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## Socio economics characteristics of organic turmeric growing Farmers in Hingoli District of Marathwada Region of Maharashtra State

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### Abstract

The present investigation was undertaken with a view to study the socio economic characteristics of turmeric growers in Marathwada Region of Maharashtra. The study was administered by selecting a sample of 50 respondents from 10 villages. Multi stage sampling design was adopted for selection of districts, tahsils, villages and turmeric growers. The fifty farmers who were using organic fertilizers for their fields were listed with the help of Agriculture Technology Management Agency (ATMA), State Agriculture Department, Vasmat under Hingoli District who were connected in different organic farming groups of different villages with (ATMA) Vasmat. Relevant data on various aspects of socio economic status were illuminated using a pretested structured schedule and through personal interview method. Results revealed that the 96 per cent grower were the male and female farmers were only 4 percent, average age factor of organic turmeric grower farmers of Vasmat tahsil is 43.20 years. Education is another important factor influencing managerial and technical ability of any business. Only 4 per cent of farmers illiterate, 16 per cent has completed primary education, 24 per cent farmers completed secondary education, 44 per cent of farmers were completed higher secondary education and 12 per cent farmers were graduate. About 92 per cent of rural people were employed in agricultural as primary source of their livelihood. The average annual income Rs. 14,80,000 there was great impact of organic turmeric adoption on their income due to the high market price to their commodity and the more demand in market to organic produced.

**Keywords:** Organic, turmeric production, socio economic, educational status, gender, age, farm size, family type, livestock, land holding & cropping pattern

### Introduction

Turmeric (*Curcuma longa* L.) is an important spice grown in India, referred as Indians affron and commonly known as Haldi. It is popularly known as “Golden Spice of India”. Turmeric has been used in India for medicinal purposes from centuries. It has been used in traditional medicine as a household remedy for various diseases, including biliary disorders, anorexia, cough, diabetic wounds, hepatic disorders, rheumatism and sinusitis. In addition to its use as spice and pigment. Turmeric and its constituents mainly curcumin and essential oils shows a wide spectrum of biological actions.

“Organic agriculture is a unique production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycle sand soil biological activity, and this is accomplished by using on farm agronomic, biological and mechanical methods in exclusion of all synthetic off-farminputs” FAO (Meena *et al.* 2013) <sup>[12]</sup>. Use of organic and biofertilizers not only improve soil health, but also help to maximize sustainable production. India is the largest producer, consumer and exporter of turmeric in the world turmeric grown only in 6% of the total area under spices and condiments in India. Maharashtra state in India ranks sixth in area under turmeric. In Maharashtra Sangli, Satara, Hingoli, Nanded, Parbhani are the major turmeric growing districts. Turmeric is one of the major crops in Hingoli and Sangali district (Kadt *et al.*, 2018) <sup>[7]</sup>.

Soil fertility refers to the inherent capacity of soil to supply essential nutrients to plant in adequate amount, in correct proportion and at right time for their optimum growth. Management of the fertility of soils demands its buildup and substance at high level to produce adequate food,

feed, fodder and fuel for the ever-increasing population of human beings and animals. Soil is a vital natural resource and should be used judiciously according to its potential to meet the increasing demands of the ever-growing population. To ensure optimum agricultural production, it is imperative to know the best fact about our soils and their management to achieve sustainable production (Ammannawar *et al.* 2017)<sup>[1]</sup>.

Use of organic fertilizers in agriculture adds much needed organic carbon and mineral nutrients to the soil. Soil organic matter plays a vital role in keeping the soil productivity high. It acts as a source of nutrients, improves soil structure, increases water holding capacity, supplies macro and micro nutrients, increases soil microbial activity, reduces phosphate fixing capacity of soil, helps in slow release of 'N', reduces leaching losses and improves fertilizer use efficiency. Hence, the research efforts have been directed to evaluate the effect of organic fertilization on nutrient uptake, yield and quality of turmeric soil health as a whole.

The global production of turmeric is around 11 lakh tonnes per annum. India dominates the world production scenario contributing 80% followed by China (8%), Myanmar (4%), Nigeria (3%) and Bangladesh (3%). In the year 2022-23, an area of 3.24 lakh was under turmeric cultivation in India with a production of 11.61 lakh tonnes (over 75 % of global turmeric production). More than 30 varieties of turmeric are grown in India and it is grown in over 20 states in the country. India's share in total turmeric production in the world is more than 80%. In India, Andhra Pradesh is the largest producer of Turmeric followed by Tamil Nadu, Orissa, Karnataka, West Bengal, Gujarat and Kerala.

The state of Maharashtra, with over 278 thousand metric tons, was the leading producer of turmeric in India during fiscal year 2022-23. Telangana and Karnataka were second and third in the ranking during that year. The organic cultivation of turmeric is essential for sustainable development of Vasmat tahsil farmer's and many Government and Non-Government agencies are disseminating knowledge about organic farming practices through various field level demonstration trials or by various method but farmers are not adopting the skill up to desired area. So far to find out various determinations we have to study the socio-economic characteristic of farming community like age, education, gender, land holding, cropping pattern and income so that we correlate this factor and suggest proper recommendation to policy maker for increasing organic turmeric cultivation keeping this view in mind the present survey based study was undertaken on "Socio Economics Characteristics of organic turmeric growing farmers in Hingoli District of Marathwada Region of Maharashtra State".

### Materials and Methods

Multi stage sampling design was adopted for selection of districts, tehsils, villages and turmeric growers. In the first stage, Hingoli district was selected from Marathwada region. In the second stage as it is having highest area under turmeric crop in Marathwada region. Vasmat tehsil is also selected of higher area basis under turmeric crop. In third stage, fifty farmers who were using organic fertilizers for their fields randomly selected from 12 different villages with the help of Agriculture Technology Management Agency (ATMA), state Agriculture, Department of Vasmat Hingoli District who were connected in different organic farming groups of different villages with (ATMA) Vasmat. The data pertains for the year 2022-23 was collected from cultivars with the help of pre-tested schedule through personal interview method.

## Results and Discussion

Socio-economic characteristics is an economic and sociological combined total measure of a person's work experience and of an individual's or s economic or social position in relation to others, based on income, education and occupation. It is commonly conceptualized as a social standing or class of an individual or group.

Hence, the socio economic characteristics study of organic turmeric growing farmers of Vasmat tahsil gives as a frame work of their social standing or class in the study area. Socio-economic characteristics Viz., gender, age, educational status, occupation, family income, family size and family labour, livestock and cropping pattern, land holding were studied and presented in Tables.

### 1. Gender

Agriculture is not restricted to any particular gender; both male and female can participate actively depending on the asset each possesses. But in this area, there are some factors that hinder female active participation in agriculture.

It is observed from Table 1 the proportion of male to female farmers are 4 percent and male farmer are 96 per cent hence, the result indicated that in the survey area most of the respondents were male.

### 2. Age

Age is one of the important factors influencing enterprise attitude in various ways which ultimately affects the managerial ability, skill and judgment in business. It is seen from table that the average age in the young age they need to improve their living standard hence their preference will be of cash and high value crops and also during the old age their risk-taking ability decrease and their decision-making authority will shift towards their children hence the result indicated that the middle-aged persons were enthusiastic in doing organic turmeric production. (Table2). It is observed from the collected data regarding average age factor of organic turmeric grower farmers of Vasmat tahsil is 43.20 years old, of organic turmeric grower farmers.

### 3. Educational status

Education is another important factor influencing managerial and technical ability of any business. It is observed from Table 3 that 4 percent of farmers illiterate, 16 percent has primary education, 24 percent secondary education 44 percent of farmers was higher secondary education and 12 percent farmers are graduate.

### 4. Occupational status

The occupation shows area of interest of person in the field. Accordingly, they put their efforts to make that enterprise successful Table 4. Whereas, 92 per cent of rural people in the study area were employed in agricultural as primary source of their livelihood. The average annual income Rs. 14,80,000 there was great impact of organic turmeric adoption on their income due to the high market price to their commodity and the more demand in market to organic produced, remaining 8 per cent were engaged in either business or service or both for their livelihood.

### 5. Farm size

Farm size plays an important role in deciding what type of enterprises farmers undertake and the land size to be put under each of those enterprises. The study results showed that in Table

5 majority of the farmers in the study area are 4 percent marginal farmers 20 percent small farmers, 50 percent semi medium farmers, 18 percent medium farmers, and 8 percent large farmers.

## 6. Family type

Family dynamics play a significant role in how decisions are made on the farm. In some family types, decision-making may be collaborative, while in others, it may be hierarchical. The way family members communicate and cooperate can impact the farm success. Table 6 shows that the family of organic turmeric growers was average 24 percent of joint family and 76 percent of family was nucleolus.

## 7. Livestock categorization.

The livestock are the important assets of organic crop production. In the table 7 number of livestock which include 18.12 percent of bullock pair, 35.5 percent of cow, 32.8 percent of goat and 13.42 percent of buffaloes. Farming is seasonal in nature; its profit is realized in that season only. Hence to meet out their day-to-day family and farm expenditure; livestock and poultry is a suitable supplementary enterprise along with farming.

## 8. Land holding

The average land holding of organic turmeric grower farmers tabulated in Table 8. Total land holding of irrigated and rainfed was 1.4 and 1.1 hectare, respectively. The farmers have also some uncultivated land which was engaged in farm pond, well, poultry shed, cattle sheds etc. that was nearly 0.12 hectare in average.

**Table 1:** Gender of organic turmeric adopter farmer of Vasmat tahsil.

Particulars	Organic turmeric adopter	
	Frequency	Percent
i) Male	48	96
ii) Female	2	4
Total	50	100

**Table 2:** Average age of organic turmeric grower farmer of Vasmat tahsil.

Particulars	Organic turmeric adopter
	Average
Age	43.20

**Table 3:** Educational status of organic turmeric farmer of Vasmat tahsil.

Particulars	Organic turmeric adopter	
	Frequency	Percentage
i) Illiterate	2	4
ii) Primary	8	16
iii) Secondary	12	24
iv) Higher Secondary	22	44
v) Graduate	6	12
Total	50	100

**Table 4:** Occupation status of organic turmeric farmer.

Particulars	Organic turmeric adopter	
	frequency	Percent
i) Agriculture	46	92
ii) Service	2	4
iii) Business	2	4
Total	50	100

**Table 5:** Farm size of organic turmeric growing farmers.

Particulars	Organic turmeric adopter	
	frequency	percent
i) Marginal	2	4
ii) Small	10	20
iii) Semi Medium	25	50
iv) Medium	9	18
v) Large	4	8
Total	50	100

**Table 6:** Family type categorization of organic turmeric growing farmers.

Particulars	Organic turmeric adopter	
	frequency	percent
i) Joint	12	24
ii) Nucleous	38	76
Total	50	100

**Table 7:** Livestock of organic turmeric growing farmers.

Particulars	Adopter organic turmeric		
	Frequency	Average	Percent
i) Bullock pair	27	0.54	18.12
ii) Cows	53	1.06	35.5
iii) Buffaloes	20	0.4	13.42
iv) Goat	49	0.9	32.8
v) Others	0	0	0.00
Total	149	2.98	100

**Table 8:** Average size of Land Holding of organic turmeric growing farmers.

Sr. No.	Particulars	Organic turmeric adopter	
		Area (ha)	Percent
1	i) Irrigated	1.4	45.80
	ii) Rainfed	1.1	41.98
	Subtotal	2.5	-
2	Uncultivated	0.12	4.58
	Grand Total	2.62	100

**Table 9:** Cropping pattern of organic turmeric growing farmers.

Season	Crop	Organic turmeric adopter	
		Area (ha)	Percent
I Kharif	Soybean	0.63	60
	Red Gram	0.20	19.04
	Cotton	0.10	9.52
	Kharif Sorghum	0.12	11.42
	Subtotal (I)	1.05	100
II Rabi	Wheat	0.30	31.25
	Gram	0.66	68.75
	Subtotal (II)	0.96	100
III Summer	Vegetables	0.03	21.43
	Others	0.11	78.57
	Subtotal (III)	0.14	100
IV Annual	Turmeric	0.84	89.36
	Sugarcane	0.12	12.76
	Subtotal (IV)	0.94	100
	Gross cropped area	3.09	-
	Net cultivated area	2.01	-
	Cropping intensity (%)	1.53	-

## 9. Cropping pattern

Cropping pattern is the important factor influencing costs and returns of the farm. It also determined employment potential on farm as different crops require different quantity of labour unit. Table 9 gives an idea about the area under different crops in different season of turmeric growing farmers. It is observed from the table that the cropping pattern, Gross cropped area observed 3.09 ha, net cultivated area 2.01 ha. and cropping intensity 1.53 percent. Among different kharif crop i.e. soybean, red gram, cotton and sorghum where as in rabi wheat and gram was the major crops. Some farmer having a good irrigation source they grow vegetable in summer also. Major annual crop was turmeric and sugarcane.

## Conclusion

The study of socio-economic characteristics provides a comprehensive understanding of the organic turmeric-growing farmers in Vasmat tahsil, framing their social standing and class within the community. Through detailed analysis encompassing factors such as gender, age, educational status, occupation, farm size, family dynamics, livestock ownership, landholding, and cropping patterns, significant insights into their livelihoods and agricultural practices emerge.

1. **Gender:** While agriculture is open to all genders, the overwhelming majority of farmers in the surveyed area are male, highlighting existing gender disparities in agricultural participation.
2. **Age:** Middle-aged individuals show notable enthusiasm for organic turmeric production, influenced by economic aspirations and shifting decision-making dynamics within families.
3. **Educational Status:** Education significantly impacts farmers' managerial and technical abilities, with a diverse distribution of educational levels observed among respondents.
4. **Occupational Status:** Agriculture remains the predominant occupation, with organic turmeric adoption positively impacting farmers' incomes due to increased market demand and favorable pricing.
5. **Farm Size:** Varied farm sizes dictate the types of enterprises undertaken, with a mix of marginal, small, semi-medium, medium, and large-scale farmers contributing to the agricultural landscape.
6. **Family Type:** Family dynamics shape decision-making processes, with both joint and nuclear family structures influencing farm management strategies and success.
7. **Livestock Ownership:** Livestock serve as crucial assets, providing supplementary income to meet household and farm expenses, with cattle, goats, and buffalo being prominent.
8. **Landholding:** Landholding sizes influence the scale and diversity of agricultural activities, with farmers utilizing both irrigated and rainfed lands alongside supplementary activities like poultry and cattle rearing.
9. **Cropping Patterns:** Cropping patterns reflect seasonal variations and economic considerations, with a diverse mix of crops cultivated throughout the year, with turmeric emerging as a major annual crop alongside staples like wheat, gram, and sugarcane.

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