dairy animals by type and by age, inventory of milking dams, milk production and disposition of milk.

Purpose

The purpose of the survey is to be able to determine/measure the performance of the commodities and the livestock industry.

Contents

The survey contains the following information:

1. Inventory of animals
Data are presented by quarter farm type by age and by classification i.e Backyard, Commercial and Total
2. Supply -Disposition of animals
Data are presented annually for total farms
3. Inventory of Poultry
Data are presented by quarter by type of chicken and by type of poultry i.e native, broiler, layer, and duck
4. Supply -Disposition of Poultry
Data are presented annually by type of chicken and by type of poultry
5. Volume of Production (live weight)
Data are presented in metric tons (total farms) national and by region
6. Volume of Meat Production (carcass weight)
Data are presented in metric tons national and by region
7. Total animals slaughtered and poultry dressed
Data are presented in number of head/birds national and by region

3.3.4.2 Survey Design

1. Survey: Backyard Livestock and Poultry Survey (BLPS)

Sampling Frame

Sampling frame of the RCPS, which is the 1991 CAF, limiting the sample barangays to one replicate

Sampling Design / Statistical Unit / Selection Procedure

For pure palay and pure corn provinces (those provinces whose produce are either palay only or corn only), one replicate consisting of ten (10) sample barangays is covered. For overlap palay and corn provinces (those provinces producing both palay and corn), five (5) barangays is drawn randomly from one replicate of the palay samples and five (5) barangays from one replicate of the corn samples. For other provinces (neither corn nor palay is the major produce), only five (5) sample barangays are drawn.

In the selection of sample households (SSU), the BLPS incorporates non-farming household, in addition to farming household of the RCPS. Selection of the 5 non-farming households is done thru the right coverage approach with a defined starting point and random start.

Main Data Items and Variables for Operational Purposes

Inventory, number of births, hatched alive, sold alive, slaughtered, eggs produced yesterday, eggs disposed as fresh table eggs

Reference Period

Quarter except for the inventory which is the first day of the reference quarter, i.e.

- As of April 1 for the first quarter.
- As of July 1 for the second quarter.
- As of October 1 for the third quarter.
- As of January 1 for the fourth quarter

Date of Data Collection: first 10 days of the quarter

Geographical Scope: 79 provinces and 2 chartered cities (Davao City and Zamboanga City). This excludes the province of Batanes.

2. Survey: Commercial Livestock and Poultry Survey (CLPS)

Sampling Frame:

For carabao, cattle, goat, and duck: results of the October 1992 Livestock and Poultry Establishment Survey (LPES) - The frame for duck was updated in 1997 for producing provinces namely: Bulacan, Nueva Ecija, Pampanga, Tarlac, Isabela, Laguna, Rizal, and Albay.

For the dairy farms and operators including backyard and cooperatives: result of the listing activity in 2002

For broiler, layer and swine: 2004 listing of farm enterprises

Sampling Design / Statistical Unit / Selection Procedure

Complete enumeration is done for provinces with 20 farms or below while a stratified random sampling is employed for provinces with more than 20 farms. Farm enterprises were stratified using the Dalenius Hodges method with the maximum housing capacity as the measure of size. The number of strata per province ranges from 2 to 4 depending on the population or on the heterogeneity or homogeneity of the maximum housing capacity. Sample allocation for each stratum is done using the Neyman procedure with coefficient of variation set at 5%. A minimum of 5 sample farms per stratum is allocated, unless the total number of farms in the stratum is less than five, in which case, all farms in the stratum are enumerated. In each stratum, sample farms are drawn using simple random sampling.

Main Data Items and Variables for Operational Purposes

Inventory, number of animals that give birth, sold alive, and slaughtered, average price per kilogram liveweight, average price of medium size egg per piece

Reference Period

Quarter except for the inventory which is the first day of the reference quarter, i.e.

- As of April 1 for the first quarter.
- As of July 1 for the second quarter.
- As of October 1 for the third quarter.
- As of January 1 for the fourth quarter

Date of Data Collection: last 8 days of the quarter

Geographical Scope

79 provinces and 2 chartered cities (Davao City and Zamboanga City). This excludes the province of Batanes.

3. Survey: Semestral Survey of Dairy Enterprises

Sampling Frame

List of dairy enterprises for cattle and carabao generated in the Dairy Enterprise Inventory Profiling Project, which categorized as follows:

A. Single proprietorship

1. incidental
2. backyard
3. commercial

B. Cooperatives

1. incidental
2. backyard

C. Corporation

D. Government Owned

E. Private Institutions

1. incidental
2. backyard

- * Note: no farms listed under incidental and cooperative farms for goat dairy enterprise

Sampling Design / Statistical Unit / Selection Procedure

A systematic sampling method is used for individual and/or backyard carabao dairy farms. Sample size for each province is proportional to the number of existing stocks in the province and are drawn using a balanced systematic sampling. A complete enumeration of dairy corporations, commercial farms, government-owned and private dairy institutions is utilized. Data from cattle and carabao dairy cooperatives are obtained from monitoring report of specialized agencies i.e. Philippine Carabao Center and National Dairy Authority that assist and monitor the performance of those cooperatives

Main Data Items and Variables for Operational Purposes

Animal inventory by breed and age classification, milk production and disposition, average price per liter

Reference Period

Quarter except for inventory, which is as of July 1 and January 1.

Date of Data Collection: last 8 days of the semester

Geographical Scope

79 provinces and 2 chartered cities (Davao City and Zamboanga City). This excludes the province of Batanes.

4. Survey: Monitoring of Animals Slaughtered in Abattoirs and Dressing Plants (MASA)

Sampling Frame

List of accredited abattoirs and dressing plants provided by NMIS and the list of non-accredited as well as LGU- supervised abattoirs and dressing areas with structure

Sampling Design / Statistical Unit / Selection Procedure

Complete enumeration of abattoirs and dressing plants

Main Data Items and Variables for Operational Purposes

Number of heads slaughtered and dressed weight by animal commodity

Reference Period: quarter

Date of Data Collection: monthly

Geographical Scope

79 provinces and 2 chartered cities (Davao City and Zamboanga City). This excludes the province of Batanes.

3.3.4.3 Conduct, Operations, Data Quality Control

The “enterprise or farm approach” is employed in the CLPS. Data collectors, who are regular staff of the Bureau, are required to go to the enterprise or farm site and interview a qualified respondent, which shall be any of the following:

- Operator/Manager
- Bookkeeper/Accountant
- Authorized Representative of the Enterprise/Farm

BLPS data, on the other hand, are collected by hired enumerators. These enumerators are trained to interview the sample households or any of the qualified respondents, i.e. household head or the spouse or the farm caretaker.

The Semestral Survey of Dairy Enterprises is also an “enterprise or farm approach” survey which generates data on inventory of dairy animals respective of animal type i.e Carabao/Buffalo, Cattle and Goat; milk production and disposition of milk. The data are collected by regular BAS staff in the Provincial Operation Centers who conduct direct interview of dairy corporations, commercial farms, government and privately-owned dairy institutions. Data from NDA assisted dairy cooperatives are obtained from NDA Head Office in Quezon City while, data from PCC assisted buffalo dairy cooperatives are obtained from PCC Headquarter Office in Munoz, Nueva Ecija. Data from these agencies are obtained by a regular staff of BAS Head Office in Quezon City through electronic mails.

Data collection of the MASA is done right at the slaughterhouse and dressing plant using common questionnaires (BAS-NMIS Form #01 for slaughter report and Form # 02 for condemnation report). The forms are designed for daily recording and electronic data processing of animals slaughtered and condemned.

Data collection in the provinces are joint undertaking of BAS and NMIS. NMIS Meat Inspectors take charge of the accredited plants while BAS field statisticians handle the non-accredited abattoirs/dressing plants. Slaughter/dressing areas without structure are not enumerated in the survey. Data processing is the sole responsibility of BAS in the provinces and regions.

During survey operations, the SOCD serves as the monitoring hub and communication action center of the Bureau. Consequently, the following flow of communication is observed:

- All communications coming from the BAS Central Office and going to the field operations centers emanate from the Office of the Director through the SOCD.
- All communications coming from the field operations centers are addressed to the Office of the Director through the SOCD, Attention: Livestock and Poultry Statistics Division.

For BAS, objective and scientific approaches are employed in large periodic surveys such as livestock for reasons of cost efficiency and reliability. However, as in any other large surveys, livestock surveys are not devoid of sampling and non-sampling errors. Thus, quality control checks are employed at various stages of the activity. During the preparatory stage, rounds of reviews are made before the survey instruments are reproduced for field operations. During field operations, training of data collectors is likewise conducted to ensure that the procedures and concepts are correctly understood.

Spotchecking and backchecking activities are also made part of the field supervision to see to it the errors committed in the field are checked and rectified as necessary.

Another layer of quality check is done during the processing and analysis phases of the survey. Aside from instituting quality data control into the computer processing systems, several methods of data analyses are being done before any livestock statistical product is released. Among these are:

- internal consistency checks of data (checking for outliers, range checks and completeness check)
- comparing data with those from external sources
- use of Supply-Disposition (S-D) data

3.3.4.4 Statistical Reports

Performance Report of Livestock and Poultry Industry
Carabao Industry Performance Report
Cattle Industry Performance Report
Chicken and Egg Industry Performance Report
Duck and Egg Industry Performance Report
Goat Industry Performance Report
Swine Industry Performance Report
Dairy Industry Performance Report

3.3.5 Fisheries Production Survey

Survey of Commercial/Municipal Fish Catch
Quarterly Survey of Commercial/Municipal Fish Catch and Prices
Aquaculture Surveys
Quarterly Fish Catch Survey of Inland Municipal Fishing Households

3.3.5.1 Overview

Historical Background

The generation of fishery statistics started in 1950's when the then Fisheries Information Division, Bureau of Fisheries, Department of Agriculture and Natural Resources (DANR) gathered monthly reports of ports from commercial fishery operations. The task was later on transferred to the Philippines Fishery Commission in 1963. The commission started to release publications on fishery statistics including aquaculture and fishing in municipal waters. The activity was carried on when the Bureau of Fisheries and Aquatic Resources (BFAR) was created under the Department of Agriculture.

However, Executive Order 116, which was signed in 1987, mandated the Bureau of Agricultural Statistics (BAS) to do the collection, compilation, analysis and dissemination of fishery statistics in addition to crops, livestock and poultry. BAS started collecting and organizing fishery data in 1988.

Scope

The Fishery Production Surveys are divided into:

A. Survey of Commercial/Municipal Fish Catch

Probability survey

For 2006, there are 15 traditional landing centers from 15 provinces undertaking probability survey covering all species unloaded in the landing center.

Non-probability survey

All regions are covered except CAR. There are 144 traditional landing centers from 54 provinces covered quarterly for non-probability survey.

B. Aquaculture Surveys

Probability survey

Probability survey is conducted semi-annually in 16 provinces.

Non-probability survey

There are 1873 aquafarms in 80 provinces and Metro Manila covered quarterly by the non-probability survey.

C. Survey of Inland Municipal Fishing Households

Probability survey

From 2006, there are 1000 inland fishing households covered by the survey.

Objective

The surveys aim to generate volume and value of fish catch,/aquaculture production and value by aquafarm type by species by quarter at the national, regional and provincial levels.

Purpose

The purpose of the survey is to be able to determine/measure the performance of the commodities and the fisheries industry.

Contents

The survey contains the following data items as presented in the survey instruments:

A. Survey of Commercial/Municipal Fish Catch

1. General Information
2. Boat Information
3. Fishing Effort
4. Fish Catch
5. Summary of Unloadings

B. Aquaculture Surveys

1. Sample Identification
2. Farm Information
3. Production Information
4. Production Forecast
5. Production Disposition
6. Assessment of Production
7. Feeds used/to be used

C. Survey of Inland Municipal Fishing Households

The data collection form gathers information on quantity and value of species by month and by species.

3.3.5.2 Survey Design

1. Survey: Survey of Commercial/Municipal Fish Catch

Sampling Frame

2000 List of PFDA, LGU, and privately- managed landing centers (LCs) whose data are obtained from administrative records, and the 2000 list of LCs used in the BAS

Quarterly Monitoring of Traditional LCs.

Sampling Design / Statistical Unit / Selection Procedure

Stratified sampling is employed with volume of unloadings per day as stratification variable. The landing center serves as the primary sampling unit while the fishing boat

serves as secondary sampling unit. The landing centers are group into the following strata:

- Certainty stratum - consists of the top-producing landing centers
- Stratum 1- consists of the major fish landing centers
- Stratum 2- consists of all other traditional landing centers in the province

Simple random sampling is used in drawing the sample landing centers for strata 1 and 2. In each landing center, a systematic sampling of boats is employed. If the number of unloading boats is 15 or less, a complete enumeration of boats is done. If more than 15 boats unloading during the peak unloading time, a simple random sampling of boats is employed.

Main Data Items and Variables for Operational Purposes

Volume, value and prices of fish unloading by month, gear and fishing ground and information on number of crews

Reference Period: quarter

Date of Data Collection: every other day

Geographical Scope: 15 landing centers representing all regions

2. Survey: Quarterly Survey of Commercial/Municipal Fish Catch and Prices

Sampling Frame

2000 List of PFDA, LGU, and privately- managed landing centers (LCs) whose data are obtained from administrative records, and the 2000 list of LCs used in the BAS Quarterly Monitoring of Traditional LCs.

Sampling Design / Statistical Unit / Selection Procedure

Stratified sampling is employed with volume of unloadings per day as stratification variable. The landing centers are group into the following strata:

- Certainty stratum - consists of the top-producing landing centers
- Stratum 1- consists of the major fish landing centers
- Stratum 2- consists of all other traditional landing centers in the province

Simple random sampling is used in drawing the sample landing centers for strata 1 and 2. In each landing center, three key-informants are asked on the monthly volume of unloadings and the corresponding price per kilogram.

Main Data Items and Variables for Operational Purposes

Volume of fish unloadings and price per kilogram

Reference Period: quarter

Date of Data Collection: 2nd week of the last month of the quarter

Geographical Scope: All provinces not covered by the Survey of Commercial/Municipal Fish Catch

3. Survey: Aquaculture Surveys

Sampling Frame

1997 listing of aquafarms for the following sub-sectors:

- Brackishwater fishponds
- Freshwater fishpens
- Freshwater fishcages
- Marine fishpens
- Marine fishcages
- Oyster farms
- Mussel farms
- Shallow farm reservoirs
- Rice-fish culture
- Small water impounding projects

The above list frame was updated for 38 provinces in 2004.

For seaweeds sub-sector: 2004 listing of traders and processors

Sampling Design / Statistical Unit / Selection Procedure

Stratified random sampling with the aquafarm as the sampling unit. Freshwater fishponds, fishpens and fishcages are stratified according to culture system (monoculture and polyculture). Brackishwater fishponds are stratified according to management system (intensive, semi-intensive and extensive). Simple random sampling is employed in the selection of sample aquafarms from each stratum. However, at times when there are limited resources, five/three sample aquafarms are selected from each top five/three producing municipalities identified as sample municipalities in the province. A maximum of 25 sample aquafarms is allocated for each major producing province, nine (9) for minor provinces and three (3) sample aquafarms for very minor provinces.

Main Data Items and Variables for Operational Purposes

Area, volume, yield and value of harvest by quarter, by type of aquafarm, by species

Reference Period: quarter

Date of Data Collection: every third week of the last month of the quarter.

Geographical Scope: All provinces except CAR provinces and Batanes

4. Survey: Quarterly Fish Catch Survey of Inland Municipal Fishing Households

Sampling Frame

List of inland municipal fishing households from lakes, rives or dams

Sampling Design / Statistical Unit / Selection Procedure

Simple random sampling. Sample households were drawn randomly from the list of inland municipal fishing households.

Main Data Items and Variables for Operational Purposes

Volume and value of fish catch by species

Reference Period: quarter

Date of Data Collection: 2nd week of the last month of the quarter

Geographical Scope: All provinces except CAR provinces and Batanes

3.3.5.3 Conduct, Operations, Data Quality Control

Logistics for the regular surveys undertaken by the Bureau of Agricultural Statistics (BAS) are part of the Bureau's budget, while logistics support for ad hoc surveys are from external sources.

To ensure the smooth and successful conduct of the fisheries production surveys, technical working group (TWG) is created which serve as the clearing-house for the various activities concerning the sub-sector or area of concern.

All authorities pertaining to the operational procedures of the surveys of the Bureau emanate from the Director. These authorities are then delegated to the field supervisors through the Chief of the Bureau's Statistical Operations and Coordination

Division (SOCD), the Regional Agricultural Statistics Officers (RASOs) and finally, the Provincial Agricultural Statistics Officers (PASOs).

During survey operations, the SOCD serves as the monitoring hub and communication action center of the Bureau. Consequently, the following flow of communication is observed:

- All communications coming from the BAS Central Office and going to the field operations centers emanate from the Office of the Director through the SOCD.
- All communications coming from the field operations centers are addressed to the Office of the Director through the SOCD, Attention: Fisheries Statistics Division.

In the field, the RASO is responsible for the monitoring and supervision of the activities of all provinces within the region. The overall supervisor in the province is the PASO. The Assistant PASO, aside from his/her assignment as assistant supervisor in the province, may be given a specific area of supervision, upon the discretion of the PASO.

Contractual data collectors (CDCs) usually carry out the data collection for ad hoc activities, whereas for routinary activities, regular field staffs are usually tapped to gather the needed information.

In order to minimize non-sampling errors in the surveys, quality control measures are instituted at various phases of the activity, from the conceptualization stage down to analysis of the results. Several rounds of reviews are made before the survey instruments are reproduced for field operations. During field operations, attention is given to the conduct of training of data collectors to ensure that the procedures and concepts are correctly understood. Mock interviews and dry-run exercises are made part of the training. Close supervision of field enumerators is a must during data collection. Part of a supervisor's job is the conduct spot-checking and back-checking activities.

Item-by-item checks on the consistency, completeness and acceptability of the data are done during and after data collection, before the accomplished questionnaires are submitted for electronic data processing, where another layer of consistency and completeness check is made. Once table generation is done, series of reviews on the results follow before the data are finally presented and disseminated.

Completion goes hand in hand with the success of a particular activity. In the case of Fisheries Production Surveys, completion is reached when the estimates generated are affirmed at the end of the National Data Review and made part of the Report on the Performance of Philippine Agriculture.

3.3.5.4 Statistical Reports

- Fisheries Statistics of the Philippines
- Fisheries Statistics Reports
January-June; July- December; January- December

3.3.6 Farm Prices Survey (FPS)

3.3.6.1 Overview

Historical Background

The generation of farm prices data dated back in 1957 when the then Agricultural Economics Division of the Department of Agriculture and Natural Resources (DANR) started the collection of data on prices received by farmers. On June 22, 1963, the Bureau of Agricultural Economics (BAEcon) was created under Republic Act 3627. BAEcon superseded and absorbed the functions of the Agricultural Economics Division of DANR. The data system on farm prices was carried on by the Bureau of Agricultural Economics (BAEcon) from 1963 to 1987. In 1987, the BAEcon was reorganized to the now Bureau of Agricultural Statistics (BAS) under the Department of Agriculture by virtue of Executive Order No. 116. It assumed most of the functions of BAEcon and absorbed its personnel. BAS became the principal government agency for the efficient collection, processing, analysis and dissemination of official statistics on agriculture and fisheries one of which is the system of generating and delivering farm prices data. The FPS has since become a continuing activity of the BAS.

In seeking to pursue a more effective system of generating and delivering farm prices, the BAS from time to time did assessments of the FPS methodology. This resulted in the improved data collection and processing procedures for farm prices of agricultural commodities.

Scope

The Farm Prices Survey is a national survey covering all provinces. Each province has a basket of FPS commodities.

Objective

The main objective of the Farm Prices Survey is to generate estimates of farmgate or producers' prices.

Purpose

The outputs of the Farm Prices Survey are used in the periodic valuation of the outputs produced by farmers and livestock raisers. Similarly, these are inputs for the development of price indices to measure the purchasing power of growers of selected agricultural products. Maintenance of farmgate prices will likewise provide needed inputs a) to analyze trends and variations in prices; b) forecasting future supply, demand and prices of agricultural commodities; c) to assist policy makers in the formulation, implementation and administration of economic programs, and d) to guide farmers/raisers in their decision making relative to their agricultural activities geared towards improvement of their profitability

Contents

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

3.3.6.2 Survey Design

Survey: Farm Prices Survey (FPS)

Sampling Frame

For crops and backyard livestock survey: no formal sampling frame, instead the municipalities are ranked based on past data of volume of production

For commercial livestock and poultry: List of samples of Commercial Livestock and Poultry Survey

Sampling Design / Statistical Unit / Selection Procedure

For prices received by farmers for crops and backyard livestock and poultry:

Two-stage sampling design with municipality, which consists of the top-5 producing municipality per commodity per province, as the primary sampling unit and farmer who traded the commodity during the reference period as the secondary sampling unit. In each sample municipality, at least 5 sample farmers per commodity are selected purposively.

For prices received by livestock and poultry raisers in commercial farms:

Stratified sampling following the Commercial Livestock and Poultry Survey procedure. It utilizes the sub-samples of the CLPS for each animal type. The maximum number of samples required per province is 8. In case the total number of farms for each poultry

and egg item is less than 8, complete enumeration is done. Two samples per stratum are chosen as samples in the province. If there are less than four strata in the province, the number of samples per stratum is increased proportionately to get a provincial total of 8.

For prices paid by crop farmers for pesticides:

Respondents for pesticides are the dealers of agricultural inputs in the 5 major crop-producing municipalities and in the provincial capital or trading center. Sample dealers of inputs are those most patronized by farmers. One dealer per municipality will be interviewed. In addition, the 3 major pesticide dealers in the provincial capital or trading center shall be considered as samples. The maximum number of samples per province is 8.

Main Data Items and Variables for Operational Purposes

Quantity sold, price per local unit, freight charges/total transport cost of the quantity sold by commodity

Reference Period: days 1 to 30 of the reporting month

Date of Data Collection: last 10 days of the month

Geographical Scope

79 provinces and 2 chartered cities (Davao City and Zamboanga City). This excludes the province of Batanes.

3.3.6.3 Conduct, Operations, Data Quality Control

Quality Control and Key Elements for Data Collection

To monitor and sustain quality of data collected for Farm Prices Survey (FPS) the following activities are undertaken:

1. Consistency check through review of entries relative to the provincial FPS basket and trading matrix
2. Non-sampling errors are monitored and minimized by reviewing POC forms/questionnaires

Quality Control for Data Processing

Manual data processing involved the review of the entries for completeness and acceptability.

Machine processing includes summarization of data according to regional/provincial/Basket formats, further evaluation and final tabulation, computer editing of entries for consistency of data items.

Assessment of Data Quality

Data validation in the Provincial Operation Centers (POCs), Regional Operation Centers (ROCs) and Central Office (CO). The data are reviewed in terms of the following:

Provincial Data Review (PDR)

1. Completeness of commodities
2. Correctness of unit of measure and specifications
3. Consistency of price level compared with previous quarter and previous year
4. Consideration of the following:
 - Seasonality
 - Weather condition
 - Prior Trends
 - Past data series
 - Wholesale and Retail Price Data Series
 - Price reported by other agencies

Regional Data Review (RDR)

1. Completeness of provinces reporting
2. Completeness of data requirements
3. Price relationship with other provinces
4. Comparison of price level compared with previous quarter and previous year
5. Accuracy of specifications
6. Accuracy of price ranges
7. Consideration of the following:
 - Seasonality
 - Weather condition
 - Prior Trends
 - Past data series
 - Wholesale and Retail Price Data Series
 - Price reported by other agencies

National Data Review (NDR)

1. Completeness of provincial and regional reports (FPAS)
2. Correctness of unit of measure and specifications
3. Consistency with the basket, matrix, FPS20 and R5
5. Accuracy of price ranges at the national and regional level
6. Consideration of the following:
 - Seasonality
 - Weather condition
 - Trends

- Past data series
- Wholesale and Retail Price Data Series

3.3.6.4 Statistical Reports

- Producer Price Index for Agriculture
- Statistical Handbook on Prices of Pesticides

3.3.7 Agricultural Labor Survey (ALS)

3.3.7.1 Overview

Historical Background

The BAS has been conducting ALS for more than three decades now. It covered four major crops: rice, corn, coconut and sugarcane. This survey started in 1974 as a rider to the Rice and Corn Survey (RCS). Using a one-page questionnaire, RCS subsample respondents were interviewed for ALS. The adopted scheme did not yield an adequate number of samples that could generate acceptable data on wage rates. It was, thus, decided that quota sampling be adopted and up to 1989, this sampling procedure was used for the four (4) commodities. In 1988, the questionnaire was revised to include all the farm operations for each type of crop and this resulted in four sets of questionnaire.

A Technical Working Group (TWG) on ALS was created in 1989 to assist the BAS in generating accurate, timely and useful wage rate statistics through improved survey methodology/sampling design and questionnaire. Among the modifications introduced by the TWG were the changes in the framing of questions and inclusion of women's participation in agricultural production activities. On the same year, a manual of operation for ALS procedures was prepared.

In 1990, ALS adopted the new design for rice and corn, which employed probability sampling in the selection of its units in 38 provinces. The frame was based on the 1980 Census of Agriculture. Replicated two stage stratified sampling design was adopted by ALS for rice and corn. Quota sampling was still maintained in the other palay and corn provinces as well as for coconut and sugarcane. In 1995, the ALS adopted the 1993 RCPS design where the frame was based on 1991 Census of Agriculture but the same sampling system was used. In 1998, quota sampling was adopted for all the crops and it is currently used for ALS. At the same time, changes in the questionnaire were made to get an indications of contribution of unpaid labor to total labor.

Scope

The Agricultural Labor Survey is a national survey. Data collection covers 80 provinces for palay, 53 provinces for corn, 48 provinces for coconut and 19 provinces for sugarcane.

Objective

The main objective of the survey is to generate estimates of average wage rates of agricultural farm workers, specifically for the four major crops: palay, corn, coconut and sugarcane.

Purpose

The purpose is to establish basis for computing the average wage rate in agriculture and subsequently a composite wage rate index for agriculture.

Contents

The data items generated in the survey are as follows:

1. Daily wage rate of farm workers by crop and by sex
2. Wage rate of farm workers by crop, by basis of payment and farm activity
3. Number of mandays per hectare by crop, by farm activity, source of labor and sex
4. Distribution of hired workers by terms of payment, crop and sex
5. Distribution of hired workers by farm activity, crop and sex

3.3.7.2 Survey Design

Survey: Agricultural Labor Survey (ALS)

Sampling Frame

For palay and corn: ALS uses the RCPS as the sampling frame which is based on the 1992 Census of Agriculture and Fisheries

Sampling Design / Statistical Unit / Selection Procedure

Quota sampling design. For palay and corn, a sub sample of barangays from the RCPS sample barangays was taken from strata IV and V i.e. the barangays with bigger farm sizes. This was based on the assumption that the larger the palay (or corn) area in the barangay, the higher the probability of having hired laborers working on the farm. All sample barangays in one replicate were selected. For palay and corn, samples were set at 20 for provinces identified as the major producers and 15 samples

for minor provinces. For coconut and sugarcane, samples were set at 15 for both major and minor provinces.

Main Data Items and Variables for Operational Purposes

Daily wage rate of farm workers by crop and by sex; wage rate of farm workers by crop, by basis of payment and farm activity; number of mandays per hectare by crop, by farm activity, source of labor and sex; distribution of hired workers by terms of payment, crop and sex; distribution of hired workers by farm activity, crop and sex

Reference Period

For palay and corn: semester

For coconut and sugarcane: annual

Date of Data Collection: 1st two weeks of the semester

Geographical Scope

79 provinces and 2 chartered cities (Davao City and Zamboanga City). This excludes the province of Batanes.

3.3.7.3 Conduct, Operations, Data Quality Control

To ensure the smooth and successful conduct of the survey, technical working groups are created by area of concern. The SOCD at the Central Office monitors and coordinates the field operation activities. In the field, the RASOs are responsible for the monitoring and supervision of the survey operation in all the provinces within the region. The PASOs and APASOs act as overall supervisor in the province. As a regular activity, the POC staff conducts the data gathering.

POC staff are given pre-survey training to ensure that the procedures and concepts will be carried correctly. During and after data collection, the field staff should check the completeness, consistency and acceptability of the information collected. The questionnaire undergoes field editing and central office editing before they are submitted for electronic processing. Data tables are generated and these go into a series of reviews.

3.3.7.4 Statistical Report

- Trends in Agricultural Wage Rates

3.3.8 Integrated Agricultural Marketing Information System/ Agricultural Marketing News Service (AGMARIS-AMNEWSS)

3.3.8.1 Overview

Historical Background

Wholesale price monitoring of agricultural commodities, alongside with retail price, was started by the then Bureau of Agricultural Economics (BAEcon) with the creation of the Agricultural Marketing News Service (AMNEWSS) under Republic Act 4148. But because of budgetary constraints, the AMNEWSS was launched in 1968, four years after the law was passed. The operations started with the following: 10 radio transceivers, 10 provincial trading centers, 67 wholesale items and 57 retail items. In 1969, AMNEWSS coverage was expanded to 21 provincial trading centers and 12 Metro Manila markets. Likewise, the number of commodities covered was increased. Other milestones included price dissemination through radio broadcasts, publication in selected print media and distribution of marketing reports to government offices.

In the succeeding years, AMNEWSS underwent several changes in market and commodity coverages, collection frequency and procedures to improve the system, to suit availability of budgetary requirements and the transition from the BAEcon to the Bureau of Agricultural Statistics. In 1992, through a funding from the United States Agency for International Development (USAID), the AGMARIS was conceptualized. AGMARIS is a system, which follows a systematic approach in assessing, and responding to marketing information needs of farmers and traders at the local level and policy makers at the national level. The AGMARIS design was based on the results of a Marketing Information Needs Assessment (MINA), a research methodology employing rapid appraisal techniques. It aimed to determine the existing commodity marketing system and information needs of the data users. It was conducted and implemented in 30 commercial provinces/cities including Metro Manila.

To further improve the price monitoring system and to address the changing needs of data users, the AGMARIS and AMNEWSS were integrated two years after, renaming it to Integrated AGMARIS-AMNEWSS monitoring system. Under this system, 30 AGMARIS sites follow the AGMARIS collection methodology while the rest follow the AMNEWSS procedure. While the collection methodology for the two surveys remained independent, a common processing and dissemination system is used by both the AGMARIS and AMNEWSS, hence the “integration”.

Scope

Wholesale Prices

Wholesale prices are classified into wholesale selling and wholesale buying. Each province monitors either wholesale selling or buying or both. Wholesale price

monitoring (WPM) of agricultural commodities is implemented in 66 markets in the 55 provincial/cities including Metro Manila. The commodity basket for Wholesale Price Monitoring has crops, fisheries and livestock items across provinces.

Retail Prices

Retail price monitoring is undertaken in 81 provinces/cities including Metro Manila covering a total of 105 markets.

Objectives

The main objective of the activity is to implement a comprehensive and responsive marketing information system for unprocessed agricultural commodities which are traded in major local/provincial market centers as well as in strategic markets throughout the country.

Purposes

The purposes are to:

1. conduct wholesale and retail surveys of market price and other relevant marketing information at various frequencies at pre-determined major trading centers throughout the country;
2. immediately process information at the field level and thereafter disseminate these particularly to the farmers;
3. operationalize an information exchange subsystem among the Provincial Operation Centers (POCs) of the bureau;
4. to publish and disseminate national level reports for policy makers and other interested groups or persons;
5. conduct periodic evaluation of the system that will be the basis for improving the AGMARIS implementation; and
6. conduct statistical analysis of quantitative market information generated.

Contents

The Collection Forms contains the following parts:

1. Prices Commodity Name
2. Respondents' Name
3. Price per unit
4. Comments/Relative Supply Level
5. Price Range (Low/High)
6. Prevailing

3.3.8.2 Survey Design

Survey: Integrated Agricultural Marketing Information System/ Agricultural Marketing News Service (AGMARIS-AMNEWSS)

Sampling Frame:

For wholesale price collection: List of traders for wholesale buying and for wholesale selling prices

For retail price collection: list of traders by commodity group

Sampling Design / Statistical Unit / Selection Procedure

Sample markets are selected based on some criteria.

For AMNEWSS:

Respondents for wholesale and retail prices are chosen purposively in each sample market. For each commodity or item, at least 5 samples are interviewed per collection day.

For AGMARIS:

In choosing the samples for each commodity under the wholesale price monitoring, the respondents are stratified according to trader type such as large distributor, provincial assembler, medium distributor, regional assembler/large distributor, etc. Then the traders are grouped into two or a maximum of three groups from which samples are drawn. Five samples are interviewed per collection day.

For retail price collection, the traders are stratified according to their location or place of business in the market or collection area (inside the market, outside the market, along street A, along street B, etc). Five samples are interviewed per collection day also.

Main Data Items and Variables for Operational Purposes: Wholesale buying price, wholesale selling price, retail selling price by commodity

Reference Period: quarter

Date of Data Collection

In AGMARIS provinces: vary from market to market depending upon the operation of the market covered

In AMNEWSS provinces: Monday, Wednesday, Friday from 7:00 – 9:00 in the morning

Geographical Scope

Wholesale prices: 55 provinces including Metro Manila

Retail prices: 81 provinces/cities including Metro Manila (51 for AGMARIS and 30 for AMNEWSS)

3.3.8.3 Conduct, Operations, Data Quality Control

Quality Control and Key Elements for Data Collection

To monitor and sustain quality of data collected for AGMARIS-AMNEWSS the following activities are undertaken:

1. Spot checking by Provincial Agricultural Statistics Officers (PASO)
2. Consistency check through review of entries which should correspond with the provincial retail and wholesale market basket
3. Non-sampling errors are monitored and minimized by reviewing POC forms/questionnaires

Quality Control for Data Processing

Manual data processing involved the review of the entries for completeness and acceptability.

Machine processing includes summarization of data according to provincial and regional commodity formats, further evaluation and final tabulation, consistency check through the review of entries.

Assessment of Data Quality

Monthly data validation in the Provincial Operations Centers (POCs) and Central Office (CO)

1. Consistency to provincial basket
2. Consistency to trend
3. Possible inputting errors
4. Accuracy of price ranges
5. Abrupt changes in price level

3.3.8.4 Statistical Reports

- Statistical Handbook on Prices of Fertilizers
- Price Situationer on Selected Agricultural Commodities
- Update on Palay, Rice and Corn Prices
- Update on Fertilizer Prices
- Agricultural Retail Price Index

3.3.9 Costs and Returns Surveys (CRS)

3.3.9.1 Overview

Historical Background

The BAS also conducts socio-economic surveys/studies related to agriculture and fisheries sectors. One of these surveys is the Costs and Returns Survey (CRS) which are done on a one-shot basis. The information generated from this survey serves as benchmark data in updating the cost and returns for selected commodities which are being maintained by the bureau. The conduct of CRS largely depends on the external sources of funds.

The conduct of CRS started during the BAEcon years, the BAS predecessor. During the '90s, CRS for palay and corn was conducted in January 1992 with funds coming from Comprehensive Agrarian Reform project. In 1996, another project with three-year funding assistance from the Bureau of Agricultural Research (BAR) covered the CRS for selected high value commercial crops. CRS for hogs was conducted in 1998 and milkfish in 2001. To have updated information, another CRS in 2002 was conducted nationwide for palay and corn and another for garlic and onion for selected provinces. In 2005, CRS of palay production by seed type was implemented for major producing provinces. The following year covered the CRS for garlic, onion and milkfish production under the DA funding assistance.

Scope

The commodities and the provinces covered by the CRS depend on the availability of funds.

Objectives

The conduct of CRS is generally intended to provide information on the production costs and returns of agricultural commodities. Specifically, it aims:

1. to establish production cost structures for the commodity;

2. to analyze production costs in terms of cash vs. non-cash and fixed vs. variable costs;
3. to measure and provide indications of the profitability of producing specific agricultural commodities;
4. to generate information on farmers' practices and other important socio-economic concerns.

Purpose

The purpose is to generate survey-based estimates of farm and farm household characteristics which are useful inputs to support the agricultural R and D Program. It can likewise address the data requirements for economic and policy analyses as well as for formulation of development plans and programs.

Contents

Information generated from the CRS are the following:

1. Basic characteristics of the sample farmer, the farm and farmer's household;
2. Farm investments
3. Material inputs: seeds, fertilizer, pesticide, etc.;
4. Labor inputs: operations, type of labor, payment, etc.;
5. Other production costs
6. Production and disposition;
7. Basic marketing and credit information;
8. Access to support services; and
9. Problems and recommendations on production and marketing.

3.3.9.2 Survey Design

Sampling Frame

For palay and corn: Rice and Corn Production Survey sampling frame

For selected high value commercial crops: list of households who engaged in the production of the crop in the sample barangays (since there is no available list of households in all barangays, the listing was done only after the selection of the sample barangays)

For commercial hog:

1997 Agribusiness Directory for Hogs containing the names, addresses, contact persons/managers and total housing capacities of farms raising at least 21 heads of hogs

For backyard hog: list of backyard hog raisers in the sample barangays (since there is no available list of hog raisers in all barangays, the listing was done only after the selection of the sample barangays)

For milkfish: 1997 and 2001 Aquaculture Production Survey sampling frame containing the list of aquaculture operators who reported milkfish harvest during the reference period barangays)

Sampling Design / Statistical Unit / Selection Procedure

For palay and corn: The province is categorized according to production capacity. A maximum of 10 sample barangays for major provinces and 5 sample barangays for minor provinces are chosen at random. The sample barangays are clustered and each cluster consists of all palay farmers meeting the criterion – palay farmers who actually harvested their crop during the reference period.

For selected high value commercial crops: Three-stage sampling design with municipality as the primary sampling unit, barangay as the secondary sampling unit and household as the tertiary sampling unit. The sample municipalities and barangays are the top producers of the province in terms of volume of production. In each sample barangays, a listing on the households who engaged in the production of the crop was done through key-informant approach. Sample households are selected using simple random sampling

For commercial hog: In provinces where no more than 10 farms were listed, a complete enumeration scheme was adopted. In other provinces, the design is a stratified random sampling with total housing capacity as stratification variable. Uniform cut-off points were set and 3 strata were formed as follows:

Stratum	Housing Capacity (number of head)
Small farms	21 to 99
Medium farms	100 to 999
Large farms	1000 and above

Ten farms per province was proportionately allocated to the strata with representative farms at a minimum of two (2) samples per stratum, whenever applicable. Sample farms were selected using simple random sampling.

For backyard hog: Three-stage sampling design with municipality as the primary sampling unit, barangay as the secondary sampling unit and hog raiser as the tertiary sampling unit. The sample municipalities and barangays are the top producers of the province in terms of volume of production. In each sample barangays, a listing on the backyard hog raisers was done through key-informant approach. Sample hog raisers are selected using simple random sampling.

For milkfish: Sample milkfish farmers were drawn from the list of aquaculture operators who reported milkfish harvest/will harvest for the period January to September 2001 during the August 2001 survey. In effect, the samples were sub samples of the Aquaculture Production Survey. In CRS provinces where the August 2001 survey was not conducted, the 1997 lists were used in drawing the sample farmers.

Main Data Items and Variables for Operational Purposes

Sample identification or basic characteristics of the sample farmer, the farm, and in some cases, the farmer's household; farm investments which serve as source of data on depreciation and/or interest on investments, repairs, farmer's allocation of use of farm machineries, equipment and other investment items; material inputs: seeds, fertilizer, pesticide, etc; labor inputs: operations, type of labor, payment, etc; other production costs; production and disposition; basic marketing and credit information; access to support services; and problems and recommendations

Reference Period

Varies according to commodity which is usually a year before the survey period to cover the entire cycle of the commodity

Geographical Scope: Selected provinces for selected commodities

3.3.9.3 Conduct, Operations, Data Quality Control

To ensure the smooth and successful conduct of the survey, technical working groups are created by area of concern. The SOCD at the Central Office monitors and coordinates the field operation activities. In the field, the RASOs are responsible for the monitoring and supervision of the survey operation in all the provinces within the region. The PASOs and APASOs act as overall supervisor in the province. Contractual data collectors are usually tapped to do the data gathering.

Before the survey operation, training for the data collectors is undertaken to ensure that the procedures and concepts will be carried correctly. This includes mock interviews and dry-run exercises. During the field operation, data collectors are closely supervised by the POC staff. As an immediate supervisor, they should conduct spot-checking and back checking

During and after data collection, the data collector should check the completeness, consistency and acceptability of the information collected. The questionnaire undergoes field editing and central office editing before they are submitted for electronic processing. Data tables are generated and these go into a series of reviews.

3.3.9.4 Statistical Report

CRS of the following commodities

1. Palay, corn, white potato and selected upland vegetables, cutflowers, mango, cashew, durian, pili, onion, garlic, mongo, peanut, sweet potato, cassava, tomato, calamansi, coffee, papaya, pineapple, watermelon, ampalaya, stringbeans, eggplant, backyard and commercial hogs, milkfish, tilapia
2. Palay production by seed type and class

3.4 Metadata for Each of the Major Administrative Registers

3.4.1 Administrative Register: Foreign Trade Statistics

3.4.1.1 Responsible Agency: National Statistics Office

Background

The National Statistics Office or NSO (formerly National Census and Statistics Office from 1974 up to its renaming by virtue of Executive Order 121 on January 30, 1987 and used to be the Bureau of the Census and Statistics prior to its reorganization under PD 418 on March 20, 1974), is the agency that compile foreign trade statistics starting 1973.

The Philippines adopts the “General” trade system of recording foreign trade statistics and the customs frontier (not the national boundary) is used as the statistical frontier. Under this system, all goods entering any of the seaports or airports of entry of the Philippines properly cleared through customs or remaining or under customs control are considered imports, whether the goods are for direct consumption, for merchanting, for warehousing or further processing. On the other hand, all goods leaving the country which are properly cleared through the Customs are considered exports. A distinction, however is made between export for goods grown, mined or manufactured in the Philippines (domestic exports) and exports of imported goods which do not undergo physical and/or chemical transformation in the Philippines (re-exports).

Since 1982, goods are considered imported/exported on the date the carrying vessel/aircraft arrives/departs at the port/airport of unloading/loading.

3.4.1.2 Description of Contained Information

Coverage

Statistical Domain and data items: Commodity at 7-digit PSCC, FOB Value, Quantity, Gross Kilos.

The foreign trade data relate to commerce between the Philippines and other countries by the sea or air whether for private or government use or for commercial purposes, gifts or samples. It also includes animals for the zoo, for breeding and the like. Following is the list of commodity groupings with its corresponding PSCC codes.

PSCC Code	DESCRIPTION
0	Food and Live Animals
00	a. Live Animals
01	b. Meat and Meat Preparations
02	c. Dairy Products and Bird's Eggs
03	d. Fish and Fish Preparations
04	e. Cereal and Cereal Preparations
05	f. Vegetables and Fruits
06	g. Sugar and Sugar Preparations
07	h. Coffee Tea Cocoa Spices and Manufactured thereof
08	i. Feeding Stuff For Animals (Excluding Unmilled Cereals)
09	j. Miscellaneous Edible Products and Preparations
12	Tobacco and Tobacco Manufactures
2	Crude Materials
22	a. Oil Seeds and Oleaginous Fruits
23	b. Crude Rubber
272	c. Crude Fertilizer
21, 26, 29	d. Crude Animal and Vegetable Materials (Including Hides Skins and Furkins) Raw
4	Animal and Vegetable Oils and Fats
41 & 43	a. Animal and Vegetable Oils and Fats
42	b. Fixed Vegetable Oils and Fats
56	Fertilizer Manufactured
591&592	Agricultural Chemicals
7	Agricultural Machinery
721	a. Agricultural Machinery (Excluding Tractors)
722	b. Tractors
727	c. Food Processing Machines (Excluding Domestic)
745	d. Agricultural or Horticultural Sprayers Drip Irrigation System and Parts of Agricultural/Horticultural Appliances

3.4.1.3 Data Sources

Sources of information

Foreign trade statistics are compiled by the NSO from copies of import and export documents submitted by importers and exporters or their authorized representatives to the Bureau of Customs are required by the law. Imported articles of the commercial nature with dutiable value above two thousand pesos are cleared on formal import entry (Bureau of Customs Form No. 236). Those with dutiable value of two thousand pesos or less and personal and household effects, may be cleared on an informal import entry (Bureau of Customs Form No. 177) whenever duty, tax or charges are collectible. Effective 1980, imports cleared through Economic Processing Zone Authority (EPZA) Form 8102 (EPZA Import Tally) are included. From early 1996, EPZA forms were renamed as Philippine Economic Zone Authority (PEZA) forms.

The sources of export data are Export Permit (CB-ED Form No. 102R), Export Declaration (ED) with and without Foreign Exchange Proceeds (CBP 6-21-02 and CBP 6-21-04, respectively) and EPZA Export Tally (EPZA Form 8104). The first form is used by BOI-registered exporters, the second form by general exporters and the last form by exporters located inside the Export Processing Zone. The “Census Copy” (usually the triplicate copy except the Export Declaration which is quadruplicate) of these documents are collected by NSO field workers from all ports of entry and then forwarded to the central office in Manila for processing.

Effective 1 October 1991, the Revised Export Declaration was implemented which can be used by all kinds of exporters, however, in 1996 the responsibility was transferred from Central Bank (CB) to Department of Trade and Industry (DTI). On the other hand, the Customs-EPZA warehousing entry (BC Form No. 242 CEWE) form was also implemented in lieu of EPZA Form No. 8102 (Import Tally) for all EPZA-registered zone enterprises' importations effective 14 October 1991.

Commodity Classification

The commodities are classified in accordance with the 1993 Revised Philippine Standard Commodity Classification (PSCC), a classification scheme that is aligned with the United Nations Standard International Trade Classification (SITC), and the Harmonized Commodity Description and Coding System of Philippines, otherwise known as Harmonized System of the Philippines (HSP).

The 1989 Revised PSCC was used in the classification of commodities included in the trade statistics for the years 1991-1994.

From 1977 to 1990, the 1977 PSCC was used. It was basically patterned after the UN SITC, Rev. 2 and followed similar coding scheme up to subgroup level (4-digit). Prior to 1977, the Revised Central Bank Commodity Classification Manual was used, which

was an integration of the Central Bank Statistical Classification of the Philippines and patterned after the SITC original.

Data Collection

Data collection by the NSO is conducted daily. The release of data on monthly exports and imports is every 40 days and 55 days after the reference month, respectively.

Data Processing

National Statistics Office (NSO)

Data processing is done both mechanically and manually. Manual and Transcribing ED/IERD to NSO prescribe processing sheets T-8-E & T-8-I.

Copies of import and export documents collected by NSO personnel from the customs houses in all ports and airports of entry in the Philippines are systematically controlled. Collected documents are sorted by month, by port, by single or multiple commodity entries and by value. About 100 entries are assigned control numbers and bundled together for the convenience of coders, computers and encoders. The bundles then undergo the following stages of processing.

1. coding - process of translating each item of information to be culled into its equivalent alphabetic and/or numeric code in accordance with the commodity, country, nationality of trader, flag or registry of carrier of port classification used.
2. code verification - process of determining the appropriateness of codes used.
3. computation - process of converting the declared values appearing in the entries into FOB value, insurance and freight in US dollars.
4. computation verification - process of checking the accuracy of computed data.

Quality control of coding and computation for both imports and exports is carried through sample verification. This method enables the verifier to decide after a number of entries have been verified whether to reject, continue or accept the bundle. The number and type of errors are recorded and brought to the attention of the coder or computer. Further training is given on pinpointed causes of errors of processors to improve the quality of their work.

After the necessary corrections are effected on erroneous figures, the monthly tabulations are finally produced. When all monthly tabulations for a year have been completed, the annual tabulations are then prepared.

The coverage of the annual publication is usually higher than the sum of monthly coverage, since it includes data from documents which arrive too late for inclusion in their respective months. Separate tabulations for late entries are prepared to enable users to correct monthly preliminary figures.

Quality controls and evaluation and other key elements for data collection/compilation: Sequential computation of customs control number

Quality controls for data processing: Check FOB value by multiplying unit price and quantity.

Other key elements on data processing: Verification with other forms such as invoices, monthly report and other riders/attachments.

Other key elements on data dissemination: Monthly releases, Semi-annual & Annual special releases, Annual publication, FTS primer

Bureau of Agricultural Statistics (BAS)

The Monthly and Annual Import and Export Data coming from NSO are processed using a modified excel program to come up with the following: 1) C.I.F. computations for Imports data; 2) identification of top agricultural import and export with country of origin and country of destination; 3) annual, quarterly and monthly series; 4) ranking of commodities by value; 5) agricultural trade balance. The BAS prepares and submits quarterly memorandum to the Secretary of Agriculture. An annual report is also prepared for publication.

Statistical Reports

- Annual Agricultural Foreign Trade Development Report
- Quarterly Agricultural Trade Performance Report

Annual Agricultural Foreign Trade Development Report, release every 2nd semester after the reference year.

Quarterly Trade Updates for the Secretary, release after 1 quarter.

Annual Publication is available in hard and soft copies and can be downloaded through the BAS website (<http://bas.gov.ph>) - downloads menu. Quarterly Trade Updates can also be downloaded through the BAS website (<http://bas.gov.ph>) - Situationer/Quarterly Trade updates menu.