



ISSN (E): 2277- 7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2021; SP-10(5): 409-412  
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[www.thepharmajournal.com](http://www.thepharmajournal.com)  
Received: 13-03-2021  
Accepted: 22-04-2021

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## Analyzing the profile characteristics and perception of farmers towards organic dairy standards: An exploratory study in Andhra Pradesh

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### Abstract

Organic livestock farming involves a strong principle of high food quality and good animal welfare with emphasis on natural behaviour of the animals. Organic crop products are available in the market in the recent times, whereas, in case of livestock products it's not certain. To meet the increasing demand for organic livestock products, farmers' favorableness to organic livestock farming is a must. In this context, a study was undertaken in Andhra Pradesh among 60 dairy farmers with organic crop cultivation to study farm characteristics, marketing channels and also to assess farmers' perception towards organic dairy standards. Nearly three-fourth of the farmers were middle aged and about one-third were graduates. Majority farmers were with more than five acres of land with cultivation of paddy, vegetables and fruits and had small herd size. The average experience in organic farming was 5.16 years. All the dairy farmers were having accessibility to information on organic crop farming, however, more than half of the farmers were in need of information regarding marketing of organic produce and more than three fourth in need of organic livestock farming practices and standards. Farmers could market organic produce directly to consumers and about three fourth without certification itself. Most of the farmers mentioned that consumers were willing to pay higher prices for organic produce and consumers were from educated, health conscious and high-income category and could get a price premium up to twenty per cent.

**Keywords:** Personal, socio-economic, perception, organic dairy standards

### Introduction

Organic agriculture is being carried out in almost 172 countries of the world, in which there were 43.7 million hectares of agricultural land managed organically by 2.3 million producers (Frick and Bonn, 2016) <sup>[5]</sup>. India holds a unique position among the countries practicing organic agriculture having 6,50,000 organic producers, 699 processors, 669 exporters and 7,20,00 hectares under cultivation (News Report, The Hindu Business Line, 2016) <sup>[5]</sup>. India is rich with a variety of indigenous livestock breeds, natural resources and there is ample scope for production of organic livestock products. In the present scenario, organic farming can be easily adopted and practiced by the farmers. Moreover, organic farming was being practiced in India since thousands of years in the form of traditional farming. Currently, India ranks 15<sup>th</sup> in the world in terms of cultivable land under organic certification. The total area under organic certification is 5.71 million hectares which includes 26 per cent cultivable area with 1.49 million hectares and rest 74 per cent (4.22 million hectares) forest and wild area for collection of minor forest products. Government of India declared Sikkim as India's first organic state. (Frick and Bonn, 2016) <sup>[3]</sup>. Andhra Pradesh is gifted with a number of natural resources like rivers, lakes, ponds, forests grazing lands and has the world's famous native cattle breeds like Ongole and Punganur (Raju *et al.*, 2017; Reddy *et al.*, 2018) <sup>[9, 10]</sup>. Currently, certified organic farming is being practiced in about 5,000 hectares in the State. Animals being part of organic farming, along with organic agriculture, organic animal husbandry is also gaining importance worldwide and there is need to take up organic animal husbandry along with agriculture by the farmers of Andhra Pradesh in order to achieve diverse income from both crops and livestock and also to improve their standard of living and to supply the consumers the organic crop and livestock produce. In India, the organic livestock and poultry standards have been notified by APEDA for implementation since 1st June, 2015, which, however, are not yet known to the stakeholders indicating the need to fill this gap (Subrahmanyeswari & Chander 2015) <sup>[15]</sup>. Organic farming is being carried out extensively by the farmers in Visakhapatnam, Krishna and Chittoor districts of Andhra Pradesh and Organic livestock farming being knowledge intensive, the farmers need to be well equipped with the knowledge regarding organic

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livestock farming and the standards to be followed. Hence, the present study deals with profile characteristics of farmers, as well as their perception towards organic dairy standards to study whether they are favourable towards these standards or not in the process of production of various organic crop and livestock products.

### Methodology

Visakhapatnam, Krishna and Chittoor districts of Andhra Pradesh were selected purposively for the present study as the organic agriculture activities were undertaken extensively in these districts by selecting a total of 60 dairy farmers with organic crop cultivation through multi-stage sampling technique @ 20 farmers from each district. The farmers with organic crop cultivation were identified and selected with the help of district organic co-coordinators, NGOs and also from the secondary sources like organic retail shops, organic farm magazines and internet. Data was collected through structured interview schedules and the data was analyzed through frequency and percentages.

### Results & Discussion

#### Socio-personal profile characteristics of dairy farmers with organic crop cultivation:

Personal characteristics of dairy farmers with organic crop cultivation were studied in terms of age, social status, family size and education and the findings represented in Table 1.

- 1. Age:** In the study area, 73.33 per cent of the farmers belonged to middle age group followed by young (20%) and old age (06.67%) groups. The average age of dairy farmers was found to be 45.08 years. It can be inferred that most of the old people from the study area might be unaware of the innovative farming i.e. organic farming and its advantages over conventional farming. Hence, might be continuing the conventional farming. While, the middle and young age group farmers might be well aware of the practices and advantages of organic farming, hence, more number of respondents found in middle to young age group. Similar results were also reported by Subrahmanyeswari (2007) <sup>[13]</sup>, Prashanth and Jagan Mohan Reddy (2012) <sup>[8]</sup> and Suresh and Himanshu (2015) <sup>[16]</sup>, who reported that majority of the organic farmers belonged to middle age.
- 2. Social status:** More than half (55%) of the dairy farmers belonged to Other Category (OC) followed by Backward Caste (BC) (43.33%) and only one farmer belonged to Scheduled Caste (SC) category which indicate that in the study area organic farming is carried out mainly by the open category people. There is need to focus on farmers from other categories also to take up organic farming. These findings were in accordance with the findings of Subrahmanyeswari (2007) <sup>[13]</sup> who reported that majority of the organic farmers' belonged to general category.
- 3. Family Size:** Nearly 86.7 per cent of the dairy farmers belonged to small family i.e. with 2-5 members followed by medium (11.67%) and only one farmer was found with large family size i.e. 10-13 members. Average family size of the farmers was found to be four. These findings are in accordance with Subrahmanyeswari (2007) <sup>[13]</sup> and Panneerselvam *et.al.* (2011a) <sup>[7]</sup> who reported that majority of the organic farmers were with small family size.
- 4. Education:** About 36.67 per cent of the dairy farmers had graduation, followed by 23.33 per cent of the farmers

with high school education, 21.67 per cent of dairy farmers with intermediate and 06.67 per cent of farmers had education up to middle school. Few dairy farmers (05%) were with primary education, whereas 6.67 per cent of dairy farmers were illiterates. Education might have played role in realizing the advantages of organic farming and hence more number of educated farmers seen with organic farming in the study area. The results were in accordance with Vonne Lund (2002) <sup>[17]</sup>, Flaten *et al.* (2005) <sup>[2]</sup> and Niemeyer and Lombard (2003) <sup>[4]</sup>.

#### Socio-Economic profile characteristics of dairy farmers with organic crop cultivation farmers:

Socio-economic profile of dairy farmers with organic crop cultivation were studied in terms of occupation, land holding, herd size, farming experience, organic farming experience and income and the findings represented in Table 2.

- 1. Occupation:** Cent per cent of the farmers reported agriculture as major occupation and dairying as subsidiary occupation. The main reason for this is that the respondents selected for the study are those farmers who are with organic crop cultivation rearing milch animals as a subsidiary enterprise.
- 2. Land Holding:** Majority (65%) of the dairy farmers were large farmers with a land holding of more than 5 acres followed by small (25%) and marginal (10%) farmers. The average land holding of the farmers was 9.035 acres. It can be inferred that innovative farming will be taken up first by large farmers followed by small scale farmers.
- 3. Herd Size:** About 36.67 per cent of the dairy farmers had small herd size followed by 35 per cent with large herd size and 28.33 per cent of the dairy farmers with medium herd size. Average herd size was found to be seven. The respondents of the study area are with agriculture as main occupation followed by dairying as subsidiary and hence most of the farmers with small herd size. These findings are in accordance with Savitha (2009) <sup>[12]</sup> who revealed that majority of the respondents had small herd size.
- 4. Farming Experience:** Nearly three fourth (73.33%) of the dairy farmers had medium level of farming experience i.e., 11 to 32 years, followed by 15 per cent and 11.67 per cent of the farmers with low and high levels of farming experience, respectively. The average farming experience of the farmers was 22.43 years. Though most of the respondents were in medium to young age groups, they might have entered into farming at an early age to continue their family occupation and hence found with 22 years of experience in farming on average. Similar results were observed by Sarker *et.al.* (2009) <sup>[11]</sup> and Prashanth and Jagan Mohan Reddy (2012) <sup>[8]</sup> who reported that the average farming experience of the farmers was around 20 years.
- 5. Experience in Organic Farming:** Nearly three-fourth (76.67%) of the dairy farmers had medium level of experience in organic farming i.e. 2.66-6.34 years, followed by 16.66 per cent with high level of experience and only 06.67 per cent of the dairy farmers had low level of experience in organic farming. The average experience in organic farming was 5.16 years. As organic farming is an emerging/ innovative field of agriculture, farmers might be in the learning process and entering into organic farming after careful perusal of benefits of organic farming and hence found with less number of years of experience in organic farming. These findings are in

accordance with Balachandran (2004) [1], Subrahmanyeswari and Mahesh Chander (2008b) [14] and Odhong *et.al.* (2014) [6] who revealed that more than three-fourth of the farmers had 3-6 years of experience in organic farming.

**6. Income:** It can be observed from the results that more than half (61.67%) of the dairy farmers belonged to medium income group followed by 20 per cent and 18.33 per cent of farmers belonging to low and high income groups, respectively. Average annual income of the farmers was found to be Rs.298666.

**Perception of dairy farmers towards organic dairy standards**

It was noticed from Table 3 that more than half (60%) of the farmers are favorable towards organic dairy standards followed by 21.67 per cent are highly favorable and 18.33 per cent are least favorable towards organic dairy standards. It can be concluded that more than half farmers were in favour of organic dairy standards and only 18 per cent of farmers could perceive the standards in less favourable way.

**Table 1:** Socio-personal profile characteristics of dairy farmers with organic crop cultivation

S. No	Parameter	Farmers (n=60)
1.	<b>Age</b>	
	Young (22-39 years)	12 (20.00)
	Middle (40-57 years)	44 (73.33)
	Old (58-72 years)	04 (06.67)
2.	<b>Social Status</b>	
	Open Category	33 (55.00)
	Backward Caste	26 (43.33)
	Scheduled Caste	01 (01.67)
3.	<b>Family Size</b>	
	Small (2-5 members)	52 (86.70)
	Medium (6-9 members)	07 (11.67)
	Large (10-13 members)	01 (01.67)
4.	<b>Education</b>	
	Illiterate	04 (06.67)
	Primary education	03 (05.00)
	Middle school	04 (06.67)
	High school	14 (23.33)
	Intermediate	13 (21.67)
	Graduation and above	22 (36.67)

**Table 2:** Socio-economic profile characteristics of dairy farmers with organic crop cultivation

S. No	Parameter	Farmers (n=60)
1.	<b>Occupation</b>	
	Agriculture (major occupation)	60 (100.00)
	Dairying (Subsidiary occupation)	60 (100.00)
2.	<b>Land holding</b>	
	Marginal (0.1-2.5 acres)	06 (10.00)
	Small (2.6-5 acres)	15 (25.00)
	Large (> 5 acres)	39 (65.00)
3.	<b>Herd Size</b>	
	Small (2-5)	22 (36.67)
	Medium (6-9)	17 (28.33)
	Large(10-13)	21 (35.00)
4.	<b>Farming experience</b>	
	Low (<11 years)	09 (15.00)
	Medium (11-32 years)	44 (73.33)
	High (>32 years)	07 (11.67)
5.	<b>Experience in Organic farming</b>	
	Low (<2.66 years)	04 (06.67)
	Medium (2.66-6.34 years)	46 (76.67)
	High (>6.34 years)	10 (16.66)
6.	<b>Income</b>	
	Low (< 154380)	12 (20.00)
	Medium (154380-442952)	37 (61.67)
	High (>442952)	11 (18.33)

**Table 3:** Distribution of respondents according to their level of perception towards organic dairy standards

S. No	Category	Farmers (n=60)	Mean	Standard deviation
1.	Low (<65.45)	11 (18.33)	70.55	5.1
2.	Medium (65.45-75.56)	36 (60.00)		
3.	High (>75.56)	13 (21.67)		

(Figures in parenthesis indicate percentage)

**Conclusion**

Government organizations, District Farmers Associations regarding organic farming, NGOs and Certification agencies (AOCA) are playing a significant role in implementing the organic agriculture development programme in the state of Andhra Pradesh through certification of the farms and providing the necessary inputs and training for carrying out

the organic farming activities. Farmers seem to have gained some confidence in organic crop production activities due to the training and marketing support provided by these organizations and agencies, but the activities concerning to organic livestock production such as training, marketing facilities for organic products and disease in livestock and reduced prospects of export of livestock products from India may be considered as potential risks coming on the way of expansion of organic livestock production in the state. Nevertheless, farmers were ready to give a try to organic livestock production, mainly looking at the prospects of high premiums on such products even in domestic markets.

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