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Socio-economic characteristics of women farmers for vermicompost production in Latur district

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Abstract

The present study was carried out in purposively selected two KVKs of the Marathwada region of Maharashtra State which are conducting trainings of vermicompost production for farm women. Farm women were selected from Krishi Vigyan Kendra of Latur in Latur district and Krishi Vigyan Kendra of Tuljapur in Dharashiv district in Marathwada region of Maharashtra State who are conducting trainings of vermicompost production for farm women. Sixty farm women who participated in vermicompost production trainings were selected randomly from each KVK. Thus 120 farm women were the sample size for current study. Ex post facto research design was followed in the present investigation. Data were collected with the help of pre-tested structured schedules consisting of the information about selected characteristics of farm women viz. majority 50.83% of the farm women belonged to middle age category, higher secondary school education 27.50, annual income 78.33%, Small land holding 46.67%, medium number of vermicompost units 37.50%, high, herd size 14.17%, training received 48.33%, social participation 55.82%, low sources of information 18.34%, knowledge 60.83% and medium level participation in production of vermicompost (55.83%). Age ($r = 0.331$), Education ($r = 0.514$), Vermicompost units ($r = 0.283$), Training received ($r = 0.488$) of the farm women had positive and highly significant relation and Annual income of the farm women had positive and significant ($r = 0.209$)

Keywords: Farm, women, vermicompost, production and training

Introduction

Vermicomposting is less labour-intensive than traditional plant composting because the worms do almost all of the work. All compost mixes microorganisms, organic matter and nutrients, but adding worms also improves soil structure. Due to the slime produced by worm bodies, nutrients stay in soil even after a good rain. Worm castings hold beneficial microorganisms longer than the traditional compost. Worms can eat up to half of their body weight per day and -under optimal conditions -reproduce quickly, making vermiculture a self-sustaining business. Vermicomposting is the process of creating compost with worms. The worms are fed items like kitchen scraps, which they digest to create castings that are used for a variety of applications. This process has multiple benefits. Besides housing beneficial microorganisms, worm castings protect the plants. Root diseases are reduced due to the diversity of organisms present; none of them becomes populous enough to cause damage. Farm women play an important role in farm enterprises. Since immemorial women support to the family by earning and (Ekatpure, S.M. *et al.*, 2011) [3] Vermicompost is an organic fertilizer obtained from the earthworms by passing out the organic wastes through the digestive systems. The process of preparation of this organic

fertilizer may be called as vermicomposting. Earthworms improve and restore soil fertility and boost up crop productivity by the use of their excretory products known as vermicast. Vermicast is popularly known as Black gold because it is rich in nutrients, growth promoting substances, beneficial soil micro flora, having properties of inhibiting pathogenic microbes and synergistic relationship in plant rhizospheres. Being stable, multifunctional organic manure which enriches the soil quality by improving physio-chemical and biological properties it must be promoted (Datta, S. *et al.*, 2016) [2]. Vermicompost has adequate amounts of micro-nutrients and macro-nutrients depending on sources of earthworm's feed-stock. Earthworms promote soil fragmentation and increase aeration of soil by volume 8-30%. Vermicompost has at least four times more plant nutrients than conventional cattle dung compost. Vermicomposting is a source of creating self-employment and revenue generation. This is an easy and faster process of converting organic matter into compost than other conventional methods. (Jigmet Yangchani, 2025) [4].

Objectives

1. To study the profile of the farm women.
2. To study participation of farm women in production of vermicompost.

3. To reveal the relationship between profile of farm women and participation in production of vermicompost.

Materials and Methods

Ex-post-facto research design was used in the present investigation. The present study was conducted in purposively selected Krishi Vigyan Kendra of Latur in Latur district and Krishi Vigyan Kendra of Tuljapur in Dharashiv district in Marathwada region of Maharashtra State who are conducting trainings of vermicompost production for farm women. Sixty farm women who participated in vermicompost production trainings were selected randomly from each KVK. Thus, a total of 120 respondents were selected as sample respondents for the present study. This selection was done by using simple random sampling method. The well-structured interview schedule was used for data collection and data were collected by personal interview of the selected farm women at their home or farms. The data were tabulated and analyzed in the light of the objectives. To analyse the data, statistical tools viz., frequency, percentage, rank, arithmetic mean, correlation co-efficient and standard deviation will be used with the use of Microsoft Excel.

Results and Discussion

Basic profile of farm women

The profile of farm women revealed that, Table 1, majority 50.83% of the farm women belonged to middle age category, followed by 27.50% of the farm women from old age category and 21.67% of the farm women were from young age. 35.00% of the farm women were educated up to middle school followed by 27.50% belonged to higher secondary school education and 23.33% were educated up to primary school. While 08.33% of the farm women were illiterate and only 05.84% were educated up to graduation

and above. Majority (78.33%) of farm women belonged to medium level of annual income between Rs. 58,460 to Rs. 3,01,874, while 13.34% had high income above Rs. 3,01,874. About 08.33% had the low annual income up to Rs. 58,459. This shows majority of the farm women were having medium annual income. 46.67% of the farm women were having 1.01 to 2.00 ha of land and belonged to small land holding category, while 27.50% of the farm women were having land up to 1.00 ha and belonged to marginal category. 20.00% of the farm women had 2.01 ha to 4.00 ha of land and belonged to medium category.

Table 1. Revealed that, 44.17% of farm women belonged to low vermicompost units followed by 37.50% had medium vermicompost units and 18.33 had high vermicompost units. 46.67% of farm women belonged to medium herd size followed by 39.16% had low herd size and 14.17% had high herd size. 48.33% of farm women belonged to medium category of training received followed by 34.17% had low training received category and 17.50% had high training received. 55.82% of the farm women had medium social participation followed by low (25.00%) and high (19.18%) social participation. 59.16% of the farm women had medium level of sources of information followed by 22.50% had high level of sources of information and 18.34% of farm women had low level of sources of information. Majority (51.67%) of the farm women had medium level of extension contact, while 30.00% had high and 18.33% had low level of extension contact. Majority (60.83%) of the farm women had medium level of knowledge about vermicompost production followed by 21.67% had high level and 17.50% had low level of knowledge about vermicompost production. This finding was supported by Poree Saikia, 2021^[7].

Profiles of farm women were distributed into different categories based on socio-economic and psychological characteristics and were presented in the following table.1.

Sr. No.	Characteristics	Category	Respondents (n = 120)	
			Frequency	Percentage
1.	Age	Young (Up to 30)	26	21.67
		Middle (31 to 44)	61	50.83
		Old (Above 44)	33	27.50
2.	Education	Illiterate	10	08.33
		Primary School (1 st to 4 th std)	28	23.33
		Middle School (5 th to 10 th std)	42	35.00
		Higher Secondary (11 th to 12 th std)	33	27.50
		Graduate and above	07	05.84
3.	Annual income	Low (Up to Rs. 58,459)	10	08.33
		Medium (Rs. 58,460 to Rs. 3,01,874)	94	78.33
		High (Above Rs. 3,01,874)	16	13.34
4.	Land holding	Marginal (up to 1.00 ha)	33	27.50
		Small (1.01 to 2.00 ha)	56	46.67
		Medium (2.01 to 4.00 ha)	24	20.00
		Semi medium (4.01 to 10.00 ha)	07	05.83
		Large (above 10.00 ha)	00	00
5	Number of Vermicompost units	Low (Up to 02)	53	44.17
		Medium (03 to 04)	45	37.50
		High (Above 04)	22	18.33
6	Herd size	Low (Up to 1)	47	39.16
		Medium (02 to 04)	56	46.67
		High (Above 04)	17	14.17
7	Training received	Low (Up to 03)	41	34.17
		Medium (04 to 10)	58	48.33
		High (Above 10)	21	17.50

8	Social participation	Low (Up to 16)	30	25.00
		Medium (17 to 43)	67	55.82
		High (Above 43)	23	19.18
9	Sources of information	Low (Up to 37)	22	18.34
		Medium (38 to 73)	71	59.16
		High (Above 73)	27	22.50
10	Extension contacts	Low (Up to 20)	22	18.33
		Medium (21 to 48)	62	51.67
		High (Above 48)	36	30.00
11	Knowledge	Low (Up to 31)	21	17.50
		Medium (32 to 35)	73	60.83
		High (Above 35)	26	21.67

Overall participation of farm women in production of vermicompost

Table 2: Distribution of farm women according to their overall participation

Overall participation	Category	Respondents (n = 120)	
		Frequency	Percentage
	Low (Up to 25)	24	20.00
	Medium (26 to 27)	67	55.83
	High (Above 27)	29	24.17
	Total	120	100.00

A critical look at Table 2. Revealed that more than half (55.83%) of farm women had medium level of participation, while 24.17 per cent of farm women had high level of participation and 20.00 per cent of farm women had low level of participation. Similar findings were noticed by, Naik R.M. and Tandel B.M. 2014 ^[6] and Chaudhari, R.U. *et al*, 2025) ^[1]

Relationship between independent variables and the participation of farm women in production of vermicompost

Sr. No.	Characteristics	'r' Value
1	Age	0.331**
2	Education	0.514**
3	Annual Income	0.209*
4	Vermicompost units	0.283**
5	Training received	0.488**
6	Knowledge	0.650**

** Significant at 0.01% level, * Significant at 0.05% level

A study pertaining to table 3 reveals that there was a Age of the farm women had positive and highly significant relationship ($r = 0.331$) with participation in production of vermicompost. Education of the farm women had positive and highly significant ($r = 0.514$) relationship with the participation in production of vermicompost. It can therefore, be inferred that higher the education of farm women higher will be the participation in production of vermicompost. Highly educated person perhaps might possess higher knowledge and greater skill. He might also be capable of offering solutions to certain problems. Annual income of the farm women had positive and significant ($r = 0.209$) relationship with the participation in production of vermicompost. From this result it can be said that the annual income determines the economic status of the respondents. Because of higher income inspire farm women and have higher participation regarding production of vermicompost.

Annual income of the respondents therefore, could establish positive and significant relationship with the participation in production of vermicompost.

Number of vermicompost units of the farm women had positive and highly significant ($r = 0.283$) relationship with the participation in production of vermicompost. It can therefore, be inferred that higher number of vermicompost units of farm women higher will be the participation in production of vermicompost. Increased in number of vermicompost units might also increased farm women participation in production of vermicompost. This might be resulted in establishing a positive and highly significant relationship of number of vermicompost units with participation. Training received of the farm women had positive and highly significant ($r = 0.488$) relationship with the participation in production of vermicompost. It can therefore, be inferred that higher number of training received by farm women higher will be their participation in production of vermicompost. Increased in number of trainings ultimately increased the technical knowledge of farm women about vermicompost production. This might be resulted in establishing a positive and highly significant relationship of training received with participation. Knowledge of the farm women had positive and highly significant ($r = 0.650$) relationship with the participation in production of vermicompost. This indicates that the higher the knowledge also the higher level of participation in production of vermicompost. It is therefore, knowledge was found to be positively and highly significantly related to participation of farm women in production of vermicompost. This finding was supported by Chaudhari, R.U. *et al*, 2025) ^[1]

Conclusion

From this investigation, it can be concluded that the majority of the farm women were from middle age, majority of the farm women had education level up to middle school, majority of the farm women had medium annual income, more than two fifth of the farm women belonged to small land holding category, majority of the farm women had low number of vermicompost units, majority of the farm women had medium herd size, medium training received, medium social participation, medium sources of information, medium level of extension contact and medium level of knowledge. And also it was concluded that majority of the farm women had medium level of participation in production of vermicompost. As per relationship between participation and profile of farm women it was illustrated that age had positive and highly significant relationship with participation, education had positive and highly significant

relationship with participation, annual income and land holding had positive and significant relationship with participation, while number of vermicompost units, herd size, training received, social participation, sources of information, extension contacts and knowledge had positive and highly significant relationship with participation. So farm women should be motivated to participate in various extension activities for the economic upliftment of their standard of living through vermicomposting production units.

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Conflict of Interest

All authors declare that they have no conflict of interest.

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