

## **Production and Income of Horticulture Farmers in Mizoram – A Case Study of Select Horticulture Farmers**

**Dr. Vanlalhumi**

*Assistant Professor ICFAI University Mizoram  
Corresponding Author: Dr. Vanlalhumi*

---

**Abstract:** Horticulture has emerged as a viable and important sector in Mizoram. The potential for development in the sector is huge and yet little explored. Though many farmers have adopted horticulture as a means of livelihood, the production still remains much lower than the potential. Improvement in production yield per hectare of land will alleviate the income of farmers and improve the overall economy of the state.

---

Date of Submission: 13-02-2019

Date of acceptance: 28-02-2019

---

### **I. INTRODUCTION**

Horticulture, including fruits, vegetables, roots and tubers, spices, mushrooms, floriculture, medicinal and aromatic plants, nuts, and plantation crops, has emerged as an important sector. Horticulture has established its credibility in improving income through increased productivity, generating employment, enhancing exports and providing nutritional security to the people.

In India, the horticulture sector contributes about 28 percent of the gross domestic product (GDP) from about 13.08 percent of the total land area, and 37 percent of the total exports of agricultural commodities. The annual growth rate of horticulture is more than 6.5 percent. As a result, the horticulture sector has received increased attention of the Government of India in respect of budget allocation, creation of research and development infrastructure, training of manpower and even marketing support. In spite of significant achievements, the potential is still enormous.

In Mizoram, agriculture and allied sector contributes only 16.17 percent of Gross State Domestic Product. In order to boost up the GSDP in Mizoram, high value crops with value addition and foreign exchange earnings need to be taken up which can only be fulfilled through horticultural crops so that the economic income of farmers can be enhanced manifold.

In Mizoram horticulture crops has been grown more than two decades earlier. But there were no significant improvements in production as compared to other regions. As per the available records of Horticulture Mission and Agriculture Department of Mizoram, there are several clusters in Mizoram. Annual production of horticulture products per hectare is not self sufficient for consumption.

### **II. REVIEW OF LITERATURE**

According to Prasad and Kumar (2008), there is a great demand for horticulture produce in India as the majority of Indian population is vegetarian. However, India's share in global exports of horticulture produce is negligible being only one percent. But given the volume of world trade in fresh and processed horticulture products and the country's resources, India has the potential of more than doubling the present level of exports within the next five years.

Chadha, Singh and Patel (2010), have observed that past investment has been rewarding in terms of increased production, productivity and export of horticultural produce. But there is a growing competition in open economy, which demand competitive price of standard quality produce. This opens up opportunity and challenges. Critical gap needing attention are low productivity and poor quality of product, inadequacy of infra-structural facilities for post-harvest management and marketing, inadequate efforts for product diversification and consumption, inadequacy of quality seed and planting material, inadequacy of human resource in horticulture, lack of appropriate database for effective planning, inadequacy of trained manpower and infrastructure in the states, poor delivery system, credit support and price support and slow pace in adoption of improved technology.

As Indian growers typically have a comparatively small quantity of produce with an average holding of less than a hectare of land, Chauhan (2004), suggested a system of "Pooling" of the produce or co-operative marketing under a common brand name. This would require guaranteed quality, uniformity in size and volume, good packaging and quality standards. To deal with unmarketable surplus of horticultural produce which is an

integral part of the industry, he proposed semi-processing the produce in the growing areas itself to improve quality and provide employment in the countryside. Semi-finished produce can be then taken to a centralized facility for final conversion into a finished product.

### III. OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To study the horticulture crop production of the respondents.
2. To understand the income generated by horticulture farming among the respondents.

### IV. RESULTS AND DISCUSSION

#### Annual Production

Increased production of crops enables a farmer to provide more food for his family, and also sell his surplus to sustain his livelihood. Increases in agricultural production lead to agricultural growth and can help to alleviate poverty in poor and developing countries, where agriculture often employs the greatest portion of the population. Increased production also encourages a farmer to invest more towards his trade and produce even more. It ensures food security as well as a way to sustain the well-being of a community.

**Table 1: Annual Production (Average of 3 years: 2009-2011)**

Production in quintals	Turmeric	Chayote	Grape	Total
Less than 10 qtls.	20 (18%)	0 (0%)	32 (20%)	52 (15%)
10 - 50 qtls.	78 (69%)	0 (0%)	117 (74%)	195 (54%)
50 - 100 qtls.	11 (10%)	10 (11%)	6 (4%)	27 (7%)
100 - 200 qtls.	1 (1%)	39 (43%)	3 (2%)	43 (12%)
More than 200 qtls.	3 (2%)	41 (46%)	0 (0%)	44 (12%)
Total	113 (100%)	90 (100%)	158 (100%)	361 (100%)

Source: Primary data

Figures in parenthesis indicates percentages

Table 1 shows the annual production in quintals taken as an average of three years, 2009-2011. Among all the 361 respondents surveyed, 15 percent said they produced less than 10 quintals per annum, 54 percent said 10-50 quintals per annum, 7 percent said 50-100 quintals per annum, 12 percent said 100-200 quintals per annum and 12 percent said they produced more than 200 quintals per annum.

Turmeric is a crop that is less bulky and light in weight. 18 percent of the turmeric farmers surveyed said they produced less than 10 quintals per annum, 69 percent said 10-50 quintals per annum, 10 percent said 50-100 quintals per annum, 1 percent said 100-200 quintals per annum and 2 percent said they produced more than 200 quintals per annum.

The chayote farmers surveyed have more experience in years compared to the turmeric and grape cultivators. Most of them produce surplus that enables them to export their produce to neighbouring states. 11 percent of the chayote farmers surveyed revealed that they produce between 50-100 quintals per annum, 43 percent produce 100-200 quintals per annum and 46 percent revealed they produce more than 200 quintals per annum.

Among the grape farmers surveyed, 15 percent said they produce less than 10 quintals per annum, 54 percent said between 10-50 quintals per annum, 7 percent between 50-100 quintals per annum, 12 percent between 100-200 quintals per annum, and 12 percent said they produce more than 200 quintals per annum.

#### Hypothesis Testing:

**Null Hypothesis (H<sub>0</sub>):** There is no significant relationship between the farmer's production and type of crop cultivated.

**Table 2: Chi-Square test on Annual Production of Horticulture Farming by types of horticultural crops**

Test Used	Degree of freedom	Level of significance	Table value	Calculated value	Result
Chi-Square	8	0.05	15.507	1.63573E-59	Failed to reject

\* Test result through MS Excel

For testing the above hypothesis Chi-Square test was conducted to analyse the dependent data. Chi-square exact test is used due to the reason that some of the cells are either zero or less than 5. The test result is given as above. Since the calculated value (=1.63573E-59) is lesser than the table value 15.507 at 5 percent level of significance, we fail to reject the null hypothesis. Therefore we can conclude that annual production of horticultural products is not significantly more likely to influence growing of turmeric, chayote or grape for horticulture farming.

### **Annual Income**

Income of the farmers from the sale of their produce is an important factor that determines his interest in sticking to his trade and investing more to expand his business. The respondents were asked to reveal their income from the sale of their horticultural produce. The result is presented in the following table.

**Table 3: Average annual income from sale of horticultural produce**

Crop	Average annual income from sale of horticultural produce (Rs.)				
	2007	2008	2009	2010	2011
Turmeric	38548	50069	69091	76701	53681
Chayote	64532	63962	63319	63758	63308
Grape	235790	242463	131030	151137	130101

Source: Primary data

The average income of the farmers was calculated for each year of the period of 5 years of study from 2007-2011. From table 4.23, it is observed that the average annual income of the turmeric farmers steadily increased from Rs.38,548 in 2007 to Rs.76,701 in 2010. However, the figure declined to Rs.53,681 in the year 2011.

For the chayote farmers, their average annual income has been more or less constant during the five years from 2007-2011. It was Rs.64,532 in the year 2007, Rs.63,962 in 2008, Rs.63,319 in 2009, Rs.63,758 in 2010 and Rs.63,308 in 2011.

The average annual income of the grape farmers is quite high as compared to the turmeric and grape farmers. Their average annual income has declined from Rs.2,35,790 in 2007 to Rs.1,30,101 in 2011.

## **V. CONCLUSION**

While discussing the production of the horticultural products of turmeric, chayote and grapes, it was found that on an average 15 percent of the respondents indicated that they produced less than 10 quintals per annum, while 54 percent said 10-50 quintals per annum. It was also found that a small group of 7 percent respondents said 50-100 quintals per annum, 12 percent said 100-200 quintals per annum and 12 percent said they produced more than 200 quintals per annum.

The average income of the turmeric farmers from sale of their produce has increased from Rs. 38,548 in 2007 to Rs. 53,681 in 2011. For the chayote farmers, the amount has remained almost constant during the period of study. It was Rs. 64,531 in 2007 and slightly declined to Rs.63,308 in 2011. For the grape farmers, their average income has sharply declined from Rs. 2,35,790 in 2007 to Rs.1,30,101 in 2011.

## **REFERENCES**

- [1]. Chadha, K.L. (2006), *Handbook of Horticulture*, Directorate of Information and Publications of Agriculture, New Delhi.
- [2]. Chadha, K.L., Singh, A.K., and Patel, V.B. (2010), *Recent Initiatives in Horticulture*, The Horticulture Society of India, New Delhi.
- [3]. Chauhan, Gian C. (2004), *Marketing of Perishable Horticultural Produce*, in Sharma, V.K., "Advances in Horticulture", Deep and Deep Publications Pvt. Ltd., New Delhi.
- [4]. Sati, Vishwambhar Prasad (2004), *Horticulture Development in Hills*, Mittal Publications, New Delhi.
- [5]. Bedri, A. (1983). "Horticulture production in the Sudan, past, present and future". In *VIII African Symposium on Horticultural Crops*, 143 (pp. 25-30).
- [6]. Jugale, V. B. (1997). "Production and Marketing of Horticultural Products in Maharashtra". *Indian Journal of Agricultural Economics*, 52, 613-613.

Dr.Vanlalhumi. "Production and Income of Horticulture Farmers in Mizoram – A Case Study of Select Horticulture Farmers". "IOSR Journal of Humanities and Social Science (IOSR-JHSS). vol. 24 no. 02, 2019, pp. 18-20.