

Philippines - Survey on Costs and Returns of Tomato Production 2017

Philippine Statistics Authority (PSA)

Report generated on: February 16, 2023

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Overview

Identification

ID NUMBER
PHL-PSA-SCR_TOMATO-2017-V1

Version

VERSION DESCRIPTION
Version 1.0

Overview

ABSTRACT

The Philippine Statistics Authority (PSA) recognizes the importance of generating data on costs and returns of tomato production. The production costs and returns data are among the highly requested information from major users such as policy analysts, national accounts compilers, farmers and other entrepreneurs in the agricultural sector. For tomato farmers, production costs and returns data can serve as basis for the improvement of their efficiency and profitability. For both government and non-government planners and policy makers, the data can be used in designing appropriate programs and projects to boost the growth and development of the tomato industry.

The general objective of the survey is to generate data on costs and returns of producing tomato. Specifically, the survey aims to:

- establish an up-to-date production costs structure;
- determine indicators of profitability such as gross and net returns, returns above cash cost, returns above variable cost, etc.;
- come up with updated data sets on average use of material and labor inputs; and,
- generate other related socio-economic variables.

The 2017 Survey on Costs and Returns of Tomato Production covered tomato farmers in the six (6) identified top producing provinces from each major island group, namely, Ilocos Norte and Ilocos Sur in Luzon, Iloilo and Cebu in Visayas and Bukidnon and Misamis Oriental in Mindanao. Particularly, those farmers who had the last completed cropping cycle of tomato within the reference period and knowledgeable on the details of tomato farming, particularly investments, inputs usage, farming expenses and disposition of produce were the target respondents of the survey.

The reference period for Luzon and Visayas is the last completed cropping cycle within September 2016 to May 2017. For Mindanao, the reference period is the last completed cropping cycle within January 2017 to September 2017.

The data collected were the following:

1. Basic characteristics of the sample farmer, the farm and farmer's household;
2. Farm investments;
3. Material inputs;
4. Labor inputs;
5. Other production costs;
6. Production and disposition;

7. Basic marketing and credit information;
8. Access to support services;
9. Problems related to production and marketing;
10. Basic information on effects of climate change; and
11. Recommendations and future plans

KIND OF DATA

Sample survey data [ssd]

UNITS OF ANALYSIS

Sample farmers who had the last completed cropping cycle of tomato within the reference period and knowledgeable on the details of tomato farming particularly investments, inputs usage, farming expenses and disposition of produce were the target respondents of the survey.

Scope

NOTES

The scope of the survey included the following:

BLOCK A. FARM LOCATION

- This block collected information on the geographic location where the sample tomato farm was located.

BLOCK B. SAMPLE IDENTIFICATION

- This block gathered the demographic characteristics of the sample farmer such as name, residence, age, sex, educational attainment, main occupation and years engaged in tomato farming.

BLOCK C. BASIC CHARACTERISTICS OF THE FARM

- This block collected basic information about the farm(s) operated by the sample farmer i.e. number of farm parcels operated, area planted and harvested to tomato, tenurial status of the focus parcel, month planted/harvested, type of tomato planted, seed variety and its sources.

BLOCK D. FARM INVESTMENTS (owned and used in the focus parcel during reference period)

- This block contained information on all investment items owned and used/utilized by the sample farmer in tomato production during the last completed cropping cycle within September 2016 to May 2017 for Luzon and Visayas provinces and January 2017 to September 2017 for Mindanao provinces. The investment items had at least one year of estimated useful life.

BLOCK E. MATERIAL INPUTS (used in the focus parcel during reference period)

- This block gathered information on the usage and costs of material inputs of the sample farmer in his/her tomato production during the last completed cropping period.

BLOCK F. LABOR INPUTS (in focus parcel during reference period)

- This block collected information pertaining to labor utilization in the production of tomato during the reference period. The sources of labor were operator, family, exchange labor ("bayanihan") and hired labor. The latter included permanent worker, contract labor or "pakyaw" system wherein the performance of multiple farming activities was contracted for a certain amount.

BLOCK G. OTHER PRODUCTION COSTS (in focus parcel during reference period)

· This block contained information on other items of production cost incurred on the focus parcel during the reference period. Payments may be cash, imputed or non-cash. In case of non-cash payments or payments in kind, the total value of goods was converted to cash equivalent.

BLOCK H. PRODUCTION AND DISPOSITION (in focus parcel during reference period)

· This block gathered information on the gross volume of tomato harvested in the focus parcel during the last completed cropping cycle within September 2016 to May 2017 for Luzon and Visayas provinces and January 2017 to September 2017 for Mindanao provinces as well as the breakdown of disposition (i.e. sold/to be sold to trader, processor, direct consumer, given away, for home-based processing, wastage, etc.).

BLOCK I. PRODUCTION RELATED INFORMATION (in focus parcel)

· This block collected information on the problems affecting tomato production during the reference period.

BLOCK J. MARKETING RELATED INFORMATION (in focus parcel)

· This block contained information on the buyers of the produce and problems encountered in marketing tomato produce during the reference period.

BLOCK K. ACCESS TO CREDIT (in focus parcel)

· This block gathered information on loans availed by the sample farmer/operator for use in tomato production during the reference period.

BLOCK L. FARMER'S PARTICIPATION IN TOMATO PROGRAMS / PROJECTS

· This block collected information on the farmer's participation in tomato program and projects during the reference period.

BLOCK M. OTHER INFORMATION

· This block gathered information relative to the perceived effect of climate change in tomato production and the sample farmer/ operator's membership in any farmers' organization and benefits they received from the organization.

BLOCK N. PLANS AND RECOMMENDATIONS

· This block compiled the plans and recommendations of the sample farmer/operator for the improvement of his/her tomato production.

Coverage

GEOGRAPHIC COVERAGE

LUZON:

Ilocos Norte

Ilocos Sur

VISAYAS:

Iloilo

Cebu

MINDANAO:

Bukidnon

Misamis Oriental

UNIVERSE

Tomato farmers in the Philippines who had complete cropping cycle within the reference period.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Philippine Statistics Authority (PSA)	National Economic and Development Authority (NEDA)

FUNDING

Name	Abbreviation	Role
Government of the Philippines	GOP	

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Agricultural Accounts Division	AAD	Philippine Statistics Authority	Documenter

DATE OF METADATA PRODUCTION

2018-11-07

DDI DOCUMENT VERSION

Version 1.0.

Start: 20180326

DDI DOCUMENT ID

PHL-PSA-SCR_TOMATO-2017-V1

Sampling

Sampling Procedure

The top fifteen (15) tomato producing barangays in the province served as the sampling frame. These were identified by the Provincial Statistics Offices (PSOs) using the available information on tomato production. The ranking of barangays was based on the volume of tomato production, total area cultivated for tomato and number of tomato farms/farmers during the year 2016-2017. The list was updated through interview of key informants such as Municipal Agricultural Officers (MAOs), Agricultural Technicians (ATs) and Barangay Officials.

The domain of the survey was the province. A two-stage sampling design was employed with the barangay as the primary sampling unit (PSU) and the sample farmer as the secondary sampling unit (SSU). The top producing barangays were selected from an ordered list of barangays.

The sample farmers were drawn by means of simple random sampling, a standard probability-based sample design, which is described in the Handbook on Agricultural Cost of Production Statistics, Global Strategy of the United Nations Statistical Commission, February 2016.

The budget was the main factor for setting the sample size which was set at seventy-five (75) equally allocated to each sample barangay i.e., five (5) sample farmers for each sample barangay. The total number of sample barangays per province was fifteen or less. If the number of major producing barangays that contributed to 80 percent based on area planted was more than 15, then the top 15 barangays were selected. Those provinces with less than 15 barangays that produced tomato were completely enumerated. Since the survey intended to generate average estimates of costs of production and returns and not total estimates, the target number of samples per province was a good indicator to get the said information.

During data collection, the names and addresses of tomato farmers residing in the barangay were obtained from the office of the barangay chairman or any other key informants in the barangay. It served as the statistical researcher's (SR) starting point in searching for potential sample farmers. The target numbers of tomato farmers in the sample barangays were obtained using snowball sampling. A set of screening questions was applied to confirm if those listed actually planted and harvested tomato during the reference period and satisfied the other criteria to qualify for enumeration.

Whether the interviewed farmer was qualified for the survey or not, he/she was asked to identify other tomato farmers in the barangay to be added in the initial list. The search continued, and the farmer who met the criteria specified in the screening questions was qualified as sample for the survey and was interviewed using the questionnaire for the 2017 Survey on Costs and Returns of Tomato Production. If the interview was successfully carried out (meaning, all the needed information had been supplied), the household number, full name and residential address of the sample farmer were written in the List of Sample Farmers. The SR selected again any farmer in the initial list as the next potential sample for the survey. The process continued until the required number of samples in the barangay was obtained.

Response Rate

A total of 450 sample tomato farmers were enumerated for this survey. This was equivalent to 75 sample tomato farmers for each of the six (6) covered provinces. All these sample farmers were successfully interviewed, thus, a response rate of 100 percent.

Questionnaires

Overview

The questionnaire was structured and written in English. It was designed in tabular form and some in question type format. The data items/variables in the questionnaire were based on the previous questionnaires with some modifications and additions.

The questionnaire was pre-tested in Ilocos Sur, Iloilo and Bukidnon and reviewed before its implementation.

The questionnaire consisted of 14 pages covering 15 blocks as follows:

A. FARM LOCATION - this block collected information on the geographic location where the sample tomato farm was located.

B. SAMPLE IDENTIFICATION - this block gathered the demographic characteristics of the sample farmer such as name, residence, age, sex, educational attainment, main occupation and years engaged in tomato farming.

C. BASIC CHARACTERISTICS OF THE FARM - this block collected basic information about the farm(s) operated by the sample farmer i.e. number of farm parcels operated, area planted and harvested to tomato, month planted/harvested, tenurial status of the focus parcel, type of tomato planted, seed variety and its sources.

D. FARM INVESTMENTS - this block contained information on all investment items owned and used/utilized by the sample farmer in tomato production during the last completed cropping cycle within September 2016 to May 2017 for Luzon and Visayas provinces and January 2017 to September 2017 for Mindanao provinces. The investment items had at least one year of estimated useful life.

E. MATERIAL INPUTS - this block gathered information on the usage and costs of material inputs (quantity, cost and mode of acquisition of seeds, fertilizers, soil ameliorants, mulching materials and pesticides) of the sample farmer in his/her tomato production during the last completed cropping period.

F. LABOR INPUTS - this block collected information pertaining to labor utilization in the production of tomato during the reference period. The sources of labor were operator, family, exchange labor ("bayanihan") and hired labor. The latter included permanent worker, contract labor or "pakyaw" system wherein the performance of multiple farming activities was contracted for a certain amount.

G. OTHER PRODUCTION COSTS - this block contained information on other items of production cost incurred on the focus parcel during the reference period. Payments may be cash, imputed or non-cash. In case of non-cash payments or payments in kind, the total value of goods was converted to cash equivalent. Examples of other production costs are land tax, land/lease rental, rentals of machine, animals, tools and equipment, rental value of owned land/animal, fuel and oil, transport cost of inputs, interest payment on crop loan, storage fee, water expense, electricity cost, food expense for hired and exchange labor, etc.

H. PRODUCTION AND DISPOSITION - this block gathered information on the gross volume of tomato harvested in the focus parcel during the last completed cropping cycle within September 2016 to May 2017 for Luzon and Visayas provinces and January 2017 to September 2017 for Mindanao provinces as well as the breakdown of disposition (i.e. sold/to be sold to trader, processor, direct consumer, given away, for home-based processing, wastage, etc.).

I. PRODUCTION RELATED INFORMATION - this block collected information on the problems affecting tomato production during the reference period as well as the comparison of current production with the production from previous cropping period and reasons for such changes.

J. MARKETING RELATED INFORMATION - this block contained information on the buyer/s of tomato and problems encountered in marketing tomato produce during the reference period.

K. ACCESS TO CREDIT - this block gathered information on loans availed by the sample farmer/operator for use in tomato production during the reference period. This also captured the corresponding interest rate per annum/per month/per cropping of the availed loan.

L. FARMER'S PARTICIPATION IN TOMATO PROGRAMS/PROJECTS - this block collected information on the farmer's participation

in tomato program and projects during the reference period.

M. OTHER INFORMATION - this block gathered information relative to the perceived effect of climate change in tomato production and the sample farmer/ operator's membership in any farmers' organization and benefits they received from the organization.

N. PLANS AND RECOMMENDATIONS - this block compiled the plans and recommendations of the sample farmer/operator for the improvement of his/her tomato production.

O. INTERVIEW/SURVEY PARTICULARS - this block contained the names and signatures of the Statistical Researcher, the Field Supervisor / Editor, and the Provincial Statistics Officer.

Refer to related materials 2017 Survey on Costs and Returns of Tomato Production - Questionnaires for more information.

Data Collection

Data Collection Dates

Start	End	Cycle
2017-07-03	2017-07-07	For Luzon and Visayas
2017-10-09	2017-10-13	For Mindanao

Time Periods

Start	End	Cycle
2016-09-01	2017-09-29	Last Completed Cropping Cycle
2016-09-01		Last Completed Cropping Cycle

Data Collection Mode

Face-to-face [f2f]

Data Collection Notes

The activity was carried out by the hired SRs through personal (face-to-face) interview of the sample farmer in sample barangays using the structured questionnaire and prescribed survey procedures. Problems, issues and concerns as well as actions taken in data collection were reported by the SRs to their field supervisors using a data collection feedback sheet.

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Data Collectors

Name	Abbreviation	Affiliation
Philippine Statistics Authority	PSA	National Economic and Development Authority

Supervision

The Provincial and Regional staff were responsible for the supervision of the survey operations. Selected Central Office (CO) trainers also assisted in the supervision during the duration of their travel to the province. Likewise, selected CO staff assisted in editing the accomplished questionnaires.

Among the tasks carried out by field supervisors were the conduct of spot checking during data collection to monitor the data collectors' work, ground validation and back-checking the work of SRs after data collection and the preparation of field supervision report.

Data Processing

Data Editing

Editing and coding of survey returns were done at the provincial offices upon submission of the accomplished questionnaires by the SRs. These activities were undertaken to ensure the quality of data that were collected.

Refer to related materials 2017 Survey on Costs and Returns of Tomato Production Editing Guidelines for more information.

Other Processing

A customized data processing system was developed for the survey. The specifications of data capture, flat file or raw data file, electronic data editing, and data tabulation were prepared during the project conceptualization stage. These specifications served as the basis for the development of computer data processing programs.

Prior to encoding of survey returns, a five-day training on data processing, data review and validation was conducted to ensure the correct processing of information following the completeness, consistency and accuracy checks of the various data items. Moreover, generation of summary tables was done during the said training which allowed the provincial data review of the output tables. The soft copy of the cleaned provincial data files was then submitted to the Central Office for consolidation.

At the Central Office, the provincial data files and the output tables were subjected for another round of review. The outputs of the data review served as the final version of the data files and were used for the final tabulations.

The data analysis was done by technical staff of the Agricultural Accounts Division (AAD) using two (2) approaches, namely: temporal and spatial analyses. For the temporal analysis, the results of the current survey were compared from the results of previous surveys. For spatial analysis, on the other hand, the survey results were compared across the provinces covered. Other auxiliary information related to the data items were also used to further validate the results of the survey.

Refer to related materials 2017 Survey on Costs and Returns of Tomato Production Data Processing Program Manual for more information.

Data Appraisal

Estimates of Sampling Error

Not Applicable.