Introduction

The agriculture sector has long been important to millions of Filipinos as sources of food supply, employment and livelihood. Raw materials produced by the sector serve as essential inputs in the production of industrial outputs and complements the services sector's needs. About a third of Filipino workforce is employed by the sector and this significantly addresses poverty and inequality reduction to a segment of the poor living in rural areas.

With the perennial issues and challenges coupled by vulnerability to climate and disaster risks confronted by the sector, it is imperative that the sector maximize its growth potentials in order to promote more inclusive development.

The Philippine Development Plan 2017-2022 envisions to expanding economic opportunities in the AFF sector and to increasing access to economic opportunities for small farmers and fisherfolk. These are vital to lay down the foundation for inclusive growth, a high-trust and resilient society and a globally-competitive knowledge economy.

Essential in monitoring progress and outcomes of policies and program interventions are statistical information that are also needed for knowledge-based decisions and provide quantitative measures on the performance of the sectors in the Philippine economy. The Philippine Statistics Authority (PSA) is at the forefront in providing quality statistics on agriculture, livestock and fishery sector. As mandated by RA 10625, the PSA conducts censuses, surveys, special studies and other statistical activities, generates key indicators and serve as the source of official agricultural statistics.

Considering that the sector is a dynamic one where new developmental concerns continue to emerge, statistical development programs are proposed to be implemented in the medium term by the PSA. The statistical programs and activities are designed to provide vital information support for the Medium-Term Philippine Development Plan (MTPDP) thereby putting an orderly direction towards sustained improvement in the agricultural statistical system.

The plans were crafted in consultation with the Inter-Agency Committee on Agriculture and Fishery Statistics (IACAFS) which is represented by the key institutions with stake in the agriculture, livestock and fishery sector. Primarily, it serves as a forum for the exchange of views and expertise to resolve technical issues and problems arising from the production, dissemination, and use of agriculture and fishery statistics.
Scope and Coverage

This chapter covers statistical indicators and data that describe the characteristics, activities, and outputs of the economic units in the agriculture, livestock and fishery sector and agrarian reform. Statistics include data and indicators generated from censuses, surveys and monitoring and administrative systems such as:

- Agricultural structure and resources, e.g., land use, irrigation system, agro-industries, statistics on land size, use (i.e. per crop or livestock, aquaculture), number of farmers per type of commodity and by type of land ownership (i.e. tenant, landowner), demographics of farmers/fisherfolks/operators, etc.;
- Agricultural and fishery production, e.g., agricultural crops, livestock and poultry, fishery, agricultural services, costs and returns of production and stock/inventories, food production and safety, fishery resource assessment;
- Agricultural marketing, e.g. prices and margins, domestic and foreign trade, supply and value chain, infrastructure and facilities;
- Farmers’/fisherfolks’ welfare/household economics, e.g. labor, income, wage rate, consumption, land distribution, capital formation, access to credit, insurance and guarantees, and
- Land tenure improvement, agrarian justice delivery, and support services delivery.

Implementing Agencies

The following agencies are involved in the development and improvement of agricultural and agrarian reform statistics:

- National Economic and Development Authority (NEDA)
- Bureau of Fisheries and Aquatic Resources (BFAR)
- Philippine Council for Agriculture and Fisheries (PCAF)
- Philippine Statistics Authority (PSA)
- Department of Agriculture (DA)
- Department of Agrarian Reform (DAR)
- Senate Economic Planning Office (SEPO)

Milestones, Key Developments and Issues and Challenges

Milestones and Key Developments of 2016-2017

The agricultural statistical system in the Philippines is well-placed with its existing package of surveys and statistical activities geared towards supporting data and information needs of stakeholders in the sector including national accounts estimation. Presently, it has an established data system from data collection, data processing, data review/validation and data dissemination. Complementing the AgStat system are the information resources gathered from administrative-based agricultural data producing agencies instituted through linkages and close coordination. These have effectively benefited the system in terms of producing quality agricultural statistics.

Dynamic as the sector, the AgStat system is also faced with developmental concerns that continue to emerge resulting in the ever changing needs of data users. The need for an updated sampling frame for surveys that will capture the current agricultural structure of the country is a prime concern to be addressed in the medium term. Moreover, there is the need to keep up with advances in technology in order to produce timely and reliable statistics.

In 2016 to 2017, developments in the AgStat system were focused on conduct of statistical activities that were aimed at improving the existing processes as well as conduct of new methods and studies to rationalize statistical activities.

The major statistical development activities implemented during the period 2016 to 2017 geared towards the improvement of the agricultural statistical system are as follows:

- Enhancement of agricultural and fishery surveys in terms of coverage, data collection, processing and data management.
- Updating/improvements of the processing systems. Adoption of Windows-based software in data processing system like CSPro has been done for the major agricultural surveys
(Palay and Corn Production Surveys (PCPS), Backyard Livestock and Poultry Survey (BLPS), Commercial Livestock and Poultry Survey (CLPS), Compilation of Data of Slaughterhouses and Poultry Dressing Plants (CDSPDP) and Agricultural Wage Rate Survey (AWRS). Improvements in the processing systems included updating of reference files, consistency checks and embedded validation parameters to facilitate review of data files. These helped reduce the processing time and release of agricultural statistics.

- **A Study of the Integration of the Survey of Food Demand for Agricultural Commodities (SFD) into Family Income and Expenditure Survey (FIES).** The study was conducted in 2017 in order to review the two surveys and to come up with recommendations for the possible integration of the household surveys. The study proposed for the following: adoption of commodity coverage under the FIES, maintenance of data disaggregation under the SFD, and integration of SFD questions re: consumption practices into FIES. The study noted that the existing FIES questionnaire can ably address the SFD’s objective of generating per capita consumption by commodity.

- **Conduct of specialized surveys/listing activities:**
  - **Listing of Dairy Farms (LDF).** The LDF is one of the special activities of the PSA undertaken to provide an updated list of dairy farms in selected provinces. This is a collaborative activity among the PSA, Philippine Carabao Center (PCC) and National Dairy Authority (NDA). The listing was undertaken in eight (8) pilot provinces namely; Cagayan, Isabela, Nueva Ecija, Bulacan, Batangas, Laguna, Bohol and Misamis Oriental. The activity generated updated list of dairy farms by type of animals (cattle, carabao and goat) raised in the eight (8) provinces.
  - **Conduct of Updating of List of Aqua Farms (ULAF).** The 2017 Updating of List of Aqua Farms (ULAF) has the primary objective of updating the list of aquaculture farms based on three (3) sources, namely: Aquaculture Farms Inventory (AqFI); 2012 Census of Agriculture and Fisheries (CAF); and Bureau of Fisheries and Aquatic Resources (BFAR) List of Aquafarms. Specifically, the ULAF aims to generate sampling frame for quarterly surveys on aquaculture. Information gathered includes culture system, management system, area and/or volume of aquaculture farm, species cultured and location of the aquaculture farm.

  Field operations were conducted in all provinces, which started in October 2017. Data processing is on-going. The output of this activity will provide reliable statistical frame for the conduct of aquaculture surveys and as basis for sampling and coverage decisions.

- **Conduct of 2017 Listing of Farm Households (LFH).** The 2017 LFH aims to update the sampling frame for agricultural surveys conducted by the PSA. Specifically, the listing operation intends to come up with an updated list of households engaged in agricultural activities as well as to develop the list of agricultural operators. The LFH results will serve as a basis in the improvement of the current crops surveys.

- **Conduct of Survey on Costs and Returns of Tomato Production.** The survey aims to generate data on production cost structure, average use of materials and labor inputs, farmers’ practices and measures of profitability of producing tomato. The survey covered six (6) top tomato producing provinces, namely, Ilocos Norte, Ilocos Sur, Iloilo, Cebu, Bukidnon and Misamis Oriental. The survey was conducted in 2017.

- **Conduct of Survey on Food Demand for Agricultural Commodities (SFD).** This is a national survey conducted every three years in quarterly rounds. It aims to generate data on per capita consumption of rice, corn and other agricultural commodities, to determine seasonal variations in the levels of consumption and the extent of rice substitution. The last survey was done in 2015 to 2016. Two (2)
volumes of the report were completed on February 2017.

➢ **Strengthening of advocacy on understanding and rational use of agriculture and fishery statistics and indicators.**

- **Livestock and Poultry Information-Early Warning System (LPI-EWS).**
  The PSA with funding support from the Department of Agriculture's National Livestock Program collaborated on the improvement of data system and establishment of a comprehensive information system for livestock and poultry including early warning indicators (EWI) as input variables for generating outlook through statistical models and survey-based forecasting.

  At the national level, the Quarterly Situation and Outlook reports on the Supply and Demand of Pork and Broiler meat were published. The project's concepts and strategies were rolled out to all regions. The outputs of the regions include the Regional Situation Reports on Broiler and Swine. These statistical reports were collaboratively prepared by the PSA-Regional Statistical Service Office (RSSO), the Department of Agriculture-Regional Field Offices (DA-RFOs) and Local Government Units (LGUs).

- **Use of administrative-based data systems as supplement/alternative sources of data on agriculture and fishery.**

  - Continuous collaboration with regulatory agencies (e.g. National Meat Inspection Service (NMIS), Bureau of Animal Industry (BAI), National Dairy Authority (NDA), Philippine Carabao Center (PCC), Philippine Fisheries Development Authority (PFDA), Bureau of Fisheries and Aquatic Resources (BFAR), National Food Authority (NFA), Philippine Coconut Authority (PCA), Sugar Regulatory Administration (SRA), National Tobacco Administration (NTA), Philippine Fiber Development Authority (PhilFiDA), Local Government Units (LGUs), etc.) through forging of Memorandum of Agreements (MOAs) and bilateral meetings to increase the use and enhance the quality of administrative-based data.

- **Conduct of capacity-building on agricultural statistics data system, data review/validation.**

  - Conduct of the 2017 operational training for crops survey, livestock and poultry surveys and agricultural wage rate survey. The training aimed to capacitate the central office and field personnel in the conduct of the following crops surveys: Palay and Corn Production Survey, Monthly Palay and Corn Situation Reporting System, Palay and Corn Stocks Survey, and Crops Production Survey; livestock and poultry surveys: Commercial Livestock and Poultry Survey, Backyard Livestock and Poultry Survey and Compilation of Data of Slaughterhouses and Poultry Dressing Plants and the Agricultural Wage Rate Survey. The training covered the different aspects of the data system: data collection, data processing, data review and validation.

- **Updating of technical conversion ratios/parameters for production estimation through the conduct of the following activities:**

  - **Updating the Food Balance Sheet parameters for livestock and poultry parameters.** Through the project of Livestock and Poultry Information and Early Warning System (LPI-EWS), standardization/harmonization of livestock and poultry parameters was done to be used in the generation of supply utilization accounts (SUA) and food balance sheet (FBS) framework. Updating of parameters was conducted using the latest available data from surveys, census and administrative-based data. This was also supplemented by studies done by universities and research institutions, and results of consultative meetings and workshops.

  - **Updating of the Milling Recovery Rate (MRR) of Rice.** This activity aimed to validate the existing MRR of rice through field visits to selected rice mills in Luzon and Visayas.
❖ **Issues and challenges**

Key issues and concerns in the generation of agriculture and fisheries statistics are as follows:

➢ Need to enhance the agricultural and fishery surveys and other related statistical activities in terms of coverage and methodology/design and data collection.

   ▪ Need to review the existing design/methodology and develop/update the sampling frames of agricultural surveys.

➢ Review and rationalize household surveys to address duplication of the data items collected.

➢ Need for an updated information on the structural characteristics of agriculture and fisheries sectors (in terms of land size, farm holdings, etc) with barangay level disaggregation.

➢ Need to automate the data collection and processing of agricultural and fisheries surveys through Information and Communications Technology (ICT) application and software.

➢ Increased use of administrative-based data systems as alternative/supplemental sources of data on agriculture and fishery.

➢ Increasing demand for statistics on other livestock and poultry commodities such as sheep and quail eggs, ornamental fishes, data on hatcheries by species.

➢ Addressing the data needs for Sustainable Development Goals (SDG) indicators classified as Tier 2 and Tier 3.

➢ Need for an updated cost of production of agricultural commodities.

➢ Need to update the parameters and conversion factors used in the Supply Utilization Accounts (SUA)/Food Balance Sheet (FBS), production estimation and national accounts compilation.

➢ Need to continuously capacitate the technical and statistical skills of human resources in the agricultural statistical system, especially on census and survey design, and implementation.

➢ Need to increase the level of appreciation and awareness of the data users and producers on the rational use of statistics.

➢ Need to sustain the engagement and cooperation with international statistical community to ensure that Philippine statistics is constantly at par with global quality standards.

**Key Statistical Development Programs and Activities**

❖ **Thrusts and strategies**

➢ Improve the generation of relevant, timely and quality statistics to address current and emerging concerns on agriculture and fishery statistics;

➢ Maximize the use of Information and Communications Technology in data collection, processing and dissemination of statistics;

➢ Conduct statistical research and studies to improve generation of agriculture and fishery statistics and indicators;

➢ Utilization of administrative-based system as an alternative/supplementary source of data on agriculture and fisheries;

➢ Strengthen capacity building for better production, dissemination and utilization of agriculture and fishery statistics and indicators; and

➢ Engagement in international cooperation on agriculture and fishery statistics through sharing of experiences, practices and expertise.

❖ **Major Statistical Development Programs and Activities for 2018-2023**

The major statistical programs to address the issues and concerns of the agricultural statistical system towards improving the quality of agricultural statistics and indicators are as follows:
a. New Developmental Programs and Activities

➢ Conduct comparative study between the use of administrative based data or registers as an alternative source of data.

➢ Development of data collection system using Computer-Assisted Personal Interviewing (CAPI) for the following surveys:
  ▪ Palay and Corn Stock Survey (PCSS);
  ▪ Compilation of Data of Slaughterhouses and Poultry Dressing Plants (CDSPDP);
  ▪ Quarterly Commercial Fisheries Survey (QCFS); and
  ▪ Quarterly Municipal Fisheries Surveys (QMFS).

➢ Use of state of the art technology (e.g. ArcGIS software by ESRI) in mapping, enumeration and gathering of information on land cover and agricultural areas.

➢ Strengthen linkages with LGUs and other partner agencies to conduct local level data gathering (PSA).

➢ Assessment of the data holdings for the generation of Tiers 2 and 3 Sustainable Development Goals (SDG) indicators related to agriculture and fishery.

➢ Preparation/development of survey design/methodology for the conduct of survey for the emerging commodities such as sheep, quail eggs, fresh water cultured ornamental fishes and other crops.

➢ Active participation in international conferences, meetings, training and workshops on agricultural statistics.

➢ Strengthen international cooperation on agricultural statistics activities.

➢ Conduct study visits to other countries.

b. Building-up Current Efforts

➢ Enhancement of agricultural and fishery surveys and other related statistical activities in terms of coverage, methodology/design and data collection.
  ▪ Crops:
    o Adoption of the 2017 Listing of Farm Households (LFH) results for updating the lists of Secondary Sampling Units (SSU) for Palay and Corn Production Survey.
    o Development of improved survey design and estimation procedure for the Crops Production Surveys.
    o Conduct of Listing of Farms for Crops Production Survey.
    o Subscription to standard commodity classification code system.
  ▪ Livestock and Poultry:
    o Revisiting the Backyard Livestock and Poultry Survey (BLPS) methodology.
    o Updating of the list of commercial farms/establishments for livestock and poultry (including hatcheries and breeder farms); and dairy farms.
    o Updating of the list of slaughterhouses and poultry dressing plants.
    o Benchmarking of Livestock and Poultry survey methodology used by other countries.
    o Subscription to standard commodity classification code system.
  ▪ Fisheries:
    o Adoption of the results of Updating of List of Aqua Farms (ULAF) for aquaculture surveys.
    o Conduct of frame updating activities on commercial and municipal landing centers and inland fishing households.
    o Development of improved survey design and estimation procedure for fisheries production surveys.
    o Subscription to standard commodity classification code system.

➢ Revision and rebasing of the agricultural accounts from 2000 to 2012 as part of the overall revision/rebasing of the Philippine System of the National Accounts.
➢ Review the existing design, methodology and coverage of the Agricultural Wage Rate Survey versus Labor Force Survey

➢ Conduct of pre-tests and pilot census prior to the implementation of the 2022 Census of Agriculture and Fisheries

➢ Conduct of 2022 CAF

➢ Continuous collaboration with regulatory agencies through forging of Memorandum of Agreements (MOAs) and bilateral meetings

➢ Conduct of annual survey on hatcheries to gather information on volume and value of production

➢ Conduct of surveys on cost of production (palay and corn) and expenditures data on orchard development (mango, coffee, calamansi, coconut, rubber, cacao, etc) (PSA).

➢ Conduct of field visits, internet research or use of existing secondary data for updating the parameters and frameworks (seed usage, feeds, wastage, processing and other utilization), technical conversion ratios for Supply Utilization Accounts/Food Balance Sheet (SUA/FBS) and common conversion rates for selected crops for production estimation

➢ Regular conduct of operational training including data review and validation at the provincial and regional levels.

➢ Conduct of capacity building activities such as training on basic statistics, data management, analysis and dissemination, and data visualization like infographics.

➢ Conduct of dissemination forum, focus group discussions, advocacy meetings to raise appreciation and awareness on the PSA statistical activities and product and services.