



# Sustainability and Profitability of Organic Ginger Growers in South District of Sikkim

**Salina Subba<sup>1</sup>**

M.Sc. Ag. (Agricultural Extension and Communication)

**Jahanara<sup>2</sup>**

(Head and Associate Professor)

Department of Agricultural Extension and Communication, SHUATS (Prayagraj)

**Neeru Bala<sup>3</sup>**

(Associate Professor)

Department of Food, Nutrition & Public Health, SHUATS (Prayagraj)

\*Author's email: [salinasubba648@gmail.com](mailto:salinasubba648@gmail.com)

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**ABSTRACT:** *The present study was conducted in South district of Sikkim to study the sustainability and profitability of organic ginger growers. A total number of 120 organic ginger growers were selected proportionately from five villages under Namchi Block because production, productivity and area under organic ginger cultivation were found to be maximum. The data were collected by personal interview method by using pre-tested interview schedule and later appropriate statistical analysis was done to find out the meaningful result. Sustainability indicators with various organic practices have been used to check the sustainability of organic farming practices of organic ginger growers. Whereas, the profitability of the respondents was found to be Rs.11578.57 on an average. Thus, it can be seen that investment of a rupee in organic farming yields 2.57 rupees.*

**KEYWORDS:** *Sustainability, Profitability, Organic ginger growers, Organic practices, Sikkim*

## Introduction

Organic farming has been a way of life and tradition with our farming community over centuries. It is not a new concept to the Indian farming community, especially in tribal areas, hilly regions and arid zones. "Organic" agriculture has however, renewed lately among the farmers and entrepreneurs of high productive areas also for, it has shown potential to increase farm profitability through overall improvements in ecosystem services, bio diversity, soil health and quality, in addition to the production of nutritious food. Organic farming has been a traditional way of farming in Sikkim adopted by farmers since ages. The main horticultural crops are orange & pears among fruits, ginger, cardamom, turmeric and cherry pepper among spice crops, cole crops, peas & bean, tomato, potato among vegetable crops. Ginger (*Zingiber officinale* L.) belongs to the family Zingiberaceae. It is originated from south east Asia Linnaeus derived the genus title Zingiber from its Indian Sanskrit name singabera which means shaped like a horn. Ginger the underground stem, or rhizome, of the plant. *Zingiber officinale* has been used as spice and medicine in Asian, Indian, and Arabic herbal traditions since ancient times. The prominent varieties that are being cultivated in Sikkim are Bhaise, Gorubathane, Majhaule, Patle, and Jorethang. November to



January after 8-9 months of sowing is the optimum time for harvesting ginger. However, this follows the market demand dynamics in Sikkim. Under organic conditions, farmers normally get a yield of 90-100 q/ha depending on ginger cultivation practices.

### Research Methodology

Descriptive research design was adopted for the study as it describes the characteristics or phenomena that are being studied. The present study was conducted in South district of Sikkim. Out of 11 blocks in South district, Namchi block was selected purposively for the present study. From the selected block, five villages namely, Upper Kamrang, Lower Kamrang, Upper Mamley, Lower Mamley and Tinzer were selected purposively where maximum number of farmers grows ginger.

The primary data were collected with the help of interview schedule, which was prepared on the basis of the objectives of the study. The statistical tools like frequency, percentage, mean, standard deviation was used to interpret the data and for drawing the logical conclusion.

### Objectives of the Study:

1. To examine the Sustainability and Profitability of the organic ginger growers.

### Results and Discussion

**Table.1. Overall distribution of sustainability of organic ginger practices**

S. No.	Sustainability indicators	Organic practices									
		Land preparation and seed treatment		Weed management		Nutrient management		Plant protection measures		Seed storage	
		<i>F</i>	%	<i>f</i>	%	<i>F</i>	%	<i>f</i>	%	<i>F</i>	%
<b>A</b>	<b>Sustainability: ecological dimension</b>										
<b>1</b>	Conserve soil quality	92	76.67	86	71.67	89	74.17	12	10.0	7	5.83
<b>2</b>	Conserve the quality and availability of water	86	71.67	64	53.33	14	11.67	7	5.83	12	10.00
<b>3</b>	Increase biodiversity	89	74.17	32	26.67	27	22.50	45	37.50	31	25.83
<b>4</b>	Avoids spread of hazardous substances	9	7.5	79	65.83	16	13.33	57	47.50	46	38.33



5	Affect the agro-ecosystem	11	9.17	53	44.17	4	3.33	69	57.5	6	5.00
6	Improvement in microclimate	79	65.83	64	53.33	23	19.17	47	39.17	26	21.67
<b>B</b>	<b>Sustainability: Economic dimension</b>										
7	Improve net income	56	46.67	87	72.50	68	56.67	91	75.83	34	28.33
8	Leads to food and income security	31	25.83	82	68.33	67	55.83	53	44.17	21	17.50
9	Enable to accumulate working capital	16	13.33	64	53.33	43	35.83	95	79.17	27	22.50
10	Nutritional situation and food availability secured	6	5.00	19	15.83	86	71.67	34	28.33	48	40.00
11	Can compete with other sectors	6	5.00	52	43.33	96	80.00	75	62.50	62	51.67
12	Can aggregate an economic gain at national level	15	12.50	97	80.83	83	69.17	61	50.83	33	27.50
<b>C</b>	<b>Sustainability: Social and cultural dimension</b>										
13	Rural poor involved in the approach	46	38.33	67	55.83	48	40.00	82	68.33	27	22.50
14	Indigenous knowledge recognized within the approach	49	40.83	63	52.50	52	43.33	79	65.83	41	34.17
15	Division of labor and distribution of income	13	10.83	67	55.83	8	6.67	19	15.83	7	5.83
16	Improve the health situation	49	40.83	67	55.83	75	62.50	41	34.17	33	27.50
17	Technology safer to human and animals	90	75.00	73	60.83	69	57.50	81	67.50	54	45.00



From table.1, it was indicated that with respect to ecological dimension; regarding conserving soil quality, conserving quality and availability of water, increase bio-diversity, 76.67, 71.67, 74.17 per cent of organic ginger growers reported land preparation and seed treatment as most favorable practice. With respect to avoiding spread of hazardous substances, 65.83 per cent of organic ginger growers reported nutrient management as most favorable practice and improvement in micro-climate, 65.83 per cent of organic ginger growers reported land preparation and seed treatment as most favorable practice. With respect to leads to food and income security, 25.83 per cent of organic ginger growers reported land preparation and seed treatment. With respect to competing with other sectors, 5 per cent of organic ginger growers reported land preparation and seed treatment, nutrient management (43.33%), With respect to social and cultural dimension, 38.33 per cent, 55.83 per cent of organic ginger growers reported land preparation and seed treatment regarding rural poor involved in the approach. With respect to indigenous knowledge recognized within the approach, 40.83 per cent of organic ginger growers reported land preparation and seed treatment, 75 per cent, 60.83 per cent, 57.50 per cent, 67.50 per cent and 45 per cent of organic ginger growers reported land preparation and seed treatment, nutrient management, weed management, plant protection measures and seed storage respectively regarding technology safer to humans and animals.

**Table.2. Overall Profitability in organic ginger farming**

Sl. No.	Various costs involved in organic farming	Average cost involved (in Rs)
<b>A</b>	<b>Operational cost</b>	
1	Labour cost	4138.16
2	Transport cost	1472.38
3	Sowing cost	410.72
	<b>Total operation cost</b>	4503.93
<b>B</b>	<b>Returns</b>	
1	Main product	9810.00
2	Mother rhizome	6272.50
	<b>Total returns</b>	16082.50
<b>C</b>	<b>Profit (Total cost - Returns)</b>	11578.57
	<b>Benefit – Cost (B:C) ratio</b>	2.57

From table.2, it was reported that the total labour cost involved in ginger cultivation was Rs.4138.16 on average basis. The total transport cost involved in ginger was Rs.1472.38 on average basis. The sowing cost involved in ginger cultivation was Rs.410.72 on average basis. Thus, the total operational cost involved in ginger cultivation was Rs. 4503.93 on an average. Meanwhile, the returns on ginger under main product was Rs.9810.00 and the mother rhizome was Rs.6272.50 on average. Hence, the total returns obtained through ginger cultivation under organic farming was Rs.16082.50. Whereas, the profitability



of the organic ginger growers was found to be Rs.11578.57 on an average. Thus, it can be seen that investment of a rupee in organic farming yields 2.57 rupees.

### Conclusion

It was concluded that the majority of the respondents reported that land preparation and seed treatment help in sustainability in terms of ecological dimension. Further, the majority of the respondents reported that the plant protection measures help in sustainability in terms of economic dimension. Simultaneously, majority of the respondents reported that the plant protection measures and land preparation and seed treatment help in sustainability in terms of socio and cultural dimension. It can also be concluded that the profitability of the organic ginger growers was found to be Rs.11578.57 on an average. Thus, it can be seen that investment of a rupee in organic farming yields 2.57 rupees.

## References

- [1]. Asokan, R. and Murugan, D 2018. Sustainable Agriculture through Organic Farming in India *Multidisciplinary Global Journal of Academic Research*5 (5): 27-34.
- [2]. Chettri, P. and Guadade, B.A. 2013. Organic production of ginger: A Prominent Sub-Himalayan Spice *Popular Kheti*1 (4):207-210.
- [3]. Kumar, Santosh; Reddy, G. and Sangwan, P.S. 2017. A review on Organic Farming-Sustainable Agriculture Development *International Journal of pure & Applied Bioscience*5(4): 1277-1282.
- [4]. Vijayan, A.K; Guadade, B.A.; Gautam, Ashutosh ; Deka, T.N.; Bora, S.S.; Dhanapal, K. and Remashree, A.B. 2020. Cultivation of Ginger in Sikkim under an Organic System *Ginger Cultivation and its Antimicrobial and Pharmacological Potentials*, Haiping Wang. <https://www.intechopen.com/chapters/68348>
- [5]. Yadav, S. K.; Babu, Subash; Yadav, G.S.; Singh, Kalyan; Yadav, G.S. and Pal, Suresh 2013. A review of organic farming for sustainable agriculture in Northern India *Hindawi Publishing Corporation International Journal of Agronomy* 1-8.