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2017  
Costs & Returns of  
**TOMATO**  
Production



JULY 2018



REPUBLIC OF THE PHILIPPINES

**PHILIPPINE STATISTICS AUTHORITY**

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## FOREWORD

The Philippine Statistics Authority (PSA) conducted the 2017 Survey on Costs and Returns (SCR) of Tomato Production in June and October 2017. The SCR was designed to generate data on the cost structure of tomato production, average usage of material and labor inputs and measures of profitability of tomato farming. It covers the six (6) major tomato 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.

The costs and returns data contained in this report are presented by province. This report includes other socio-economic variables related to tomato production. 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 PSA appreciates the cooperation of farmer-respondents who were interviewed by our Statistical Researchers during the conduct of the survey.

We welcome comments and suggestions from our various users and stakeholders for the enhancement of the report and improvement of our data system on cost of production.



**LISA GRACE S. BERSALES, Ph.D.**

Undersecretary

National Statistician and Civil Registrar General

Quezon City, Philippines  
July 2018

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## EXPLANATORY NOTES

The conduct of the 2017 Survey on Costs and Returns of Tomato Production is guided by the following concepts, definitions and coverage.

- Blank cells in the statistical tables indicate that there was no report for a particular data item.
- Data may not add up to respective totals due to rounding-off of figures.
- Percentage is used for multiple responses and may not equal to 100 percent while percentage distribution is used for single response and should equal to 100 percent.
- **Definition of Terms**

**Sample farmer/operator** – refers to the person who operates the **tomato** farm and takes the managerial responsibility for the day-to-day operation of the farm.

**Focus parcel** – is the particular farm parcel where the last harvest is completed within the reference period. All information collected for this survey refers to the focus parcel.

**Cropping cycle** – refers to the cycle of activities related to the growth and harvest of a crop. These activities include land preparation, sowing/planting, fertilizer application, watering/irrigation and harvesting.

**Single-operated farm** – type of farm enterprise that is owned and run by one natural person (farm operator) and in which there is no legal distinction between the owner and the farming business.

**Group-operated farm** – type of farm in which two or more individuals share the profits and liabilities of the farming business. This type of farm operations is excluded in the survey.

**Agricultural financier** – refers to person/organization that provides financial services ranging from short-medium and long-term loans, to leasing, to crop and livestock insurance, covering the entire value chain-input supply, production and distribution, wholesaling, processing and marketing.

**Contract growing/farming** – involves agricultural production being carried out as the basis of an agreement between the buyer and farm producers.

**Climate Change** – refers to a change in average weather conditions, or in the time variation of weather around longer-term average conditions (i.e., more or fewer extreme weather events). Climate change is caused by factors such as biotic processes, variations in solar radiation received by

Earth, plate tectonics, and volcanic eruptions. Certain human activities have also been identified as significant causes of recent climate change, often referred to as global warming.

### ***Cost Classification***

**Cash Costs** – are direct cash outlays or cash payments for the use of different factors of production such as labor, fertilizers and chemicals.

**Non-Cash Costs** – are expenditures that are paid in kind. Valuation of cost items makes use of the prevailing prices in the community. Generally, these non-cash costs represent the portions of the farmer's production that serve as payments for the use of particular factors of production.

**Imputed Costs** – are expenditures that do not involve actual outlays in cash or in kind; they represent the opportunity costs of using owned resources in a particular activity and are computed using the values of the best alternative uses foregone.

**Fixed Costs** – are costs that do not change when the level of output changes. Examples are land tax, lease rentals, interest payment on crop loan, depreciation and rental value of owned land/animal.

**Variable Costs** – are costs that change as the level of output changes. Examples are seed/seedlings, fertilizers, chemicals, labor, irrigation fee, etc.

**Total Costs** – refer to the sum of cash costs, non-cash costs and imputed costs.

### ***Indicators of Profitability***

**Gross Returns** – refer to the gross value of production. It is derived by multiplying the total volume of production by the farmgate or producer price.

**Returns Above Cash Costs** – returns after deducting the total cash outlays from the total value of production.

**Returns Above Cash and Non-Cash Costs** – returns after subtracting the cash and non-cash costs from the total costs.

**Net Returns** – refer to the net profit after subtracting all expenses incurred in production (total gross returns–total costs).

**Net Profit-Cost Ratio** – determines the rate of return to the farmers (the amount earned by the farmer for every peso spent in the production).

## **Specific Cost Items**

**Seeds/Planting materials** – are plant materials used for sowing purposes for the production of food, fodder, oil, industrial crops, vegetable, fruit flower, lawn and tree crops and include vegetative parts and/or organs used for propagating the crops/species.

**Fertilizers** – refer to any substance, solid or liquid, inorganic or organic, natural or synthetic, single or combination of materials that is applied to the soil or on the plant to provide one or more of the essential elements to improve plant nutrition, growth, yield or quality, or for promoting a chemical change that enhances plant nutrition and growth.

**Soil ameliorants** – are elements placed or mixed into the soil to replenish depleted soil nutrients for better plant growth.

**Pesticides** – refer to chemicals used to control/eradicate insects, pests and weeds.

**Mulching materials** – refer to the layer of material applied to the surface of an area of soil to conserve moisture, improve the fertility and health of the soil and reduce weed growth.

### ***Paid Labor***

**Hired labor** – is labor provided by a person who is paid by the farm operator. Payment of wages is either *in cash or in kind* (as agreed). Hired labor includes a man, eventually in combination with an animal or machine in the case of custom services (wages as well as in-kind payments have to be considered).

**Mandays** – conceptually, one manday is equivalent to eight (8) hours of work. It is the number of days multiplied by the number of hours worked per day and the result is divided by eight (8).

**Contract labor** – refers to the employment of multiple/combined activities that are paid as one.

### ***Unpaid Labor***

**Operator labor** – is labor contributed by the farm operator.

**Family labor** – is labor provided by the farmer's family members who take part in any production activities.

**Exchange labor** – is work done by farm laborers in exchange (or as payment) for the work done by the farm operator and family members outside the operator's own farm.

*Mandays of unpaid labor are valued at prevailing wage rate in the locality.*

**Land tax** – is amount of tax paid by the owner-operator for the farm land.

**Rentals** – refer to payments for the use of land, machine, animal, tools and farm machineries.

**Fuel and Oil** – refer to the cost incurred for the use of gasoline, oil, and other related inputs.

**Transport costs of inputs** – are expenditures incurred in transporting farm inputs to the production sites.

**Transport costs of produce from farm to first point of sale** – refer to expenditures incurred in transporting farm produce to the first point of sale. In this case, the farmer receives a price upon delivery of his product from the farm to a specific location (first point of sale).

**Interest payment on crop loan** – refers to payment for the interest on borrowed capital used in the farm operations.

**Landlord's/Landowner's share** – is the portion of farmer's production that goes to the owner of farmland based on the agreed sharing arrangement. The valuation is based on the price at which the produce is sold or would be sold in the market.

**Financier's share** – is the portion of farmer's production that goes to the financier of the farm operations based on the agreed sharing arrangement.

**Repairs** – cover all repairs and improvements made on tools and equipment and other facilities used in the production process.

**Food expenses** – expenditures incurred in providing food to exchange and hired laborers.

**Harvesters' share** – refers to the portion of farmer's production that serves as payment to farm laborers who perform the harvesting.

**Water expense** – is the payment in cash reported by farmers for the water consumed in the production process during the reference period.

**Electricity cost** – is payment for electricity consumed in the production process.

**Storage fee** – refers to the payment in storing the produce in a suitable place for a period of time before disposition or distribution.

**Depreciation** – refers to the cost of wear and tear of farm tools and equipment, machinery and other farm facilities and structures. It is computed as cost of acquisition divided by the estimated lifespan of farm equipment.

**Interest on operating capital** – is the cost of capital foregone for the purchase of seeds, fertilizers, chemicals and payment of wages for hired labor. This is derived by multiplying the total cash outlays by the prevailing lending rates from the Bangko Sentral ng Pilipinas (BSP).

**Rental value of owned land/animal** – is the imputed cost for the use of own farmland or animal which is derived by asking the farmer how much would be the annual value of the land or value of the animal per cropping if it will be rented out. If the farmer cannot provide the amount, valuation is done using values/prices existing in the area.

# I. INTRODUCTION

Tomato (*Lycopersicon esculentum* Miller) otherwise known as “*Kamatis*”, is an important and popular fruit vegetable grown in the Philippines. It can be eaten raw or as an ingredient in many dishes, sauces, drinks, and mostly in salads. Tomatoes are rich sources of vitamins A and C and folic acid and contain a wide array of beneficial nutrients and antioxidants including alpha-lipoic acid, lycopene, choline, folic acid, beta-carotene and lutein.

The country’s production of tomato for the past 10 years (2007 to 2016) was growing by an average of 1.23 percent per year. In 2016, production was estimated at 210,724 metric tons covering a total area of 16,165 hectares.

## A. Rationale

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.

Other important applications of the production costs and returns data are in the financial and insurance markets. In particular, financial institutions require feasibility studies in every investment portfolio. Doing a feasibility study needs production costs and returns data. On the other hand, this data can serve as solid basis in determining appropriate insurance premium rates.

The last Survey on Costs and Returns of Tomato Production was done in 1998. The production costs and returns data generated from the 1998 survey were rather old and may no longer be reflective of the current situation. To address this concern, the PSA conducted the 2017 Survey on Costs and Returns of Tomato Production.

## B. Objectives

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

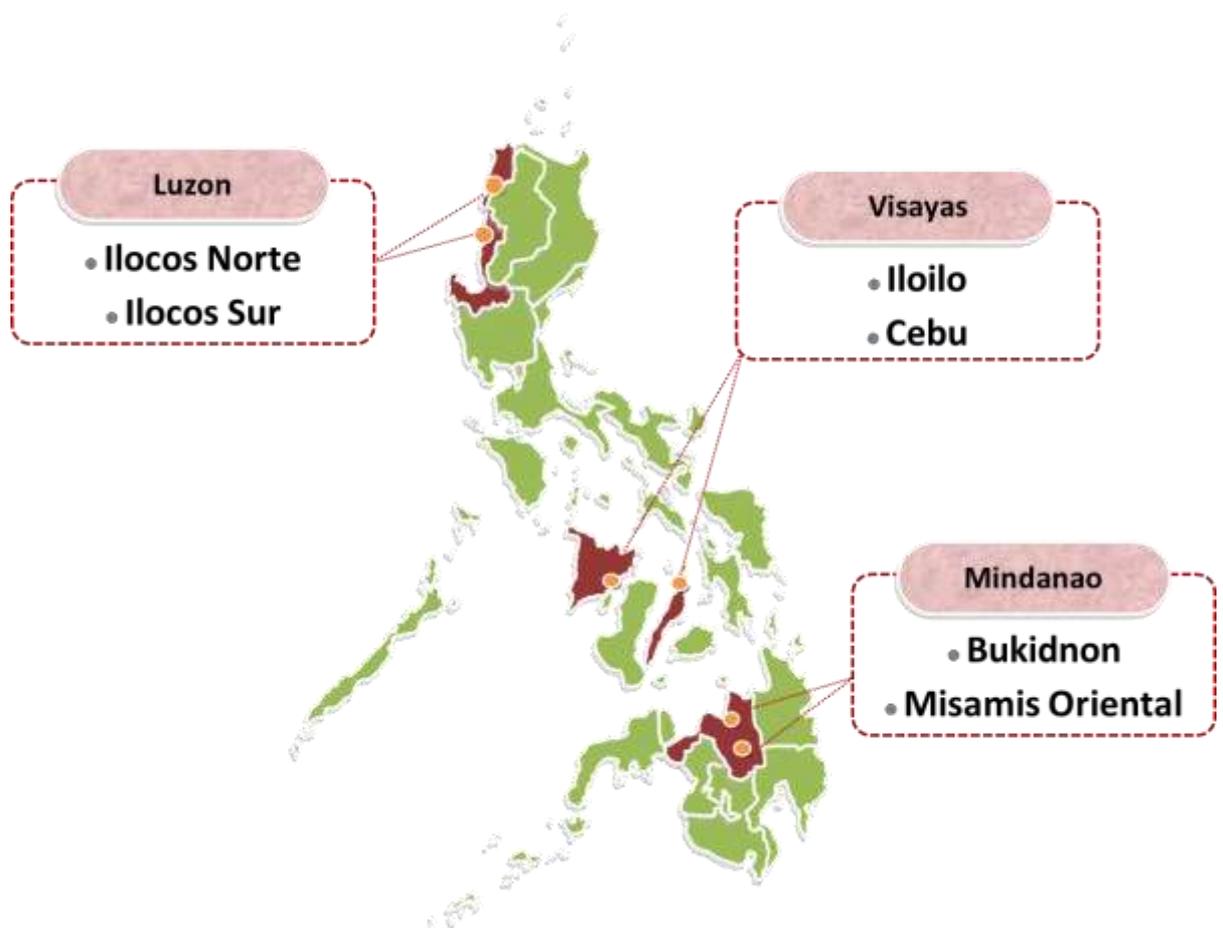
- establish an up-to-date production costs structure;

- 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.

## II. SURVEY METHODOLOGY

### A. Coverage

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 served as samples of the survey.

## B. Reference Period

The **reference period**<sup>1</sup> 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.

## C. Sampling Frame

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.

## D. Sampling Design, Sample Size and Sample Selection Procedure

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

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<sup>1</sup> The reference periods are based on the seasonality of the crop or on the peak harvest months per province. In Ilocos Norte and Ilocos Sur, the peak harvest months are from April to May. In Iloilo and Cebu, May to June is considered peak harvest months while September to October in Bukidnon and Misamis Oriental.

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**<sup>2</sup>. 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.

## **E. Survey Questionnaire**

The questionnaire for the 2017 Survey on Costs and Returns of Tomato Production (See Annex 2) consisted of fourteen (14) pages and fifteen (15) blocks namely:

### **Block Farm Location**

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

### **Block Sample Identification**

- B.**
- 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.

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<sup>2</sup> **Snowball sampling** - is a "special" non-probability sampling technique where existing study subjects recruit future subjects from among their acquaintances. Thus, the sample group is said to grow like a rolling snowball. As the sample builds up, enough data are gathered to be useful for research. This method is used when the survey's objective is after very specific characteristics.

**Block Basic Characteristics of the Farm**

- C. • 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, type of tomato planted, seed variety and its sources.

**Block Farm Investments (owned and used in focus parcel)**

- D. • 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 Material Inputs (used in focus parcel)**

- E. • 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 Labor Inputs (in focus parcel)**

- F. • 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 Other Production Costs (in focus parcel)**

- G. • 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 Production and Disposition (in focus parcel)**

- H. • 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 Production Related Information (in focus parcel)**

- I. • This block collected information on the problems affecting tomato production during the reference period.

**Block Marketing Related Information (in focus parcel)**

- J. • This block contained information on the problems encountered in marketing tomato produce during the reference period.

**Block Access to Credit (in focus parcel)**

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

**Block Farmer's Participation in Tomato Programs/Projects**

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

**Block Other Information**

- M. • 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 Plans and Recommendations**

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

**Block Interview / Survey Particulars**

- O. • This block contained the names and signatures of the Statistical Researcher, the Field Supervisor / Editor, and the Provincial Statistics Officer.

## **F. Estimation Procedures**

The estimation and analysis of costs and returns data made use of simple accounting procedures. This approach was simple, but needed to be broken down in detail by accounts. Estimates of costs and returns of production were presented and analyzed on a **per hectare** of farm basis (*farm used in the production of the subject commodity*) and on **per kilogram** of output basis.

**Averages, ratios and proportions** were used to characterize the farmers' operations, including allocation behavior in terms of cost distribution. Farm performance was analyzed based on the following indicators:

- Returns above cash costs;
- Returns above cash and non-cash costs;
- Gross and net returns;

- Net profit-cost ratio; and
- Cost per kilogram.

The average costs and returns of tomato production were computed as follows:

$$\text{Per Hectare} = \frac{\text{Total value of input (output)}}{\text{Total Harvest Area}}$$

$$\text{Per Kilogram} = \frac{\text{Total value of input (output)}}{\text{Total Production in Kilogram}}$$

Additionally, the indicators of profitability were derived using the following computational procedures:

$$\text{Gross Returns} = \text{Production} \times \text{Farmgate Price}$$

$$\text{Returns Above Cash Costs} = \text{Gross Returns} - \text{Cash Costs}$$

$$\text{Returns Above Cash and Non-Cash Costs} = \text{Gross Returns} - (\text{Cash Costs} + \text{Non-Cash Costs})$$

$$\text{Net Returns} = \text{Gross Returns} - \text{Total Costs}$$

$$\text{Net Profit-Cost Ratio} = \text{Net Return} \div \text{Total Costs}$$

$$\text{Cost per kilogram} = \text{Total Costs} \div \text{Total production}$$

### III. SURVEY OPERATIONS

#### A. Pre-survey Training

Two (2) levels of training were conducted. This activity aimed to have uniform understanding of the survey concepts and procedures that were used during the survey operations.

The first level was the training of selected Central Office (CO) staff, four (4) Regional Statistical Service Office staff and six (6) Provincial Statistics Office (PSO) head or representative who served as trainers in the next level of training. The second level training was intended for other PSO staff and the hired Statistical Researchers (SRs). They were trained on the rationale, objectives, survey methodology, filling out the questionnaires and basic editing procedures. Dry-run activity in a non-sample barangay was also done to provide the PSO staff and SRs with hands-on experience on data collection.

## **B. Data Collection**

The data collection was done in July 2017 for Luzon and Visayas provinces and in October 2017 for Mindanao provinces. 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.

## **C. Supervision of Survey Operations**

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.

## **IV. DATA PROCESSING, DATA REVIEW AND ANALYSIS**

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.

## V. 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.

**Table 1. Response Rate by Province, September 2016-September 2017**

Province	Number of Sample Tomato Farmers		
	Qualified	Successfully Interviewed	Response Rate
<b>Total</b>	<b>450</b>	<b>450</b>	<b>100.00</b>
<b>Ilocos Norte</b>	<b>75</b>	<b>75</b>	<b>100.00</b>
<b>Ilocos Sur</b>	<b>75</b>	<b>75</b>	<b>100.00</b>
<b>Iloilo</b>	<b>75</b>	<b>75</b>	<b>100.00</b>
<b>Cebu</b>	<b>75</b>	<b>75</b>	<b>100.00</b>
<b>Bukidnon</b>	<b>75</b>	<b>75</b>	<b>100.00</b>
<b>Misamis Oriental</b>	<b>75</b>	<b>75</b>	<b>100.00</b>

## VI. HIGHLIGHTS OF THE FINDINGS

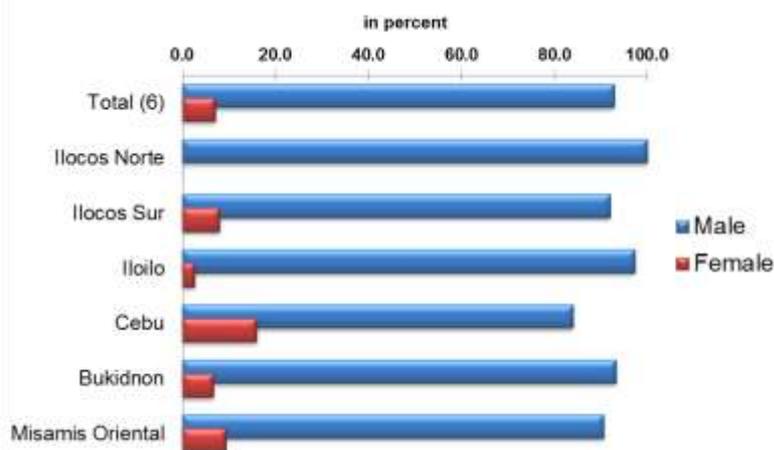
### A. Characteristics of Tomato Farmers

*This section presents the profile of the tomato farmers in terms of their sex, age, educational attainment, main occupation, farming experience and farm investments.*

#### Sex, Age, Educational Attainment and Main Occupation

For the six (6) provinces covered in the survey, almost 93 percent of the tomato farmers were males while the remaining 7 percent were females. In Ilocos Norte, all the sample tomato farmers were males. In other provinces, male tomato farmers comprised 84 percent in Cebu to 97 percent in Iloilo (Figure 1.1).

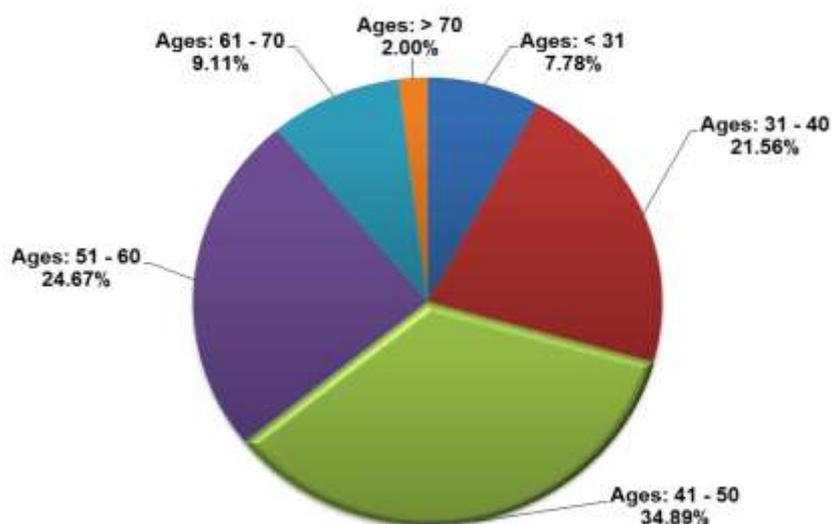
Figure 1.1 Percentage Distribution of Tomato Farmers by Sex, Selected Provinces, September 2016-September 2017



On the average, the age of tomato farmers was 47 years. Ilocos Sur had the oldest group of tomato farmers with average age of 51 years. The youngest group was recorded in Bukidnon at an average age of 43 years (Table 3).

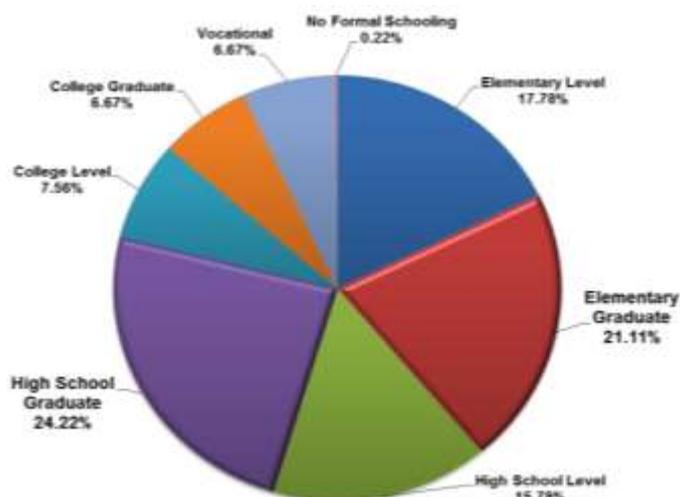
By age group, farmers belonging to the age bracket 41 to 50 years accounted for the biggest proportion at 34.89 percent. Only 2 percent of the tomato farmers were more than 70 years old (Figure 1.2).

Figure 1.2 Percentage Distribution of Tomato Farmers by Age Group, Selected Provinces, September 2016 - September 2017



About 17.78 percent of the tomato farmers reached elementary level while 21.11 percent were elementary graduates. There were 15.78 percent who attained high school or secondary level of education. Those who completed high school education were 24.22 percent. Some 7.56 percent had college education while 6.67 percent each obtained college degree and vocational studies. Only a few at 0.22 percent had no formal schooling (Figure 1.3). By province, Cebu reported the biggest proportion of tomato farmers at 32 percent who finished elementary level. Graduates of high school education were highest in Ilocos Norte at 41.33 percent. In Ilocos Sur, 16 percent were college degree holders (Table 4).

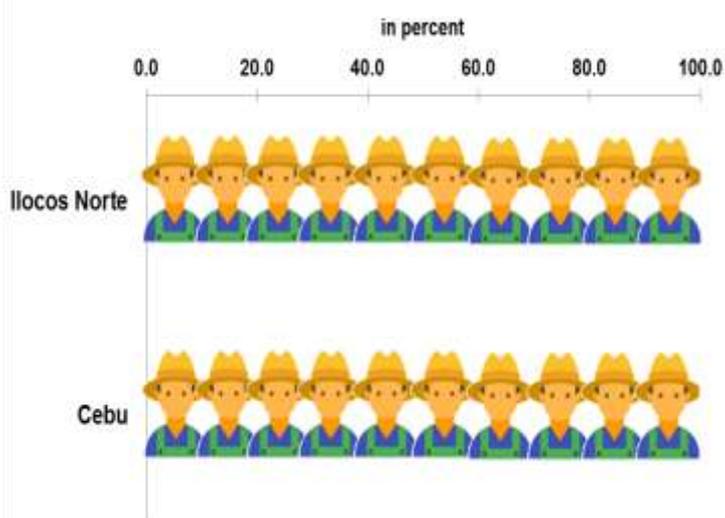
**Figure 1.3 Percentage Distribution of Tomato Farmers by Educational Attainment, Selected Provinces, September 2016 - September 2017**



The main occupation of 95.56 percent of the tomato farmers fell under the group of farmers, forestry workers and fishermen. There were 1.33 percent who worked as plant and machine operators and assemblers and another 1.33 percent worked as officials of the government and special interest organizations, corporate executives, managers, managing proprietors and supervisors. Some 1.11 percent were into craft and related trade works. Less than one (1) percent belonged to the other occupation groups (Table 5).

By province, farming was cited as the main occupation of all the sample tomato farmers in Ilocos Norte and Cebu (Figure 1.4). In Bukidnon, there were some 5.33 percent who were engaged in plant and machine operations and assembly and 4 percent who worked as officials of the government and special interest organizations, corporate executives, managers, managing proprietors and supervisors (Table 5).

**Figure 1.4 Percentage Distribution of Tomato Farmers by Main Occupation, Ilocos Norte and Cebu, September 2016 - September 2017**



## Farming Experience and Farm Investments

The average farming experience of tomato farmers was reported at 14 years. This ranged from 10 years in Bukidnon to 18 years in Cebu (Figure 2.1). Across the provinces covered, more than half or 51.11 percent of the tomato farmers had less than 11 years of farming experience. Those with 11 to 20 years of experience comprised 29.11 percent while about 14 percent had 21 to 30 years of experience. Some 6.22 percent of the tomato farmers had more than 30 years of farming experience (Figure 2.2). At the provincial level, Bukidnon had the biggest proportion of tomato farmers at 65.33 percent with less than 11 years. Meanwhile, there were 17.33 percent of the tomato farmers in Cebu who reported more than 30 years of experience in tomato farming (Table 6).

Figure 2.1 Average Farming Experience of Tomato Farmers, Selected Provinces, September 2016 - September 2017

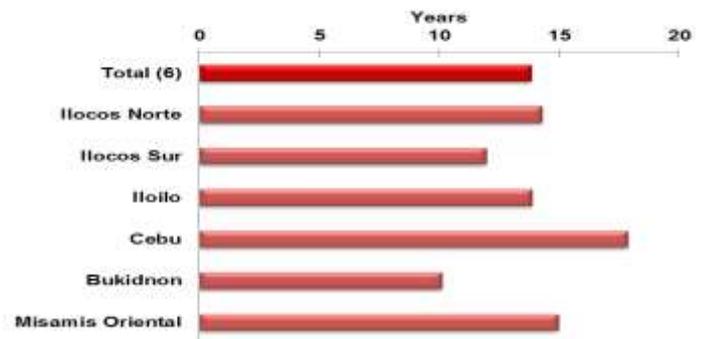
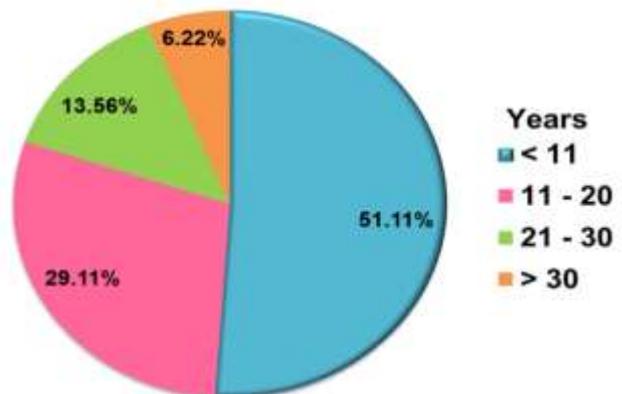


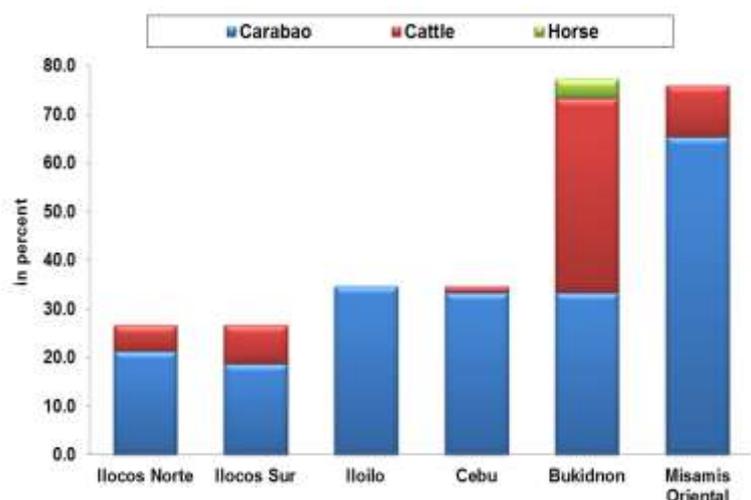
Figure 2.2 Percentage Distribution of Tomato Farmers by Number of Years Engaged in Tomato Production, Selected Provinces, September 2016 - September 2017



Across the provinces covered, the proportions of farmers who owned and used work animals on their tomato farm parcels ranged from 0.67 percent with horse to 34.44 percent with carabao (Table 7).

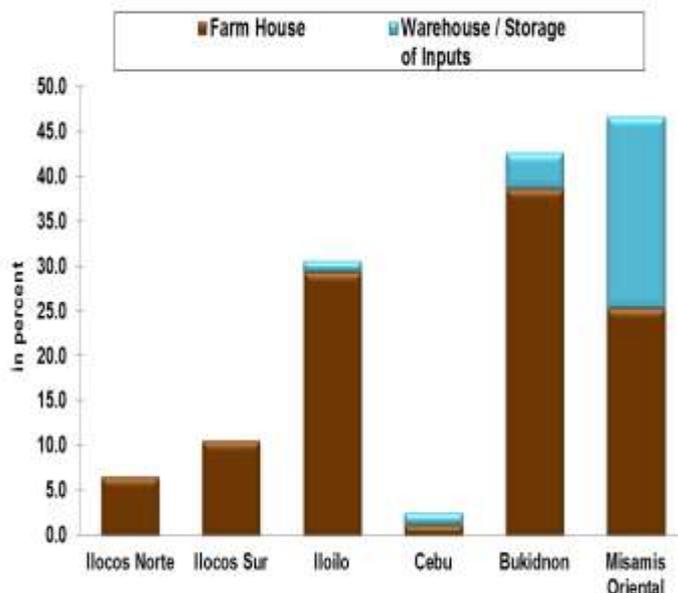
In particular, ownership of carabao was notably reported by 65.33 percent of the tomato farmers in Misamis Oriental. On the other hand, cattle was owned and used by 40 percent of the farmers in Bukidnon. There were 4 percent of the tomato farmers in Bukidnon who invested on horse (Figure 2.3).

Figure 2.3 Percentage of Tomato Farmers who Owned and Used Work Animals in Tomato Farm Parcels, Selected Provinces, September 2016 - September 2017



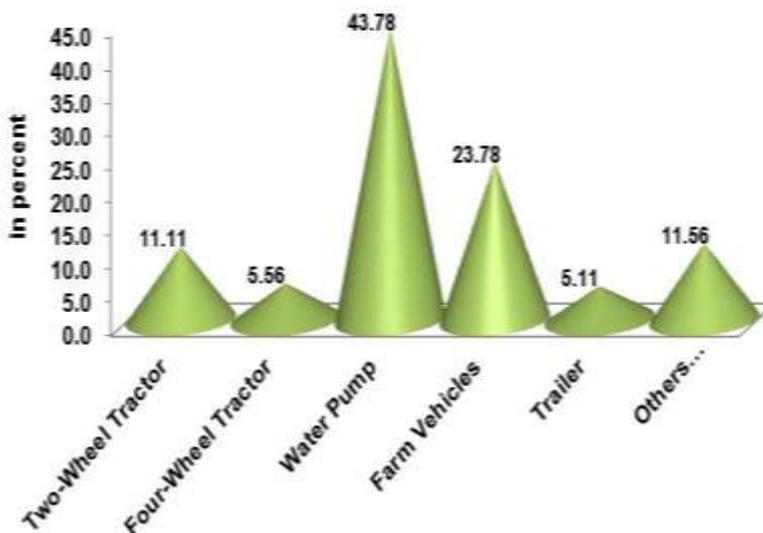
For farm buildings and other structures, about 18.67 percent of the tomato farmers owned farm house while a few at 4.67 percent had warehouse/storage of farm inputs (Table 7). Bukidnon recorded the biggest percentage of tomato farmers with farm house at 38.67 percent. Ownership of warehouse/ storage of farm inputs was highest at 21.33 percent of the farmers in Misamis Oriental (Figure 2.4).

**Figure 2.4 Percentage of Tomato Farmers who Owned and Used Farm Buildings and Other Structures in Tomato Farm Parcels, Selected Provinces, September 2016 - September 2017**



In terms of farm machinery and transport facilities, 43.78 percent of the sample tomato farmers owned and used water pump. About 23.78 percent reported having farm vehicles used for tomato farm operations. Some 11.11 percent and 5.56 percent invested on two-wheel tractor and four-wheel tractor, respectively (Figure 2.5).

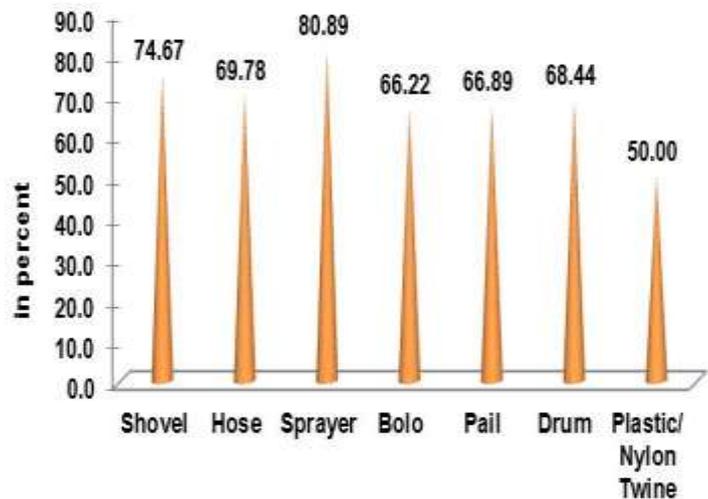
**Figure 2.5 Percentage of Tomato Farmers who Owned and Used Farm Machinery and Transport Facilities in Tomato Farm Parcels, Selected Provinces, September 2016 - September 2017**



By province, ownership of water pump was biggest in Ilocos Sur at 96 percent and in Ilocos Norte at 85.33 percent. In Bukidnon, farmers with farm vehicles comprised 57.33 percent. Two-wheel tractors were owned and used by 25.33 percent of the farmers in Iloilo while four-wheel tractors were common among 18.67 percent of the tomato farmers in Ilocos Norte (Table 7).

The leading farm tools and implements were shovel, hose, sprayer, bolo, pail, drum and plastic nylon/twine as reported by 50 to 81 percent of the tomato farmers across the provinces surveyed (Figure 2.6 and Table 7). Specifically, about 92 percent of the tomato farmers in Ilocos Norte invested in hose. In Ilocos Sur, ownership of pail, sprayer and hose was high as cited by 88 percent to 100 percent of the sample farmers. About 89.33 percent each of the sample farmers in Iloilo and Cebu mentioned ownership and usage of shovel and bolo, respectively. In Bukidnon and Misamis Oriental, drum and plastic nylon/twine were mostly owned and used by 88 percent to 93.33 percent of the sample tomato farmers (Table 7).

**Figure 2.6. Percentage of Tomato Farmers who Owned and Used this Top Seven Farm Tools and Implements in Tomato Farm Parcels, Selected Provinces, September 2016 - September 2017**



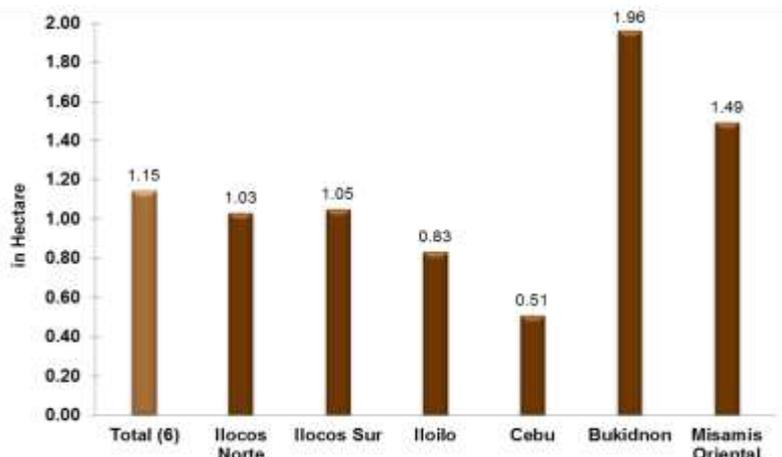
## B. Farm Characteristics

*In this section, the sample farmers/respondents were asked to define the characteristics of the farm parcels operated during the reference period. The data collected include the total physical area of all farms operated, area planted and harvested to tomato (focus parcel) and the tenurial status of the focus parcel.*

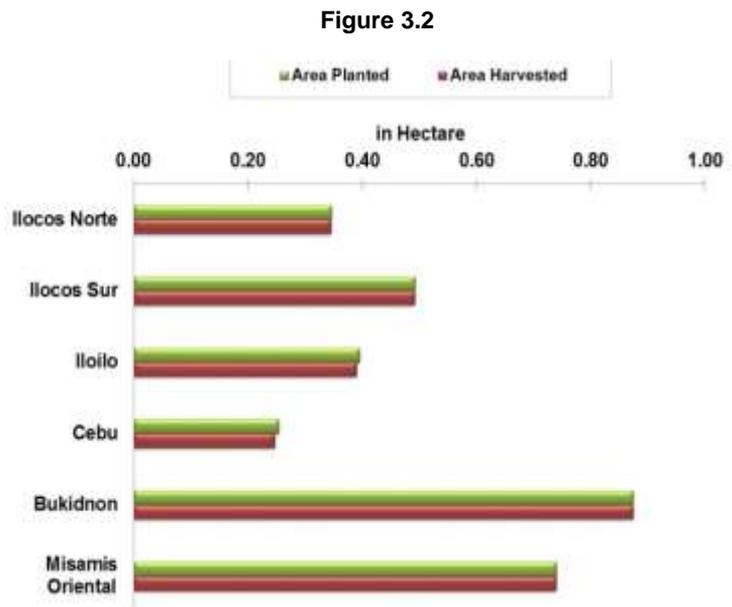
### Farm Size and Area Cultivated to Tomato

The average size of farms operated by tomato farmers was 1.15 hectares. Across the provinces surveyed, the biggest farm size was noted in Bukidnon at 1.96 hectares while the smallest farm area was recorded in Cebu at 0.51 hectare (Figure 3.1).

**Figures 3.1-3.2 Average Farm Size, Area Planted and Harvested of Tomato Farm Parcels, Selected Provinces, September 2016 - September 2017**



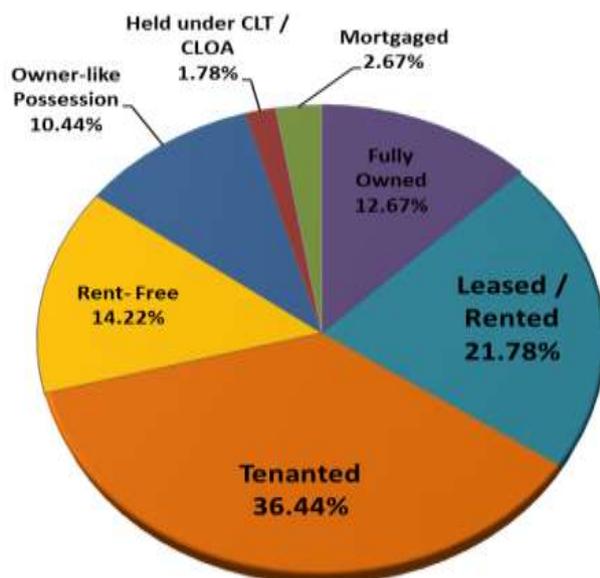
During the reference period, the average area of focus parcel planted to tomato was about 0.52 hectare. With minimal damages in the crop, the average area harvested was estimated at 0.51 hectare (Table 8). At the provincial level, the biggest area planted and harvested to tomato was reported in Bukidnon averaged at 0.87 hectare. Harvest areas were smallest in Cebu at 0.24 hectare and in Ilocos Norte at 0.34 hectare (Figure 3.2).



### Tenurial Status

For the six (6) provinces surveyed, bigger percentages of the farm parcels planted to tomato at 36.44 percent were tenanted and 21.78 percent were leased/rented. Some 14.22 percent and 12.67 percent were rent-free and fully owned, respectively. Owner-like possession of tomato farm parcels comprised 10.44 percent. Only few parcels at 1.78 percent were held under CLT/CLOA and 2.67 percent were mortgaged (Figure 3.3).

**Figure 3.3 Percentage Distribution of Tomato Farm Parcels by Tenurial Status, Selected Provinces, September 2016 - September 2017**



All the farm parcels covered in Ilocos Norte were tenanted. Similarly, tenanted farm parcels were common in Ilocos Sur and Cebu as reported by 44 percent and 33 percent, respectively. Meanwhile, leased/rented farm parcels were noted in Iloilo at 41.33 percent and in Bukidnon at 38.67 percent. In Misamis Oriental, the percentage of rent-free farm parcels was higher at 33.33 percent (Table 9).

## C. Farm Practices

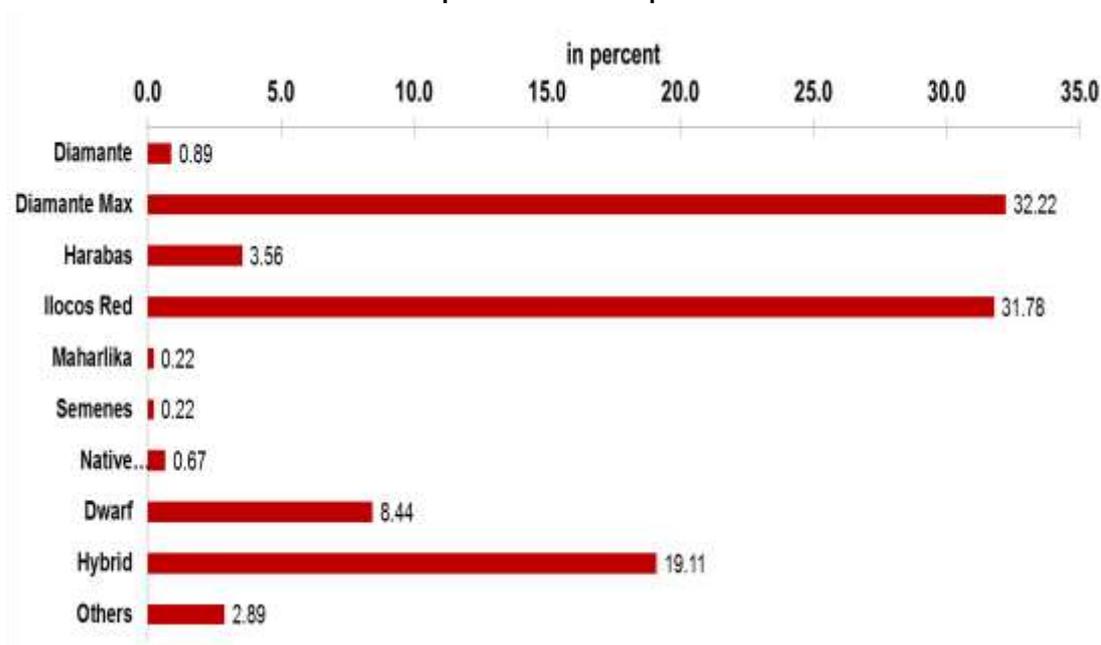
*This section presents the different farming practices of the sample tomato farmers across the six (6) covered provinces. The data collected were the type of tomato planted, variety and source of seeds, months planting and harvesting, type of labor used in seedling and land preparation, method of fertilizer application, use of soil ameliorants and mulching materials, use of fertilizers by classification/grade and use of pesticides by type.*

### Type of Tomato Planted and the Variety of Seeds

During the reference period, all the sample farmers planted the bush type of tomato.

Among the seed varieties, Diamante Max was commonly planted by 32.22 percent of the sample farmers. Planting of Ilocos Red was noted among 31.78 percent of the tomato farmers. Some 8.44 percent to 19.11 percent planted the Dwarf and Hybrid varieties (Figure 4.1).

**Figure 4.1 Percentage of Tomato Farmers by Variety of Seeds Planted, Selected Provinces, September 2016 - September 2017**



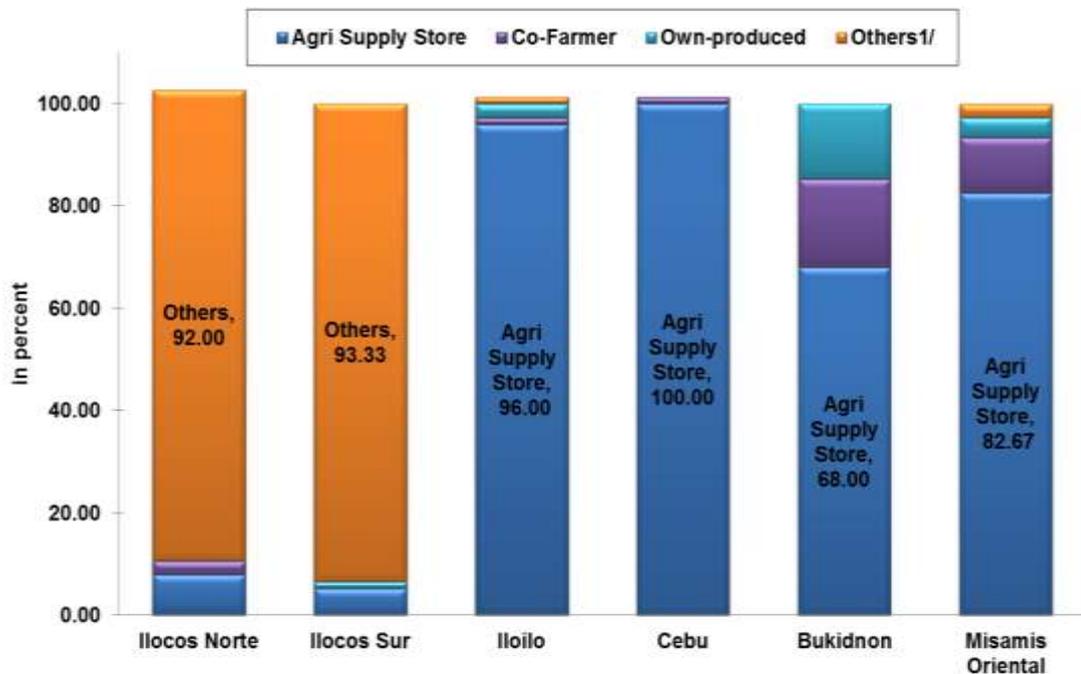
Majority or 92 percent to 99 of the farmers in Ilocos Norte and Ilocos Sur planted Ilocos Red variety of tomatoes. On the other hand, Iloilo and Cebu farmers favored Diamante Max as mentioned by 93 percent to 96 percent. In Bukidnon, more farmers at 45.33 percent planted the Hybrid variety while 34.67 percent used the Dwarf tomatoes. Hybrid was also the popular seed variety among 69.33 percent of the sample farmers in Misamis Oriental (Table10).

## Source of Planting Materials

The agricultural supply stores were the major sources of planting materials of 60 percent of the tomato farmers covered in the six (6) provinces. Those who obtained planting materials from co-farmers accounted for 5.56 percent while those who produced their own planting materials comprised 3.78 percent. Other sources reported were the tomato processing company and financier (Table 11).

By province, the agricultural supply stores as the providers of planting materials were noted by 68 percent of the tomato farmers in Bukidnon, 83 percent in Misamis Oriental, 96 percent in Iloilo and 100 percent in Cebu. There were 92 percent to 93 percent of the farmers in Ilocos Norte and Ilocos Sur who sourced their tomato seeds from the tomato processing company

**Figure 4.2 Percentage of Tomato Farmers by Source of Planting Materials, Selected Provinces, September 2016 - September 2017**

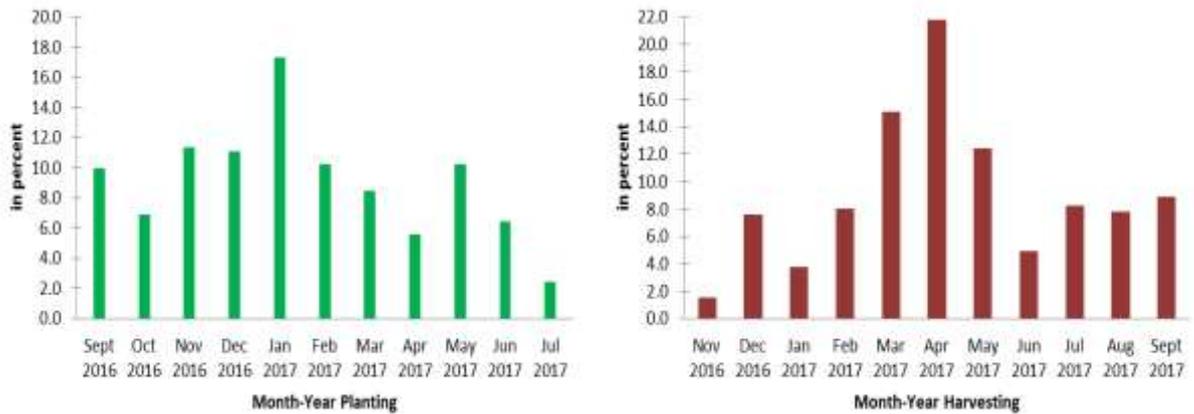


(Figure 4.2).

## Months of Planting and Harvesting

A complete cropping cycle of tomato usually occurs within four (4) months. During the reference period, planting of tomato was reported from September 2016 to July 2017. However, January 2017 was the common planting month cited by 17.33 percent of the tomato farmers across the provinces surveyed. Harvesting took place from November 2016 to September 2017 with April 2017 as the peak harvest month as reported by 21.78 percent of the sample tomato farmers (Figures 4.3-4.4).

**Figure 4.3-4.4 Percentage Distribution of Tomato Farmers by Month of Planting and Harvesting, Selected Provinces, September 2016 - September 2017**



Across the provinces covered, different planting and harvesting months were observed as follows:

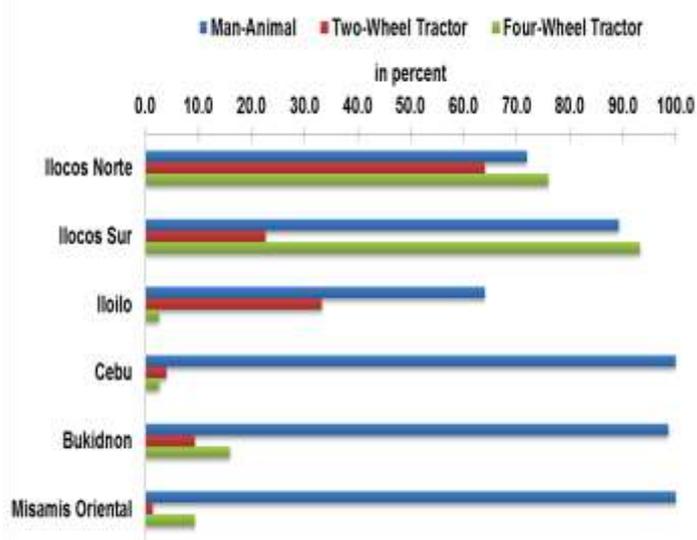
- In Ilocos Norte, bigger proportions of farmers at 40 percent each mentioned January 2017 as the planting month and April 2017 as the harvesting month (Tables 12-13).
- A higher percentage of farmers in Ilocos Sur at 30.67 percent planted in November 2016 while 49.33 percent harvested in April 2017 (Tables 12-13).
- For the sample farmers in Iloilo, planting and harvesting months commonly fell on September and December 2016 as cited by 32 percent and 22.67 percent, respectively (Tables 12-13).
- In Cebu, February 2017 was the usual planting month among 38.67 percent of the farmers while May 2017 was the harvesting month of 33.33 percent of the farmers (Tables 12-13).
- May 2017 was the planting month of 37.33 percent of the farmers in Bukidnon while September 2017 was the common harvesting month among 34.67 percent of the farmers (Tables 12-13).
- In Misamis Oriental, 34.67 percent of the farmers planted in March 2017 while 28 percent had harvesting in July 2017 (Tables 12-13).

### **Type of Labor Used in Seedling and Land Preparation**

Majority or 87.33 percent of the tomato farmers in the six (6) provinces covered employed man-animal labor during seedling and land preparation. Man-machine labor using two-wheel tractor was reported by 22.44 percent while those using four-wheel tractors comprised 33.33 percent (Table 14).

In Cebu and Misamis Oriental, all the sample tomato farmers utilized the service of animal in seedling and land preparation. Similarly, more farmers in Iloilo at 64 percent and in Bukidnon at 98.67 percent used man-animal labor. On the other hand, man-machine labor using two-wheel tractor was the usual practice in Ilocos Norte as mentioned by 64 percent of its farmers. The usage of four-wheel tractor was noted among 93.33 percent of the farmers in Ilocos Sur (Figure 4.5).

**Figure 4.5 Percentage of Tomato Farmers by Type of Labor Used in Seedling and Land Preparation, Selected Provinces, September 2016 - September 2017**

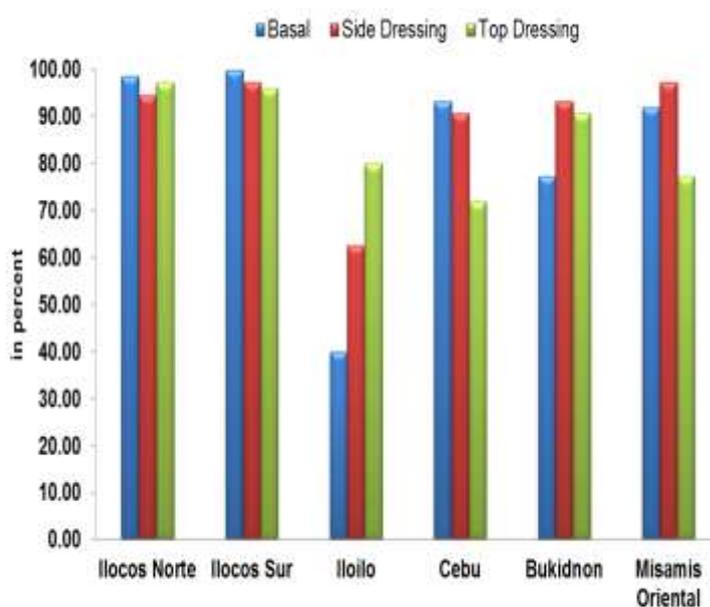


## Method of Fertilizer Application

Across the provinces surveyed, fertilizer application through basal method was reported by 83.56 percent of the sample tomato farmers. Top dressing was practiced by 85.56 percent and side dressing by 89.33 percent (Table 15).

- Basal application of fertilizer was followed by all the sample farmers in Ilocos Sur. In other provinces, those who did basal fertilization ranged from 40 percent in Iloilo to 98.67 percent in Ilocos Norte (Figure 4.6).
- Side dressing was the usual practice of 62.67 percent of the farmers in Iloilo to 97.33 percent each in Ilocos Sur and Misamis Oriental (Figure 4.6).
- The application of top dressing was noted among 72 percent of the farmers in Cebu to 97.33 percent in Ilocos Norte (Figure 4.6).

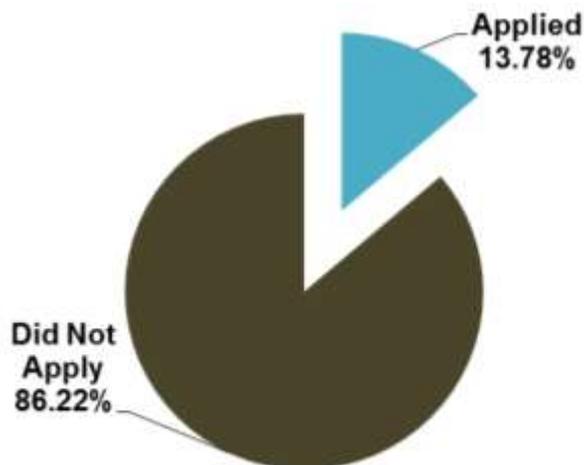
**Figure 4.6 Percentage of Tomato Farmers by Method of Fertilizer Application, Selected Provinces, September 2016 - September 2017**



## Users of Soil Ameliorants and Mulching Materials

There were few tomato farmers at 13.78 percent who applied soil ameliorants during the reference period (Figure 4.7). By province, about 37.33 percent of the farmers in Bukidnon and 45.33 percent in Misamis Oriental treated the soil in their farm parcels with soil ameliorants. In other provinces, application of soil ameliorants was not practiced (Table 16).

Figure 4.7 Percentage Distribution of Tomato Farmers who Applied/Did Not Apply Soil Ameliorants, Selected Provinces, September 2016 - September 2017



The usage of mulching materials was reported by 33.78 percent of the tomato farmers (Figure 4.8). Majority of the users were observed in Ilocos Norte at 97.33 percent and Ilocos Sur at 81.33 percent. Sample farmers in Cebu and Bukidnon did not apply mulching materials during the reference period (Table 16).

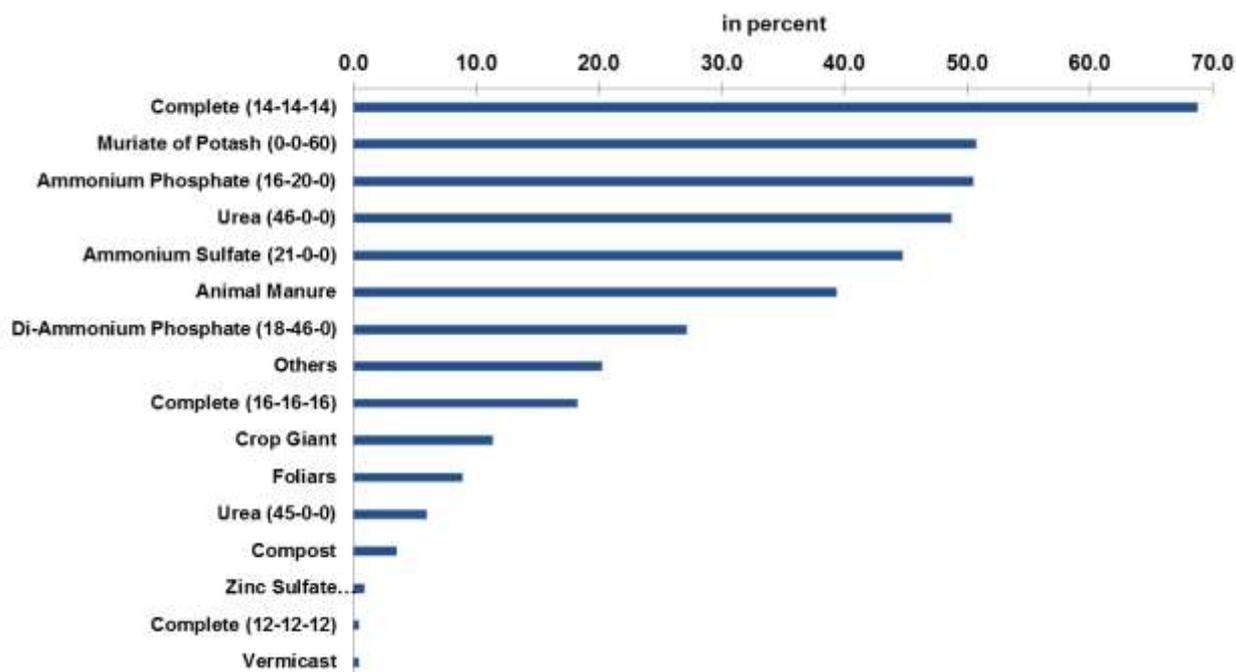
Figure 4.8 Percentage Distribution of Tomato Farmers who Applied/Did Not Apply Mulching Materials, Selected Provinces, September 2016 - September 2017



## Users of Fertilizers

Across the surveyed provinces, the widely used fertilizers were Complete (14-14-14), Muriate of Potash (0-0-60), Ammonium Phosphate (16-20-0), Urea (46-0-0), Ammonium Sulfate (21-0-0), Animal Manure and Di-ammonium Phosphate (18-46-0) as reported by 26.89 percent to 68.67 percent of the sample farmers (Figure 4.9).

**Figure 4.9 Percentage of Tomato Farmers by Classification/Grade of Fertilizers Used, Selected Provinces, September 2016 - September 2017**

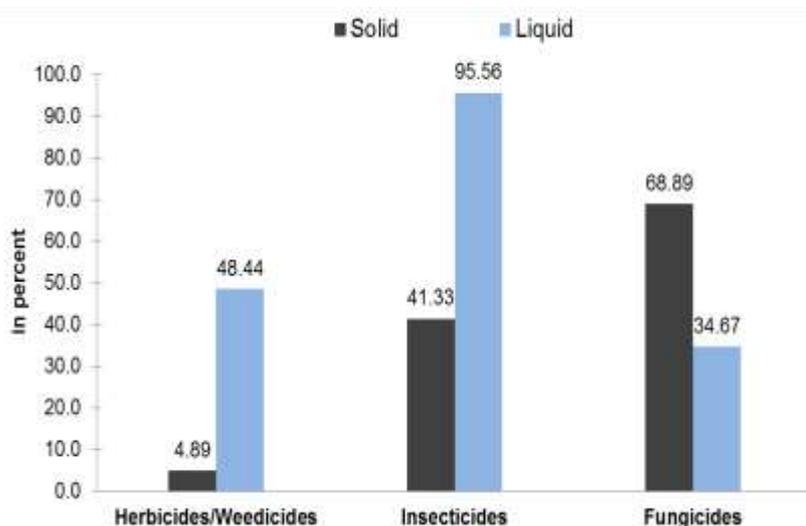


Users of Ammonium Sulfate (21-0-0) were higher in Ilocos Norte at 96 percent during the reference period. In Ilocos Sur, Muriate of Potash (0-0-60) was dominantly used by 92 percent of the sample tomato farmers. Usage of Complete (14-14-14) fertilizer was popular among 69.33 percent of the farmers in Iloilo while Urea (46-0-0) was the common fertilizer of 78.67 percent of the farmers in Cebu. The application of animal manure, particularly, the chicken dung, was widely practiced by 86.67 percent in Bukidnon and 96 percent in Misamis Oriental (Table 17).

## Users of Pesticides

The liquid form of herbicides/weedicides and insecticides was more preferred than its solid form. About 48.44 percent of the tomato farmers in the six (6) provinces used liquid herbicides/weedicides and 95.56 percent used liquid insecticides. On the other hand, the solid form of fungicides was commonly used by 68.89 percent of the tomato farmers (Figure 4.10).

**Figure 4.10 Percentage of Tomato Farmers by Type of Pesticides Used, Selected Provinces, September 2016 - September 2017**



- In particular, Iloilo had the biggest proportion of farmers at 82.67 percent who applied the liquid herbicides/weedicides in their focus tomato farm. Likewise, more farmers in Bukidnon at 78.67 percent used liquid herbicides/weedicides during the reference period (Table 18).
- The application of the liquid form of insecticides was practiced by all the sample farmers in Ilocos Sur. In other provinces, users ranged from 90.67 percent in Ilocos Norte to 98.67 percent in Bukidnon (Table 18).
- Fungicides in solid form were widely used in Iloilo by 92 percent, in Bukidnon by 96 percent and in Misamis Oriental by 98.67 percent (Table 18).

## D. Input Usage

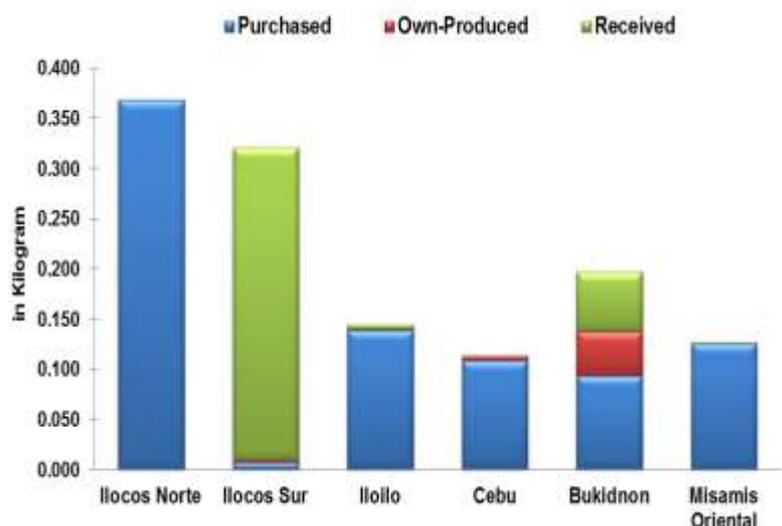
*This section provides the detailed quantity of material and labor inputs used in the production of tomato during the reference period. The data presented are the quantity of seeds, amount of fertilizers, soil ameliorants, mulching materials and pesticides applied in kilogram and in liter per hectare. Moreover, the extent of labor employed in mandays per hectare is indicated.*

### Planting Materials (Seeds)

Across the surveyed provinces, the average quantity of seeds used for producing tomato was 0.206 kilogram per hectare. Of this, purchased seeds comprised 0.126 kilogram, own-produced at 0.014 kilogram and received at 0.067 kilogram (Table 19).

By province, seed usage ranged from 0.114 kilogram per hectare in Cebu to 0.369 kilogram per hectare in Ilocos Norte. In particular, all the seeds used in Ilocos Norte were purchased. The quantity of own-produced seeds was highest in Bukidnon at 0.044 kilogram while more seeds in Ilocos Sur at 0.311 kilogram were received (Figure 5.1).

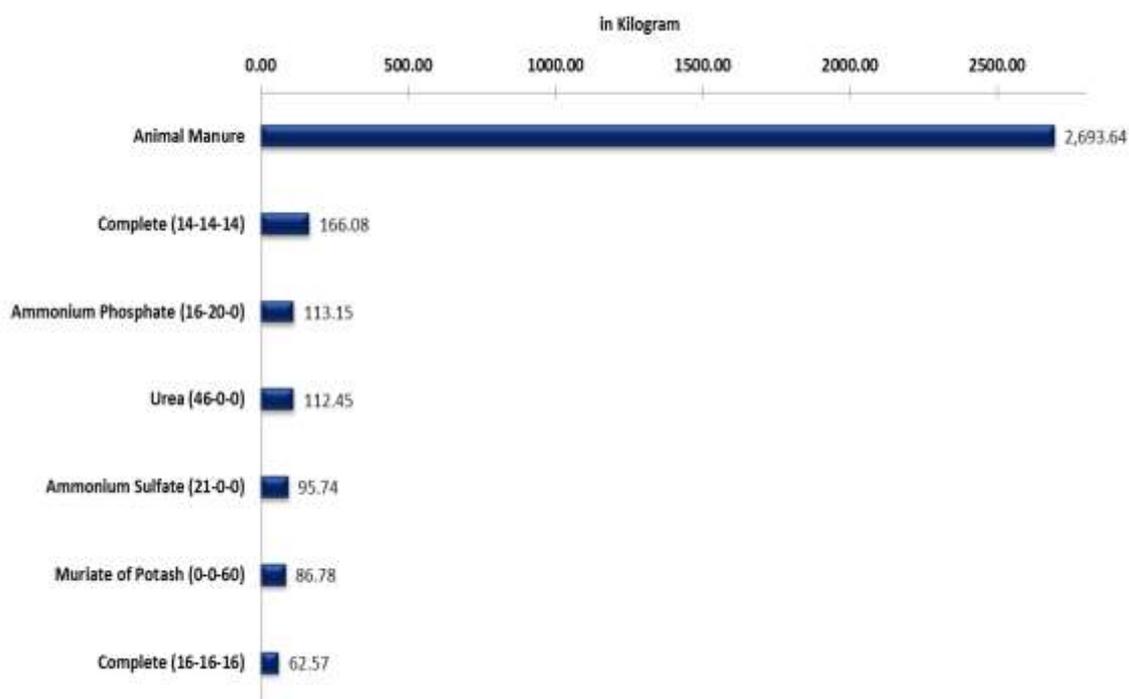
**Figure 5.1 Average Quantity of Tomato Seeds Used per Hectare by Mode of Acquisition, Selected Provinces, September 2016 - September 2017**



## Fertilizers

Among the solid form of fertilizer grades, higher application rates per hectare were noted for Ammonium Sulfate (21-0-0), Urea (46-0-0), Ammonium Phosphate (16-20-0), Complete (14-14-14) and Animal Manure averaging 95.74 kilograms 112.45 kilograms, 113.15 kilograms, 166.08 kilograms and 2,693.64 kilograms, respectively (Figure 5.2 and Table 20.1).

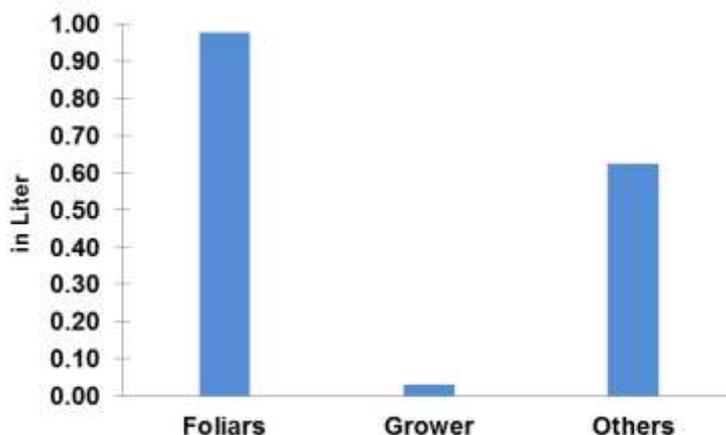
**Figure 5.2 Average Quantity of Solid Fertilizers Applied per Hectare by Classification/Grade, Selected Provinces, September 2016 - September 2017**



- By province, Ilocos Sur indicated heavy usage of Ammonium Sulfate (21-0-0) at 216.86 kilograms per hectare. Similarly, the application rate of this fertilizer in Ilocos Norte was higher at 195.50 kilograms per hectare (Table 20.1).
- In Iloilo, bigger quantities were applied for Ammonium Phosphate (16-20-0), Ammonium Sulfate (21-0-0) and Complete (14-14-14) averaging 163.19 kilograms to 214.46 kilograms. Meanwhile, Cebu recorded higher application rates of Urea (46-0-0) at 121.62 kilograms and Complete (14-14-14) fertilizer at 120.81 kilograms (Table 20.1).
- Animal manure (chicken dung) was widely used in Bukidnon and Misamis Oriental during the reference period. The application rates of this type of fertilizer were higher at 5,917.48 kilograms in Bukidnon and 4,187.86 kilograms in Misamis Oriental (Table 20.1).

For the liquid form of fertilizers, Foliar was popular with an average application rate at 0.98 liter per hectare (Figure 5.3). At the provincial level, foliar usage ranged from 0.03 liter in Ilocos Norte to 2.96 liters in Bukidnon. Grower was common only in Cebu with average application rate of 0.38 liter per hectare (Table 20.2).

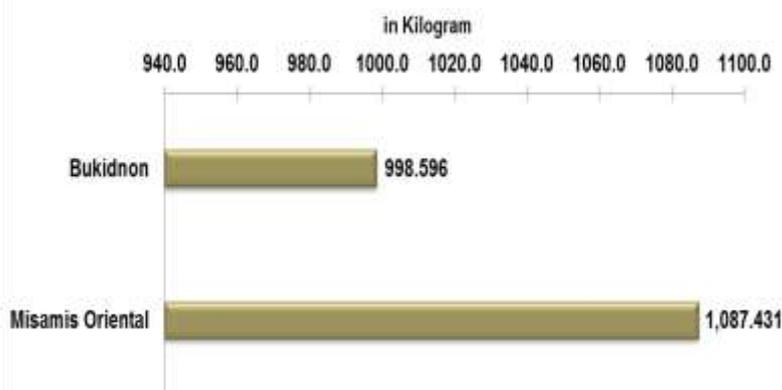
**Figure 5.3 Average Quantity of Liquid Fertilizers Applied per Hectare by Classification, Selected Provinces, September 2016 - September 2017**



## Soil Ameliorants and Mulching Materials

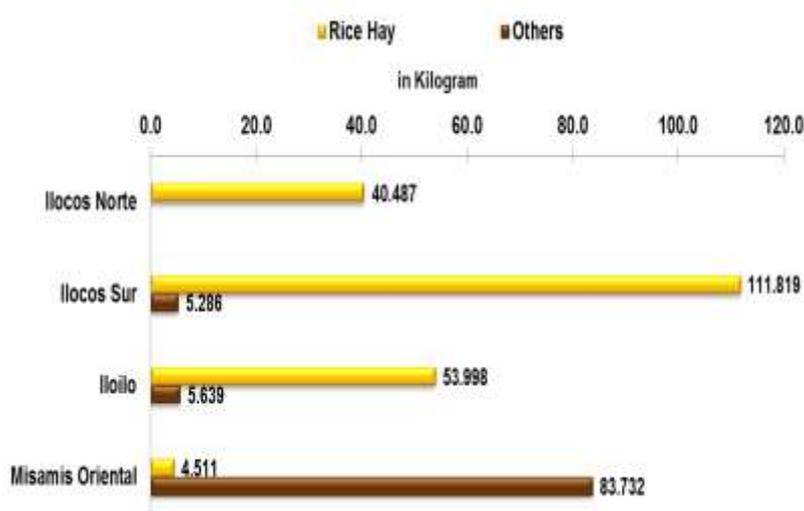
Soil ameliorant such as Lime was applied at an average rate of 542.83 kilograms per hectare (Table 21). Particularly, the usage of Lime was notable in Bukidnon at 998.60 kilograms per hectare and in Misamis Oriental at 1,087.43 kilograms per hectare during the reference period (Figure 5.4).

**Figure 5.4 Average Quantity of Soil Ameliorants Applied per Hectare, Bukidnon and Misamis Oriental, January - September 2017**



Rice hay as mulching materials was used at an average of 30.25 kilograms per hectare across the provinces surveyed. Application of other mulching materials like rice husk, saw dust, net, banana and coconut leaves and sack totalled 21.59 kilograms per hectare (Table 21). By province, Ilocos Sur posted the biggest usage of rice hay at 111.82 kilograms per hectare (Figure 5.5).

**Figure 5.5 Average Quantity of Mulching Materials Applied per Hectare, Selected Provinces, September 2016 - September 2017**



## Pesticides

The application rate of the liquid form of herbicides/weedicides averaged 2.75 liters per hectare while the solid form averaged as little as 0.29 kilogram per hectare (Table 22). The usage of liquid herbicides/weedicides was observed highest in Iloilo at 4.16 liters per hectare followed by Bukidnon at 4.03 liters per hectare (Figure 5.6).

Insecticides in liquid form were more applied at an average rate of 8.95 liters per hectare compared to 3.81 kilogram of the solid form (Table 22). Liquid insecticides were heavily used in Bukidnon at 16.41 liters and Misamis Oriental at 11.45 liters (Figure 5.7).

The average usage of the solid form of fungicides was 35.32 kilograms per hectare and the liquid form at 1.81 liters per hectare (Table 22). By province, Bukidnon indicated heavy usage of solid fungicides at 81.38 kilograms per hectare as well as the liquid type at 4.27 liters per hectare (Figure 5.8).

Figure 5.6 Average Quantity of Herbicides/Weedicides Applied per Hectare, Selected Provinces, September 2016 - September 2017

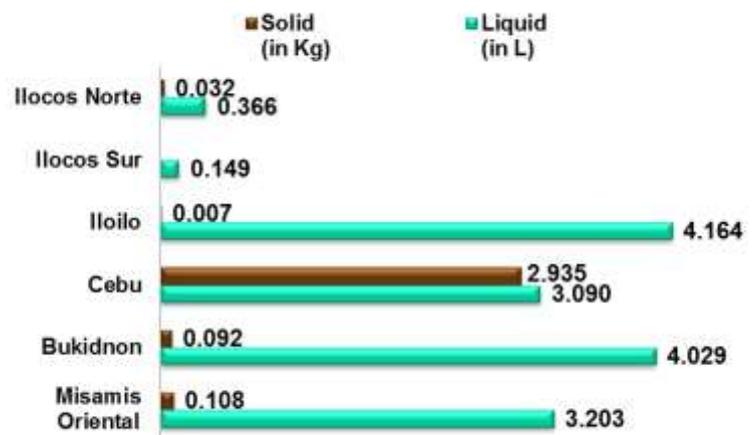


Figure 5.7 Average Quantity of Insecticides Applied per Hectare, Selected Provinces, September 2016 - September 2017

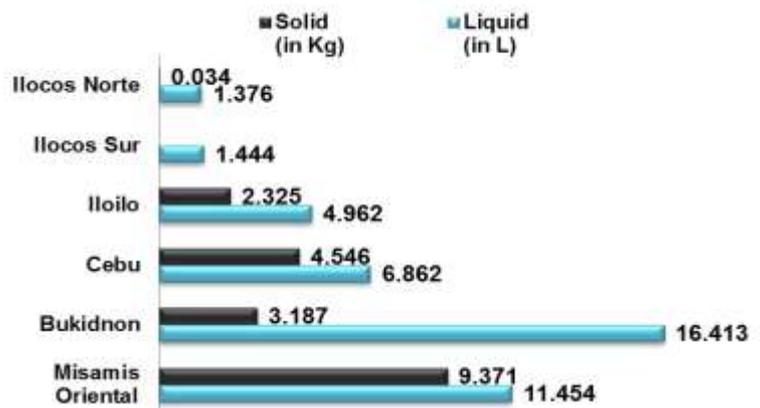
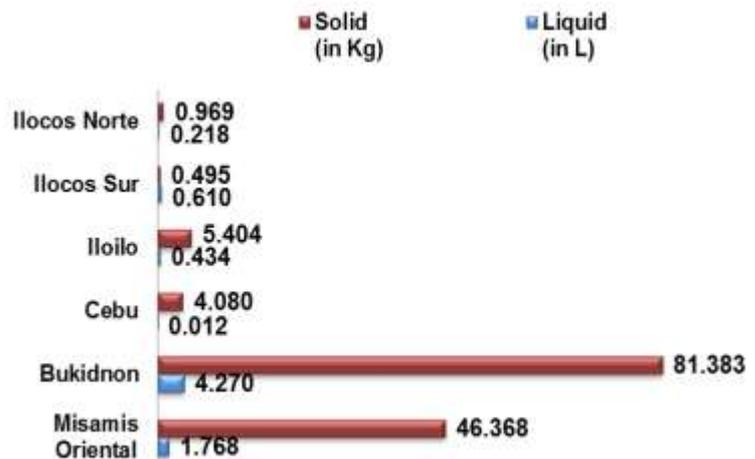


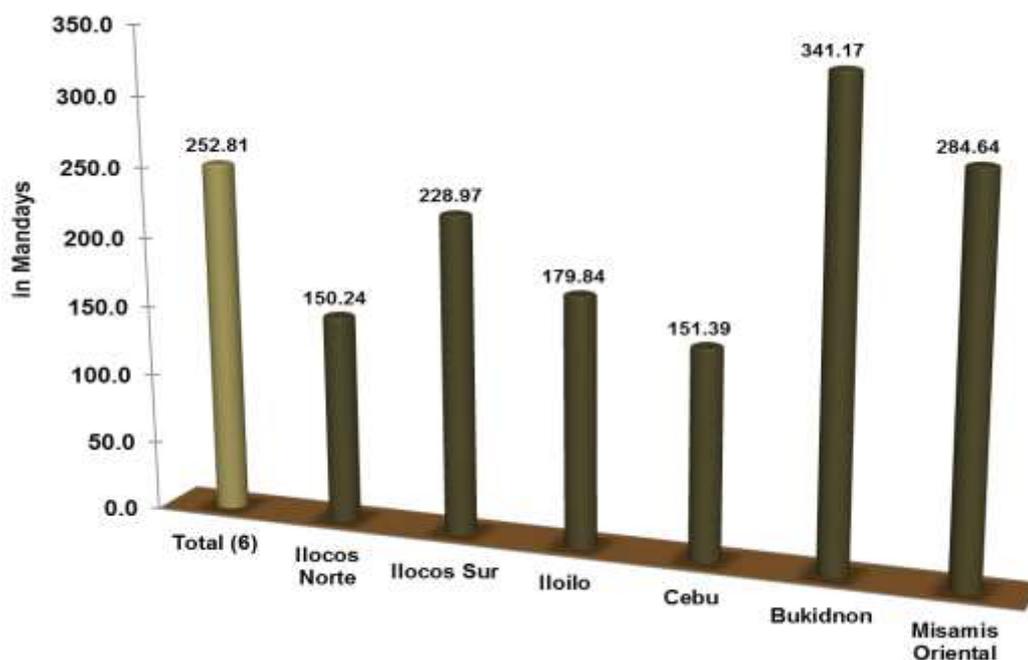
Figure 5.8 Average Quantity of Fungicides Applied per Hectare, Selected Provinces, September 2016 - September 2017



## Labor Utilization

Across the provinces surveyed, the average labor utilization in the production of tomato was 252.81 mandays per hectare. It ranged from 150.24 mandays per hectare in Ilocos Norte to 341.17 mandays per hectare in Bukidnon (Figure 5.9).

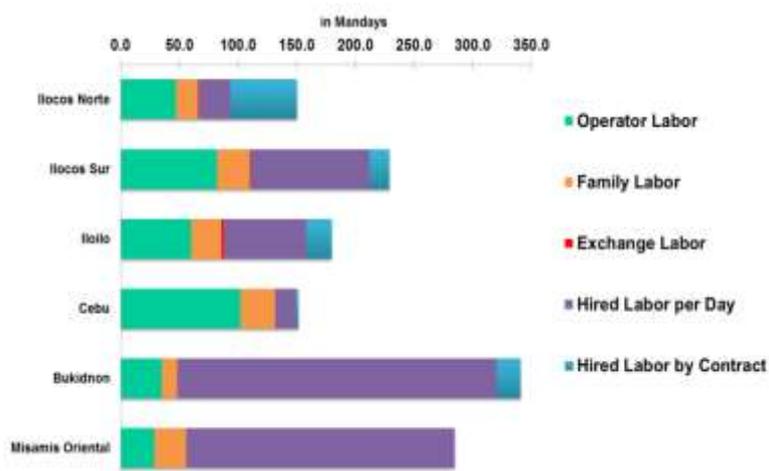
**Figure 5.9 Average Labor Utilization per Hectare of Tomato Production, Selected Provinces, September 2016 - September 2017**



By source, hired labor per day contributed the biggest labor input at 161.50 mandays per hectare. Operator and family labor accounted for 50.82 mandays per hectare and 22.43 mandays per hectare, respectively. Hired labor by contract averaged 17.73 mandays per hectare while exchange labor provided the least at 0.32 manday per hectare (Table 23).

Among the provinces, Bukidnon had the most utilization of hired labor per day at 272.50 mandays per hectare. This was followed by Misamis Oriental at 228.80 mandays per hectare. Cebu had more usage of operator and family labor averaging 102.03 mandays and 29.73 mandays, respectively. Ilocos Norte indicated the biggest input of hired labor by contract averaged at 56.55 mandays per hectare during the reference period.

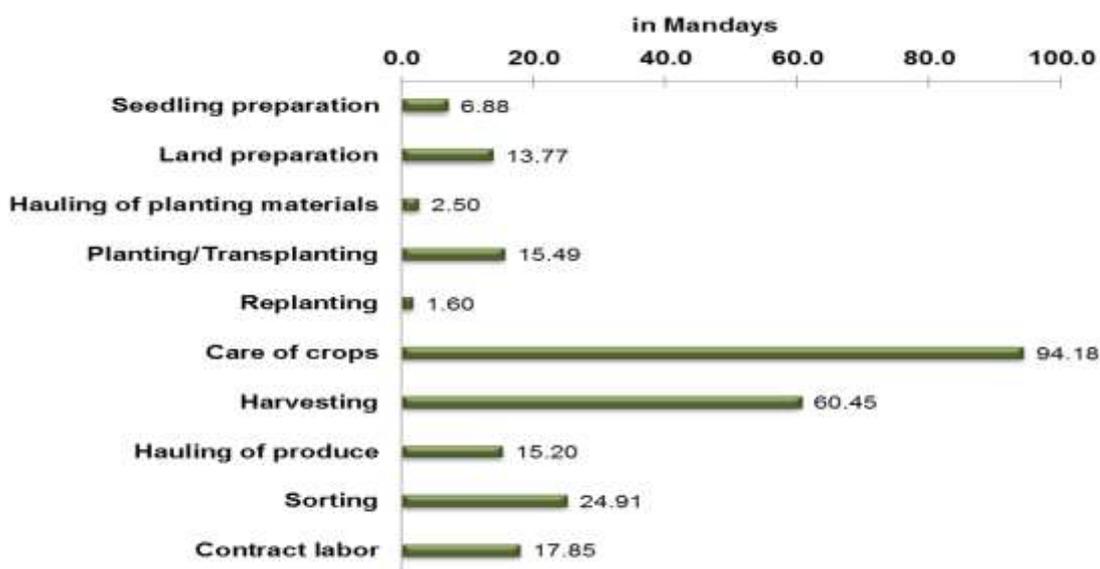
**Figure 5.10 Average Labor Utilization per Hectare of Tomato Production by Source of Labor, Selected Provinces, September 2016 - September 2017**



Exchange labor was reported in three (3) provinces at average rates of 0.26 manday in Ilocos Norte, 0.41 manday in Ilocos Sur and 1.79 mandays in Iloilo (Figure 5.10).

Among the farm activities involved in tomato production, the highest labor requirement was observed in the care of crops averaging 94.18 mandays per hectare. This was followed by harvesting which utilized 60.45 mandays per hectare. Sorting also required more labor inputs averaged at 24.91 mandays per hectare. Contract labor employed 17.85 mandays per hectare (Figure 5.11).

**Figure 5.11 Average Labor Utilization per Hectare of Tomato Production by Major Farm Activity, Selected Provinces, September 2016 - September 2017**



Province wise, care of crops indicated higher labor utilization per hectare in Ilocos Sur at 100.03 mandays, Misamis Oriental at 101.33 mandays and Bukidnon at 126.75 mandays. Labor requirements for harvesting were highest in Bukidnon and Ilocos Sur at 78.40 mandays per hectare and 75.54 mandays per hectare, respectively. Bigger labor usage for sorting was reported in Bukidnon and Misamis Oriental at around 42 mandays per hectare each. Contract labor was prevalent in Ilocos Norte utilizing an average of 57.55 mandays per hectare (Table 23).

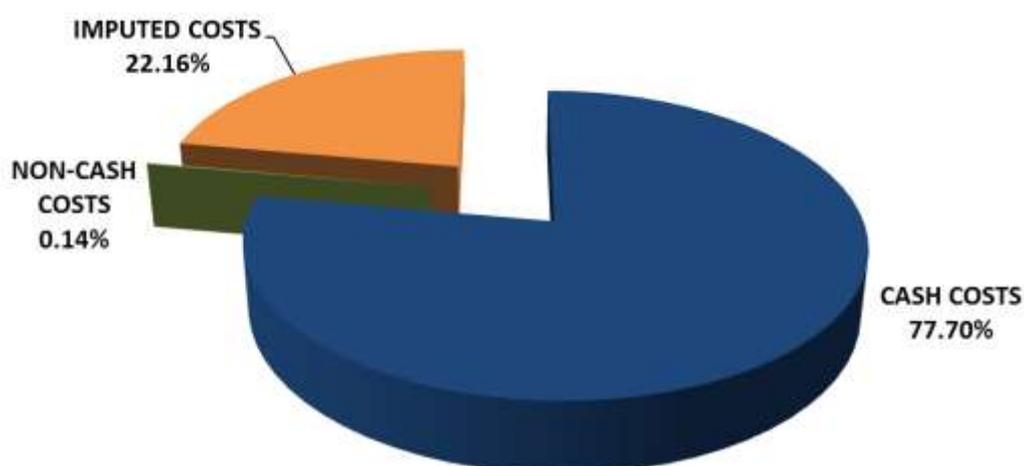
## **E. Average Costs and Returns of Tomato Production**

*This section discusses the average costs and returns of tomato production on a per hectare and per kilogram basis. The cost estimates are further described according to cash flows such as cash, non-cash and imputed and according to production level such as variable and fixed. Interprovincial comparisons of the area, yield, material and labor inputs as well as indicators of profitability are also discussed in this section of the report.*

## All Provinces

During the reference period, the average cost of producing tomato in the six (6) provinces was estimated at PhP194,476.56 per hectare. On a per kilogram basis, cost of production averaged PhP6.74 (Table 25.1).

Figure 6.1 Percentage Share of Costs According to Cash Flows, Selected Provinces, September 2016 - September 2017



Cash costs stood the biggest at PhP151,109.67 per hectare. This was equivalent to 77.70 percent of the total cost (Figure 6.1). Hired labor was the main expense item contributing PhP42,435.84 per hectare (Table 25.1).

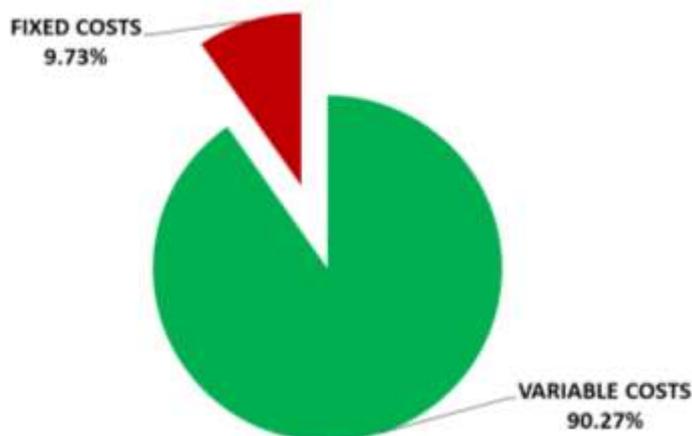
About 22.16 percent or PhP43,094.03 per hectare were imputed costs (Figure 6.1). The cost of unpaid labor such as that of the operator labor at PhP10,822.32 and family labor at PhP4,778.52 contributed largely to this type of expense. Depreciation and interest on operating capital were also big cost items valued at PhP5,433.47 and PhP4,924.40 per hectare, respectively (Table 25.1).

Non-cash costs accounted for PhP 272.86 or 0.14 percent of the total cost (Figure 6.1). Of this amount, PhP252.11 went to payment for land rental (Table 25.1).

With an average production of tomato at 28,832.93 kilograms per hectare, the gross returns of farmers reached PhP329,914.77 per hectare. Returns above cash costs averaged PhP178,805.10. Returns above cash and non-cash costs were computed at PhP178,532.24. Net returns averaged PhP135,438.21 per hectare. Farmers netted about PhP0.70 for every peso invested in tomato production (Table 25.1).

The average variable costs of production stood at PhP175,552.10 per hectare which comprised 90.27 percent of all costs. The remaining 9.73 percent of costs were fixed costs averaged at PhP18,924.46 per hectare (Figure 6.2 and Table 25.2).

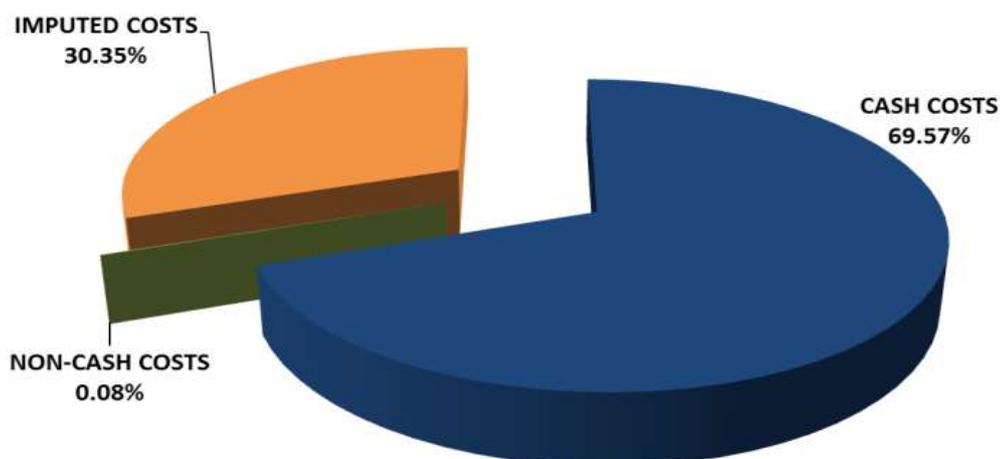
Figure 6.2 Percentage Share of Costs According to Production Level, Selected Provinces, September 2016 - September 2017



## Ilocos Norte

Tomato farmers in Ilocos Norte incurred an average production cost of PhP107,402.67 per hectare or PhP2.85 per kilogram (Table 26.1).

Figure 6.3 Percentage Share of Costs According to Cash Flows, Ilocos Norte, September 2016 - May 2017



Of the total production costs, 69.57 percent were cash costs (Figure 6.3). This amounted to PhP74,721.40. Hired labor was the biggest cost item amounting to PhP24,145.59 per hectare. This was followed by landowner's share estimated at PhP13,062.03 per hectare (Table 26.1).

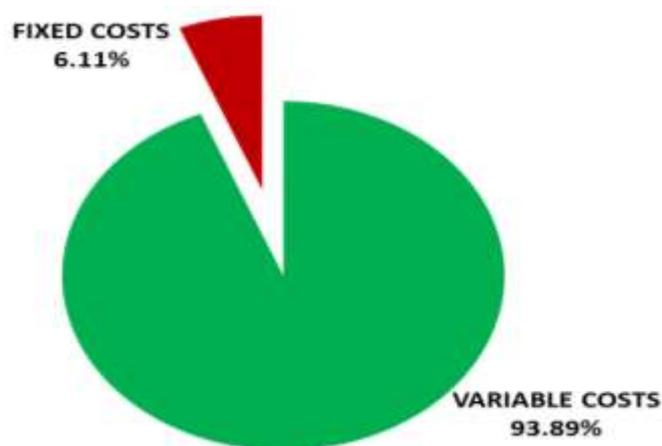
Non-cash expenses accounted for 0.08 percent or equivalent to PhP83.26 per hectare (Figure 6.3). This comprised of PhP25.49 spent for pesticides and PhP57.77 paid to landowner's share (Table 26.1).

Imputed costs totalled PhP32,598.01 per hectare or 30.35 percent of all costs (Figure 6.3). The main cost items were operator labor and family labor valued at PhP14,059.54 and PhP5,386.55, respectively (Table 26.1).

Farmers in Ilocos Norte grossed PhP204,931.45 per hectare from an average production of 37,748.41 kilograms of tomatoes. After deducting cash costs, returns were computed at PhP130,210.05 per hectare. When both cash and non-cash costs were subtracted, returns averaged PhP130,126.79 per hectare. Tomato farmers netted PhP97,528.78 per hectare. There was a gain of PhP0.91 for every peso of investment in tomato farming (Table 26.1).

Average variable costs of production amounted to PhP100,840.49 per hectare or 93.89 percent of all costs (Figure 6.4). Fixed costs amounted to PhP6,562.18 per hectare (Table 26.2).

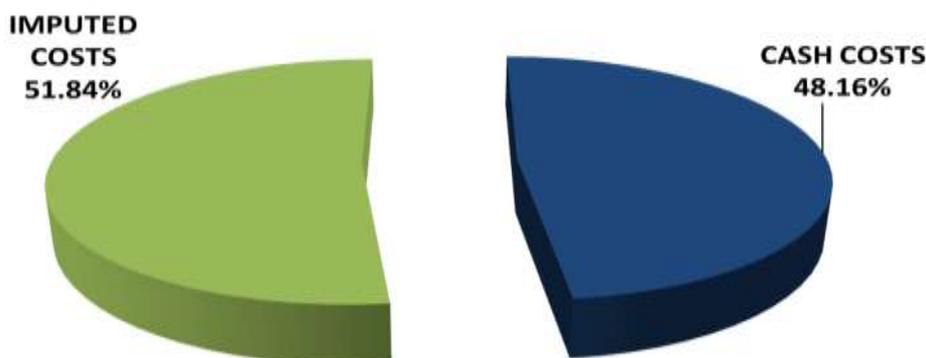
Figure 6.4 Percentage Share of Costs According to Production Level, Ilocos Norte, September 2016 - May 2017



## Ilocos Sur

In Ilocos Sur, the average cost of production of tomato per hectare was PhP115,629.84. Per kilogram, production cost was PhP3.09 (Table 27.1).

Figure 6.5 Percentage Share of Costs According to Cash Flows, Ilocos Sur, September 2016 - May 2017

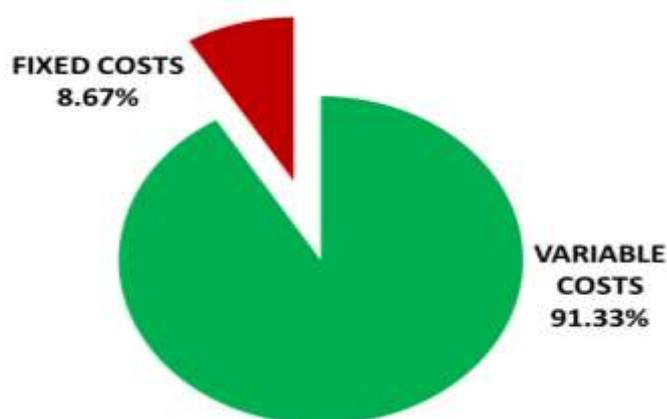


Cash costs at PhP55,689 per hectare constituted 48.16 percent of all costs (Figure 6.5). A huge chunk of this cost was hired labor valued at PhP28,436.84. Moreover, food expenses for hired and exchange labor contributed PhP6,695.58 (Table 27.1).

Imputed costs shared bigger at 51.84 percent of the total production cost (Figure 6.5). This was equivalent to PhP59,940.84 per hectare. The combined costs of operator, family and exchange labor contributed the big expense item at PhP22,085.42. Additionally, higher costs were accounted for seeds and fertilizers valued at PhP15,695.31 and PhP10,456.75, respectively (Table 27.1).

Production of tomato in Ilocos Sur averaged at PhP37,436.60 kilograms per hectare grossed PhP202,332.69. Farm receipts over cash costs were computed at PhP146,643.69. While there were no reported non-cash costs, net earnings stood at PhP86,702.85 per hectare. For every peso of investment in tomato production, farmers earned PhP0.75 (Table 27.1).

Figure 6.6 Percentage Share of Costs According to Production Level, Ilocos Sur, September 2016 - May 2017

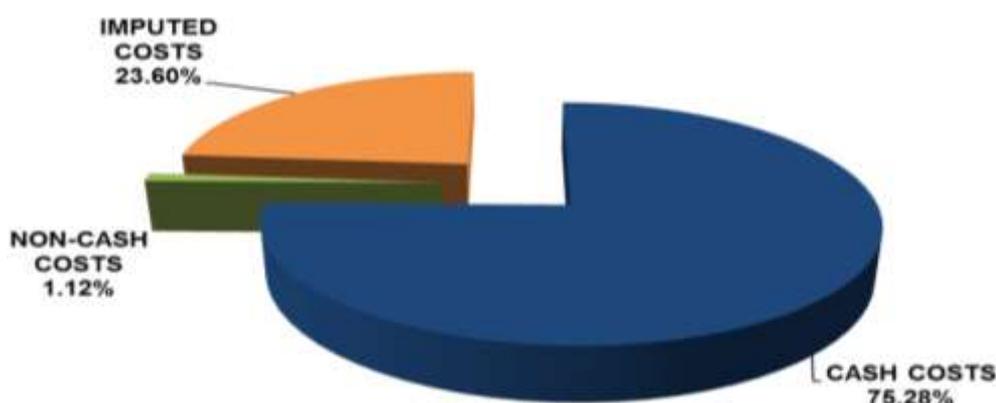


On the average, the variable costs of production amounted to PhP105,599.47 or 91 percent of all costs (Figure 6.6). Fixed costs at 8.67 percent averaged PhP10,030.38 per hectare (Table 27.2).

## Iloilo

The cost incurred by farmers in Iloilo in producing tomato averaged PhP186,277.71 per hectare during the reference period. On a per kilogram basis, this was equivalent to PhP7.21 (Table 28.1).

Figure 6.7 Percentage Share of Costs According to Cash Flows, Iloilo, September 2016 - May 2017



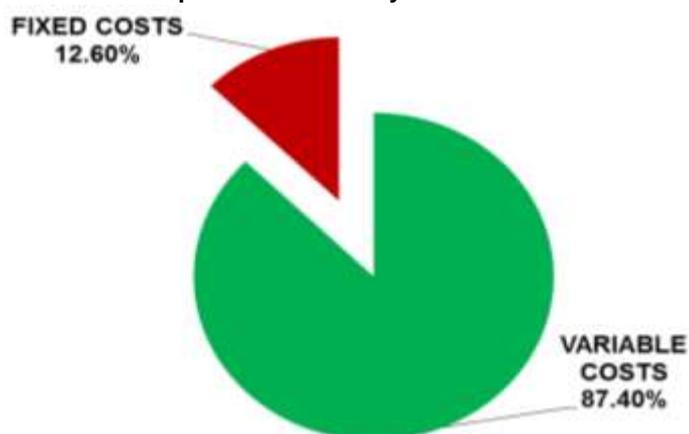
Cash outlays at PhP140,236.63 per hectare shared 75.28 percent of the total production cost (Figure 6.7). The main expense items were hired labor at PhP29,727.38 and fertilizers at PhP17,015.42. Other big cost items were financier's share at PhP13,568.12 and wages of caretaker/overseer at PhP13,475.53 (Table 28.1).

About 1.12 percent equivalent to PhP2,085.67 per hectare were non-cash costs (Figure 6.7). Of this amount, PhP1,995.10 were payment for land rental (Table 28.1).

Imputed costs comprised 23.60 percent or PhP43,955.42 per hectare (Figure 6.7). The bulk of this amount came from the opportunity costs of operator and family labor which summed up to PhP22,427.55 per hectare (Table 28.1).

In Iloilo, tomato production per hectare averaged 25,831.15 kilograms. Gross value of outputs amounted to PhP315,179.54 per hectare. Returns above cash costs were computed at PhP174,942.91 while returns above cash and non-cash costs were PhP172,857.24 per hectare. After deducting all costs, farmers netted PhP128,901.83 per hectare. Net profit ratio was computed at 0.69 (Table 28.1).

Figure 6.8 Percentage Share of Costs According to Production Level, Iloilo, September 2016 - May 2017

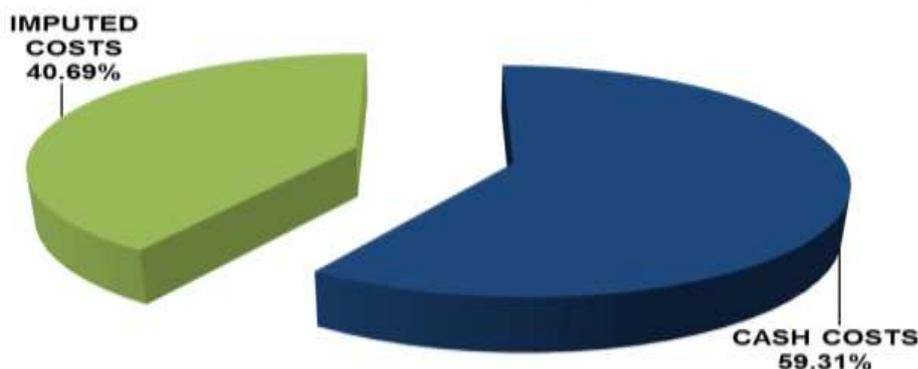


Variable costs of production averaged PhP162,810.78 per hectare (Figure 6.8). The rest of the costs at PhP23,466.93 per hectare were fixed costs (Table 28.2).

## Cebu

Production of tomato in Cebu entailed an average cost of PhP99,456.27 per hectare or PhP9.76 per kilogram (Table 29.1).

Figure 6.9 Percentage Share of Costs According to Cash Flows, Cebu, September 2016 - May 2017



About 59.31 percent of the total production cost of tomato in the province was allocated for cash expenses (Figure 6.9). This was equivalent to PhP58,987.96 per hectare. Fertilizers contributed the biggest cost at PhP12,413.40 followed by pesticides at PhP9,820.42. Likewise, cost of hired labor was high at PhP9,359.38 per hectare (Table 29.1).

Imputed costs amounted to PhP40,468.31 or about 41 percent of all costs (Figure 6.9). Unpaid labor or the combined cost of operator and family labor was the main cost item valued at PhP24,498.12 per hectare (Table 29.1).

Farmers in Cebu produced an average of 10,185.95 kilograms of tomato per hectare. Gross earnings on tomato production figured to PhP169,649.27 per hectare. Returns above cash costs averaged PhP110,661.31. With no reported non-cash expenses, net returns stood at PhP70,193.01 per hectare. For every peso of investment in producing tomato, Cebu farmers netted PhP0.71 (Table 29.1).

Variable cost of production shared 86.77 percent of the total production cost which averaged PhP86,298.62 per hectare (Figure 6.10). On the other hand, the remaining costs were fixed costs averaging PhP13,157.64 per hectare (Table 29.2).

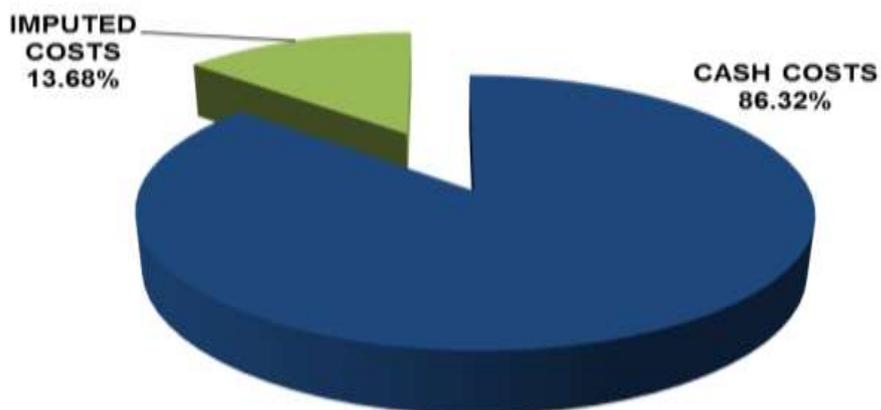
Figure 6.10 Percentage Share of Costs According to Production Level, Cebu, September 2016 - May 2017



## Bukidnon

The costs of producing tomato in Bukidnon amounted to an average of PhP280,136.21 per hectare equivalent to PhP8.67 per kilogram (Table 30.1).

Figure 6.11 Percentage Share of Costs According to Cash Flows, Bukidnon, January - September 2017



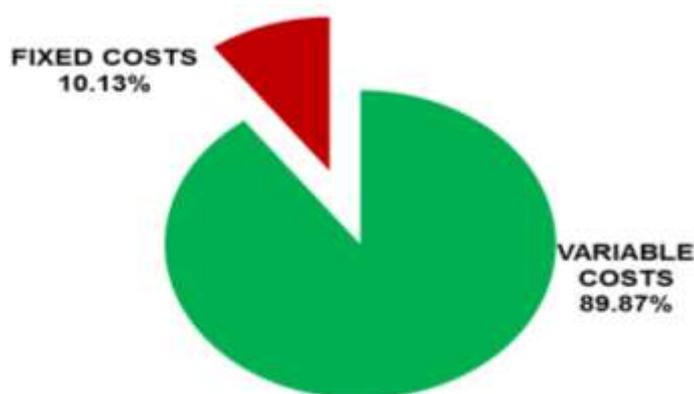
Cash costs shared 86.32 percent of the total production cost (Figure 6.11). This amounted to PhP241,820.75. Hired labor was the major cost item amounting to PhP60,835.38. Other big cash outlays were recorded for pesticides at PhP36,530.35 and for sack/crate/box/kaing at PhP35,094.27 (Table 30.1).

Imputed costs summed up to PhP38,315.45 per hectare or 13.68 percent of all costs (Figure 6.11). Depreciation and interest on operating capital were the leading imputed cost items valued at PhP8,030.97 and PhP7,581.24, respectively. The combined opportunity costs of operator and family labor were also high at PhP8,212.54. Other big cost items were rental value of owned land at PhP5,940.30 and transport cost of produce at PhP4,359.88 (Table 30.1).

Per hectare, the average production of tomato in Bukidnon was 32,307.15 kilograms translated to gross earnings amounting to PhP521,692.60. After deducting cash costs, returns were estimated at PhP279,871.84 per hectare. Since there were no reported non-cash costs during the reference period, net returns settled at PhP241,556.39 per hectare. Farmers netted PhP0.86 per peso of investment in tomato production (Table 30.1).

Average variable costs of production amounted to PhP251,745.02 per hectare or 89.87 percent of all costs (Figure 6.12). Fixed costs shared the remaining 10.13 percent at an amount of PhP28,391.19 per hectare (Table 30.2).

Figure 6.12 Percentage Share of Costs According to Production Level, Bukidnon, January - September 2017



## Misamis Oriental

Per hectare, the cost of tomato production in Misamis Oriental averaged PhP222,534.21. It was PhP9.82 on a per kilogram basis (Table 31.1).

Figure 6.13 Percentage Share of Costs According to Cash Flows, Misamis Oriental, January - September 2017



Cash costs amounted to PhP179,674.89 per hectare and this accounted for 80.74 percent of the total cost (Figure 6.13). The main contributor was the cost of hired labor at PhP56,339.29 per hectare. The other leading cost items

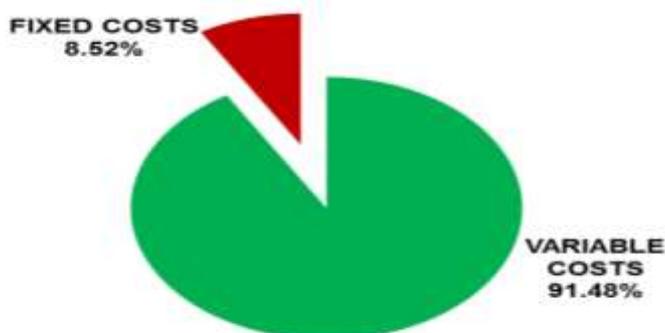
were transport cost of produce, sack/crate/box/kaing, pesticides and fertilizers with values ranging from PhP20,774.75 to PhP27,382.83 per hectare (Table 31.1).

Almost 20 percent of the production costs were imputed and valued at PhP42,859.32 per hectare (Figure 6.13). Of this amount, bigger share came from the opportunity costs of operator and family labor amounting to PhP11,691.85. The combined costs of transporting inputs as well as produce came next at PhP9,871.79 per hectare (Table 31.1).

In Misamis Oriental, tomato production per hectare averaged 22,664.89 kilograms valued at PhP307,963.46. Returns above cash costs were computed at PhP128,288.57 per hectare. With no reported non-cash expenses during the reference period, net earnings of the farmers stood at PhP85,429.25 per hectare. A net profit of PhP0.38 was noted for every peso of investment in tomato production (Table 31.1).

Variable costs of production averaged at PhP203,572.40 per hectare corresponded to 91.48 percent of the total cost (Figure 6.14). The rest were fixed costs at PhP18,961.81 per hectare (Table 31.2).

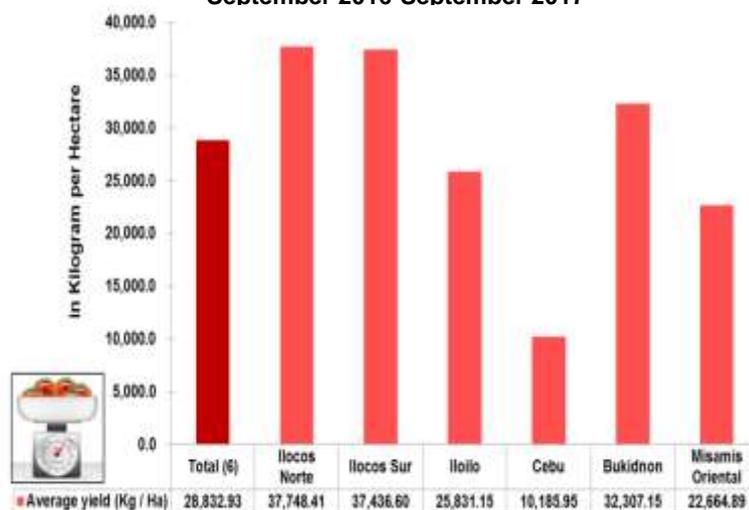
Figure 6.14 Percentage Share of Costs According to Production Level, Misamis Oriental, January - September 2017



## Interprovincial Comparisons

Across the six (6) provinces surveyed, farmers in Ilocos Norte reported the highest production of tomato averaged 37,748.41 kilograms. This was closely followed by the production of tomato in Ilocos Sur at 37,436.60 kilograms. On the other hand, the least production at 10,185.95 kilograms was reported in Cebu (Figure 6.15).

Figure 6.15 Interprovincial Comparison of Yield per Hectare of Tomato Production, Selected Provinces, September 2016-September 2017



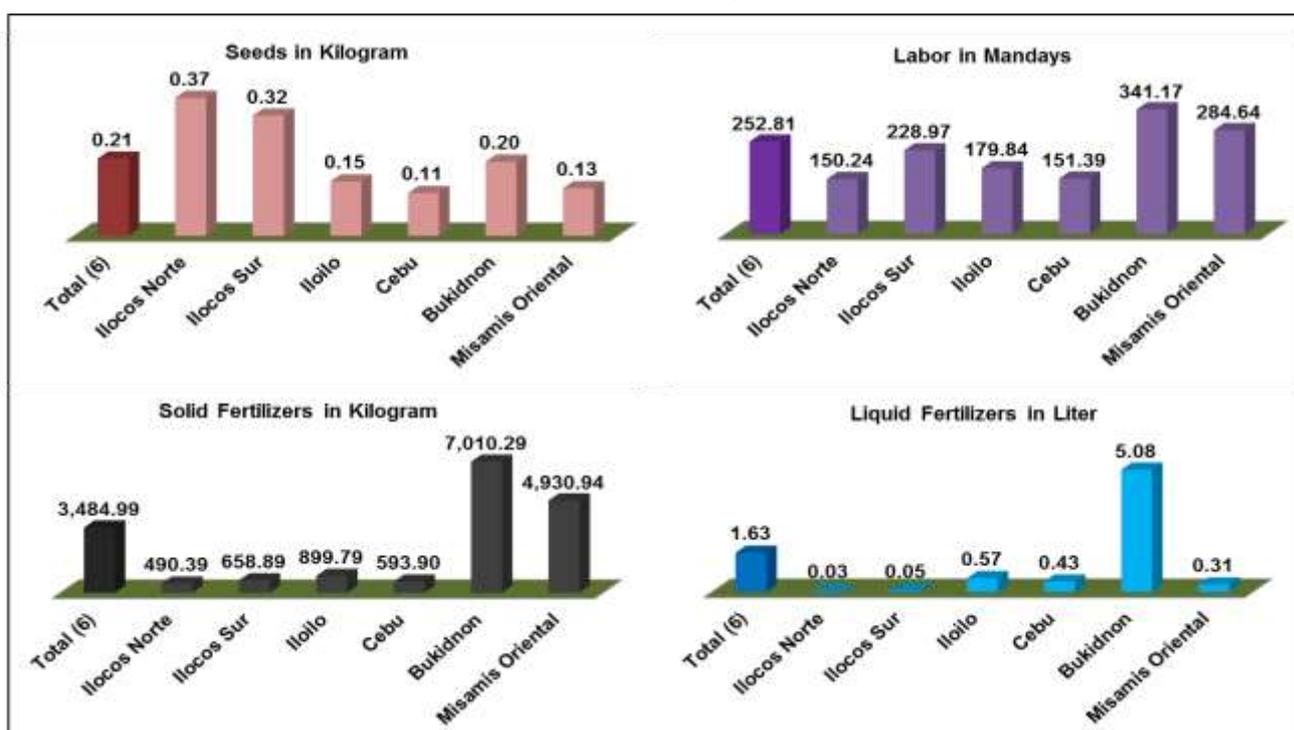
For the area harvested to tomato, Bukidnon recorded the biggest size at 65.53 hectares while the smallest size was indicated in Cebu at 18.57 hectares (Figure 6.16).

**Figure 6.16 Interprovincial Comparison of Area of Tomato Production, Selected Provinces, September 2016-September 2017**



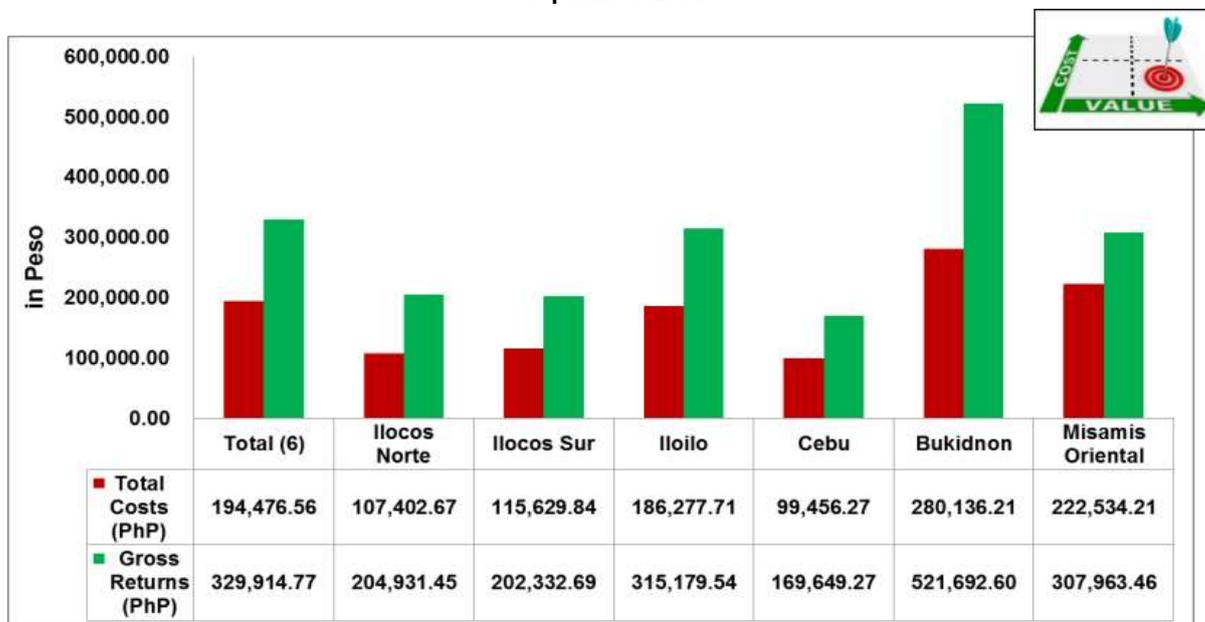
In terms of input usage, farmers in Ilocos Norte cited higher seeding rate at 0.37 kilogram per hectare. The least seeding rate was noted in Cebu at 0.11 kilogram per hectare. The usage of fertilizers per hectare was highest in Bukidnon at 7,010.29 kilograms for the solid form and 5.08 liters for the liquid form. In Misamis Oriental, larger volume of solid fertilizers at 4,930.94 kilograms was also applied during the reference period. Labor utilization ranged from 150.24 mandays per hectare in Ilocos Norte to 341.17 mandays per hectare in Bukidnon (Figure 6.17).

**Figure 6.17 Interprovincial Comparison of Input Usage per Hectare of Tomato Production, Selected Provinces, September 2016-September 2017**



The cost of producing tomato per hectare was highest in Bukidnon at PhP280,136.21 and least in Cebu at PhP99,456.27. In terms of gross value of output per hectare, Bukidnon had the biggest returns at PhP521,692.60 and Cebu had the least at PhP169,649.27 (Figure 6.18).

**Figure 6.18 Interprovincial Comparison of Total Costs and Gross Returns per Hectare of Tomato Production, Selected Provinces, September 2016-September 2017**



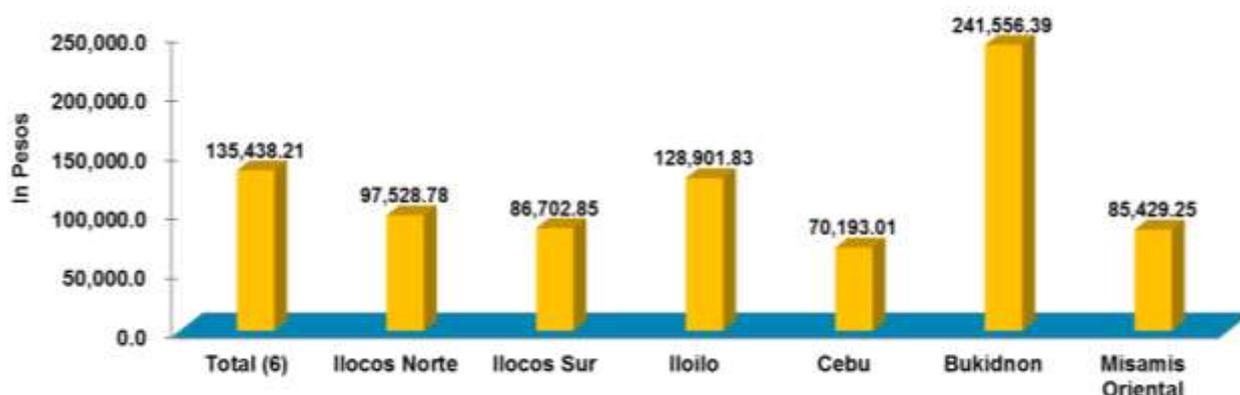
Comparing the cash flows across provinces, Iloilo, Misamis Oriental and Bukidnon indicated bigger cash outlays ranging from PhP140,236.63 to PhP241,820.75 per hectare. The least cash costs amounting to PhP55,689 were estimated in Ilocos Sur. Non-cash costs were only reported in Ilocos Norte at PhP83.26 and Iloilo at PhP2,085.67. The highest imputed costs of about PhP59,940.84 per hectare were noted in Ilocos Sur while the least was reported in Ilocos Norte at PhP32,598.01 per hectare (Figure 6.19).

**Figure 6.19 Interprovincial Comparison of Cash Flows per Hectare of Tomato Production, Selected Provinces, September 2016-September 2017**



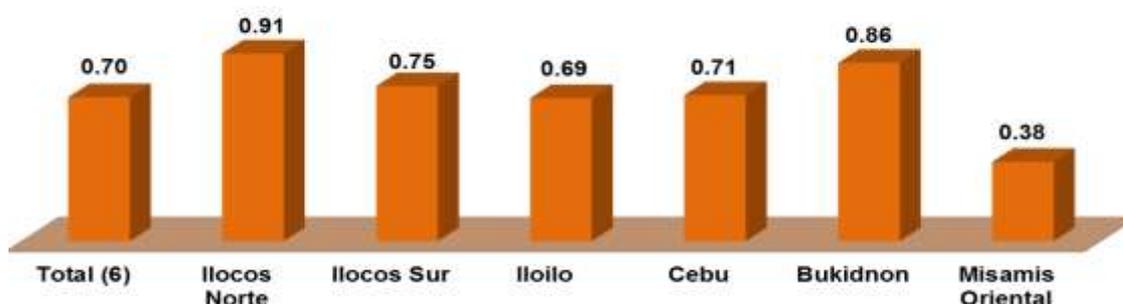
Net returns were highest in Bukidnon at PhP241,556.39 per hectare and in Iloilo at PhP128,901.83 per hectare. Cebu got the lowest net returns at PhP70,193.01 per hectare (Figure 6.20).

**Figure 6.20 Interprovincial Comparison of Net Returns per Hectare of Tomato Production, Selected Provinces, September 2016-September 2017**



The biggest net profit-cost ratios were registered in Ilocos Norte at 0.91 and Bukidnon at 0.86. The least ratio was noted in Misamis Oriental at 0.38 (Figure 6.21).

**Figure 6.21 Interprovincial Comparison of Net-Profit Cost Ratios per Hectare of Tomato Production, Selected Provinces, September 2016-September 2017**



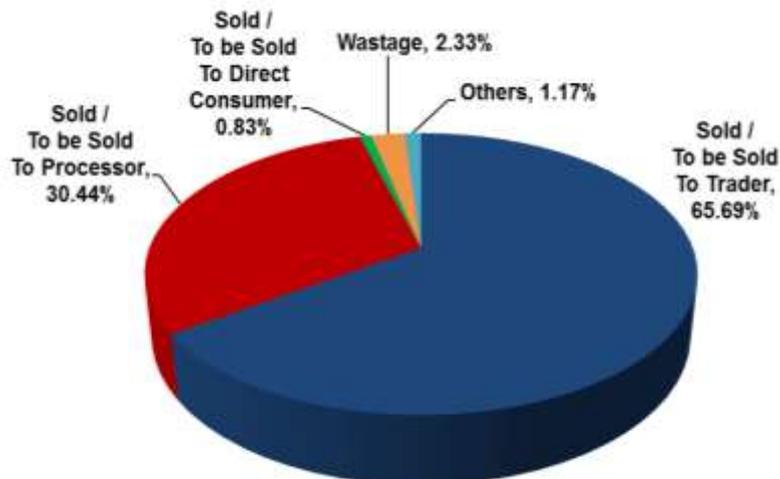
## F. Other Information

*This section contains other relevant information on tomato production such as the disposition of produce, comparison of the current production with previous production, problems related to production and marketing, major buyers of produce, access to credit and extension services. Moreover, this contains the sample farmers' response on the perceived effects of climate change to their farming practices, their membership in farmer's organization and the benefits they received and their plans and recommendations to improve tomato production.*

## Disposition of Produce

The survey indicated that bigger proportion of tomato production in the six (6) provinces was sold. About 65.69 percent were sold to trader, 30.44 percent to processor and 0.83 percent to direct consumer (Figure 7.1). Smaller proportions at around 2.33 percent were reported as wastage, 0.55 percent was given away and 0.12 percent for home consumption (Table 33).

Figure 7.1 Percentage Distribution of Produce by Disposition Item, Selected Provinces, September 2016 - September 2017



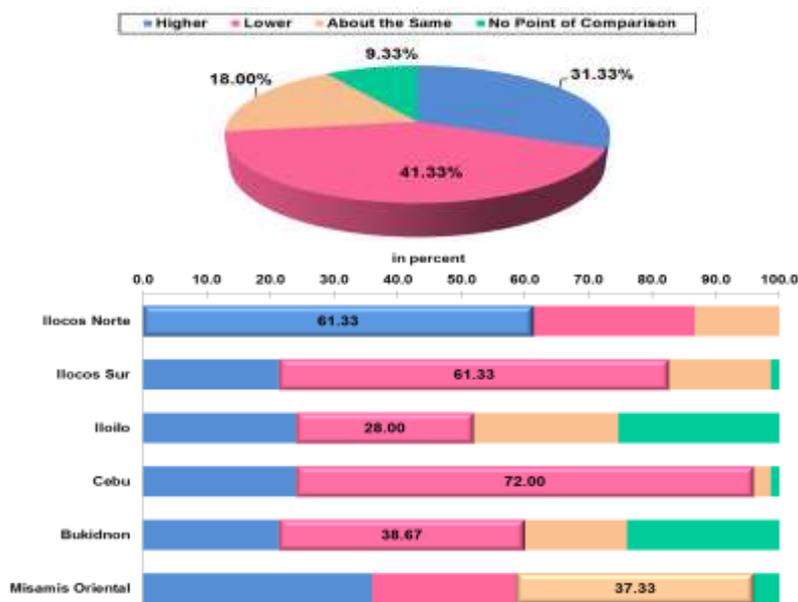
At the provincial level, the proportions of volume sold to traders were higher in Iloilo, Cebu, Bukidnon and Misamis Oriental ranging from 94.11 percent to 99.27 percent. Ilocos Norte and Ilocos Sur recorded bigger shares of tomato harvests sold to processors at 81.32 percent and 89.62 percent, respectively. The volume marketed to direct consumers comprised higher in Ilocos Norte at 3.15 percent. Meanwhile, wastage of tomatoes at 5.13 percent was noted in Bukidnon (Table 33).

## Production Compared with Last Year

Compared with last year's production, about 41.33 percent of the sample tomato farmers reported that their production levels were lower this year while 31.33 percent mentioned higher production this year. There were 18 percent who cited the same level of production over last year (Figures 7.2-7.3).

By province, Cebu recorded the highest proportion of tomato farmers at 72 percent who had lower production this year. This was also true for 61.33

Figures 7.2-7.3 Percentage Distribution of Tomato Farmers Reporting on the Current Level of Production in Comparison with the Production in the Previous Cropping, Selected Provinces, September 2016-September 2017



percent of the tomato farmers in Ilocos Sur. On the other hand, Ilocos Norte indicated the biggest proportion of farmers at 61.33 who reported higher production this year. No change in the production level was reported by 37.33 percent in Misamis Oriental and 22.67 percent in Iloilo (Figures 7.2-7.3).

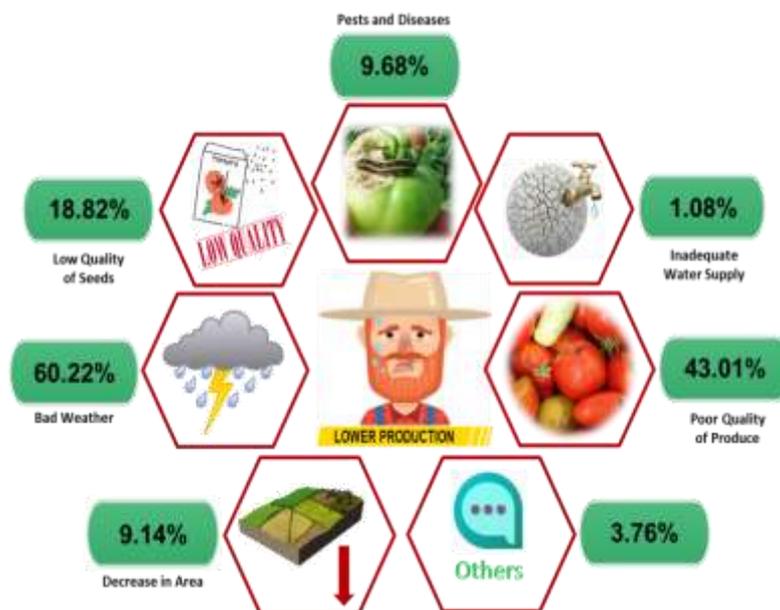
The foremost reason given by 60.22 percent of the tomato farmers who had lower production this year was the occurrence of bad weather. There were 43.01 percent who mentioned poor quality of produce and 18.82 percent said usage of low quality of seeds as their reasons for lower production (Figure 7.4).

In Ilocos Sur, about 86.96 percent of the tomato farmers identified bad weather condition as the main factor for their lower production this year. This was similarly cited by 68.42 percent in Ilocos Norte. Poor quality of produce caused lower volume of production among 62 percent to 63 percent of the tomato farmers in Bukidnon and Ilocos Sur. The use of low quality of seeds was the reason given by 47.62 percent of the farmers in Iloilo and 41.18 percent in Misamis Oriental (Table 34.3).

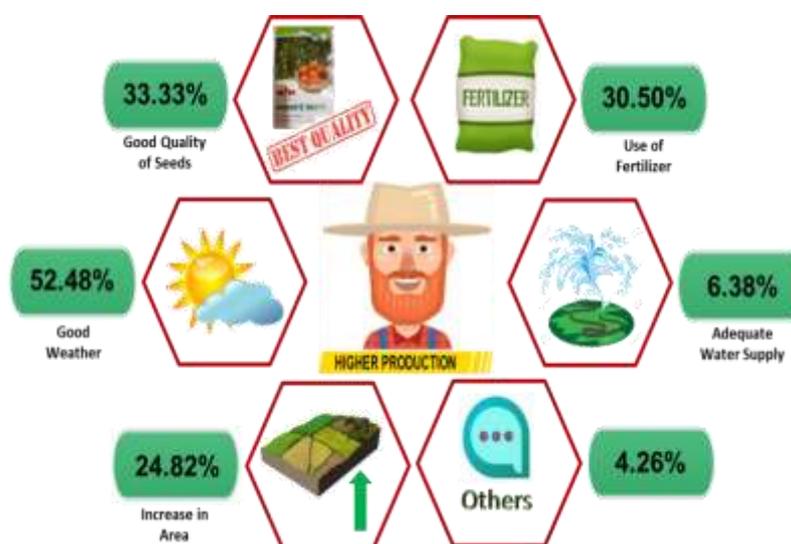
Among the tomato farmers who reported higher production this year, the common reasons were good weather condition, good quality of seeds and usage of fertilizers as reported by 52.48 percent, 33.33 percent and 30.50 percent, respectively. Increase in area for tomato farming resulted to higher production among 24.82 percent of the tomato farmers (Figure 7.5).

Bukidnon had the biggest proportion of tomato farmers at 75 percent whose reason for higher production was

**Figure 7.4 Percentage of Tomato Farmers with Lower Volume of Production This Year by Reason for Change in Production, Selected Provinces, September 2016-September 2017**



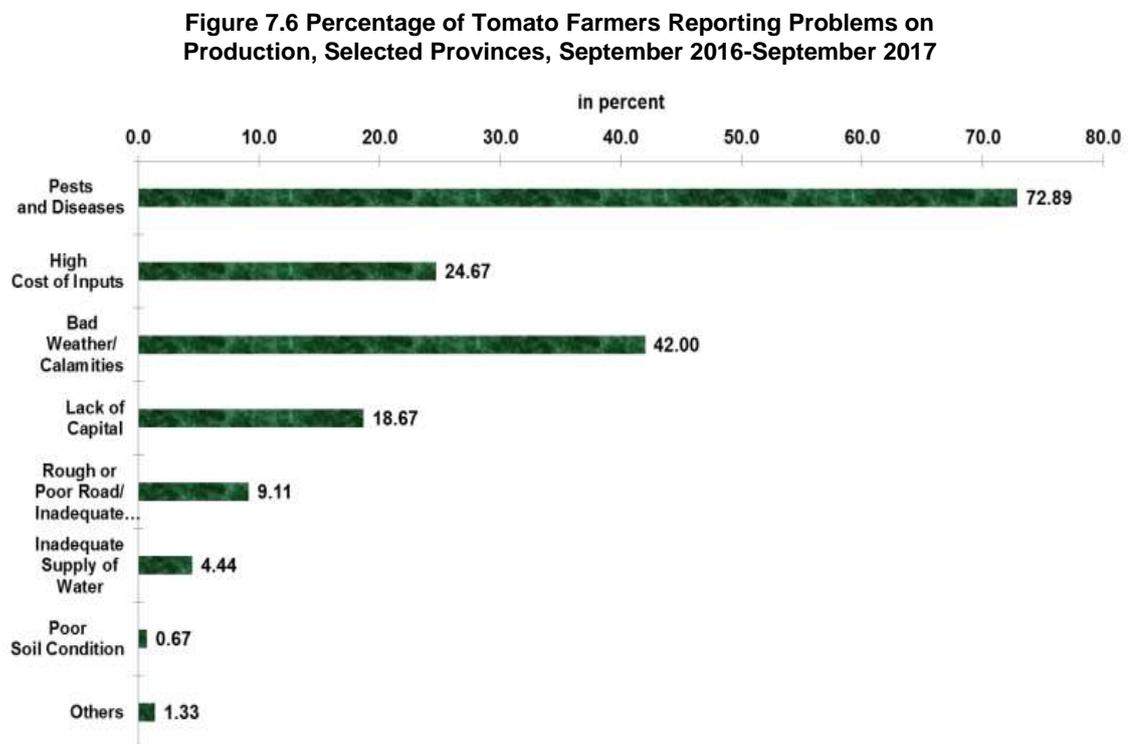
**Figure 7.5 Percentage of Tomato Farmers with Higher Volume of Production This Year by Reason for Change in Production, Selected Provinces, September 2016-September 2017**



good weather condition. Likewise, this was the reason given by 66.67 percent of the farmers in Iloilo and 50 percent of the farmers in Cebu. In Misamis Oriental, there were 62.96 percent whose primary reason for the increase in production this year was the usage of fertilizers. About 62.50 percent of the farmers in Ilocos Sur cited the use of good quality seeds led to higher production this year while 39.13 percent of the farmers in Ilocos Norte attributed higher production to the increase in area (Table 34.2).

## Problems Related to Production

Across the surveyed provinces, the leading production problem was the occurrence of pests and diseases as cited by 72.89 of the sample tomato farmers. Other common production problems were bad weather condition/calamities, high cost of inputs and lack of capital. Correspondingly, these were reported by 42 percent, 24.67 percent and 18.67 percent of the tomato farmers (Figure 7.6).

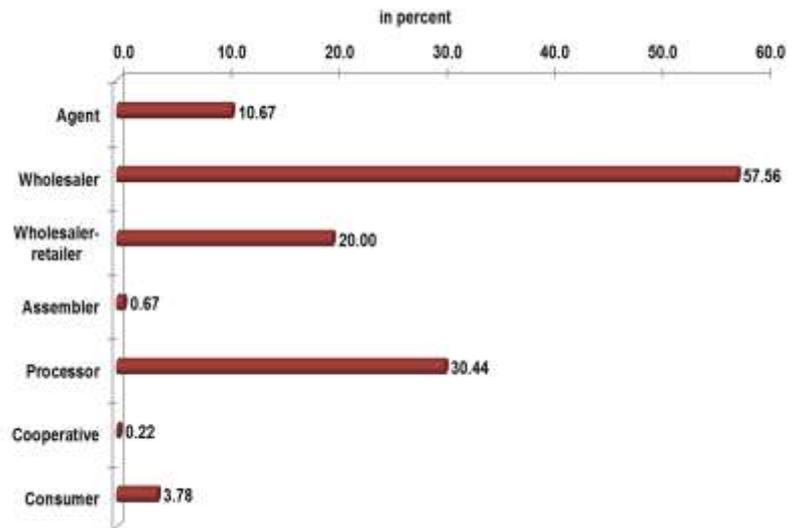


By province, Bukidnon and Misamis Oriental had the biggest percentages of tomato farmers at 81.33 percent each who reported problem on pests and diseases. Meanwhile, around 53 percent to 57 percent of the farmers in Ilocos Norte and Ilocos Sur were constrained by bad weather condition. In addition, more farmers in Ilocos Norte at 66.67 percent and 60 percent encountered production problems such as high cost of inputs and lack of capital, respectively (Table 35).

## Major Buyers of Produce

Wholesaler was the most major buyer of tomato as reported by 57.56 percent of the tomato farmers in the covered provinces. This was followed by processors with 30.44 percent of the farmers reporting. Some 20 percent sold their produce to wholesaler-retailer and about 10.67 percent transacted to agents. Selling of produce directly to consumers was mentioned by 3.78 percent of the tomato farmers. Very few at less than 1 percent each did selling to assemblers and cooperatives (Figure 7.7).

Figure 7.7 Percentage of Tomato Farmers Reporting on the Buyers of Produce, Selected Provinces, September 2016-September 2017

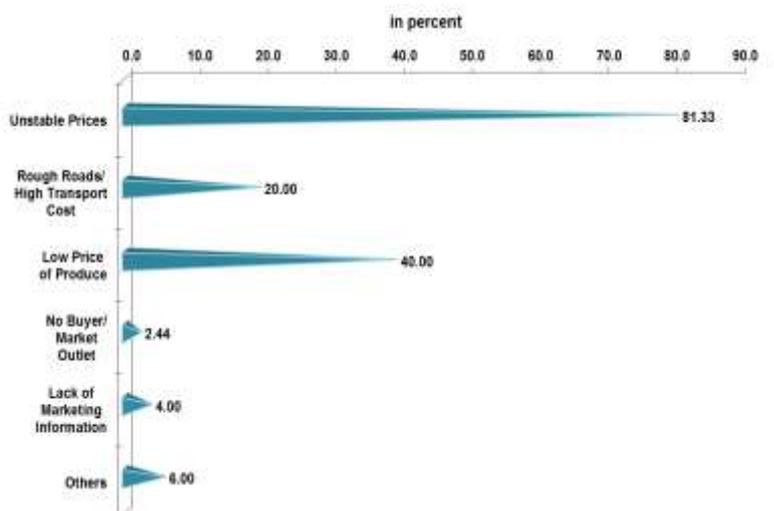


The proportions of tomato farmers who transacted with wholesalers were high in Bukidnon at 98.67 percent, Cebu at 90.67 percent and Misamis Oriental at 86.67 percent. On the other hand, majority or 87 percent to 96 percent of the farmers in Ilocos Norte and Ilocos Sur sold their produce to processors. In Iloilo, wholesaler-retailer was the leading buyer of 69.33 percent of the tomato farmers. Transaction with agents was cited by 21.33 percent in Bukidnon. Direct selling to consumers was mentioned by 8 percent in Iloilo (Table 36).

## Problems Related to Marketing

Unstable price was the most common marketing problem of 81.33 percent of all sample tomato farmers. About 40 percent had problems with consistently low price of produce. Rough roads/high transport cost was the constraint of 20 percent of the farmers. A few at 2.44 percent to 4 percent of the farmers cited limited buyer/market outlets and lack of marketing information as their problem on marketing the produce (Figure 7.8).

Figure 7.8 Percentage of Tomato Farmers Reporting Problems on Marketing of Produce, Selected Provinces, September 2016-September 2017



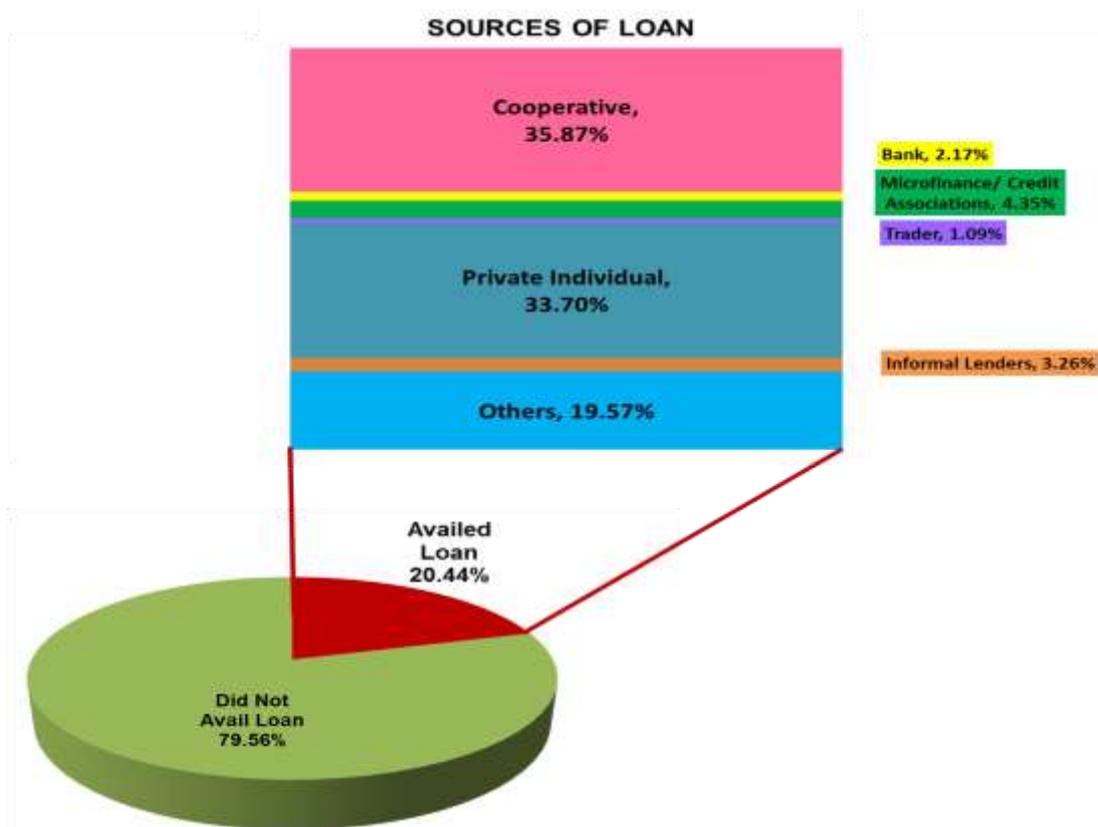
In particular, unstable price was the dominant problem of 92 percent of the farmers in Ilocos Sur and 90.67 percent in Bukidnon. Low price of produce was stated by 82.67 percent of the farmers in Ilocos Norte. More farmers in Bukidnon at 42.67 percent were constrained by rough roads/high transport cost (Table 37).

## Access to Credit

During the reference period, about 20.44 percent of the sample tomato farmers had availed of loans to finance tomato production (Figure 7.9). The proportions of farmers who availed loans ranged from 10.67 percent each in Ilocos Sur and Misamis Oriental to 52 percent in Ilocos Norte (Table 38).

Of those who availed of loans, cooperative and private individual were the leading sources of loan with 35.87 percent and 33.70 percent reporting, respectively (Figure 7.9).

**Figure 7.9 Percentage of Tomato Farmers who Availed of Loans for Tomato Production by Major Source of Loan, Selected Provinces, September 2016-September 2017**



By province, about 66.67 percent of the farmers in Bukidnon availed loans from cooperatives. This was also true for 61.54 percent of the farmers in Ilocos Norte. Private individuals were the major source of loan of 83.33 percent of the farmers in Cebu (Table 38).

## Access to Extension Services

Awareness of government programs/interventions related to tomato production was stated by 40.44 percent of the farmers in the six (6) surveyed provinces (Table 39.1).

By province, the percentages of tomato farmers who were aware of government programs/interventions were highest in Ilocos Norte at 97.33 percent and Ilocos Sur at 72 percent. Awareness was least in Cebu with 6.67 percent reporting (Figure 7.10).

Among the farmer-beneficiaries, about 86.67 percent benefited from farm to market roads. There were 25.24 percent who received benefit in terms of irrigation facilities. Some 19.05 percent were recipients of planting materials while 14.76 percent were provided with fertilizer and other inputs (Figure 7.11).

Figure 7.10 Percentage of Tomato Farmers Who were Aware and Availed Benefit from Government Programs/Interventions on Tomato Production, Selected Provinces, September 2016-September 2017

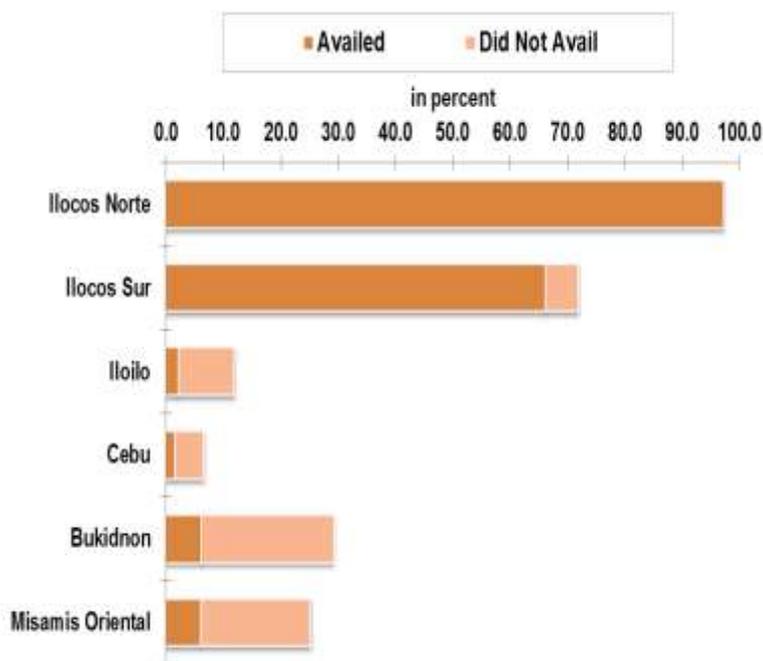
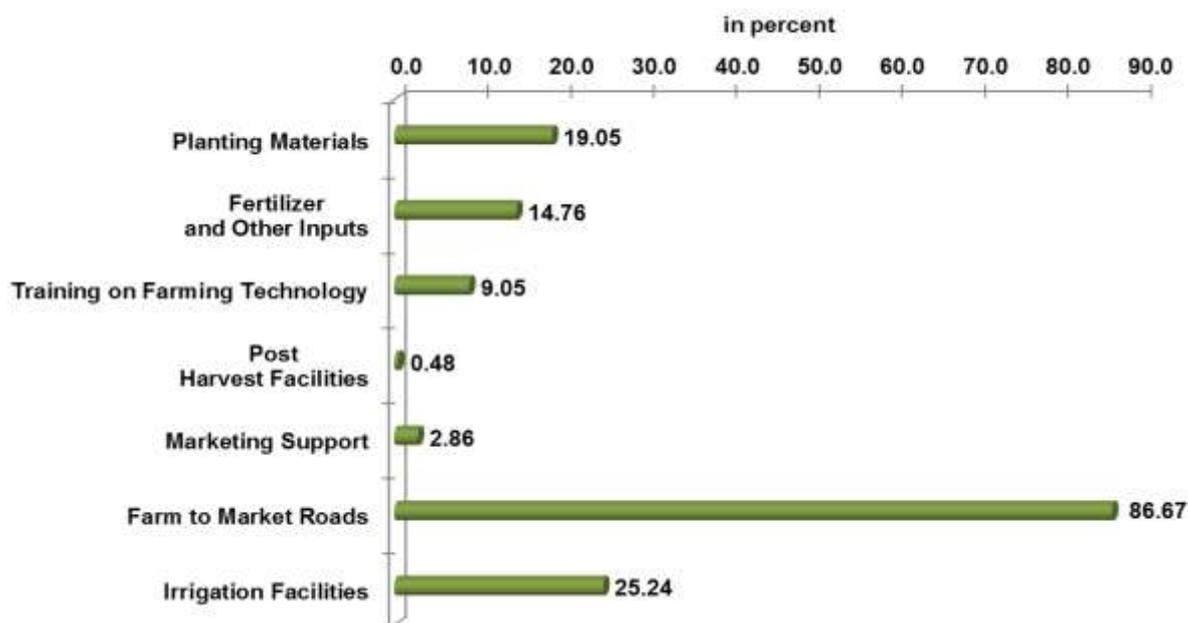


Figure 7.11 Percentage of Tomato Farmers who Availed Benefit from Government by Type of Programs/Interventions on Tomato Production, Selected Provinces, September 2016-September 2017

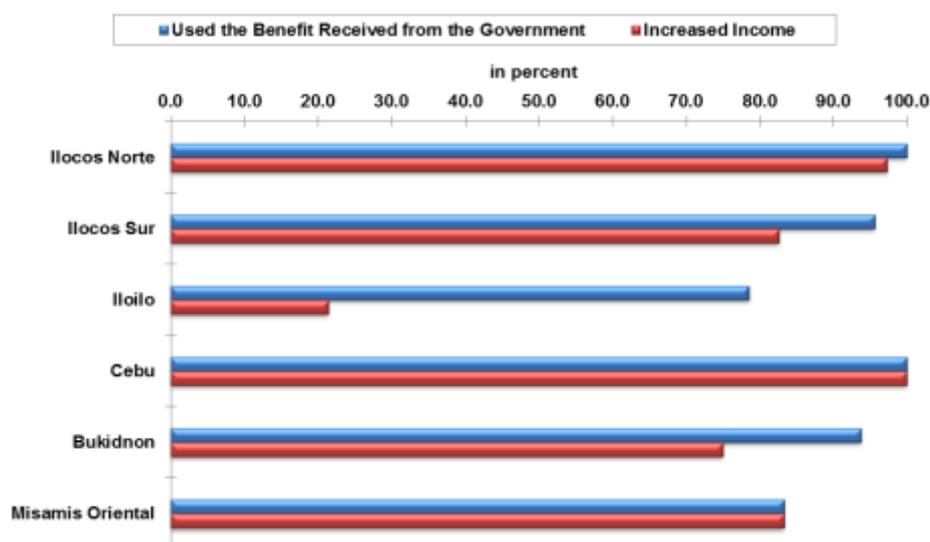


At the provincial level, all tomato farmers who availed government programs/interventions in Ilocos Norte and Ilocos Sur were beneficiaries of farm to market roads. In Cebu, about 66.67 percent of the farmer-beneficiaries availed benefits in terms of irrigation facilities. Recipients of planting materials were highest in Ilocos Norte at 45.33 percent while more farmer-beneficiaries in Iloilo at 28.57 percent received fertilizers and other inputs. More farmer-beneficiaries in Misamis Oriental at 66.67 percent participated in training on farming technology (Table 39.2).

Among the beneficiaries of the government programs/interventions, 95.24 percent of the tomato farmers used the benefits and 84.76 percent of them reported that these benefits helped increase their income (Table 39.3).

In Cebu, all the tomato farmers who used the benefits received from the government claimed to have an increase in their income. In Ilocos Norte, all the farmer-beneficiaries also used the benefits received from the government. However, only 97.33 percent said that these benefits helped increased their income. There were 78.57 percent in Iloilo who were users of benefits but only a few of them at 21.43 percent stated an increase in their income (Figure 7.12).

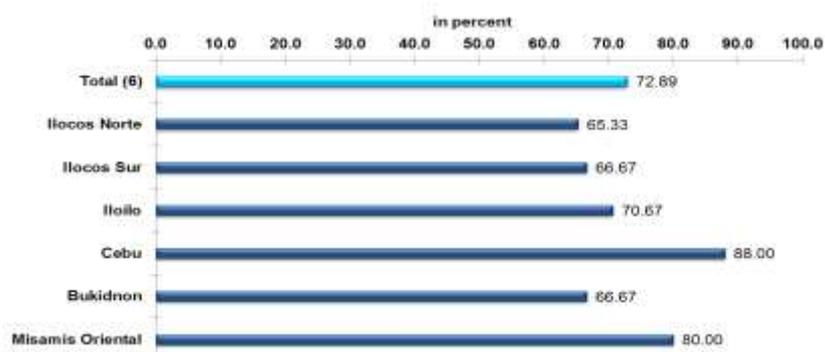
**Figure 7.12 Percentage of Tomato Farmers who Used the Benefit Received and Increased Income, Selected Provinces, September 2016-September 2017**



## Effect of Climate Change on Tomato Farming

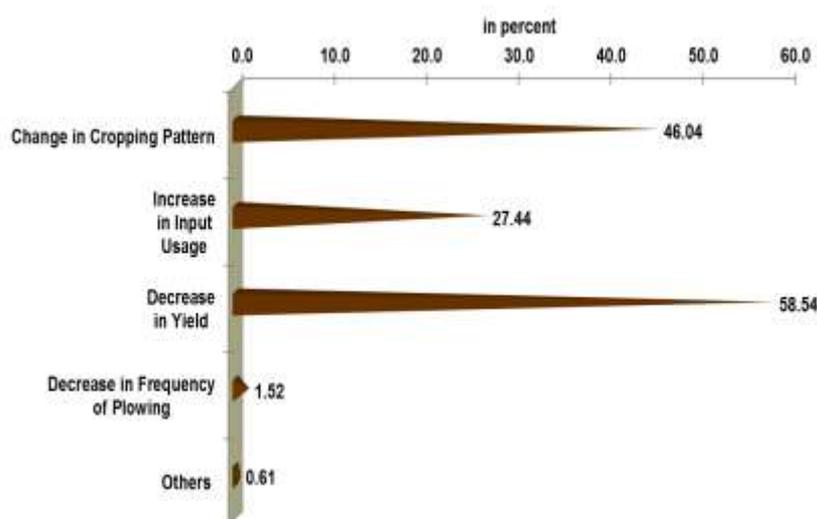
There were 72.89 percent of the tomato farmers who reported that climate change affected their farming practices. In particular, this was stated by 65.33 percent in Ilocos Norte to 88 percent in Cebu (Figure 7.13).

**Figures 7.13-7.14 Percentage of Tomato Farmers by Perceived Effect of Climate Change on Their Tomato Farming Selected Provinces, September 2016-September 2017**



As to the perceived effect of climate change, decrease in yield was mentioned by 58.54 percent, change in cropping pattern by 46.04 percent and increase in input usage by 27.44 percent. Few farmers at 1.52 percent believed that climate change caused the decrease in their frequency of plowing (Figure 7.14).

Figure 7.14

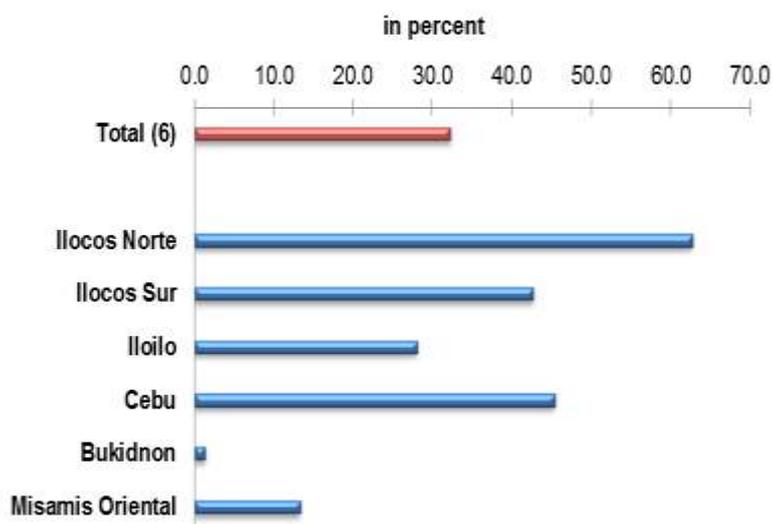


By province, the reduction in yield was reported by 89.39 percent in Cebu. In Ilocos Sur, about 98 percent of the tomato farmers observed that the change in their cropping pattern was attributed to climate change. Meanwhile, there were 70 percent of the tomato farmers in Bukidnon who cited increase in input usage as the effect of climate change (Table 40).

## Membership in Organization and Type of Benefit Received

Across the provinces covered, about 32.22 percent of the tomato farmers were members of farmers' organizations. Particularly, membership was highest in Ilocos Norte at 62.67 percent of the tomato farmers. It was least among farmers in Bukidnon at 1.33 percent (Figure 7.15).

Figures 7.15-7.16 Percentage of Tomato Farmers Who are Members of Farmers' Organization by Type of Benefit Received, Selected Provinces, September 2016-September 2017

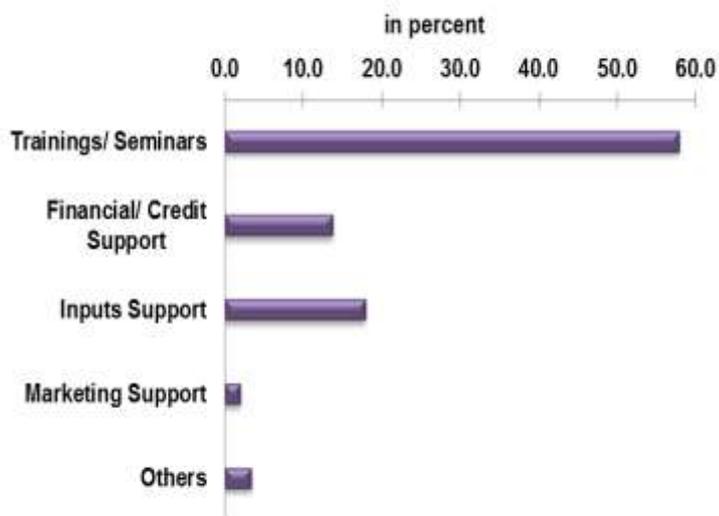


Among the farmer-members in the surveyed provinces, about 77.93 percent were beneficiaries from farmers' organization. Majority at 93.75 percent were farmer-beneficiaries in Ilocos Sur. On the contrary, there was no benefit received by the farmer-members in Bukidnon (Table 41).

By type of benefits received, about 57.93 percent availed of trainings/seminars. Merely 17.93 percent received inputs support and 13.79 percent had financial/credit support (Figure 7.16)

In Ilocos Sur, about 87.50 percent of the farmer-members were recipients of trainings/seminars and 25 percent availed of financial/credit support. Inputs support was provided to 42.86 percent of the farmer-members in Iloilo (Table 41).

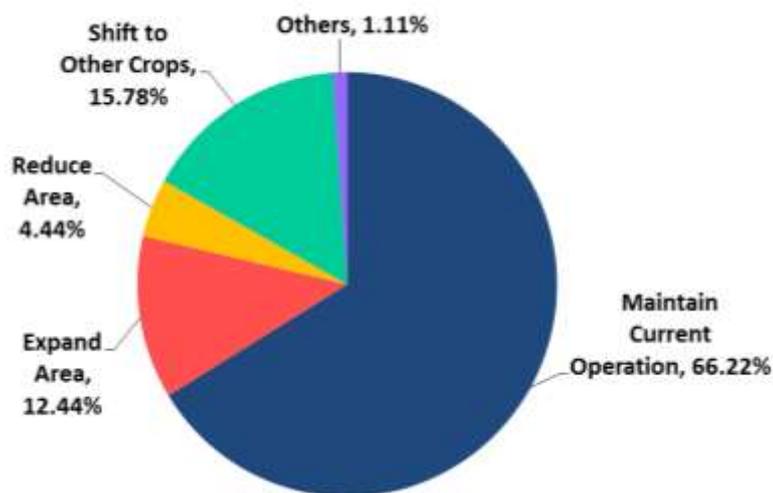
Figure 7.16



### Plans of Tomato Farmers

According to 66.22 percent of the tomato farmers in the six (6) surveyed provinces, they planned to maintain the current operation. Some 15.78 percent had plans of shifting to other crops. About 12.44 percent had intentions of expanding the area of tomato farm while 4.44 percent wanted to reduce the area of their tomato farm (Figure 7.17).

Figure 7.17 Percentage Distribution of Tomato Farmers Reporting on the Plan of Farm Operations, Selected Provinces, September 2016-September 2017

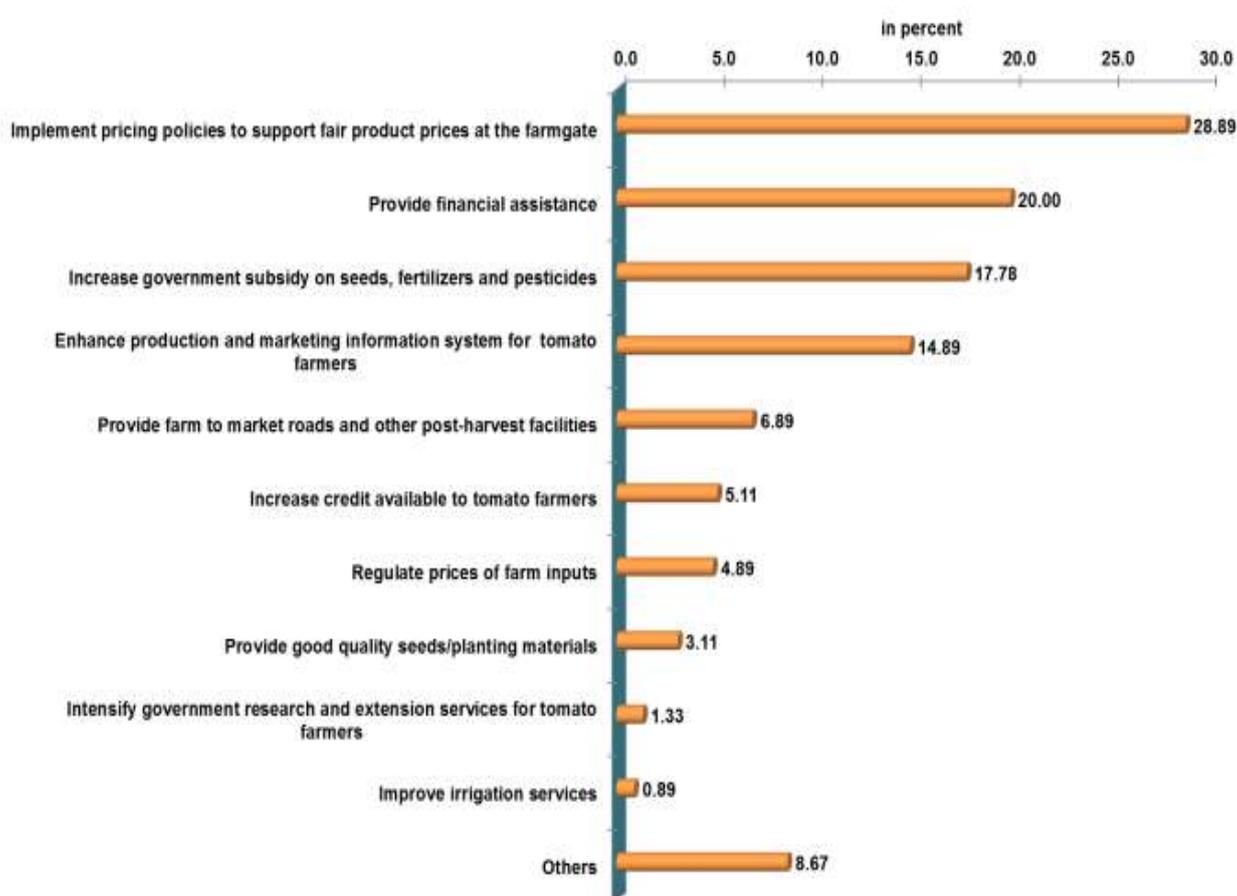


Specifically, the plan to maintain current operations was noted by 37.33 percent in Misamis Oriental to 90.67 percent in Ilocos Sur. Shifting to other crops was mostly the plan of 38.67 percent of the tomato farmers in Misamis Oriental. There were 32 percent of the tomato farmers in Iloilo who wished for the area expansion devoted to tomato farming. On the other hand, a reduction in area was the plan of 4 percent of the tomato farmers in Iloilo, 5.33 percent in Ilocos Sur and 17.33 percent in Ilocos Norte (Table 42).

## Recommendations to Further Improve Tomato Production

Improvement of tomato production through the implementation of pricing policies to support fair prices at the farmgate was the most common recommendation of 28.89 percent of the tomato farmers across the six (6) covered provinces. There were 20 percent who sought the provision of financial assistance and 17.78 percent who cited that increase in government subsidy on seeds, fertilizers and pesticides would improve their production. In addition, some 14.89 percent suggested enhancement of production and marketing information system for tomato farmers (Figure 7.18).

**Figure 7.18 Percentage of Tomato Farmers Reporting on the Recommendations to Further Improve the Tomato Production, Selected Provinces, September 2016-September 2017**



By province, those who proposed for the implementation of pricing policies were highest in Ilocos Norte at 78.67 percent. In Cebu, more farmers at 65.33 percent mentioned the provision of financial assistance. About 34.67 percent of the tomato farmers in Misamis Oriental suggested increase in government subsidy on seeds, fertilizers and pesticides. Meanwhile, enhancement of production and marketing information system was stated by 56 percent of the farmers in Iloilo to improve tomato production (Table 43).

# **Statistical Tables**

## CHARACTERISTICS OF TOMATO FARMERS

**Table 2. Percentage Distribution of Tomato Farmers by Sex, Selected Provinces, September 2016-September 2017**

Province	Male	Female
<b>Total (6)</b>	<b>92.89</b>	<b>7.11</b>
Ilocos Norte	100.00	
Ilocos Sur	92.00	8.00
Iloilo	97.33	2.67
Cebu	84.00	16.00
Bukidnon	93.33	6.67
Misamis Oriental	90.67	9.33

**Table 3. Average Age of Tomato Farmers and Percentage Distribution by Age Group, Selected Provinces, September 2016-September 2017**

Province	Average Age (years)	Age Group (years)					
		< 31	31 - 40	41 - 50	51 - 60	61 - 70	> 70
<b>Total (6)</b>	<b>47</b>	<b>7.78</b>	<b>21.56</b>	<b>34.89</b>	<b>24.67</b>	<b>9.11</b>	<b>2.00</b>
		(in percent)					
Ilocos Norte	47	5.33	20.00	42.67	21.33	9.33	1.33
Ilocos Sur	51	1.33	21.33	21.33	36.00	16.00	4.00
Iloilo	49	2.67	16.00	40.00	30.67	8.00	2.67
Cebu	45	13.33	30.67	22.67	20.00	10.67	2.67
Bukidnon	43	16.00	21.33	40.00	17.33	4.00	1.33
Misamis Oriental	46	8.00	20.00	42.67	22.67	6.67	

**Table 4. Percentage Distribution of Tomato Farmers by Educational Attainment, Selected Provinces, September 2016-September 2017**

Province	Elementary Level	Elementary Graduate	High School Level	High School Graduate
<b>Total (6)</b>	<b>17.78</b>	<b>21.11</b>	<b>15.78</b>	<b>24.22</b>
Ilocos Norte	2.67	13.33	20.00	41.33
Ilocos Sur	8.00	16.00	18.67	21.33
Iloilo	12.00	29.33	14.67	24.00
Cebu	37.33	32.00	12.00	10.67
Bukidnon	10.67	25.33	6.67	37.33
Misamis Oriental	36.00	10.67	22.67	10.67

**Table 4. (Concluded)**

Province	College Level	College Graduate	Vocational	No Formal Schooling
<b>Total (6)</b>	<b>7.56</b>	<b>6.67</b>	<b>6.67</b>	<b>0.22</b>
Ilocos Norte	8.00	5.33	9.33	
Ilocos Sur	10.67	16.00	9.33	
Iloilo	8.00	4.00	8.00	
Cebu	2.67	5.33		
Bukidnon	6.67	6.67	5.33	1.33
Misamis Oriental	9.33	2.67	8.00	

**Table 5. Percentage Distribution of Tomato Farmers by Main Occupation, Selected Provinces, September 2016-September 2017**

Province	Officials of the Government and Special Interest Organizations, Corporate Executives, Managers Managing Proprietors and Supervisors	Professionals	Clerks	Service Workers and Shop and Market Sales Workers	Farmers, Forestry Workers and Fishermen	Craft and Related Trades Workers	Plant and Machine Operators and Assemblers
<b>Total (6)</b>	<b>1.33</b>	<b>0.22</b>	<b>0.22</b>	<b>0.22</b>	<b>95.56</b>	<b>1.11</b>	<b>1.33</b>
Ilocos Norte					100.00		
Ilocos Sur					98.67	1.33	
Iloilo	2.67				92.00	2.67	2.67
Cebu					100.00		
Bukidnon	4.00	1.33	1.33	1.33	84.00	2.67	5.33
Misamis Oriental	1.33				98.67		

**Table 6. Average Farming Experience of Tomato Farmers and Percentage Distribution by Number of Years Engaged in Tomato Production, Selected Provinces, September 2016-September 2017**

Province	Average Farming Experience (years)	Years			
		< 11	11 - 20	21 - 30	> 30
<b>Total (6)</b>	<b>14</b>	<b>51.11</b>	<b>29.11</b>	<b>13.56</b>	<b>6.22</b>
Ilocos Norte	14	38.67	53.33	2.67	5.33
Ilocos Sur	12	56.00	25.33	18.67	
Iloilo	14	56.00	14.67	22.67	6.67
Cebu	18	50.67	14.67	17.33	17.33
Bukidnon	10	65.33	30.67	2.67	1.33
Misamis Oriental	15	40.00	36.00	17.33	6.67

(percent)

**Table 7. Percentage of Tomato Farmers by Type of Farm Investment Owned and Used in Tomato Farm Parcels, Selected Provinces, September 2016-September 2017**

Province	Work Animals			Farm Buildings and Other Structures		Farm Machinery and Transport Facilities					
	Carabao	Cattle	Horse	Farm House	Warehouse / Storage of Inputs	Two-Wheel Tractor	Four-Wheel Tractor	Water Pump	Farm Vehicles	Trailer	Others <sup>1/</sup>
<b>Total (6)</b>	<b>34.44</b>	<b>10.89</b>	<b>0.67</b>	<b>18.67</b>	<b>4.67</b>	<b>11.11</b>	<b>5.56</b>	<b>43.78</b>	<b>23.78</b>	<b>5.11</b>	<b>11.56</b>
Ilocos Norte	21.33	5.33		6.67		17.33	18.67	85.33	53.33	20.00	8.00
Ilocos Sur	18.67	8.00		10.67		21.33	8.00	96.00	2.67		
Iloilo	34.67			29.33	1.33	25.33		57.33	9.33		14.67
Cebu	33.33	1.33		1.33	1.33			10.67	1.33		9.33
Bukidnon	33.33	40.00	4.00	38.67	4.00		2.67	10.67	57.33	1.33	26.67
Misamis Oriental	65.33	10.67		25.33	21.33	2.67	4.00	2.67	18.67	9.33	10.67

1/ include rotavator, motorcycle, motor engine, electric motor and power sprayers

**Table 7. (Continued)**

Province	Farm Tools and Implements												
	Plow	Harrow	Shovel	Hoe	Spading fork	Post-Hole Digger	Yoke	Rake	Seedling tray/ Seedbox	Hose	Watering Can	Water Sprinkler	Sprayer
<b>Total (6)</b>	<b>47.56</b>	<b>14.89</b>	<b>74.67</b>	<b>20.00</b>	<b>4.89</b>	<b>9.33</b>	<b>36.44</b>	<b>21.11</b>	<b>13.33</b>	<b>69.78</b>	<b>28.22</b>	<b>22.22</b>	<b>80.89</b>
Ilocos Norte	32.00	10.67	48.00	4.00	6.67		12.00	14.67		92.00	50.67		69.33
Ilocos Sur	25.33	2.67	66.67		5.33	9.33	14.67	68.00	1.33	100.00	1.33	60.00	97.33
Iloilo	38.67	16.00	89.33	48.00	10.67	9.33	32.00	29.33	12.00	68.00	8.00	21.33	84.00
Cebu	33.33	2.67	73.33	12.00	1.33	1.33	16.00	4.00	9.33	60.00	34.67	1.33	50.67
Bukidnon	74.67	20.00	88.00	40.00	2.67	32.00	69.33	6.67	38.67	46.67	57.33	41.33	93.33
Misamis Oriental	81.33	37.33	82.67	16.00	2.67	4.00	74.67	4.00	18.67	52.00	17.33	9.33	90.67

**Table 7. (Concluded)**

Province	Farm Tools and Implements												
	Bolo	Sickle/ Scythe	Pruning shears/ Scissors	Cart/ Sled	Pail	Basket/ Kaing	Crate	Drum	Weighing Scale	Wood Stakes	Plastic/ Nylon Twine	Sorting Table	Others <sup>2/</sup>
<b>Total (6)</b>	<b>66.22</b>	<b>34.67</b>	<b>8.89</b>	<b>16.44</b>	<b>66.89</b>	<b>21.11</b>	<b>6.44</b>	<b>68.44</b>	<b>24.44</b>	<b>36.00</b>	<b>50.00</b>	<b>36.89</b>	<b>26.89</b>
Ilocos Norte	85.33	68.00			58.67	30.67	17.33	61.33	21.33				13.33
Ilocos Sur	44.00			8.00	88.00	37.33	4.00	68.00	14.67				53.33
Iloilo	25.33	73.33	9.33	6.67	46.67	36.00		45.33	52.00	25.33	41.33	41.33	40.00
Cebu	89.33	9.33	22.67	2.67	64.00	2.67		60.00	29.33	22.67	74.67	5.33	44.00
Bukidnon	78.67	28.00	18.67	32.00	76.00	12.00		88.00	12.00	84.00	93.33	88.00	6.67
Misamis Oriental	74.67	29.33	2.67	49.33	68.00	8.00	17.33	88.00	17.33	84.00	90.67	86.67	4.00

2/ include bamboo, crowbar, grass cutter, knife, pick, plastic cups, sack, net, nails, solar/rechargeable lamp, tarpaulin, tent and water containers.

## FARM CHARACTERISTICS

**Table 8. Average Farm Size, Area Planted and Harvested of Tomato Farm Parcels, Selected Provinces, September 2016-September 2017**

**(in Hectare)**

Province	Farm Size	Farm Parcel	
		Area Planted	Area Harvested
<b>Total (6)</b>	<b>1.1460</b>	<b>0.5165</b>	<b>0.5146</b>
Ilocos Norte	1.0321	0.3453	0.3453
Ilocos Sur	1.0509	0.4920	0.4919
Iloilo	0.8319	0.3950	0.3901
Cebu	0.5072	0.2536	0.2476
Bukidnon	1.9607	0.8737	0.8737
Misamis Oriental	1.4933	0.7396	0.7389

**Table 9. Percentage Distribution of Tomato Farm Parcels by Tenurial Status, Selected Provinces, September 2016-September 2017**

Province	Fully Owned	Leased / Rented	Tenanted	Rent- Free	Owner-like Possession	Held under CLT / CLOA	Mortgaged
<b>Total (6)</b>	<b>12.67</b>	<b>21.78</b>	<b>36.44</b>	<b>14.22</b>	<b>10.44</b>	<b>1.78</b>	<b>2.67</b>
Ilocos Norte			100.00				
Ilocos Sur	13.33	42.67	44.00				
Iloilo		41.33	30.67	21.33	4.00	1.33	1.33
Cebu	9.33		33.33	24.00	28.00		5.33
Bukidnon	24.00	38.67	8.00	6.67	6.67	9.33	6.67
Misamis Oriental	29.33	8.00	2.67	33.33	24.00		2.67

## FARM PRACTICES

**Table 10. Percentage of Tomato Farmers by Variety of Seeds Planted, Selected Provinces, September 2016-September 2017**

Province	Diamante	Diamante Max	Harabas	Ilocos Red	Maharlika	Semenes	Native (kimmrabasa)	Dwarf	Hybrid	Others <sup>1/</sup>
<b>Total (6)</b>	<b>0.89</b>	<b>32.22</b>	<b>3.56</b>	<b>31.78</b>	<b>0.22</b>	<b>0.22</b>	<b>0.67</b>	<b>8.44</b>	<b>19.11</b>	<b>2.89</b>
Ilocos Norte				92.00						8.00
Ilocos Sur				98.67	1.33					
Iloilo	1.33	93.33					4.00			1.33
Cebu	4.00	96.00								
Bukidnon		2.67	16.00					34.67	45.33	1.33
Misamis Oriental		1.33	5.33			1.33		16.00	69.33	6.67

1/ include Magilas, Rescuer746, Rosella 38814, US 1080 and Suprema F1

**Table 11. Percentage of Tomato Farmers by Source of Planting Materials, Selected Provinces, September 2016-September 2017**

Province	Agri Supply Store	Co-Farmer	Own-produced	Others <sup>1/</sup>
<b>Total (6)</b>	<b>60.00</b>	<b>5.56</b>	<b>3.78</b>	<b>31.56</b>
Ilocos Norte	8.00	2.67		92.00
Ilocos Sur	5.33		1.33	93.33
Iloilo	96.00	1.33	2.67	1.33
Cebu	100.00	1.33		
Bukidnon	68.00	17.33	14.67	
Misamis Oriental	82.67	10.67	4.00	2.67

1/ include tomato processing company and financier

**Table 12. Percentage Distribution of Tomato Farmers by Month of Planting, Selected Provinces, September 2016-July 2017**

Province	2016				2017						
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul
<b>Total (6)</b>	<b>10.00</b>	<b>6.89</b>	<b>11.33</b>	<b>11.11</b>	<b>17.33</b>	<b>10.22</b>	<b>8.44</b>	<b>5.56</b>	<b>10.22</b>	<b>6.44</b>	<b>2.44</b>
Ilocos Norte	9.33	1.33	29.33	20.00	40.00						
Ilocos Sur	1.33	16.00	30.67	25.33	24.00	2.67					
Iloilo	32.00	14.67	5.33	16.00	16.00	13.33	2.67				
Cebu	17.33	9.33	2.67	5.33	20.00	38.67	6.67				
Bukidnon					4.00	4.00	6.67	13.33	37.33	28.00	6.67
Misamis Oriental						2.67	34.67	20.00	24.00	10.67	8.00

**Table 13. Percentage Distribution of Tomato Farmers by Month of Harvesting, Selected Provinces, November 2016-September 2017**

Province	2016		2017								
	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept
<b>Total (6)</b>	<b>1.56</b>	<b>7.56</b>	<b>3.78</b>	<b>8.00</b>	<b>15.11</b>	<b>21.78</b>	<b>12.44</b>	<b>4.89</b>	<b>8.22</b>	<b>7.78</b>	<b>8.89</b>
Ilocos Norte		4.00	5.33	26.67	24.00	40.00					
Ilocos Sur			2.67	5.33	37.33	49.33	5.33				
Iloilo	4.00	22.67	10.67	13.33	13.33	17.33	18.67				
Cebu	5.33	18.67	4.00	2.67	16.00	20.00	33.33				
Bukidnon						4.00	4.00	8.00	21.33	28.00	34.67
Misamis Oriental							13.33	21.33	28.00	18.67	18.67

**Table 14. Percentage of Tomato Farmers by Type of Labor Used in Seedling and Land Preparation, Selected Provinces, September 2016-September 2017**

Province	Man-Animal	Man-Machine	
		Two-Wheel Tractor	Four-Wheel Tractor
<b>Total (6)</b>	<b>87.33</b>	<b>22.44</b>	<b>33.33</b>
Ilocos Norte	72.00	64.00	76.00
Ilocos Sur	89.33	22.67	93.33
Iloilo	64.00	33.33	2.67
Cebu	100.00	4.00	2.67
Bukidnon	98.67	9.33	16.00
Misamis Oriental	100.00	1.33	9.33

**Table 15. Percentage of Tomato Farmers by Method of Fertilizer Application, Selected Provinces, September 2016-September 2017**

Province	Basal	Side Dressing	Top Dressing
<b>Total (6)</b>	<b>83.56</b>	<b>89.33</b>	<b>85.56</b>
Ilocos Norte	98.67	94.67	97.33
Ilocos Sur	100.00	97.33	96.00
Iloilo	40.00	62.67	80.00
Cebu	93.33	90.67	72.00
Bukidnon	77.33	93.33	90.67
Misamis Oriental	92.00	97.33	77.33

**Table 16. Percentage Distribution of Tomato Farmers who Applied/Did Not Apply Soil Ameliorants and Mulching Materials, Selected Provinces, September 2016-September 2017**

Province	Soil Ameliorants		Mulching Materials	
	Applied	Did Not Apply	Applied	Did Not Apply
<b>Total (6)</b>	<b>13.78</b>	<b>86.22</b>	<b>33.78</b>	<b>66.22</b>
Ilocos Norte		100.00	97.33	2.67
Ilocos Sur		100.00	81.33	18.67
Iloilo		100.00	9.33	90.67
Cebu		100.00		100.00
Bukidnon	37.33	62.67		100.00
Misamis Oriental	45.33	54.67	14.67	85.33

**Table 17. Percentage of Tomato Farmers by Classification/Grade of Fertilizers Used, Selected Provinces, September 2016-September 2017**

Province	Urea (45-0-0)	Urea (46-0-0)	Ammonium Sulfate (21-0-0)	Ammonium Phosphate (16-20-0)	Di-Ammonium Phosphate (18-46-0)	Complete (12-12-12)	Complete (14-14-14)	Complete (16-16-16)
<b>Total (6)</b>	<b>6.00</b>	<b>48.67</b>	<b>44.67</b>	<b>50.44</b>	<b>27.11</b>	<b>0.44</b>	<b>68.67</b>	<b>18.22</b>
Ilocos Norte	5.33	34.67	96.00	58.67			57.33	
Ilocos Sur	4.00	13.33	81.33	77.33			36.00	
Iloilo	10.67	25.33	48.00	52.00	24.00		69.33	22.67
Cebu		78.67	5.33	12.00	44.00		77.33	
Bukidnon	1.33	81.33	32.00	37.33	41.33	2.67	84.00	18.67
Misamis Oriental	14.67	58.67	5.33	65.33	53.33		88.00	68.00

**Table 17. (Concluded)**

Province	Zinc Sulfate (Zinc 21%)	Muriate of Potash (0-0-60)	Crop Giant	Foliars	Compost	Vermicast	Animal Manure	Others <sup>1/</sup>
<b>Total (6)</b>	<b>0.89</b>	<b>50.67</b>	<b>11.33</b>	<b>8.89</b>	<b>3.56</b>	<b>0.44</b>	<b>39.33</b>	<b>20.22</b>
Ilocos Norte		88.00	4.00	2.67				5.33
Ilocos Sur	1.33	92.00		4.00				
Iloilo	1.33		33.33	17.33	17.33	2.67	2.67	13.33
Cebu	1.33	24.00	1.33	1.33	2.67		50.67	56.00
Bukidnon		56.00	20.00	24.00	1.33		86.67	28.00
Misamis Oriental	1.33	44.00	9.33	4.00			96.00	18.67

<sup>1/</sup> include ANA-A, Atomic Grow, Atonik, Better Yield, Biogold, Bulaklak, Calcium Boron, Complete (15-15-15; 18-18-18), Crowmix, Di-Ammonium Phosphate (18-48-0; 18-45-0; 18-20-0; 18-0-0), Frutas, Grower, Gromix, Growmore, Kieserite, Michoban, Nutribella, Organic, Plant Care, Plant Vitamins, Power Grow, Rumex, Solubor, Triple Superphosphate, Wokozim, Yaramila and Zebra Blue

**Table 18. Percentage of Tomato Farmers by Type of Pesticides Used, Selected Provinces, September 2016-September 2017**

Province	Herbicides / Weedicides		Insecticides		Fungicides	
	Solid	Liquid	Solid	Liquid	Solid	Liquid
<b>Total (6)</b>	<b>4.89</b>	<b>48.44</b>	<b>41.33</b>	<b>95.56</b>	<b>68.89</b>	<b>34.67</b>
Ilocos Norte	9.33	42.67	5.33	90.67	54.67	25.33
Ilocos Sur		8.00		100.00	16.00	68.00
Iloilo	1.33	82.67	77.33	93.33	92.00	18.67
Cebu	13.33	25.33	50.67	93.33	56.00	2.67
Bukidnon	2.67	78.67	57.33	98.67	96.00	72.00
Misamis Oriental	2.67	53.33	57.33	97.33	98.67	21.33

## INPUT USAGE

**Table 19. Average Quantity of Tomato Seeds Used per Hectare by Mode of Acquisition, Selected Provinces, September 2016-September 2017**

(in Kilogram)

Province	All Sources	Purchased <sup>a/</sup>	Own-Produced	Received
<b>Total (6)</b>	<b>0.206</b>	<b>0.126</b>	<b>0.014</b>	<b>0.067</b>
Ilocos Norte	0.369	0.369		
Ilocos Sur	0.321	0.007	0.003	0.311
Iloilo	0.145	0.139	0.001	0.005
Cebu	0.114	0.109	0.005	
Bukidnon	0.198	0.094	0.044	0.060
Misamis Oriental	0.127	0.126	0.001	0.001

a/ include purchases in cash and in kind

**Table 20.1 Average Quantity of Solid Fertilizers Applied per Hectare by Classification/Grade, Selected Provinces, September 2016-September 2017**

(in Kilogram)

Province	Urea (45-0-0)	Urea (46-0-0)	Ammonium Sulfate (21-0-0)	Ammonium Phosphate (16-20-0)	Di-ammonium Phosphate (18-46-0)	Complete (12-12-12)	Complete (14-14-14)	Complete (16-16-16)
<b>Total (6)</b>	<b>11.235</b>	<b>112.450</b>	<b>95.743</b>	<b>113.146</b>	<b>57.889</b>	<b>1.080</b>	<b>166.076</b>	<b>62.566</b>
Ilocos Norte	13.516	40.163	195.503	75.035			76.753	
Ilocos Sur	8.132	25.752	216.861	135.172			65.397	
Iloilo	15.858	48.359	178.228	163.191	85.099		214.455	93.984
Cebu		121.621	10.366	22.579	62.709		120.813	
Bukidnon	1.526	218.994	46.546	115.220	101.485	3.815	252.568	77.067
Misamis Oriental	25.038	108.725	11.730	117.766	55.942		162.185	120.680

**Table 20.1 (Concluded)****(in Kilogram)**

Province	Zinc Sulfate (Zinc 21%)	Muriate of Potash (0-0-60)	Crop Giant	Foliars	Compost	Vermicast	Animal Manure	Others <sup>1/</sup>
<b>Total (6)</b>	<b>2.267</b>	<b>86.782</b>	<b>4.228</b>	<b>7.171</b>	<b>8.048</b>	<b>0.270</b>	<b>2693.642</b>	<b>62.395</b>
Ilocos Norte		87.026	0.212					2.182
Ilocos Sur	1.355	170.981		35.240				
Iloilo	5.126		2.341	0.359	61.517	2.136	12.816	16.323
Cebu	1.346	39.876	0.539		3.366		190.172	20.517
Bukidnon		106.216	3.006	5.341	0.015		5917.484	161.002
Misamis Oriental	5.414	69.178	12.596				4187.855	53.830

<sup>1/</sup> include ANA-A, Atomic Grow, Better Yield, Bulaklak, Calcium Boron, Complete (15-15-15; 18-18-18), Crowmix, Di-Ammonium Phosphate (18-48-0; 18-45-0; 18-20-0; 18-0-0), Frutas, Grower, Growmore, Kieserite, Michoban, Nutribella, Organic, Plant Care, Plant Vitamins, Power Grow, Rumex, Solubor, Triple Superphosphate, Wokozim, Yaramila and Zebra Blue

**Table 20.2 Average Quantity of Liquid Fertilizers Applied per Hectare by Classification, Selected Provinces, September 2016-September 2017****(in Liter)**

Province	Foliars	Grower	Others <sup>1/</sup>
<b>Total (6)</b>	<b>0.976</b>	<b>0.030</b>	<b>0.624</b>
Ilocos Norte	0.033		
Ilocos Sur	0.054		
Iloilo	0.487		0.084
Cebu	0.054	0.377	
Bukidnon	2.959		2.121
Misamis Oriental	0.253		0.054

<sup>1/</sup> include ANA-A, Atomic Grow, Atonik, Biogold, Calcium Boron, Gromix, Plant Care, Rumex and Wokozim

**Table 21. Average Quantity of Soil Ameliorants and Mulching Materials Applied per Hectare by Type, Selected Provinces, September 2016-September 2017****(in Kilogram)**

Province	Soil Ameliorants	Mulching Materials	
	Lime	Rice Hay	Others <sup>1/</sup>
<b>Total (6)</b>	<b>542.826</b>	<b>30.245</b>	<b>21.593</b>
Ilocos Norte		40.487	
Ilocos Sur		111.819	5.286
Iloilo		53.998	5.639
Cebu			
Bukidnon	998.596		
Misamis Oriental	1,087.431	4.511	83.732

<sup>1/</sup> include rice husk, saw dust, net, banana leaves, coconut leaves and sack

**Table 22. Average Quantity of Pesticides Applied per Hectare by Type, Selected Provinces, September 2016-September 2017**

Province	Herbicides / Weedicides		Insecticides		Fungicides	
	Solid (in Kg)	Liquid (in L)	Solid (in Kg)	Liquid (in L)	Solid (in Kg)	Liquid (in L)
<b>Total (6)</b>	<b>0.292</b>	<b>2.746</b>	<b>3.807</b>	<b>8.947</b>	<b>35.324</b>	<b>1.809</b>
Ilocos Norte	0.032	0.366	0.034	1.376	0.969	0.218
Ilocos Sur		0.149		1.444	0.495	0.610
Iloilo	0.007	4.164	2.325	4.962	5.404	0.434
Cebu	2.935	3.090	4.546	6.862	4.080	0.012
Bukidnon	0.092	4.029	3.187	16.413	81.383	4.270
Misamis Oriental	0.108	3.203	9.371	11.454	46.368	1.768

**Table 23. Average Labor Utilization per Hectare of Tomato Production by Source of Labor, Selected Provinces, September 2016-September 2017**

**(Mandays)**

Province	All Sources	Operator Labor	Family Labor	Exchange Labor	Hired Labor	
					Per Day	By Contract
<b>Total (6)</b>	<b>252.81</b>	<b>50.82</b>	<b>22.43</b>	<b>0.32</b>	<b>161.50</b>	<b>17.73</b>
Ilocos Norte	150.24	46.77	19.24	0.26	27.43	56.55
Ilocos Sur	228.97	82.00	27.95	0.41	101.72	16.89
Iloilo	179.84	59.80	25.96	1.79	70.65	21.64
Cebu	151.39	102.03	29.73		17.86	1.78
Bukidnon	341.17	34.98	13.04		272.50	20.64
Misamis Oriental	284.64	28.78	27.06		228.80	

**Table 24. Average Labor Utilization per Hectare of Tomato Production by Major Farm Activity, Selected Provinces, September 2016-September 2017**

**(Mandays)**

Farm Activity	Total (6)	Ilocos Norte	Ilocos Sur	Iloilo	Cebu	Bukidnon	Misamis Oriental
Seedling preparation	6.88	3.88	3.35	6.03	13.22	6.36	9.56
Land preparation	13.77	5.08	3.31	2.85	20.08	16.70	24.96
Hauling of planting materials	2.50	0.56	0.54	0.17	3.39	4.97	2.72
Planting/Transplanting	15.49	10.48	12.34	7.94	7.26	24.14	16.43
Replanting	1.60	0.63	1.54	0.39	4.09	2.31	1.07
Care of crops	94.18	46.23	100.03	65.99	57.54	126.75	101.33
Harvesting	60.45	22.95	75.54	54.27	24.97	78.40	61.84
Hauling of produce	15.20	1.81	14.69	6.96	8.96	18.38	24.48
Sorting	24.91	1.06	0.73	13.60	10.10	42.52	42.25
Contract labor	17.85	57.55	16.89	21.64	1.78	20.64	
<b>All Farm Activity</b>	<b>252.81</b>	<b>150.24</b>	<b>228.97</b>	<b>179.84</b>	<b>151.39</b>	<b>341.17</b>	<b>284.64</b>

## AVERAGE PRODUCTION COSTS AND RETURNS

**Table 25.1 Average Production Costs and Returns of Tomato, Selected Provinces,  
September 2016-September 2017**

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>Production</b>					
<b>Tomato</b>	<b>28,832.93</b>	<b>Kg</b>	<b>329,914.77</b>	<b>11.44</b>	
Area harvested (hectare) = 231.5569					
Number of farms = 450					
<b>CASH COSTS</b>			<b>151,109.67</b>	<b>5.24</b>	<b>77.70</b>
Planting materials					
Seeds	0.12	Kg	5,479.87	0.19	2.82
Fertilizers					
Fertilizer (Solid)	3,391.47	Kg	19,525.74	0.68	10.04
Fertilizer (Liquid)	1.63	L	539.76	0.02	0.28
Soil ameliorants					
Soil ameliorant (Solid)	542.83	Kg	441.68	0.02	0.23
Mulching materials	14.22	Kg	211.50	0.01	0.11
Pesticides					
Pesticide (Solid)	38.80	Kg	8,812.80	0.31	4.53
Pesticide (Liquid)	13.01	L	9,864.92	0.34	5.07
Hired labor	179.23	mandays	42,435.84	1.47	21.82
Land tax			120.03	e/	f/
Caretaker's/overseer's wage			2,043.45	0.07	1.05
Other permanent employees' salary			251.99	0.01	0.13
Rentals:					
Land			2,927.81	0.10	1.51
Machine			235.13	0.01	0.12
Animals			340.52	0.01	0.18
Toos and equipment			125.02	e/	f/
Fuel	68.41	L	2,419.93	0.08	1.24
Oil	2.27	L	411.81	0.01	0.21
Transport cost of inputs			1,396.73	0.05	0.72
Transport cost of produce from farm to first point of sale			13,645.45	0.47	7.02
Interest payment on crop loan			539.55	0.02	0.28
Storage fee			1,763.43	0.06	0.91
Water expense			106.32	e/	f/
Electricity cost			224.57	0.01	0.12
Repairs			2,701.38	0.09	1.39
Food expense for hired and exchange labor			6,363.16	0.22	3.27
Landowner's share			4,954.50	0.17	2.55
Financier's share			3,964.82	0.14	2.04
Sack/Crate/Box/Kaing			16,480.96	0.57	8.47
Seedling bag			79.59	e/	f/
Wood stakes			1,146.51	0.04	0.59
Straw twine			940.05	0.03	0.48
Others <sup>a/</sup>			614.86	0.02	0.32
<b>NON-CASH COSTS</b>			<b>272.86</b>	<b>0.01</b>	<b>0.14</b>
Pesticides					
Pesticide (Solid)	c/	Kg	0.56	e/	f/
Pesticide (Liquid)	d/	L	2.29	e/	f/
Rentals:					
Land			252.11	0.01	0.13
Landowner's share			17.26	e/	f/
Financier's share			0.65	e/	f/

**Table 25.1 Concluded**

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>IMPUTED COSTS</b>			<b>43,094.03</b>	<b>1.49</b>	<b>22.16</b>
Planting Materials					
Seeds	0.08	Kg	2,775.43	0.10	1.43
Fertilizer					
Fertilizer (Solid)	93.51	Kg	1,835.72	0.06	0.94
Fertilizer Liquid		L			
Mulching materials	37.62	Kg	84.08	e/	f/
Pesticides					
Pesticide (Solid)	0.63	Kg	232.77	0.01	0.12
Pesticide (Liquid)	0.49	L	923.14	0.03	0.47
Labor					
Operator labor	50.82	mandays	10,822.32	0.38	5.56
Family labor	22.43	mandays	4,778.52	0.17	2.46
Exchange labor	0.32	mandays	91.04	e/	f/
Depreciation			5,433.47	0.19	2.79
Interest on operating capital			4,924.40	0.17	2.53
Land tax			109.44	e/	f/
Rentals:					
Land			864.58	0.03	0.44
Machine			273.32	0.01	0.14
Animals			195.55	0.01	0.10
Toos and equipment			301.22	0.01	0.15
Rental value of owned land			2,703.22	0.09	1.39
Rental value of owned animals			1,049.85	0.04	0.54
Oil	0.14	L	23.93	e/	f/
Transport cost of inputs			716.95	0.02	0.37
Transport cost of produce from farm to first point of sale			3,436.56	0.12	1.77
Storage fee			17.06	e/	f/
Water expense			773.47	0.03	0.40
Sack/Crate/Box/Kaing			335.24	0.01	0.17
Seedling bag			109.97	e/	f/
Wood stakes			242.70	0.01	0.12
Straw twine			15.55	e/	f/
Others <sup>b/</sup>			24.53	e/	f/
<b>TOTAL COSTS</b>			<b>194,476.56</b>	<b>6.74</b>	
<b>GROSS RETURNS</b>			<b>329,914.77</b>	<b>11.44</b>	
<b>RETURNS ABOVE CASH COSTS</b>			<b>178,805.10</b>	<b>6.20</b>	
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>			<b>178,532.24</b>	<b>6.19</b>	
<b>NET RETURNS</b>			<b>135,438.21</b>	<b>4.70</b>	
<b>NET PROFIT-COST RATIO</b>			<b>0.70</b>	<b>0.70</b>	

a/ include bamboo, customary expenses, drum, mortgage fees, nails, nylon, plastic bag/ wrapper, tarpaulin and watering can

b/ include banana leaves, coconut leaves, nylon twine and straw twine

c/ Less than 0.01 Kg

d/ Less than 0.01 L

e/ Less than PhP 0.01

f/ Less than 0.01 percent

**Table 25.2 Average Variable and Fixed Costs of Tomato Production, Selected Provinces, September 2016-September 2017**

Item	Per Hectare (PhP)	Per Kilogram (PhP)
<b>VARIABLE COSTS</b>	<b>175,552.10</b>	<b>6.09</b>
Planting materials		
Seeds	8,255.29	0.29
Fertilizers		
Fertilizer (Solid)	21,361.46	0.74
Fertilizer (Liquid)	539.76	0.02
Soil ameliorants		
Soil ameliorant (Solid)	441.68	0.02
Mulching materials	295.58	0.01
Pesticides		
Pesticide (Solid)	9,046.13	0.31
Pesticide (Liquid)	10,790.35	0.37
Labor		
Hired labor	42,435.84	1.47
Operator labor	10,822.32	0.38
Family labor	4,778.52	0.17
Exchange labor	91.04	b/
Caretaker's/overseer's wages	2,043.45	0.07
Other permanent employee's salary	251.99	0.01
Rentals:		
Machine	508.45	0.02
Animals	536.07	0.02
Tools and equipment	426.25	0.01
Fuel	2,419.93	0.08
Oil	435.73	0.02
Transport costs of inputs	2,113.68	0.07
Transport cost of produce from farm to first point of sale	17,082.01	0.59
Storage fees	1,780.49	0.06
Electricity costs	224.57	0.01
Water expense	879.79	0.03
Repairs	2,701.38	0.09
Food expense for hired and exchange labor	6,363.16	0.22
Landowner's share	4,971.75	0.17
Financier's share	3,965.46	0.14
Sack/Crate/Box/Kaing	16,816.19	0.58
Seedling bag	189.56	0.01
Wood stakes	1,389.22	0.05
Straw twine	955.60	0.03
Others <sup>a/</sup>	639.39	0.02
<b>FIXED COSTS</b>	<b>18,924.46</b>	<b>0.66</b>
Land tax	229.47	0.01
Lease/Rental of land	4,044.50	0.14
Interest payment on crop loan	539.55	0.02
Depreciation	5,433.47	0.19
Interest on operating capital	4,924.40	0.17
Rental value of owned land	2,703.22	0.09
Rental value of owned animals	1,049.85	0.04
<b>TOTAL COSTS</b>	<b>194,476.56</b>	<b>6.74</b>

a/ include bamboo, customary expenses, drum, mortgage fees, nails, nylon, plastic bag/ wrapper, tarpaulin, watering can  
banana leaves, coconut leaves, nylon twine and straw twine

b/ Less than PhP 0.01

**Table 26.1 Average Production Costs and Returns of Tomato, Ilocos Norte,  
September 2016-May 2017**

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>Production</b>					
<b>Tomato</b>	<b>37,748.41</b>	<b>Kg</b>	<b>204,931.45</b>	<b>5.43</b>	
<b>Area harvested (hectare) = 25.8947</b>					
<b>Number of farms = 75</b>					
<b>CASH COSTS</b>			<b>74,721.40</b>	<b>1.98</b>	<b>69.57</b>
Planting materials					
Seeds	0.37	Kg	6,473.82	0.17	6.03
Fertilizers					
Fertilizer (Solid)	485.95	Kg	9,612.14	0.25	8.95
Fertilizer (Liquid)	0.03	L	65.65	b/	
Pesticides					
Pesticide (Solid)	1.03	Kg	527.43	0.01	0.49
Pesticide (Liquid)	1.94	L	2,257.15	0.06	2.10
Hired labor		mandays	24,145.59	0.64	22.48
Rentals:					
Machine			747.26	0.02	0.70
Animals			38.62	b/	c/
Toos and equipment			61.79	b/	c/
Fuel	149.72	L	5,077.49	0.13	4.73
Oil	4.79	L	815.22	0.02	0.76
Transport cost of inputs			131.30	b/	c/
Transport cost of produce from farm to first point of sale			193.09	0.01	0.18
Interest payment on crop loan			560.77	0.01	0.52
Water expense			145.95	b/	c/
Electricity cost			131.69	b/	c/
Repairs			2,449.86	0.06	2.28
Food expense for hired and exchange labor			7,108.79	0.19	6.62
Landowner's share			13,062.03	0.35	12.16
Financier's share			463.42	0.01	0.43
Sack/Crate/Box/Kaing			648.49	0.02	0.60
Others <sup>a/</sup>			3.86	b/	c/
<b>NON-CASH COSTS</b>			<b>83.26</b>	<b>b/</b>	<b>c/</b>
Pesticides					
Pesticide (Solid)	0.01	Kg	5.02	b/	c/
Pesticide (Liquid)	0.01	L	20.47	b/	c/
Landowner's share			57.77	b/	c/

Table 26.1 *Concluded*

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>IMPUTED COSTS</b>			<b>32,598.01</b>	<b>0.86</b>	<b>30.35</b>
Fertilizer					
Fertilizer (Solid)	4.44	Kg	104.27	b/	c/
Mulching materials	40.49	Kg	118.06	b/	c/
Pesticide (Liquid)	0.01	L	8.11	b/	c/
Labor					
Operator labor		mandays	14,059.54	0.37	13.09
Family labor		mandays	5,386.55	0.14	5.02
Exchange labor		mandays	175.95	b/	c/
Depreciation			3,108.18	0.08	2.89
Interest on operating capital			2,429.81	0.06	2.26
Rentals:					
Machine			1,735.88	0.05	1.62
Animals			312.81	0.01	0.29
Toos and equipment			408.58	0.01	0.38
Rental value of owned animals			463.42	0.01	0.43
Oil	1.24	L	213.94	0.01	0.20
Transport cost of inputs			668.09	0.02	0.62
Transport cost of produce from farm to first point of sale			256.81	0.01	0.24
Water expense			706.59	0.02	0.66
Sack/Crate/Box/Kaing			2,441.43	0.06	2.27
<b>TOTAL COSTS</b>			<b>107,402.67</b>	<b>2.85</b>	
<b>GROSS RETURNS</b>			<b>204,931.45</b>	<b>5.43</b>	
<b>RETURNS ABOVE CASH COSTS</b>			<b>130,210.05</b>	<b>3.45</b>	
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>			<b>130,126.79</b>	<b>3.45</b>	
<b>NET RETURNS</b>			<b>97,528.78</b>	<b>2.58</b>	
<b>NET PROFIT-COST RATIO</b>			<b>0.91</b>	<b>0.91</b>	

a/ include plastic bag/wrapper

b/ Less than PhP 0.01

c/ Less than 0.01 percent

**Table 26.2 Average Variable and Fixed Costs of Tomato Production, Ilocos Norte, September 2016-May 2017**

Item	Per Hectare (PhP)	Per Kilogram (PhP)
<b>VARIABLE COSTS</b>	<b>100,840.49</b>	<b>2.67</b>
Planting materials		
Seeds	6,473.82	0.17
Fertilizers		
Fertilizer (Solid)	9,716.41	0.26
Fertilizer (Liquid)	65.65	b/
Mulching materials	118.06	b/
Pesticides		
Pesticide (Solid)	532.45	0.01
Pesticide (Liquid)	2,285.73	0.06
Labor		
Hired labor	24,145.59	0.64
Operator labor	14,059.54	0.37
Family labor	5,386.55	0.14
Exchange labor	175.95	b/
Rentals:		
Machine	2,483.13	0.07
Animals	351.42	0.01
Tools and equipment	470.37	0.01
Fuel	5,077.49	0.13
Oil	1,029.17	0.03
Transport costs of inputs	799.39	0.02
Transport cost of produce from farm to first point of sale	449.90	0.01
Electricity costs	131.69	b/
Water expense	852.54	0.02
Repairs	2,449.86	0.06
Food expense for hired and exchange labor	7,108.79	0.19
Landowner's share	13,119.81	0.35
Financier's share	463.42	0.01
Sack/Crate/Box/Kaing	3,089.92	0.08
Others <sup>a/</sup>	3.86	b/
<b>FIXED COSTS</b>	<b>6,562.18</b>	<b>0.17</b>
Interest payment on crop loan	560.77	0.01
Depreciation	3,108.18	0.08
Interest on operating capital	2,429.81	0.06
Rental value of owned animals	463.42	0.01
<b>TOTAL COSTS</b>	<b>107,402.67</b>	<b>2.85</b>

a/ include plastic bag/wrapper

b/ Less than PhP 0.01

**Table 27.1 Average Production Costs and Returns of Tomato, Ilocos Sur,  
September 2016-May 2017**

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>Production</b>					
<b>Tomato</b>	<b>37,436.60</b>	<b>Kg</b>	<b>202,332.69</b>	<b>5.40</b>	
<b>Area harvested (hectare) = 36.8900</b>					
<b>Number of farms = 75</b>					
<b>CASH COSTS</b>			<b>55,689.00</b>	<b>1.49</b>	<b>48.16</b>
Planting materials					
Seeds	0.01	Kg	372.73	0.01	0.32
Fertilizers					
Fertilizer (Solid)	151.46	Kg	2,396.62	0.06	2.07
Fertilizer (Liquid)	0.05	L	9.22	b/	c/
Mulching materials	12.88	Kg	12.88	b/	c/
Pesticides					
Pesticide (Solid)	0.14	Kg	96.23	b/	c/
Pesticide (Liquid)	0.35	L	588.64	0.02	0.51
Hired labor		mandays	28,436.84	0.76	24.59
Land tax			24.85	b/	c/
Rentals:					
Land			3,971.27	0.11	3.43
Machine			86.74	b/	c/
Animals			89.46	b/	c/
Fuel	123.19	L	3,180.46	0.08	2.75
Oil	4.65	L	748.09	0.02	0.65
Transport cost of inputs			85.93	b/	c/
Interest payment on crop loan			187.69	0.01	0.16
Water expense			209.81	0.01	0.18
Electricity cost			1,033.61	0.03	0.89
Repairs			1,733.16	0.05	1.50
Food expense for hired and exchange labor			6,695.58	0.18	5.79
Landowner's share			3,483.33	0.09	3.01
Sack/Crate/Box/Kaing			1,396.04	0.04	1.21
Others <sup>a/</sup>			849.82	0.02	0.73
<b>IMPUTED COSTS</b>			<b>59,940.84</b>	<b>1.60</b>	<b>51.84</b>
Planting Materials					
Seeds	0.31	Kg	15,695.31	0.42	13.57
Fertilizer					
Fertilizer (Solid)	507.43	Kg	10,456.75	0.28	9.04
Mulching materials	104.23	Kg	124.94	b/	c/
Pesticides					
Pesticide (Solid)	0.35	Kg	355.92	0.01	0.31
Pesticide (Liquid)	1.85	L	4,766.82	0.13	4.12
Labor					
Operator labor		mandays	16,414.17	0.44	14.20
Family labor		mandays	5,589.59	0.15	4.83
Exchange labor		mandays	81.66	b/	c/
Depreciation			2,206.06	0.06	1.91
Interest on operating capital			1,799.90	0.05	1.56
Land tax			8.13	b/	c/
Rental value of owned land			1,702.36	0.05	1.47
Rental value of owned animals			130.12	b/	c/
Water expense			541.34	0.01	0.47
Sack/Crate/Box/Kaing			67.77	b/	c/
<b>TOTAL COSTS</b>			<b>115,629.84</b>	<b>3.09</b>	
<b>GROSS RETURNS</b>			<b>202,332.69</b>	<b>5.40</b>	
<b>RETURNS ABOVE CASH COSTS</b>			<b>146,643.69</b>	<b>3.92</b>	
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>			<b>146,643.69</b>	<b>3.92</b>	
<b>NET RETURNS</b>			<b>86,702.85</b>	<b>2.32</b>	
<b>NET PROFIT-COST RATIO</b>			<b>0.75</b>	<b>0.75</b>	

a/ include customary expenses

b/ Less than PhP 0.01

c/ Less than 0.01 percent

**Table 27.2 Average Variable and Fixed Costs of Tomato Production, Ilocos Sur, September 2016-May 2017**

Item	Per Hectare (PhP)	Per Kilogram (PhP)
<b>VARIABLE COSTS</b>	<b>105,599.47</b>	<b>2.82</b>
Planting materials		
Seeds	16,068.04	0.43
Fertilizers		
Fertilizer (Solid)	12,853.37	0.34
Fertilizer (Liquid)	9.22	b/
Mulching materials	137.82	b/
Pesticides		
Pesticide (Solid)	452.16	0.01
Pesticide (Liquid)	5,355.46	0.14
Labor		
Hired labor	28,436.84	0.76
Operator labor	16,414.17	0.44
Family labor	5,589.59	0.15
Exchange labor	81.66	b/
Rentals:		
Machine	86.74	b/
Animals	89.46	b/
Fuel	3,180.46	0.08
Oil	748.09	0.02
Transport costs of inputs	85.93	b/
Electricity costs	1,033.61	0.03
Water expense	751.15	0.02
Repairs	1,733.16	0.05
Food expense for hired and exchange labor	6,695.58	0.18
Landowner's share	3,483.33	0.09
Sack/Crate/Box/Kaing	1,463.81	0.04
Others <sup>a/</sup>	849.82	0.02
<b>FIXED COSTS</b>	<b>10,030.38</b>	<b>0.27</b>
Land tax	32.98	b/
Lease/Rental of land	3,971.27	0.11
Interest payment on crop loan	187.69	0.01
Depreciation	2,206.06	0.06
Interest on operating capital	1,799.90	0.05
Rental value of owned land	1,702.36	0.05
Rental value of owned animals	130.12	b/
<b>TOTAL COSTS</b>	<b>115,629.84</b>	<b>3.09</b>

a/ include customary expenses

b/ Less than PhP 0.01

**Table 28.1 Average Production Costs and Returns of Tomato, Iloilo,  
September 2016-May 2017**

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>Production</b>					
<b>Tomato</b>	<b>25,831.15</b>	<b>Kg</b>	<b>315,179.54</b>	<b>12.20</b>	
Area harvested (hectare) = 29.2602					
Number of farms = 75					
<b>CASH COSTS</b>			<b>140,236.63</b>	<b>5.43</b>	<b>75.28</b>
Planting materials					
Seeds	0.14	Kg	10,660.39	0.41	5.72
Fertilizers					
Fertilizer (Solid)	837.16	Kg	16,541.74	0.64	8.88
Fertilizer (Liquid)	0.57	L	473.68	0.02	0.25
Pesticides					
Pesticide (Solid)	6.79	Kg	5,567.84	0.22	2.99
Pesticide (Liquid)	8.70	L	7,108.73	0.28	3.82
Hired labor		mandays	29,727.38	1.15	15.96
Land tax			132.43	0.01	0.07
Caretaker's/overseer's wage			13,475.53	0.52	7.23
Other permanent employees' salary			401.57	0.02	0.22
Rentals:					
Land			5,644.32	0.22	3.03
Machine			304.00	0.01	0.16
Animals			27.34	c/	d/
Toos and equipment			266.57	0.01	0.14
Fuel	101.04	L	4,378.10	0.17	2.35
Oil	3.64	L	690.70	0.03	0.37
Transport cost of inputs			864.66	0.03	0.46
Transport cost of produce from farm to first point of sale			4,298.60	0.17	2.31
Interest payment on crop loan			1,772.72	0.07	0.95
Water expense			68.35	c/	d/
Electricity cost			47.16	c/	d/
Repairs			2,459.76	0.10	1.32
Food expense for hired and exchange labor			8,977.86	0.35	4.82
Landowner's share			7,711.49	0.30	4.14
Financier's share			13,568.12	0.53	7.28
Sack/Crate/Box/Kaing			3,016.38	0.12	1.62
Seedling bag			263.16	0.01	0.14
Wood stakes			884.82	0.03	0.48
Straw twine			867.56	0.03	0.47
Others <sup>a/</sup>			35.68	c/	d/
<b>NON-CASH COSTS</b>			<b>2,085.67</b>	<b>0.08</b>	<b>1.12</b>
Rentals:					
Land			1,995.10	0.08	1.07
Landowner's share			85.44	c/	d/
Financier's share			5.13	c/	d/

Table 28.1 *Concluded*

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>IMPUTED COSTS</b>			<b>43,955.42</b>	<b>1.70</b>	<b>23.60</b>
Planting Materials					
Seeds	0.01	Kg	448.73	0.02	0.24
Fertilizer					
Fertilizer (Solid)	62.63	Kg	627.99	0.02	0.34
Mulching materials	59.64	Kg	68.86	c/	d/
Pesticides					
Pesticide (Solid)	0.95	Kg	594.49	0.02	0.32
Pesticide (Liquid)	0.86	L	796.65	0.03	0.43
Labor					
Operator labor		mandays	15,410.13	0.60	8.27
Family labor		mandays	7,017.42	0.27	3.77
Exchange labor		mandays	461.80	0.02	0.25
Depreciation			3,614.93	0.14	1.94
Interest on operating capital			3,952.50	0.15	2.12
Land tax			5.70	c/	d/
Rentals:					
Land			2,778.52	0.11	1.49
Machine			150.03	0.01	0.08
Animals			442.58	0.02	0.24
Toos and equipment			754.27	0.03	0.40
Rental value of owned land			2,734.09	0.11	1.47
Rental value of owned animals			836.63	0.03	0.45
Transport cost of inputs			374.06	0.01	0.20
Transport cost of produce from farm to first point of sale			369.10	0.01	0.20
Storage fee			51.26	c/	d/
Water expense			1,758.70	0.07	0.94
Sack/Crate/Box/Kaing			382.29	0.01	0.21
Wood stakes			273.41	0.01	0.15
Others <sup>b/</sup>			51.26	c/	d/
<b>TOTAL COSTS</b>			<b>186,277.71</b>	<b>7.21</b>	
<b>GROSS RETURNS</b>			<b>315,179.54</b>	<b>12.20</b>	
<b>RETURNS ABOVE CASH COSTS</b>			<b>174,942.91</b>	<b>6.77</b>	
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>			<b>172,857.24</b>	<b>6.69</b>	
<b>NET RETURNS</b>			<b>128,901.83</b>	<b>4.99</b>	
<b>NET PROFIT-COST RATIO</b>			<b>0.69</b>	<b>0.69</b>	

a/ include bamboo and plastic bag/wrapper

b/ include nylon twine

c/ Less than PhP 0.01

d/ Less than 0.01 percent

**Table 28.2 Average Variable and Fixed Costs of Tomato Production, Iloilo, September 2016-May 2017**

Item	Per Hectare (PhP)	Per Kilogram (PhP)
<b>VARIABLE COSTS</b>	<b>162,810.78</b>	<b>6.30</b>
Planting materials		
Seeds	11,109.12	0.43
Fertilizers		
Fertilizer (Solid)	17,169.72	0.66
Fertilizer (Liquid)	473.68	0.02
Mulching materials	68.86	b/
Pesticides		
Pesticide (Solid)	6,162.33	0.24
Pesticide (Liquid)	7,905.38	0.31
Labor		
Hired labor	29,727.38	1.15
Operator labor	15,410.13	0.60
Family labor	7,017.42	0.27
Exchange labor	461.80	0.02
Caretaker's/overseer's wages	13,475.53	0.52
Other permanent employee's salary	401.57	0.02
Rentals:		
Machine	454.03	0.02
Animals	469.92	0.02
Tools and equipment	1,020.84	0.04
Fuel	4,378.10	0.17
Oil	690.70	0.03
Transport costs of inputs	1,238.71	0.05
Transport cost of produce from farm to first point of sale	4,667.71	0.18
Storage fees	51.26	b/
Electricity costs	47.16	b/
Water expense	1,827.06	0.07
Repairs	2,459.76	0.10
Food expense for hired and exchange labor	8,977.86	0.35
Landowner's share	7,796.93	0.30
Financier's share	13,573.24	0.53
Sack/Crate/Box/Kaing	3,398.68	0.13
Seedling bag	263.16	0.01
Wood stakes	1,158.23	0.04
Straw twine	867.56	0.03
Others <sup>a/</sup>	86.94	b/
<b>FIXED COSTS</b>	<b>23,466.93</b>	<b>0.91</b>
Land tax	138.13	0.01
Lease/Rental of land	10,417.94	0.40
Interest payment on crop loan	1,772.72	0.07
Depreciation	3,614.93	0.14
Interest on operating capital	3,952.50	0.15
Rental value of owned land	2,734.09	0.11
Rental value of owned animals	836.63	0.03
<b>TOTAL COSTS</b>	<b>186,277.71</b>	<b>7.21</b>

a/ include bamboo, plastic bag/wrapper and nylon twine

b/ Less than PhP 0.01

**Table 29.1 Average Production Costs and Returns of Tomato, Cebu,  
September 2016-May 2017**

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>Production</b>					
<b>Tomato</b>	<b>10,185.95</b>	<b>Kg</b>	<b>169,649.27</b>	<b>16.66</b>	
<b>Area harvested (hectare) = 18.5700</b>					
<b>Number of farms = 75</b>					
<b>CASH COSTS</b>			<b>58,987.96</b>	<b>5.79</b>	<b>59.31</b>
Planting materials					
Seeds	0.11	Kg	6,469.22	0.64	6.50
Fertilizers					
Fertilizer (Solid)	593.90	Kg	12,270.70	1.20	12.34
Fertilizer (Liquid)	0.43	L	142.70	0.01	0.14
Pesticides					
Pesticide (Solid)	11.00	Kg	3,759.87	0.37	3.78
Pesticide (Liquid)	9.93	L	6,060.55	0.59	6.09
Hired labor		mandays	9,359.38	0.92	9.41
Land tax			386.00	0.04	0.39
Rentals:					
Machine			646.20	0.06	0.65
Animals			2,700.59	0.27	2.72
Toos and equipment			53.85	0.01	0.05
Fuel	8.09	L	334.52	0.03	0.34
Oil	0.13	L	39.58	c/	d/
Transport cost of inputs			1,267.10	0.12	1.27
Transport cost of produce from farm to first point of sale			1,588.42	0.16	1.60
Interest payment on crop loan			206.25	0.02	0.21
Water expense			323.10	0.03	0.32
Electricity cost			145.40	0.01	0.15
Repairs			1,542.48	0.15	1.55
Food expense for hired and exchange labor			261.17	0.03	0.26
Landowner's share			2,925.23	0.29	2.94
Financier's share			2,189.54	0.21	2.20
Sack/Crate/Box/Kaing			1,765.21	0.17	1.77
Seedling bag			33.93	c/	d/
Wood stakes			2,806.68	0.28	2.82
Straw twine			979.27	0.10	0.98
Others <sup>a/</sup>			731.02	0.07	0.74

Table 29.1 *Concluded*

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>IMPUTED COSTS</b>			<b>40,468.31</b>	<b>3.97</b>	<b>40.69</b>
Planting Materials					
Seeds	b/	Kg	266.29	0.03	0.27
Pesticides					
Pesticide (Solid)	0.57	Kg	22.62	c/	d/
Pesticide (Liquid)	0.03	L	10.34	c/	d/
Labor					
Operator labor		mandays	18,915.86	1.86	19.02
Family labor		mandays	5,582.26	0.55	5.61
Depreciation			3,471.36	0.34	3.49
Interest on operating capital			2,146.72	0.21	2.16
Land tax			913.39	0.09	0.92
Rentals:					
Land			2,611.74	0.26	2.63
Machine			26.93	c/	d/
Rental value of owned land			1,211.63	0.12	1.22
Rental value of owned animals			2,210.55	0.22	2.22
Transport cost of produce from farm to first point of sale			93.70	0.01	0.09
Water expense			1,682.82	0.17	1.69
Sack/Crate/Box/Kaing			15.08	c/	d/
Seedling bag			131.93	0.01	0.13
Wood stakes			1,120.09	0.11	1.13
Straw twine			35.00	c/	d/
<b>TOTAL COSTS</b>			<b>99,456.27</b>	<b>9.76</b>	
<b>GROSS RETURNS</b>			<b>169,649.27</b>	<b>16.66</b>	
<b>RETURNS ABOVE CASH COSTS</b>			<b>110,661.31</b>	<b>10.86</b>	
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>			<b>110,661.31</b>	<b>10.86</b>	
<b>NET RETURNS</b>			<b>70,193.01</b>	<b>6.89</b>	
<b>NET PROFIT-COST RATIO</b>			<b>0.71</b>	<b>0.71</b>	

a/ include drum, mortgage fees, plastic bag/wrapper, tarpaulin and watering can

b/ Less than 0.01 Kg

c/ Less than PhP 0.01

d/ Less than 0.01 percent

**Table 29.2 Average Variable and Fixed Costs of Tomato Production, Cebu, September 2016-May 2017**

Item	Per Hectare (PhP)	Per Kilogram (PhP)
<b>VARIABLE COSTS</b>	<b>86,298.62</b>	<b>8.47</b>
Planting materials		
Seeds	6,735.51	0.66
Fertilizers		
Fertilizer (Solid)	12,270.70	1.20
Fertilizer (Liquid)	142.70	0.01
Pesticides		
Pesticide (Solid)	3,782.48	0.37
Pesticide (Liquid)	6,070.89	0.60
Labor		
Hired labor	9,359.38	0.92
Operator labor	18,915.86	1.86
Family labor	5,582.26	0.55
Rentals:		
Machine	673.13	0.07
Animals	2,700.59	0.27
Tools and equipment	53.85	0.01
Fuel	334.52	0.03
Oil	39.58	b/
Transport costs of inputs	1,267.10	0.12
Transport cost of produce from farm to first point of sale	1,682.12	0.17
Electricity costs	145.40	0.01
Water expense	2,005.92	0.20
Repairs	1,542.48	0.15
Food expense for hired and exchange labor	261.17	0.03
Landowner's share	2,925.23	0.29
Financier's share	2,189.54	0.21
Sack/Crate/Box/Kaing	1,780.29	0.17
Seedling bag	165.86	0.02
Wood stakes	3,926.76	0.39
Straw twine	1,014.27	0.10
Others <sup>a/</sup>	731.02	0.07
<b>FIXED COSTS</b>	<b>13,157.64</b>	<b>1.29</b>
Land tax	1,299.39	0.13
Lease/Rental of land	2,611.74	0.26
Interest payment on crop loan	206.25	0.02
Depreciation	3,471.36	0.34
Interest on operating capital	2,146.72	0.21
Rental value of owned land	1,211.63	0.12
Rental value of owned animals	2,210.55	0.22
<b>TOTAL COSTS</b>	<b>99,456.27</b>	<b>9.76</b>

a/ include drum, mortgage fees, plastic bag/wrapper, tarpaulin and watering can

b/ Less than PhP 0.01

**Table 30.1 Average Production Costs and Returns of Tomato, Bukidnon,  
January-September 2017**

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>Production</b>					
<b>Tomato</b>	<b>32,307.15</b>	<b>Kg</b>	<b>521,692.60</b>	<b>16.15</b>	
Area harvested (hectare) = 65.5270					
Number of farms = 75					
<b>CASH COSTS</b>			<b>241,820.75</b>	<b>7.49</b>	<b>86.32</b>
Planting materials					
Seeds	0.09	Kg	4,891.12	0.15	1.75
Fertilizers					
Fertilizer (Solid)	7,006.74	Kg	29,830.53	0.92	10.65
Fertilizer (Liquid)	5.08	L	1,590.79	0.05	0.57
Soil ameliorants					
Soil ameliorant (Solid)	998.60	Kg	740.92	0.02	0.26
Pesticides					
Pesticide (Solid)	84.63	Kg	17,397.77	0.54	6.21
Pesticide (Liquid)	24.68	L	19,132.58	0.59	6.83
Hired labor		mandays	60,835.38	1.88	21.72
Land tax			50.23	c/	d/
Caretaker's/overseer's wage			577.43	0.02	0.21
Other permanent employees' salary			711.16	0.02	0.25
Rentals:					
Land			5,208.54	0.16	1.86
Animals			51.89	c/	d/
Toos and equipment			4.58	c/	d/
Fuel	40.57	L	1,601.13	0.05	0.57
Oil	1.20	L	238.60	0.01	0.09
Transport cost of inputs			2,767.36	0.09	0.99
Transport cost of produce from farm to first point of sale			28,205.01	0.87	10.07
Interest payment on crop loan			347.65	0.01	0.12
Storage fee			6,155.25	0.19	2.20
Water expense			68.06	c/	d/
Electricity cost			29.76	c/	d/
Repairs			2,851.52	0.09	1.02
Food expense for hired and exchange labor			6,399.04	0.20	2.28
Landowner's share			6,017.41	0.19	2.15
Financier's share			5,428.22	0.17	1.94
Sack/Crate/Box/Kaing			35,094.27	1.09	12.53
Seedling bag			128.50	c/	d/
Wood stakes			2,063.08	0.06	0.74
Straw twine			1,947.44	0.06	0.70
Others <sup>a/</sup>			1,455.52	0.05	0.52

**Table 30.1 Concluded**

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>IMPUTED COSTS</b>			<b>38,315.45</b>	<b>1.19</b>	<b>13.68</b>
Planting Materials					
Seeds	0.10	Kg	401.51	0.01	0.14
Fertilizer					
Fertilizer (Solid)	3.55	Kg	66.98	c/	d/
Pesticides					
Pesticide (Solid)	0.03	Kg	16.12	c/	d/
Pesticide (Liquid)	0.04	L	19.53	c/	d/
Labor					
Operator labor		mandays	5,993.80	0.19	2.14
Family labor		mandays	2,218.74	0.07	0.79
Depreciation			8,030.97	0.25	2.87
Interest on operating capital			7,581.24	0.23	2.71
Land tax			48.48	c/	d/
Rentals:					
Land			473.09	0.01	0.17
Machine			194.58	0.01	0.07
Animals			193.05	0.01	0.07
Toos and equipment			122.09	c/	d/
Rental value of owned land			5,940.30	0.18	2.12
Rental value of owned animals			710.70	0.02	0.25
Transport cost of inputs			1,245.36	0.04	0.44
Transport cost of produce from farm to first point of sale			4,359.88	0.13	1.56
Storage fee			29.00	c/	d/
Water expense			578.48	0.02	0.21
Seedling bag			76.30	c/	d/
Others <sup>b/</sup>			15.26	c/	d/
<b>TOTAL COSTS</b>			<b>280,136.21</b>	<b>8.67</b>	
<b>GROSS RETURNS</b>			<b>521,692.60</b>	<b>16.15</b>	
<b>RETURNS ABOVE CASH COSTS</b>			<b>279,871.84</b>	<b>8.66</b>	
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>			<b>279,871.84</b>	<b>8.66</b>	
<b>NET RETURNS</b>			<b>241,556.39</b>	<b>7.48</b>	
<b>NET PROFIT-COST RATIO</b>			<b>0.86</b>	<b>0.86</b>	

a/ include nails, seedling tray and watering can

b/ include straw twine

c/ Less than PhP0.01

d/ Less than 0.01 percent

**Table 30.2 Average Variable and Fixed Costs of Tomato Production, Bukidnon, January-September 2017**

Item	Per Hectare (PhP)	Per Kilogram (PhP)
<b>VARIABLE COSTS</b>	<b>251,745.02</b>	<b>7.79</b>
Planting materials		
Seeds	5,292.64	0.16
Fertilizers		
Fertilizer (Solid)	29,897.51	0.93
Fertilizer (Liquid)	1,590.79	0.05
Soil ameliorants		
Soil ameliorant (Solid)	740.92	0.02
Pesticides		
Pesticide (Solid)	17,413.89	0.54
Pesticide (Liquid)	19,152.11	0.59
Labor		
Hired labor	60,835.38	1.88
Operator labor	5,993.80	0.19
Family labor	2,218.74	0.07
Caretaker's/overseer's wages	577.43	0.02
Other permanent employee's salary	711.16	0.02
Rentals:		
Machine	194.58	0.01
Animals	244.94	0.01
Tools and equipment	126.67	b/
Fuel	1,601.13	0.05
Oil	238.60	0.01
Transport costs of inputs	4,012.73	0.12
Transport cost of produce from farm to first point of sale	32,564.90	1.01
Storage fees	6,184.24	0.19
Electricity costs	29.76	b/
Water expense	646.54	0.02
Repairs	2,851.52	0.09
Food expense for hired and exchange labor	6,399.04	0.20
Landowner's share	6,017.41	0.19
Financier's share	5,428.22	0.17
Sack/Crate/Box/Kaing	35,094.27	1.09
Seedling bag	204.80	0.01
Wood stakes	2,063.08	0.06
Straw twine	1,947.44	0.06
Others <sup>a/</sup>	1,470.78	0.05
<b>FIXED COSTS</b>	<b>28,391.19</b>	<b>0.88</b>
Land tax	98.71	b/
Lease/Rental of land	5,681.63	0.18
Interest payment on crop loan	347.65	0.01
Depreciation	8,030.97	0.25
Interest on operating capital	7,581.24	0.23
Rental value of owned land	5,940.30	0.18
Rental value of owned animals	710.70	0.02
<b>TOTAL COSTS</b>	<b>280,136.21</b>	<b>8.67</b>

a/ include nails, seedling tray, watering can and straw twine

b/ Less than PhP0.01

**Table 31.1 Average Production Costs and Returns of Tomato, Misamis Oriental, January-September 2017**

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>Production</b>					
<b>Tomato</b>	<b>22,664.89</b>	<b>Kg</b>	<b>307,963.46</b>	<b>13.59</b>	
<b>Area harvested (hectare) = 55.4150</b>					
<b>Number of farms = 75</b>					
<b>CASH COSTS</b>			<b>179,674.89</b>	<b>7.93</b>	<b>80.74</b>
Planting materials					
Seeds	0.12	Kg	6,044.47	0.27	2.72
Fertilizers					
Fertilizer (Solid)	4,917.31	Kg	27,382.83	1.21	12.30
Fertilizer (Liquid)	0.31	L	39.61	c/	d/
Soil ameliorants					
Soil ameliorant (Solid)	1,087.43	Kg	969.50	0.04	0.44
Mulching materials	50.84	Kg	875.21	0.04	0.39
Pesticides					
Pesticide (Solid)	54.20	Kg	11,742.24	0.52	5.28
Pesticide (Liquid)	16.12	L	11,366.56	0.50	5.11
Hired labor		mandays	56,339.29	2.49	25.32
Land tax			226.32	0.01	0.10
Caretaker's/overseer's wage			740.59	0.03	0.33
Rentals:					
Land			451.14	0.02	0.20
Machine			198.50	0.01	0.09
Animals			364.52	0.02	0.16
Toos and equipment			329.33	0.01	0.15
Fuel	29.86	L	1,304.88	0.06	0.59
Oil	0.76	L	181.72	0.01	0.08
Transport cost of inputs			1,564.29	0.07	0.70
Transport cost of produce from farm to first point of sale			20,774.75	0.92	9.34
Interest payment on crop loan			451.34	0.02	0.20
Storage fee			90.23	c/	d/
Water expense			11.55	c/	d/
Electricity cost			79.94	c/	d/
Repairs			3,801.87	0.17	1.71
Food expense for hired and exchange labor			6,415.23	0.28	2.88
Landowner's share			112.72	c/	d/
Financier's share			2,034.11	0.09	0.91
Sack/Crate/Box/Kaing			23,952.45	1.06	10.76
Seedling bag			30.32	c/	d/
Wood stakes			943.52	0.04	0.42
Straw twine			839.05	0.04	0.38
Others <sup>a/</sup>			16.78	c/	d/

Table 31.1 *Concluded*

Item	Per Hectare			Per Kilogram (PhP)	% Share to Total Cost
	Quantity	Unit	Value (PhP)		
<b>IMPUTED COSTS</b>			<b>42,859.32</b>	<b>1.89</b>	<b>19.26</b>
Planting Materials					
Seeds	0.01	Kg	347.99	0.02	0.16
Fertilizer					
Fertilizer (Solid)	13.62	Kg	250.11	0.01	0.11
Mulching materials	37.40	Kg	176.62	0.01	0.08
Pesticides					
Pesticide (Solid)	1.65	Kg	395.16	0.02	0.18
Pesticide (Liquid)	0.31	L	233.15	0.01	0.10
Labor					
Operator labor		mandays	6,162.05	0.27	2.77
Family labor		mandays	5,529.80	0.24	2.48
Depreciation			7,214.79	0.32	3.24
Interest on operating capital			6,472.45	0.29	2.91
Land tax			85.49	c/	d/
Rentals:					
Land			711.00	0.03	0.32
Machine			12.63	c/	d/
Animals			208.97	0.01	0.09
Toos and equipment			525.13	0.02	0.24
Rental value of owned land			1,288.46	0.06	0.58
Rental value of owned animals			2,060.81	0.09	0.93
Transport cost of inputs			1,013.53	0.04	0.46
Transport cost of produce from farm to first point of sale			8,858.25	0.39	3.98
Storage fee			9.93	c/	d/
Water expense			364.88	0.02	0.16
Sack/Crate/Box/Kaing			7.94	c/	d/
Seedling bag			325.09	0.01	0.15
Wood stakes			494.45	0.02	0.22
Straw twine			53.23	c/	d/
Others <sup>b/</sup>			57.39	c/	d/
<b>TOTAL COSTS</b>			<b>222,534.21</b>	<b>9.82</b>	
<b>GROSS RETURNS</b>			<b>307,963.46</b>	<b>13.59</b>	
<b>RETURNS ABOVE CASH COSTS</b>			<b>128,288.57</b>	<b>5.66</b>	
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>			<b>128,288.57</b>	<b>5.66</b>	
<b>NET RETURNS</b>			<b>85,429.25</b>	<b>3.77</b>	
<b>NET PROFIT-COST RATIO</b>			<b>0.38</b>	<b>0.38</b>	

a/ include nails and nylon

b/ include banana leaves and coconut leaves

c/ Less than PhP 0.01

d/ Less than 0.01 percent

**Table 31.2 Average Variable and Fixed Costs of Tomato Production, Misamis Oriental, January-September 2017**

Item	Per Hectare (PhP)	Per Kilogram (PhP)
<b>VARIABLE COSTS</b>	<b>203,572.40</b>	<b>8.98</b>
Planting materials		
Seeds	6,392.47	0.28
Fertilizers		
Fertilizer (Solid)	27,632.94	1.22
Fertilizer (Liquid)	39.61	b/
Soil ameliorants		
Soil ameliorant (Solid)	969.50	0.04
Mulching materials	1,051.84	0.05
Pesticides		
Pesticide (Solid)	12,137.40	0.54
Pesticide (Liquid)	11,599.71	0.51
Labor		
Hired labor	56,339.29	2.49
Operator labor	6,162.05	0.27
Family labor	5,529.80	0.24
Caretaker's/overseer's wages	740.59	0.03
Rentals:		
Machine	211.13	0.01
Animals	573.49	0.03
Tools and equipment	854.46	0.04
Fuel	1,304.88	0.06
Oil	181.72	0.01
Transport costs of inputs	2,577.82	0.11
Transport cost of produce from farm to first point of sale	29,633.01	1.31
Storage fees	100.15	b/
Electricity costs	79.94	b/
Water expense	376.43	0.02
Repairs	3,801.87	0.17
Food expense for hired and exchange labor	6,415.23	0.28
Landowner's share	112.72	b/
Financier's share	2,034.11	0.09
Sack/Crate/Box/Kaing	23,960.39	1.06
Seedling bag	355.41	0.02
Wood stakes	1,437.97	0.06
Straw twine	892.29	0.04
Others <sup>a/</sup>	74.17	b/
<b>FIXED COSTS</b>	<b>18,961.81</b>	<b>0.84</b>
Land tax	311.81	0.01
Lease/Rental of land	1,162.14	0.05
Interest payment on crop loan	451.34	0.02
Depreciation	7,214.79	0.32
Interest on operating capital	6,472.45	0.29
Rental value of owned land	1,288.46	0.06
Rental value of owned animals	2,060.81	0.09
<b>TOTAL COSTS</b>	<b>222,534.21</b>	<b>9.82</b>

a/ include banana leaves, coconut leaves, nails and nylon

b/ Less than PhP 0.01

**Table 32.1 Interprovincial Comparison of Yield and Inputs Usage per Hectare of Tomato Production, Selected Provinces, September 2016-September 2017**

Province	Yield (Kilogram)	Seeds (Kilogram)	Fertilizer		Labor (Manday)
			Solid (Kilogram)	Liquid (Liter)	
<b>Total (6)</b>	28,832.93	0.21	3,484.99	1.63	252.81
Ilocos Norte	37,748.41	0.37	490.39	0.03	150.24
Ilocos Sur	37,436.60	0.32	658.89	0.05	228.97
Iloilo	25,831.15	0.15	899.79	0.57	179.84
Cebu	10,185.95	0.11	593.90	0.43	151.39
Bukidnon	32,307.15	0.20	7,010.29	5.08	341.17
Misamis Oriental	22,664.89	0.13	4,930.94	0.31	284.64

**Table 32.2 Interprovincial Comparison of Average Costs and Returns of Tomato Production per Hectare by Major Cost Item, Selected Provinces, September 2016-September 2017**

Province	Cash Costs (PhP)	Non-Cash Costs (PhP)	Imputed Costs (PhP)	Total Costs (PhP)	Average yield (Kg / Ha)	Gross Returns (PhP)
<b>Total (6)</b>	<b>151,109.67</b>	<b>272.86</b>	<b>43,094.03</b>	<b>194,476.56</b>	<b>28,832.93</b>	<b>329,914.77</b>
Ilocos Norte	74,721.40	83.26	32,598.01	107,402.67	37,748.41	204,931.45
Ilocos Sur	55,689.00		59,940.84	115,629.84	37,436.60	202,332.69
Iloilo	140,236.63	2,085.67	43,955.42	186,277.71	25,831.15	315,179.54
Cebu	58,987.96		40,468.31	99,456.27	10,185.95	169,649.27
Bukidnon	241,820.75		38,315.45	280,136.21	32,307.15	521,692.60
Misamis Oriental	179,674.89		42,859.32	222,534.21	22,664.89	307,963.46

**Table 32.3 Interprovincial Comparison of Profitability of Tomato Production per Hectare, Selected Provinces, September 2016-September 2017**

Province	Returns Above Cash Costs (PhP)	Returns Above Cash and Non-Cash Costs (PhP)	Net Returns (PhP)	Net Profit-Cost Ratio	Cost per Kilogram (PhP)	Gross Returns per Kilogram (PhP)
<b>Total (6)</b>	<b>178,805.10</b>	<b>178,532.24</b>	<b>135,438.21</b>	<b>0.70</b>	<b>6.74</b>	<b>11.44</b>
Ilocos Norte	130,210.05	130,126.79	97,528.78	0.91	2.85	5.43
Ilocos Sur	146,643.69	146,643.69	86,702.85	0.75	3.09	5.40
Iloilo	174,942.91	172,857.24	128,901.83	0.69	7.21	12.20
Cebu	110,661.31	110,661.31	70,193.01	0.71	9.76	16.66
Bukidnon	279,871.84	279,871.84	241,556.39	0.86	8.67	16.15
Misamis Oriental	128,288.57	128,288.57	85,429.25	0.38	9.82	13.59

## OTHER INFORMATION

**Table 33. Percentage Distribution of Tomato Produce by Disposition Item, Selected Provinces, September 2016-September 2017**

Province	Sold / To be Sold To Trader	Sold / To be Sold To Processor	Sold / To be Sold To Direct Consumer	Other Laborers' Share	Landowner's Share	Financier's Share
<b>Total (6)</b>	<b>65.69</b>	<b>30.44</b>	<b>0.83</b>	<b>a/</b>	<b>a/</b>	<b>a/</b>
Ilocos Norte	14.71	81.32	3.15			
Ilocos Sur	8.79	89.62	0.42	a/		
Iloilo	96.99		0.26		0.02	a/
Cebu	99.27					
Bukidnon	94.11		0.15			
Misamis Oriental	96.13		1.10			

a/ Less than 0.01%

**Table 33. (Concluded)**

Province	For Home Consumption	For Home-based Processing	Given Away	Paid to Creditor	Used/ To be Used for Planting Materials	Wastage
<b>Total (6)</b>	<b>0.12</b>	<b>0.01</b>	<b>0.55</b>	<b>a/</b>	<b>0.01</b>	<b>2.33</b>
Ilocos Norte	0.25	0.01	0.28			0.27
Ilocos Sur	0.07	a/	0.36	a/	a/	0.73
Iloilo	0.23	0.06	1.13	0.03	0.02	1.26
Cebu	0.36	a/	0.29		a/	0.08
Bukidnon	0.05		0.54		0.01	5.13
Misamis Oriental	0.06	0.03	0.69		0.02	1.96

a/ Less than 0.01%

**Table 34.1 Percentage Distribution of Tomato Farmers Reporting on the Current Level of Production in Comparison with the Production in the Previous Cropping, Selected Provinces, September 2016-September 2017**

Province	Higher	Lower	About the Same	No Point of Comparison
<b>Total (6)</b>	<b>31.33</b>	<b>41.33</b>	<b>18.00</b>	<b>9.33</b>
Ilocos Norte	61.33	25.33	13.33	
Ilocos Sur	21.33	61.33	16.00	1.33
Iloilo	24.00	28.00	22.67	25.33
Cebu	24.00	72.00	2.67	1.33
Bukidnon	21.33	38.67	16.00	24.00
Misamis Oriental	36.00	22.67	37.33	4.00

**Table 34.2 Percentage of Tomato Farmers with Higher Volume of Production This Year by Reason for Change in Production, Selected Provinces, September 2016-September 2017**

Province	Reasons For the Change in Production					
	Increase in Area	Good Weather	Good Quality of Seeds	Use of Fertilizers	Adequate Water Supply	Others <sup>1/</sup>
<b>Total (6)</b>	<b>24.82</b>	<b>52.48</b>	<b>33.33</b>	<b>30.50</b>	<b>6.38</b>	<b>4.26</b>
Ilocos Norte	39.13	58.70	23.91	30.43	10.87	
Ilocos Sur	18.75	37.50	62.50	25.00		25.00
Iloilo	16.67	66.67	11.11	22.22	11.11	
Cebu	16.67	50.00	33.33	5.56		
Bukidnon	12.50	75.00	31.25	18.75	6.25	
Misamis Oriental	22.22	29.63	48.15	62.96	3.70	7.41

<sup>1/</sup> include good price of tomato, production of quality fruits and more hills of tomato planted

**Table 34.3 Percentage of Tomato Farmers with Lower Volume of Production This Year by Reason for Change in Production, Selected Provinces, September 2016-September 2017**

Province	Reasons For the Change in Production						
	Decrease in Area	Bad Weather	Pests and Diseases	Low Quality of Seeds	Inadequate Water Supply	Poor Quality of Produce	Others <sup>1/</sup>
<b>Total (6)</b>	<b>9.14</b>	<b>60.22</b>	<b>9.68</b>	<b>18.82</b>	<b>1.08</b>	<b>43.01</b>	<b>3.76</b>
Ilocos Norte	10.53	68.42	21.05	26.32		21.05	5.26
Ilocos Sur	2.17	86.96	8.70	15.22	4.35	63.04	2.17
Iloilo	33.33	38.10	4.76	47.62		9.52	14.29
Cebu	1.85	51.85	11.11	3.70		31.48	
Bukidnon	17.24	48.28	6.90	13.79		62.07	
Misamis Oriental	5.88	52.94	5.88	41.18		58.82	11.76

<sup>1/</sup> include delayed planting, delayed pick-up of produce, falling flowers, low price of tomato, lack of manpower and high cost of inputs

**Table 35. Percentage of Tomato Farmers Reporting Problems on Production, Selected Provinces, September 2016-September 2017**

Province	Pests and Diseases	High Cost of Inputs	Bad Weather/ Calamities	Lack of Capital	Rough or Poor Road/ Inadequate Transport Facilities	Inadequate Supply of Water	Poor Soil Condition	Others <sup>1/</sup>
<b>Total (6)</b>	<b>72.89</b>	<b>24.67</b>	<b>42.00</b>	<b>18.67</b>	<b>9.11</b>	<b>4.44</b>	<b>0.67</b>	<b>1.33</b>
Ilocos Norte	72.00	66.67	53.33	60.00	2.67	20.00	1.33	
Ilocos Sur	74.67	5.33	57.33			1.33		1.33
Iloilo	66.67	6.67	36.00	12.00	2.67	5.33	1.33	4.00
Cebu	61.33	2.67	30.67	6.67	4.00			
Bukidnon	81.33	28.00	38.67	18.67	20.00			2.67
Misamis Oriental	81.33	38.67	36.00	14.67	25.33		1.33	

<sup>1/</sup> decreased fruit production, damaged seedlings and poor seedling growth

**Table 36. Percentage of Tomato Farmers Reporting on the Buyers of Produce, Selected Provinces, September 2016-September 2017**

Province	Traders				Processor	Cooperative	Consumer
	Agent	Wholesaler	Wholesaler-retailer	Assembler			
<b>Total (6)</b>	<b>10.67</b>	<b>57.56</b>	<b>20.00</b>	<b>0.67</b>	<b>30.44</b>	<b>0.22</b>	<b>3.78</b>
Ilocos Norte	17.33	36.00	17.33		86.67	1.33	5.33
Ilocos Sur	10.67	6.67	16.00		96.00		6.67
Iloilo	4.00	26.67	69.33	2.67			8.00
Cebu		90.67	9.33				
Bukidnon	21.33	98.67	2.67	1.33			2.67
Misamis Oriental	10.67	86.67	5.33				

**Table 37. Percentage of Tomato Farmers Reporting Problems on Marketing of Produce, Selected Provinces, September 2016-September 2017**

Province	Unstable Prices	Rough Roads/ High Transport Cost	Low Price of Produce	No Buyer/ Market Outlet	Lack of Marketing Information	Others <sup>1/</sup>
<b>Total (6)</b>	<b>81.33</b>	<b>20.00</b>	<b>40.00</b>	<b>2.44</b>	<b>4.00</b>	<b>6.00</b>
Ilocos Norte	78.67	5.33	82.67	2.67	16.00	4.00
Ilocos Sur	92.00		29.33	1.33	6.67	1.33
Iloilo	58.67	14.67	56.00	5.33		
Cebu	78.67	17.33	9.33	4.00		1.33
Bukidnon	90.67	42.67	28.00		1.33	16.00
Misamis Oriental	89.33	40.00	34.67	1.33		13.33

1/ include delay in the payment of produce by processors; too many farmer competitors; strict product classification by buyers/traders; difference in size classification by farmer and trader and prices were controlled by traders

**Table 38. Percentage of Tomato Farmers who Availed of Loans for Tomato Production by Major Source of Loan, Selected Provinces, September 2016-September 2017**

Province	Percentage of Tomato Farmers Who Availed Loan	Source						
		Cooperative	Bank	Microfinance/ Credit Associations	Trader	Private Individual	Informal Lenders	Others <sup>1/</sup>
<b>Total (6)</b>	<b>20.44</b>	<b>35.87</b>	<b>2.17</b>	<b>4.35</b>	<b>1.09</b>	<b>33.70</b>	<b>3.26</b>	<b>19.57</b>
Ilocos Norte	52.00	61.54						38.46
Ilocos Sur	10.67	12.50				62.50		25.00
Iloilo	21.33	6.25	6.25	6.25		68.75	12.50	
Cebu	16.00				8.33	83.33	8.33	
Bukidnon	12.00	66.67	11.11			11.11		11.11
Misamis Oriental	10.67	12.50		37.50		50.00		

1/ include tomato processing company, Department of Labor and Employment (DOLE) and lending corporation

**Table 39.1 Percentage of Tomato Farmers Who were Aware and Availed Benefit from Government Programs/Interventions on Tomato Production, Selected Provinces, September 2016-September 2017**

Province	Aware of Government Programs/Interventions	Availed Government Programs/Interventions
<b>Total (6)</b>	<b>40.44</b>	<b>46.67</b>
Ilocos Norte	97.33	100.00
Ilocos Sur	72.00	92.00
Iloilo	12.00	18.67
Cebu	6.67	24.00
Bukidnon	29.33	21.33
Misamis Oriental	25.33	24.00

**Table 39.2 Percentage of Tomato Farmers who Availed Benefit from Government by Type of Programs/Interventions on Tomato Production, Selected Provinces, September 2016-September 2017**

Province	Planting Materials	Fertilizer and Other Inputs	Training on Farming Technology	Post Harvest Facilities	Marketing Support	Farm to Market Roads	Irrigation Facilities
<b>Total (6)</b>	<b>19.05</b>	<b>14.76</b>	<b>9.05</b>	<b>0.48</b>	<b>2.86</b>	<b>86.67</b>	<b>25.24</b>
Ilocos Norte	45.33	25.33	5.33	1.33	6.67	100.00	21.33
Ilocos Sur	1.45	2.90				100.00	34.78
Iloilo	14.29	28.57	14.29		7.14	64.29	
Cebu		16.67	5.56			16.67	66.67
Bukidnon	12.50	12.50				87.50	
Misamis Oriental	5.56	5.56	66.67			66.67	5.56

**Table 39.3 Percentage of Tomato Farmers who Used the Benefit Received and Increased Income, Selected Provinces, September 2016-September 2017**

Province	Used the Benefit Received from the Government	Increased Income
<b>Total (6)</b>	<b>95.24</b>	<b>84.76</b>
Ilocos Norte	100.00	97.33
Ilocos Sur	95.65	82.61
Iloilo	78.57	21.43
Cebu	100.00	100.00
Bukidnon	93.75	75.00
Misamis Oriental	83.33	83.33

**Table 40. Percentage of Tomato Farmers by Perceived Effect of Climate Change on Their Tomato Farming, Selected Provinces, September 2016-September 2017**

Province	Affected By Climate Change	Effect				
		Change in Cropping Pattern	Increase in Input Usage	Decrease in Yield	Decrease in Frequency of Plowing	Others <sup>1/</sup>
<b>Total (6)</b>	<b>72.89</b>	<b>46.04</b>	<b>27.44</b>	<b>58.54</b>	<b>1.52</b>	<b>0.61</b>
Ilocos Norte	65.33	55.10	20.41	42.86	2.04	2.04
Ilocos Sur	66.67	98.00	2.00	26.00		
Iloilo	70.67	50.94	30.19	62.26	1.89	
Cebu	88.00	3.03	7.58	89.39	1.52	
Bukidnon	66.67	58.00	70.00	56.00	2.00	2.00
Misamis Oriental	80.00	28.33	38.33	63.33	1.67	

1/ include change in variety of seeds, higher incidence of replanting due to heavy rains

**Table 41. Percentage of Tomato Farmers Who are Members of Farmers' Organization by Type of Benefit Received, Selected Provinces, September 2016-September 2017**

Province	Members of Farmers' Organization	Members Who Received Benefit	Benefits Received				
			Trainings/ Seminars	Financial/ Credit Support	Inputs Support	Marketing Support	Others <sup>1/</sup>
<b>Total (6)</b>	<b>32.22</b>	<b>77.93</b>	<b>57.93</b>	<b>13.79</b>	<b>17.93</b>	<b>2.07</b>	<b>3.45</b>
Ilocos Norte	62.67	61.70	40.43	17.02	12.77		6.38
Ilocos Sur	42.67	93.75	87.50	25.00			
Iloilo	28.00	76.19	52.38	14.29	42.86	14.29	4.76
Cebu	45.33	88.24	64.71	2.94	20.59		2.94
Bukidnon	1.33						
Misamis Oriental	13.33	80.00	40.00		40.00		

1/ include bayanihan, use of farm machinery and equipment and water supply

**Table 42. Percentage Distribution of Tomato Farmers Reporting on the Plan of Farm Operations, Selected Provinces, September 2016-September 2017**

Province	Maintain Current Operation	Expand Area	Reduce Area	Shift to Other Crops	Others <sup>1/</sup>
<b>Total (6)</b>	<b>66.22</b>	<b>12.44</b>	<b>4.44</b>	<b>15.78</b>	<b>1.11</b>
Ilocos Norte	65.33	4.00	17.33	13.33	
Ilocos Sur	90.67	2.67	5.33	1.33	
Iloilo	62.67	32.00	4.00		1.33
Cebu	82.67	5.33		12.00	
Bukidnon	58.67	10.67		29.33	1.33
Misamis Oriental	37.33	20.00		38.67	4.00

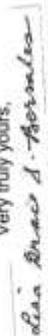
1/ include stop operation until someone is willing to finance or provide capital, do alternate cropping and plan depending on the availability of capital

**Table 43. Percentage of Tomato Farmers Reporting on the Recommendations to Further Improve the Tomato Production, Selected Provinces, September 2016-September 2017**

Recommendation	Total (6)	Province					
		Ilocos Norte	Ilocos Sur	Iloilo	Cebu	Bukidnon	Misamis Oriental
Implement pricing policies to support fair product prices at the farmgate	28.89	78.67	16.00	6.67	1.33	42.67	28.00
Provide financial assistance	20.00	4.00	1.33	24.00	65.33	21.33	4.00
Increase government subsidy on seeds, fertilizers and pesticides	17.78	9.33	10.67	6.67	16.00	29.33	34.67
Enhance production and marketing information system for tomato farmers	14.89	10.67	1.33	56.00	1.33	17.33	2.67
Provide farm to market roads and other post-harvest facilities	6.89		1.33	2.67		8.00	29.33
Increase credit available to tomato farmers	5.11			4.00		9.33	17.33
Regulate prices of farm inputs	4.89	1.33				6.67	21.33
Provide good quality seeds/planting materials	3.11	6.67	1.33	2.67	1.33	6.67	
Intensify government research and extension services for tomato farmers	1.33	1.33		1.33	4.00	1.33	
Improve irrigation services	0.89	1.33	2.67	1.33			
Others <sup>1/</sup>	8.67	10.67	13.33	14.67	2.67	8.00	2.67

<sup>1/</sup> Include instant payment of produce by processor, faster pick-up of produce, early delivery of farm inputs, control supply of tomato in the province, improve farm management and use organic fertilizers, provide soil testing/analysis, provide guaranteed market outlet, craft viable insurance policies for tomato farmers, widen the access to farm machineries and equipment and expand area planted to tomato

**Questionnaire for Luzon and Visayas Provinces:  
Ilocos Norte, Ilocos Sur, Iloilo and Cebu**

 <p>REPUBLIC OF THE PHILIPPINES <b>PHILIPPINE STATISTICS AUTHORITY</b> SOLID • RESPONSIVE • WORLD-CLASS</p>	<p>Approval No. PSA - 1722 Expires on 31 May 2018</p>	
<b>2017 SURVEY ON COSTS AND RETURNS OF TOMATO PRODUCTION</b>		
<p><b>CONFIDENTIALITY:</b></p> <p><b>Section 26 of RA 10625</b>, stipulates that individual data furnished by a respondent to statistical inquiries, surveys, and censuses of the PSA shall be considered privileged information and such shall be inadmissible as evidence in any proceeding.</p> <p>Likewise, <b>Section 27 of RA No. 10625</b> states that a person, including parties within the PSA Board and the PSA, who breach the confidentiality of information, whether by carelessness, improper behavior, behavior with malicious intent, and use of confidential information for profit shall be liable to a fine of five thousand pesos (5,000), to not more than ten thousand pesos (10,000) and or imprisonment of three months but not exceeding one year, subject to the degree of breach of information.</p>	<p>Dear Sir / Madam,</p> <p>The <b>Philippine Statistics Authority</b> is undertaking a Survey on Costs and Returns of Tomato Production to generate an up-to-date production cost structure and determine the returns in tomato farming. The activity involves the gathering of data on the expenses and revenues in producing tomato. Data on the usage of material and labor inputs and other socio-economic variables will be collected.</p> <p>Your household has been selected to be one of the sample respondents. With your cooperation, this survey will yield accurate and updated data needed for effective planning and policy-decision making.</p> <p>Please be assured that the data you supply us will be held <b>STRICTLY CONFIDENTIAL</b> and your report cannot be used for purposes of taxation, investigation or law enforcement procedure, nor will it be published except in the form of statistical summaries in which no reference to any individual person shall appear.</p> <p>Your cooperation is earnestly solicited.</p> <div style="text-align: right; margin-top: 20px;"> <p>Very truly yours,  <b>LISA GRACE S. BERSALES, Ph.D.</b> National Statistician and Civil Registrar General</p> </div>	
<b>SCREENING QUESTIONS &gt;&gt; Go to instructions</b>		
<p>1. Are you engaged in tomato farming? <input type="checkbox"/> YES (continue next question)    <input type="checkbox"/> NO (end the interview)</p> <p>2. Is the tomato farm group-operated? <input type="checkbox"/> YES (end the interview)    <input type="checkbox"/> NO (continue next question)</p> <p>3. Did you plant and harvest tomato at any time within <b>SEPTEMBER 2016 to MAY 2017?</b> <input type="checkbox"/> YES (continue next question)    <input type="checkbox"/> NO (end the interview)</p> <p>4. Was your harvest / produce intended for sale? <input type="checkbox"/> YES (continue next question)    <input type="checkbox"/> NO (end the interview)</p> <p>5. Was your harvest intercropped with other temporary crops? <input type="checkbox"/> YES (end the interview)    <input type="checkbox"/> NO (continue next question)</p>	<p>6. Was 20% or more of your harvest damaged by flood, drought, pests and diseases, etc.? <input type="checkbox"/> YES (end the interview)    <input type="checkbox"/> NO (continue next question)</p> <p>7. Are you a contract grower? <input type="checkbox"/> YES (continue next question)    <input type="checkbox"/> NO (proceed to the next page)</p> <p>7.1 What was the mode of financing? (check box and proceed to the next page)</p> <p><input type="checkbox"/> - in cash <input type="checkbox"/> - in kind <input type="checkbox"/> - both in cash and in kind</p>	

**2017 SURVEY ON COSTS AND RETURNS OF TOMATO PRODUCTION**

Last Completed Cropping Cycle Within **SEPTEMBER 2016 TO MAY 2017** for Luzon and Visayas

QC No.

**A. FARM LOCATION**

1. Region :  2. Province :  3. City/Municipality :  4. Barangay :

**B. SAMPLE IDENTIFICATION**

1. Name of sample farmer/operator : \_\_\_\_\_  
 (LAST NAME) (FIRST NAME) (M.I.)  
 2. Residential address of the sample farmer/operator : \_\_\_\_\_  
 (STREET NO./PUROK/SITIO) (BARANGAY) (MUNICIPALITY)  
 3. Age (as of last birthday) : \_\_\_\_\_ years old  
 4. Sex (encircle code) : 1 - Male 2 - Female   
 5. Level of education completed :   
 6. Main occupation : \_\_\_\_\_  
 (gainful work or activity that provides the major source of income)  
 7. Number of years engaged in Tomato farming (as operator) : \_\_\_\_\_  
 8. Name of respondent : \_\_\_\_\_  
 9. Respondent's relationship to the sample farmer/operator : \_\_\_\_\_  
 10. Respondent's contact number/s : \_\_\_\_\_

**C. BASIC CHARACTERISTICS OF THE FARM**

1. Using the matrix below, define the characteristics of each farm parcel operated during the reference period.

1.1 Parcel	1.2 Total Physical Area of the Parcel (indicate the physical area in hectare)	1.3 Area Planted to Tomato (indicate the physical area in hectare)	1.4 Area Planted to Other Crops (if any, indicate the physical area in hectare)	1.5 Area of Other Structure (if any, indicate the physical area in hectare)
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____
4	_____	_____	_____	_____
5	_____	_____	_____	_____
6	_____	_____	_____	_____
7	_____	_____	_____	_____
8	_____	_____	_____	_____
9	_____	_____	_____	_____
10	_____	_____	_____	_____
Total Area	_____	_____	_____	_____

**For focus parcel only:**

4. How many times did you plant tomato in a year?    
 5. What is the usual cropping pattern? \_\_\_\_\_  
 6. What was the area planted? \_\_\_\_\_  
 7. What was the area harvested? \_\_\_\_\_  
 8. What month and year was it last planted? \_\_\_\_\_  
 9. What month and year was it last harvested? \_\_\_\_\_  
 10. How many times did you harvest in the focus parcel? \_\_\_\_\_  
 11. What was the type of tomato planted? (encircle code/s)  
 1 - Bush 2 - Vine  
 12. What was the variety of seeds planted? (encircle code/s)  
 1 - Diamante 6 - Apollo  
 2 - Diamante Max 7 - Semenes  
 3 - Harabas 8 - Rose Pink  
 4 - Ilocos Red 9 - Native (Kimmababasa)  
 5 - Maharika 10 - Others (specify): \_\_\_\_\_

13. Who/What was/were the source/s of planting materials? (encircle code/s)

1 - Agri Supply Store 4 - Co-Farmer  
 2 - DALGU 5 - Own produced  
 3 - Cooperative 6 - Others (specify): \_\_\_\_\_

**For focus parcel only:**

3. What is the tenurial status? (specify code)   
 If code 8, specify the tenurial status: \_\_\_\_\_

Note: For Block B Item 5 and 6, codes are in the Field Operations Manual. Coding should be done after enumeration.

**CODES FOR BLOCK C: Tenurial Status (Item 3)**

- 1 - Fully owned
- 2 - Leased / Rented
- 3 - Tenanted
- 4 - Amortized
- 5 - Rent Free
- 6 - Owner - like Possession
- 7 - Held under CLT / CLOA
- 8 - Others

D. FARM INVESTMENTS (owned and used in the focus parcel during SEPTEMBER 2016 to MAY 2017)										
Item	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	How many units were used? (Area / Number)	What year was it acquired / constructed?	How much was the cost of acquisition / construction? (Pesos)	How much was spent for minor repair / maintenance / improvement? (Pesos)	How many years will it be useful / serviceable? (from the date of interview)	Was the item used in another parcel? (indicate code) 1 - YES 2 - NO	Was the item used for other crops or activities in the focus parcel? (indicate code) 1 - YES 2 - NO	Was the item rented or lent to other farmers? (indicate code) 1 - YES 2 - NO	What was its percentage of use in the focus parcel?	
<b>1. Farm land owned (hectare)</b>										
<b>2. Work animals</b>										
2.01 Carabao										
2.02 Cattle										
2.03 Horse										
<b>3. Farm buildings and other structures</b>										
3.01 Farm house										
3.02 Warehouse / Storage										
3.03 Others (specify) :										
<b>4. Farm machinery and transport facilities</b>										
4.01 Two-wheel tractor (Hand Tractor)										
4.02 Four-wheel tractor										
4.03 Water pump										
4.04 Farm vehicles										
4.05 Trailer										
4.06 Others (specify) :										

D. FARM INVESTMENTS (owned and used in the focus parcel during SEPTEMBER 2016 to MAY 2017)									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Item	How many units were used? (Area / Number)	What year was it acquired / constructed?	How much was the cost of acquisition / construction? (Pesos)	How much was spent for minor repair / maintenance / improvement? (Pesos)	How many years will it be useful / serviceable? (from the date of interview)	Was the item used in another parcel? (indicate code) 1 - YES 2 - NO	Was the item used for other crops or activities in the focus parcel? (indicate code) 1 - YES 2 - NO	Was the item rented or lent to other farmers? (indicate code) 1 - YES 2 - NO	What was its percentage of use in the focus parcel?
<b>5. Farm tools and implements</b>									
5.01 Plow (araro)									
5.02 Harrow (kuyod)									
5.03 Shovel / Spade (pala)									
5.04 Hoe (asarol)									
5.05 Spading fork (tindori)									
5.06 Post hole digger (panghukay)									
5.07 Yoke (singkaw)									
5.08 Rake (kabaykay)									
5.09 Seeding tray / Seedbox									
5.10 Hose									
5.11 Watering Can									
5.12 Water Sprinkler									
5.13 Sprayer (pambomba)									
5.14 Bolo (itak)									
5.15 Sickle / Scythe (karet)									
5.16 Pruning shears/scissors									
5.17 Cart / Sled (saragos)									
5.18 Pail (imba)									
5.19 Basket / Kaling									
5.20 Crate									
5.21 Drum									
5.22 Weighing Scale (imbangan)									
5.23 Wood stakes									
5.24 Plastic/Nylon Twine									
5.25 Sorting Table									
5.26 Others (specify) :									





F. LABOR INPUTS (in focus parcel during SEPTEMBER 2016 to MAY 2017)														
Farm Activity	Operator Labor			Family Labor			Exchange Labor			Hired Labor				
	How many days were spent?	How many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How much was the prevailing wage rate per day in the locality? (Pesos)	How many persons worked in the farm?	Total payment
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<b>1. Seeding preparation</b>														
1.01 Plowing of seedbed (man-animal)														
1.02 Plowing of seedbed (man-machine, 2-wheel)														
1.03 Seedbed preparation														
1.04 Sowing of seeds														
1.05 Fertilizer application (basal)														
1.06 Chemical application														
1.07 Mutching														
<b>2. Land preparation</b>														
2.01 Plowing (man-animal)														
2.02 Plowing (man-machine, 2-wheel)														
2.03 Plowing (man-machine, 4-wheel)														
2.04 Rotavating (man-machine, 2-wheel)														
2.05 Rotavating (man-machine, 4-wheel)														
2.06 Harrowing (man-animal)														
2.07 Harrowing (man-machine, 2-wheel)														
2.08 Harrowing (man-machine, 4-wheel)														
2.09 Furrowing (man-animal)														
2.10 Furrowing (man-machine, 2-wheel)														
2.11 Furrowing (man-machine, 4-wheel)														
2.12 Liming / Application of soil ameliorants														
2.13 Fertilizer Application (basal)														
<b>3. Hauling of planting materials</b>														
<b>4. Planting / Transplanting</b>														
<b>5. Replanting</b>														

Note: Col. 11 - For all activities performed by unpaid labor (operator, family and exchange), ask for the prevailing wage rate in the locality.

F. LABOR INPUTS (in focus parcel during SEPTEMBER 2016 to MAY 2017) - Continuation														
Farm Activity	Operator Labor			Family Labor			Exchange Labor			Hired Labor				
	How many days were spent?	How many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How much was the prevailing wage rate per day in the locality? (Pesos)	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	Total payment How much was paid in Cash? (Pesos)	How much was paid in Kind? (Pesos)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<b>6. Care of crops</b>														
6.01 Trellising / Staking / Tying														
6.02 Fertilizer application (side dressing)														
6.03 Fertilizer application (top dressing)														
6.04 Weeding (man)														
6.05 Chemical application/Spraying														
6.06 Off-barring														
6.07 Hilling-up														
6.08 Watering														
6.09 Mushing														
6.10 Pruning/Thinning														
6.11 Farm monitoring														
<b>7. Others (specify):</b>														
<b>8. Harvesting</b>														
8.01 1st Harvest														
8.02 2nd Harvest														
8.03 3rd Harvest														
8.04 4th Harvest														
8.05 5th Harvest														
8.06 6th Harvest														
8.07 7th Harvest														
8.08 8th Harvest														
8.09 9th Harvest														
8.10 10th Harvest														
8.11 11th Harvest														
8.12 12th Harvest														

Note: Col. 11 - For all activities performed by unpaid labor (operator, family and exchange), ask for the prevailing wage rate in the locality.

F. LABOR INPUTS (in focus parcel during SEPTEMBER 2016 to MAY 2017) - Continuation														
Farm Activity	Operator Labor		Family Labor		Exchange Labor				Hired Labor					
	(2) How many days were spent?	(3) How many hours per day were spent?	(4) How many persons worked in the farm?	(5) On the average ... how many days did they work?	(6) On the average ... how many hours per day were spent?	(7) How many persons worked in the farm?	(8) On the average ... how many days did they work?	(9) On the average ... how many hours per day were spent?	(10) How much was the prevailing wage rate per day in the locality? (Pesos)	(11) How many persons worked in the farm?	(12) On the average ... how many days did they work?	(13) On the average ... how many hours per day were spent?	(14) How much was paid in Cash? (Pesos)	(15) How much was paid in Kind? (Pesos)
<b>9. Hauling of produce (man)</b>														
9.01 1st Hauling of produce														
9.02 2nd Hauling of produce														
9.03 3rd Hauling of produce														
9.04 4th Hauling of produce														
9.05 5th Hauling of produce														
9.06 6th Hauling of produce														
9.07 7th Hauling of produce														
9.08 8th Hauling of produce														
9.09 9th Hauling of produce														
9.10 10th Hauling of produce														
9.11 11th Hauling of produce														
9.12 12th Hauling of produce														
<b>10. Sorting</b>														
10.01 1st Sorting														
10.02 2nd Sorting														
10.03 3rd Sorting														
10.04 4th Sorting														
10.05 5th Sorting														
10.06 6th Sorting														
10.07 7th Sorting														
10.08 8th Sorting														
10.09 9th Sorting														
10.10 10th Sorting														
10.11 11th Sorting														
10.12 12th Sorting														

Note: Col. 11 - For all activities performed by unpaid labor (operator, family and exchange), ask for the prevailing wage rate in the locality.



G. OTHER PRODUCTION COSTS (in focus parcel during SEPTEMBER 2016 to MAY 2017)								
Item	Cash (Pesos)	Imputed (Pesos)	Non-Cash				How much was the total value? (Pesos)	
			(4)	(5)	(6)	(7)		(8)
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Land Tax - owned farm (annual)								
2. Caretaker/overseer's share/wages (per cropping)								
3. Other permanent employee's salary (monthly)								
4. Lease / Rentals of:								
4.01 Land (annual) if lease agreement, indicate number of years leased								
4.02 Machine (per cropping)								
4.03 Animals (per cropping)								
4.04 Tools and equipment (per cropping)								
5. Rental value of owned land (annual)								
6. Rental value of owned animal/s (per cropping)								
7. Fuel (quantity: _____ liter/s, per cropping)								
8. Oil (quantity: _____ liter/s, per cropping)								
9. Transport cost of inputs (per cropping)								
10. Transport cost of produce from farm to first point of sale (per cropping)								
11. Interest payment on crop loan (per cropping)								
12. Storage fee (per cropping)								
13. Water expense (monthly)								
14. Electricity cost (monthly)								
15. Food expense for hired and exchange labor (per cropping)								
16. Landowner's share (per cropping)								
17. Financier's share (per cropping)								
18. Sack / Crate / Box / Kaling								
19. Seeding bag								
20. Wood stakes								
21. Straw twine								
22. Others (specify):								

H. PRODUCTION AND DISPOSITION (in focus parcel during SEPTEMBER 2016 to MAY 2017)													
Item	1st Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	6th Harvest	7th Harvest	8th Harvest	9th Harvest	10th Harvest	11th Harvest	12th Harvest	
	Units (1)	Units (2)	Units (3)	Units (4)	Units (5)	Units (6)	Units (7)	Units (8)	Units (9)	Units (10)	Units (11)	Units (12)	Units (13)
<b>1. Production</b>													
1.01 Quantity in local unit													
1.02 Name of local unit (LU)													
1.03 Weight of one LU in kilogram													
<b>2. Disposition (quantity in local unit)</b>													
2.01 Sold / To be sold to:													
2.01.1 Trader													
2.01.2 Processor													
2.01.3 Direct Consumer													
<b>Price per local unit</b> (required whether the produce was sold or not sold)													
2.02 Harvesters' share													
2.03 Other laborers' share													
2.04 Landowner's share													
2.05 Financier's share													
2.06 Land lease / Rental													
2.07 For home consumption													
2.08 For home - based processing													
2.09 Given away													
2.10 Paid to creditor													
2.11 Used / To be used for planting materials													
2.12 Wastage													
2.13 Others (specify) :													
<b>Total Disposition</b>													

**I. PRODUCTION RELATED INFORMATION (in focus parcel)**

1. How would you compare your production in the focus parcel during the reference period with the previous cropping? (encircle code)

- 1 - Higher
- 2 - Lower
- 3 - About the same (go to Item 3)
- 4 - No point of comparison (go to Item 3)

2. What were the reasons for the change in production? (encircle code/s and/or specify verbal answer)

Higher Production	Lower Production
1 - Increase in area	1 - Decrease in area
2 - Good weather	2 - Bad weather
3 - Good quality of seeds	3 - Low quality of seeds
4 - Use of fertilizers	4 - Poor quality of produce
5 - Adequate water supply	5 - Inadequate water supply
6 - Others (specify) :	6 - Pests and Diseases
	7 - Others (specify) :

3. What were the tomato production related problems you have encountered during the reference period? (encircle code/s or specify if necessary)

- 1 - Pests and diseases
- 2 - High cost of inputs
- 3 - Bad weather / calamities
- 4 - Lack of capital
- 5 - Rough or poor road / inadequate transport facilities
- 6 - Inadequate supply of water
- 7 - Poor soil condition
- 8 - Others (specify) :

**J. MARKETING RELATED INFORMATION (in focus parcel)**

1. Who was / were the buyers of produce during the reference period? (encircle code/s)

Indicate the percent of production sold to the encircled buyers.

Type of Buyer	% Sold
1 - Agent	_____ %
2 - Wholesaler	_____ %
3 - Wholesaler-retailer	_____ %
4 - Assembler	_____ %
5 - Processor	_____ %
6 - Cooperative	_____ %
7 - Consumer	_____ %
8 - Others (specify) :	_____ %
	_____ %
	_____ %
	_____ %

2. What were the marketing related problems you have encountered during the reference period? (encircle code/s or specify if necessary)

- 1 - Unstable prices
- 2 - Rough roads / High transport cost
- 3 - Low price of produce
- 4 - No buyer / market outlet
- 5 - Lack of marketing information
- 6 - Others (specify) :

**K. ACCESS TO CREDIT (in focus parcel)**

1. Have you availed of loan for tomato production during the reference period? (encircle code)

- 1 - Yes
- 2 - No, go to Block L

2. How much loan did you avail of? P \_\_\_\_\_

4. Who / What was your major source of loan? (encircle code or specify if necessary)

- 1 - Cooperative
- 2 - Bank
- 3 - Microfinance / Credit Associations
- 4 - Trader
- 5 - Private individual (e.g. family, friends, relatives, store/shop owners)
- 6 - Informal lenders (e.g. "5-6")
- 7 - Others (specify) :

3. How much was the interest rate? (check box and indicate percent rate)

- per annum \_\_\_\_\_ %
- per month \_\_\_\_\_ %
- per cropping \_\_\_\_\_ %
- no interest

L. FARMER'S PARTICIPATION IN TOMATO PROGRAMS / PROJECTS	M. OTHER INFORMATION	N. PLANS AND RECOMMENDATIONS
<p>1. Are you aware of any government program / intervention on tomato production? (encircle code)  <b>1 - Yes 2 - No</b></p> <p>2. Have you availed of any benefit from government program / intervention? (encircle code)  <b>1 - Yes 2 - No, go to Block M</b></p> <p>3. What benefits have you availed of? (encircle code/s)  <b>1 - Planting materials</b>  <b>2 - Fertilizer and other inputs</b>  <b>3 - Training on farming technology</b>  <b>4 - Post harvest facilities</b>  <b>5 - Marketing support</b>  <b>6 - Farm to market roads</b>  <b>7 - Irrigation Facilities</b>  <b>8 - Others (specify):</b> _____</p> <p>4. Did you use the benefits in your production during the last completed cropping? (encircle code)  <b>1 - Yes 2 - No, go to Block M</b></p> <p>5. Did the benefits receive helped increase your income from tomato farming? (encircle code)  <b>1 - Yes 2 - No</b></p>	<p>1. Has Climate Change affected your farming practices? (encircle code)  <b>1 - Yes 2 - No, go to Item 2</b></p> <p>1.01 What was/were the effects? (encircle code/s or specify, if necessary)  <b>1 - Change in cropping pattern</b>  <b>2 - Increase in input usage</b>  <b>3 - Decrease in yield</b>  <b>4 - Decrease in frequency of plowing</b>  <b>5 - Others (specify):</b> _____</p> <p>2. Are you a member of farmers' organization? (encircle code)  <b>1 - Yes 2 - No, go to Block N</b></p> <p>2.01 What is the name of the organization?          _____</p> <p>2.02 What was/were the benefits received from the organization related to tomato production? (encircle code/s or specify, if necessary)  <b>1 - Training / Seminars</b>  <b>2 - Financial / Credit support</b>  <b>3 - Inputs support</b>  <b>4 - Marketing support</b>  <b>5 - None</b>  <b>6 - Others (specify):</b> _____</p>	<p>1. What is your plan regarding tomato farm operation? (encircle code or specify if necessary)  <b>1 - Maintain current operation</b>  <b>2 - Expansion of area</b>  <b>3 - Reduction of area</b>  <b>4 - Shift to other crops</b>  <b>5 - Others (specify):</b> _____</p> <p>2. What are your recommendations in order to improve your tomato production?          _____          _____          _____          _____          _____          _____          _____</p>

O. INTERVIEW / SURVEY PARTICULARS
<p><b>CERTIFICATION</b></p> <p>I hereby certify that the data contained in this questionnaire were obtained/edited/reviewed by me personally and in accordance with the instructions.</p> <p>_____            (Name and signature of Statistical Researcher) / Contact No. _____ (Date Accomplished)</p> <p>_____            (Name and signature of Field Supervisor / Editor) _____ (Date Accomplished)</p> <p>_____            (Name and signature of PSO) _____ (Date Reviewed)</p>



**2017 SURVEY ON COSTS AND RETURNS OF TOMATO PRODUCTION**

Dear Sir / Madam,

**CONFIDENTIALITY:**

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Likewise, Section 27 of RA No. 10625 states that a person, including parties within the PSA Board and the PSA, who breach the confidentiality of information, whether by carelessness, improper behavior, behavior with malicious intent, and use of confidential information for profit shall be liable to a fine of five thousand pesos (5,000) to not more than ten thousand pesos (10,000) and or imprisonment of three months but not exceeding one year, subject to the degree of breach of information.

The Philippine Statistics Authority is undertaking a Survey on Costs and Returns of Tomato Production to generate an up-to-date production cost structure and determine the returns in tomato farming. The activity involves the gathering of data on the expenses and revenues in producing tomato. Data on the usage of material and labor inputs and other socio-economic variables will be collected.

Your household has been selected to be one of the sample respondents. With your cooperation, this survey will yield accurate and updated data needed for effective planning and policy-decision making.

Please be assured that the data you supply us will be held **STRICTLY CONFIDENTIAL** and your report cannot be used for purposes of taxation, investigation or law enforcement procedure, nor will it be published except in the form of statistical summaries in which no reference to any individual person shall appear.

Your cooperation is earnestly solicited.

Very truly yours,

*Lisa Grace S. Bersales*  
**LISA GRACE S. BERSALES, Ph.D.**  
 National Statistician and Civil Registrar General

**SCREENING QUESTIONS >> Go to instructions**

1. Are you engaged in tomato farming?  YES (continue next question)  NO (end the interview)
  2. Is the tomato farm group-operated?  YES (end the interview)  NO (continue next question)
  3. Did you plant and harvest tomato at any time within **JANUARY 2017 to SEPTEMBER 2017**?  YES (continue next question)  NO (end the interview)
  4. Was your harvest / produce intended for sale?  YES (continue next question)  NO (end the interview)
  5. Was your harvest intercropped with other temporary crops?  YES (end the interview)  NO (continue next question)
- 
6. Was 20% or more of your harvest damaged by flood, drought, pests and diseases, etc.?  YES (end the interview)  NO (continue next question)
  7. Are you a contract grower?  YES (continue next question)  NO (proceed to the next page)
  - 7.1 What was the mode of financing? (check box and proceed to the next page)
    - in cash
    - in kind
    - both in cash and in kind





## D. FARM INVESTMENTS (owned and used in the focus parcel during JANUARY 2017 to SEPTEMBER 2017)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Item	How many units were used? (Area / Number)	What year was it acquired / constructed?	How much was the cost of acquisition / construction? (Pesos)	How much was spent for minor repair / maintenance / improvement? (Pesos)	How many years will it be useful / serviceable? (from the date of interview)	Was the item used in another parcel? (Indicate code) 1 - YES 2 - NO	Was the item used for other crops or activities in the focus parcel? (Indicate code) 1 - YES 2 - NO	Was the item rented or lent to other farmers? (Indicate code) 1 - YES 2 - NO	What was its percentage of use in the focus parcel?
<b>5. Farm tools and implements</b>									
5.01 Plow (araro)			*	*					*
5.02 Harrow (suyod)			*	*					*
5.03 Shovel / Spade (pala)			*	*					*
5.04 Hoe (asarol)			*	*					*
5.05 Spading fork (tindor)			*	*					*
5.06 Post hole digger (panghukay)			*	*					*
5.07 Yoke (singkaw)			*	*					*
5.08 Rake (kalaykay)			*	*					*
5.09 Seeding tray / Seedbox			*	*					*
5.10 Hose			*	*					*
5.11 Watering Can			*	*					*
5.12 Water Sprinkler			*	*					*
5.13 Sprayer (pambomba)			*	*					*
5.14 Bolo (liak)			*	*					*
5.15 Sickle / Scythe (karet)			*	*					*
5.16 Pruning shears/scissors			*	*					*
5.17 Cart / Sled (paragot)			*	*					*
5.18 Fall (limba)			*	*					*
5.19 Basket / Kaling			*	*					*
5.20 Cradle			*	*					*
5.21 Drum			*	*					*
5.22 Weighing Scale (timbang)			*	*					*
5.23 Wood stakes			*	*					*
5.24 Plastic/Nylon Twine			*	*					*
5.25 Sorting Table			*	*					*
5.26 Others (specify) :			*	*					*

E. MATERIAL INPUTS (used in focus parcel during JANUARY 2017 to SEPTEMBER 2017)								
(1) Item	(2) How many units were used / applied?	(3) What was the name of local unit?	(4) If solid input, what was the weight of one local unit in kilogram?	(5) If liquid input, what was the volume of one local unit in liter?	(6) What was the mode of acquisition? (enter code/s)	(7) If purchased and discounted, what was the discount rate?	(8) If purchased, what was the price of one local unit? (Pesos)	(9) If not purchased, what was the prevailing price in the locality? (Pesos)
<b>1. Seeds / Planting Materials</b>								
1.01 Seeds								
1.02 Seedlings		PIECES						
<b>2. Fertilizers</b>								
2.01 Urea (45-0-0)								
2.02 Urea (46-0-0)								
2.03 Ammonium Sulfate (21-0-0)								
2.04 Ammonium Phosphate (16-20-0)								
2.05 Complete (12-12-12)								
2.06 Complete (14-14-14)								
2.07 Complete (16-16-16)								
2.08 Zinc Sulfate (Zinc 21%)								
2.09 Murate of Potash (0-0-60)								
2.10 Crop Gient								
2.11 Compost								
2.12 Vermicast								
2.13 Others (specify):								
<b>3. Soil Ameliorants</b>								
3.01 Lime (apog)								
3.02 Others (specify):								
<b>4. Mulching Materials</b>								
4.01 Rice Hay (dayami)								
4.02 Others (specify):								

CODES FOR COLUMN 6:	Purchased		Produced		Received	
	11 - self financed (paid in cash)	12 - self financed (paid in kind)	21 - Own Produced	31 - from government (DA, LGU, etc.)	32 - from private individual/organization (Trader, Co-Farmer, Cooperative, etc.)	
	13 - discounted					



F. LABOR INPUTS (in focus parcel during JANUARY 2017 to SEPTEMBER 2017)														
Farm Activity	Operator Labor		Family Labor		Exchange Labor		Hired Labor							
	How many days were spent?	How many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	how many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	how many hours per day were spent?	How much was the prevailing wage rate per day in the locality? (Pesos)	How many persons worked in the farm?	On the average ... how many days did they work?	how many hours per day were spent?	Total payment How much was paid in Cash? (Pesos)	How much was paid in Kind? (Pesos)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<b>1. Seedling preparation</b>														
1.01 Plowing of seedbed (man-animal)														
1.02 Plowing of seedbed (man-machine, 2-wheel)														
1.03 Seedbed preparation														
1.04 Sowing of seeds														
1.05 Fertilizer application (basal)														
1.06 Chemical application														
1.07 Mulching														
<b>2. Land preparation</b>														
2.01 Plowing (man-animal)														
2.02 Plowing (man-machine, 2-wheel)														
2.03 Plowing (man-machine, 4-wheel)														
2.04 Rotavating (man-machine, 2-wheel)														
2.05 Rotavating (man-machine, 4-wheel)														
2.06 Harrowing (man-animal)														
2.07 Harrowing (man-machine, 2-wheel)														
2.08 Harrowing (man-machine, 4-wheel)														
2.09 Furrowing (man-animal)														
2.10 Furrowing (man-machine, 2-wheel)														
2.11 Furrowing (man-machine, 4-wheel)														
2.12 Liming / Application of soil ameliorants														
2.13 Fertilizer Application (basal)														
<b>3. Hauling of planting materials</b>														
<b>4. Planting / Transplanting</b>														
<b>5. Replanting</b>														

Note: Col. 11 - For all activities performed by unpaid labor (operator, family and exchange), ask for the prevailing wage rate in the locality.

F. LABOR INPUTS (in focus parcel during JANUARY 2017 to SEPTEMBER 2017) - Continuation														
Farm Activity	Operator Labor			Family Labor			Exchange Labor			Hired Labor			Total payment	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	How many days were spent?	How many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How much was the prevailing wage rate per day in the locality? (Pesos)	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How much was paid in Cash? (Pesos)	How much was paid in Kind? (Pesos)
<b>6. Care of crops</b>														
6.01 Trellising / Staking / Tying														
6.02 Fertilizer application (side dressing)														
6.03 Fertilizer application (top dressing)														
6.04 Weeding (man)														
6.05 Chemical application/Spraying														
6.06 Off-baring														
6.07 Hilling-up														
6.08 Watering														
6.09 Mulching														
6.10 Pruning/Thinning														
6.11 Farm monitoring														
<b>7. Others (specify):</b>														
<b>8. Harvesting</b>														
8.01 1st Harvest														
8.02 2nd Harvest														
8.03 3rd Harvest														
8.04 4th Harvest														
8.05 5th Harvest														
8.06 6th Harvest														
8.07 7th Harvest														
8.08 8th Harvest														
8.09 9th Harvest														
8.10 10th Harvest														
8.11 11th Harvest														
8.12 12th Harvest														

Note: Col. 11 - For all activities performed by unpaid labor (operator, family and exchange), ask for the prevailing wage rate in the locality.

F. LABOR INPUTS (in focus parcel during JANUARY 2017 to SEPTEMBER 2017) - Continuation															
Farm Activity	Operator Labor			Family Labor			Exchange Labor			Hired Labor					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	How many days were spent?	How many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How much was the prevailing wage rate per day in the locality? (Pesos)	How many persons worked in the farm?	On the average ... how many days did they work?	On the average ... how many hours per day were spent?	How much was paid in Cash? (Pesos)	How much was paid in Kind? (Pesos)	
<b>9. Hauling of produce (man)</b>															
9.01 1st Hauling of produce															
9.02 2nd Hauling of produce															
9.03 3rd Hauling of produce															
9.04 4th Hauling of produce															
9.05 5th Hauling of produce															
9.06 6th Hauling of produce															
9.07 7th Hauling of produce															
9.08 8th Hauling of produce															
9.09 9th Hauling of produce															
9.10 10th Hauling of produce															
9.11 11th Hauling of produce															
9.12 12th Hauling of produce															
<b>10. Sorting</b>															
10.01 1st Sorting															
10.02 2nd Sorting															
10.03 3rd Sorting															
10.04 4th Sorting															
10.05 5th Sorting															
10.06 6th Sorting															
10.07 7th Sorting															
10.08 8th Sorting															
10.09 9th Sorting															
10.10 10th Sorting															
10.11 11th Sorting															
10.12 12th Sorting															

Note: Col. 11 - For all activities performed by unpaid labor (operator, family and exchange), ask for the prevailing wage rate in the locality.



G. OTHER PRODUCTION COSTS (in focus parcel during JANUARY 2017 to SEPTEMBER 2017)								
Item	Cash (Pesos)	Imputed (Pesos)	Non-Cash					
			(4) What was the crop / commodity paid?	(5) How many local units?	(6) What was the name of local unit?	(7) What was the weight of one local unit in kilogram?	(8) What was the total quantity in kilogram?	(9) How much was the total value? (Pesos)
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>	<b>(9)</b>
1. Land Tax - owned farm (annual)								
2. Caretaker/overseer's share/wages (per cropping)								
3. Other permanent employee's salary (monthly)								
4. Lease / Rentals of:								
4.01 Land (annual) if lease agreement. Indicate number of years leased _____								
4.02 Machine (per cropping)								
4.03 Animals (per cropping)								
4.04 Tools and equipment (per cropping)								
5. Rental value of owned land (annual)								
6. Rental value of owned animal/s (per cropping)								
7. Fuel (quantity: _____ liters, per cropping)								
8. Oil (quantity: _____ liters, per cropping)								
9. Transport cost of inputs (per cropping)								
10. Transport cost of produce from farm to first point of sale (per cropping)								
11. Interest payment on crop loan (per cropping)								
12. Storage fee (per cropping)								
13. Water expense (monthly)								
14. Electricity cost (monthly)								
15. Food expense for hired and exchange labor (per cropping)								
16. Landowner's share (per cropping)								
17. Financier's share (per cropping)								
18. Sack / Crate / Box / Kaling								
19. Seedling bag								
20. Wood stakes								
21. Straw twine								
22. Others (specify):								

H. PRODUCTION AND DISPOSITION (in focus parcel during JANUARY 2017 to SEPTEMBER 2017)												
Item	1st Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	6th Harvest	7th Harvest	8th Harvest	9th Harvest	10th Harvest	11th Harvest	12th Harvest
	Units (2)	Units (3)	Units (4)	Units (5)	Units (6)	Units (7)	Units (8)	Units (9)	Units (10)	Units (11)	Units (12)	Units (13)
<b>1. Production</b>												
1.01 Quantity in local unit												
1.02 Name of local unit (LU)												
1.03 Weight of one LU in kilogram												
<b>2. Disposition (quantity in local unit)</b>												
2.01 Sold / To be sold to:												
2.01.1 Trader												
2.01.2 Processor												
2.01.3 Direct Consumer												
<b>Price per local unit</b> <i>(required whether the produce was sold or not sold)</i>												
2.02 Harvesters' share												
2.03 Other laborers' share												
2.04 Landowner's share												
2.05 Financier's share												
2.06 Land lease / Rental												
2.07 For home consumption												
2.08 For home - based processing												
2.09 Given away												
2.10 Paid to creditor												
2.11 Used / To be used for planting materials												
2.12 Wastage												
2.13 Others (specify) :												
<b>Total Disposition</b>												

**I. PRODUCTION RELATED INFORMATION (in focus parcel)**

1. How would you compare your production in the focus parcel during the reference period with the previous cropping? (encircle code)

- 1 - Higher
- 2 - Lower
- 3 - About the same (go to item 3)
- 4 - No point of comparison (go to item 3)

2. What was/were the reason/s for the change in production? (encircle code/s and/or specify verbal answer)

Higher Production	Lower Production
1 - Increase in area	1 - Decrease in area
2 - Good weather	2 - Bad weather
3 - Good quality of seeds	3 - Low quality of seeds
4 - Use of fertilizers	4 - Poor quality of produce
5 - Adequate water supply	5 - Inadequate water supply
6 - Others (specify) :	6 - Pests and Diseases
	7 - Others (specify) :

3. What were the tomato production related problems you have encountered during the reference period? (encircle code/s or specify if necessary)

- 1 - Pests and diseases
- 2 - High cost of inputs
- 3 - Bad weather / calamities
- 4 - Lack of capital
- 5 - Rough or poor road / inadequate transport facilities
- 6 - Inadequate supply of water
- 7 - Poor soil condition
- 8 - Others (specify) :

**J. MARKETING RELATED INFORMATION (in focus parcel)**

1. Who was / were the buyer/s of produce during the reference period? (encircle code/s)  
Indicate the percent of production sold to the encircled buyer/s.

Type of Buyer	% Sold
1 - Agent	_____ %
2 - Wholesaler	_____ %
3 - Wholesaler-retailer	_____ %
4 - Assembler	_____ %
5 - Processor	_____ %
6 - Cooperative	_____ %
7 - Consumer	_____ %
8 - Others (specify) :	_____ %
	_____ %
	_____ %
	_____ %

2. What were the marketing related problems you have encountered during the reference period? (encircle code/s or specify if necessary)

- 1 - Unstable prices
- 2 - Rough roads / High transport cost
- 3 - Low price of produce
- 4 - No buyer / market outlet
- 5 - Lack of marketing information
- 6 - Others (specify) :

**K. ACCESS TO CREDIT (in focus parcel)**

1. Have you availed of loan for tomato production during the reference period? (encircle code)

- 1 - Yes
- 2 - No, go to Block L

2. How much loan did you avail of? P \_\_\_\_\_

4. Who / What was your major source of loan? (encircle code or specify if necessary)

- 1 - Cooperative
- 2 - Bank
- 3 - Microfinance / Credit Associations
- 4 - Trader
- 5 - Private individual (e.g. family, friends, relatives, store/shop owners)
- 6 - Informal lenders (e.g. "5-6")
- 7 - Others (specify) :

3. How much was the interest rate? (check box and indicate percent rate)

- per annum \_\_\_\_\_ %
- per month \_\_\_\_\_ %
- per cropping \_\_\_\_\_ %
- no interest

L. FARMER'S PARTICIPATION IN TOMATO PROGRAMS / PROJECTS	M. OTHER INFORMATION	N. PLANS AND RECOMMENDATIONS
<p>1. Are you aware of any government program / intervention on tomato production? (encircle code)</p> <p style="margin-left: 20px;">1 - Yes    2 - No</p> <p>2. Have you availed of any benefit from government program / intervention? (encircle code)</p> <p style="margin-left: 20px;">1 - Yes    2 - No, go to Block M</p> <p>3. What benefits have you availed of? (encircle code/s)</p> <ul style="list-style-type: none"> <li>1 - Planting materials</li> <li>2 - Fertilizer and other inputs</li> <li>3 - Training on farming technology</li> <li>4 - Post harvest facilities</li> <li>5 - Marketing support</li> <li>6 - Farm to market roads</li> <li>7 - Irrigation Facilities</li> <li>8 - Others (specify): _____</li> </ul> <p>4. Did you use the benefits in your production during the last completed cropping? (encircle code)</p> <p style="margin-left: 20px;">1 - Yes    2 - No, go to Block M</p> <p>5. Did the benefits receive helped increase your income from tomato farming? (encircle code)</p> <p style="margin-left: 20px;">1 - Yes    2 - No</p>	<p>1. Has Climate Change affected your farming practices? (encircle code)</p> <p style="margin-left: 20px;">1 - Yes    2 - No, go to Item 2</p> <p>1.01 What was/were the affect/s? (encircle code/s or specify if necessary)</p> <ul style="list-style-type: none"> <li>1 - Change in cropping pattern</li> <li>2 - Increase in input usage</li> <li>3 - Decrease in yield</li> <li>4 - Decrease in frequency of plowing</li> <li>5 - Others (specify): _____</li> </ul> <p>2. Are you a member of farmers' organization? (encircle code)</p> <p style="margin-left: 20px;">1 - Yes    2 - No, go to Block N</p> <p>2.01 What is the name of the organization? _____</p> <p>2.02 What was/were the benefit/s received from the organization related to tomato production? (encircle code/s or specify if necessary)</p> <ul style="list-style-type: none"> <li>1 - Training / Seminars</li> <li>2 - Financial / Credit support</li> <li>3 - Inputs support</li> <li>4 - Marketing support</li> <li>5 - None</li> <li>6 - Others (specify): _____</li> </ul>	<p>1. What is your plan regarding tomato farm operation? (encircle code or specify if necessary)</p> <ul style="list-style-type: none"> <li>1 - Maintain current operation</li> <li>2 - Expansion of area</li> <li>3 - Reduction of area</li> <li>4 - Shift to other crops</li> <li>5 - Others (specify): _____</li> </ul> <p>2. What are your recommendations in order to improve your tomato production?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

O. INTERVIEW / SURVEY PARTICULARS
<p><b>CERTIFICATION</b></p> <p>I hereby certify that the data contained in this questionnaire were obtained/edited/reviewed by me personally and in accordance with the instructions.</p>
<p>_____ (Name and signature of Statistical Researcher) / Contact No. _____ (Date Accomplished)</p> <p>_____ (Name and signature of Field Supervisor / Editor) _____ (Date Accomplished)</p> <p>_____ (Name and signature of PSO) _____ (Date Reviewed)</p>

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