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A study on socio-economic profile of the dairy farmers in Ganjam district of Odisha

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Abstract

The objective of the current study, which involved 180 dairy farmers from six blocks in the Ganjam District of Odisha, was to determine their Socio-economic profile. In which respondents were divided into two categories namely trained (90) and untrained (90) dairy farmers. Six blocks were chosen purposefully based on highest numbers of dairy farmers. The research showed that majority of trained and untrained dairy farmers belongs to middle aged (54.44% and 50.00%) respectively, regarding education 35.55 percent of trained dairy farmers were completed middle School while untrained majority (40.00%) were illiterate, With respect to occupation both the trained and untrained dairy farmers are belongs to Dairy + Agriculture (71.11% and 58.88% respectively), Both category farmers belongs to Marginal Land holding (50.00% and 75.55%), Both the dairy farmers are fallen under medium family size (47.77% and 66.66%). Trained dairy farmers are having medium level annual income (42.22%) and untrained are low level of income (46.66%), trained dairy farmers are having high level of dairy farming experience (37.77%) and untrained farmers are having low level (43.33%), both the trained and untrained dairy farmers are belongs to medium level of economic motivation (62.23% and 55.55%), medium level of Extension participation (48.89% and 44.44%), medium level of Scientific orientation (72.23% and 44.44%), medium level of leadership ability (51.12% and 54.45%), medium level of Extension contact (50.00% and 51.12%). Regarding market orientation both the farmers are having high level (62.22% and 44.45%), trained dairy farmers are having medium level (35.55%) of organisational participation and untrained dairy farmers belongs to low level (57.77%) of organisational participation.

Keywords: Socio-economic profile, economic motivation, extension participation, scientific orientation, organisational participation

Introduction

The practice of raising cattle, goats, buffalos and other milk animals for long term milk production, which might be either processes locally or shipped to a dairy factory for processing is known as dairy farming. India is a primarily an agricultural nation, with animal husbandry serving as the foundation of the economy. Next to agriculture, the dairy industry not only boosts family nutrition standards and continuously generates cash, but it also partially lowers unemployment. Numerous studies indicate that dairying has a great deal of potential to raise the socioeconomic standing of the vast majority of rural residents. The Indian economy, particularly the rural economy, is heavily dependent on the dairy industry. Despite the fact that the country's overall GDP is mostly derived from the dairy industry, the Livestock Sector contributed roughly 4.11percent of total GDP in 2012-13, calculated at current prices(NDDDB-2012-13). Dairy is one of India's largest agricultural enterprises and a significant economic force in the nation. It is the most significant agricultural product, accounting for 4% of the economy. India is the world's largest milk producer, producing 188 million tonnes of milk in 2019-20 and accounting for 20% of global production (OECD and FAO, 2018). In total, there are 192.49 million cattle and 109.85 million buffalo in India as of 2019, according to the 20th livestock census. The total number of cattle and buffalo has increased over the previous Livestock Census, 2012 by 0.8 and 1.1 percent, respectively (Livestock Census, 2019).

India is a sizable nation with a variety of agroclimatic conditions. The majority of dairy livestock owner's families work in agriculture for roughly 8 to 9 months out of the year, but this is not enough to give people the essential jobs and money. Under Dairying, which is typically a secondary occupation, is a significant rural population activity in such circumstances. Small and marginal farmers as well as extremely impoverished landless agricultural labourers are directly associate with livestock. For Small farmers, marginal farmers, and agricultural labourers in the state, dairy farming is a significant source of supplemental revenue.

For low and moderate income households, dairy farming is crucial to both commercial and subsistence farming. The dairy industry has enormous potential and promise for improving the socio-economic circumstances of small, marginal farmers and agricultural workers because, compared to other enterprises, it produces more and makes more money faster. In order to supplement their income from milk production, Ganjam's dairy farmers raise lactating animals to support crop cultivation. The present study was conducted to study the socio-economic profile of the dairy farmers in Ganjam District of Odisha.

Materials and Methods

The purpose of the study was to investigate the various aspects of dairy farming as well as the utilization and sales of milk. For the study Ganjam district of Odisha was selected purposefully. From that district six blocks were selected purposefully. Two villages from each blocks selected randomly. The current investigation used an Ex-post facto research design. Dairy farmers were selected proportionate randomly sampling from the total farmers of each village. Thus, total number of sample size was 180. In which farmers were divided into two categories namely trained (90) and untrained (90) dairy farmers. An interview schedule that was specifically designed for this purpose was used as the primary method of data collecting. The variables of the study was included such as Age, Education, Occupation, Landholding, Dairy experience, Annual income, Livestock possession, Economic motivation, Extension participation, Organization participation, Extension contact, Scientific orientation, Market orientation, Leadership ability. Using basic statistical techniques like frequency and percentage, the acquired data was examined.

Results and Discussion

Distribution of respondents according to their personal, socio-economic and psychological characteristics

Age

In order to gain insight into the possible human resources, it is vital to know the respondent's age range. The data in Table 1 revealed that majority of trained middle age (54.44%) dairy farmers are having more participation, followed by young (24.44%) and old (21.11%) age group, and in case of untrained half (50.00%) of middle age farmers are involved in dairy farming, followed by young (27.00%) and old(20.00%) dairy farmers. The dairy farmers of middle age group are more eager to earn more money as they are having more experience than the young farmers and having more family responsible. The old age group won't show more interest as they are not having that much energy to adopt or to learn something new. The similar findings were found in the study of Gaikwad *et al.*, (2010) [7].

Education

When evaluating the knowledge level and adaptation of dairy farmers to excellent agricultural practices, their educational background is a significant factor. It is evident from Table 1 that most of the trained dairy farmers has completed their middle school i.e. 5th to 8th standard (35.55%) and in untrained 17.77 percent of farmers completed their middle school. Whereas, 17.77 percent of trained and 25.55 percent of untrained farmers are from primary school i.e. 1st to 4th

standard. Thus, only few percent (14.44 %) of trained and of untrained (11.11%) has completed their high school i.e. from 9th to 10th standard, whereas very low i.e.

11.11 percent of trained and 4.44 percent of untrained farmers were studied upto inter collage i.e. 12th standard and In case of graduation only 7.77 percent of trained and 1.11 percent of untrained farmers has completed their graduation level studies. As we can see only

13.33 percent of trained farmers and 40 percent of untrained farmers are illiterate. As they are staying in rural area they were generally try to income money for which in small age only they will go for labour work for which they were unable to concentrate in studies. Most of the trained dairy farmers have completed their schooling may due to their family support. But in untrained most of the dairy farmers were illiterate because they used to help their family members to generate income. The similar findings were found in the study of Awadhesh *et al.*, (2021) [2].

Occupation

Occupation is one of the key elements that affects a person's annual income and also shows their socioeconomic standing in society is their line of work. As a result of respondent's occupation were divided into three groups: Dairy Farming, Dairy Farming + Agriculture and Dairy Farming + Agriculture + Others. The data in Table 1 revealed that majority of trained (71.11%) and untrained (58.88%) farmers are doing dairy as well as agriculture enterprises, whereas 15.55 percent of trained and 13.33 percent of untrained are doing dairy, agriculture as well as other service but only few percent of trained (12.00%) and (27.77%) of untrained farmers are doing only dairy farming.

Due to their interrelated farming, dairy farming and agriculture may have seemed like more profitable pairing to the respondents in the research area. Farmers frequently choose agriculture with dairy farming as part of their farming system in the research area. They think that if agriculture fails, dairy farming may help them to deal with the shocks and pay for their daily needs to support their family. This may be what caused most responders to fall into this category. The similar findings were found in the study of Mooventhan *et al.*, (2015) [11].

Land holding

The quantity of land a family owns determines much of their economic and social position in rural areas. The data in Table 1 furnished that majority of the trained farmers (50.00%) and untrained farmers (75.55%) are marginal land holders followed by small (42.22% and 20.00%) and medium (7.77% and 4.44%) respectively. None of the respondents had large land holding. As most of the dairy farmers are having marginal land holding it may be due to their family distribution of land. As they are doing agriculture, dairy farming and labour work they won't have that much time to cultivate in large area. The similar findings were found in the study of Rajadurai *et al.*, (2018) [14].

Family size

The data in Table 1 indicate that most of the trained (47.77%) and untrained (66.66%) of dairy farmers had medium family size whereas, 40.00 percent of trained and 14.44 percent of untrained farmers comes under small family size. Thus, 12.22 percent of trained farmers and 18.88 percent of untrained

farmers comes under large family size. This could be attribute to the influence of government-run welfare and family planning programmes, which may have encouraged dairy producers to maintain modest scale operation. Family, in addition to literacy and education, may have helped keep medium families together. The similar findings were found in the study of Chaudhari (2006) ^[5].

Annual income

It is observed in Table 1 that majority of the trained dairy farmers had medium level of annual income (42.22%), having range between Rs. 115320/- to Rs. 229437/-, followed by low (36.66%) i.e. Rs. 115302/- and high (21.11%) i.e. Rs. 229437/-. Whereas, in case of untrained dairy farmers majority of farmers are having low level of annual income (46.66%)

i.e. Rs. 112328/- followed by medium level of income (34.44%) having range between Rs. 112328/- to Rs. 211312/- and high level of income (20.00%) i.e. Rs. 211312/-. It could be due to the adopting of new technology which helps them to get more income as they taken many training. Due to new technology farmers are able to do lot of work in short period of time. In case of low income for untrained farmers could be because the majority of the respondents kept local animals and only a small number of farmers owned crossbreeds. Additionally, farmers don't adopt scientific dairy management techniques as a result of their low milk yield, which results in low income. The similar findings were found in the study of Panchabhāi *et al.*, (2017) ^[13].

Dairy experience

It is observed in Table 1 that majority of the trained dairy farmers (37.77%) are having high dairy experience i.e. above 20 years followed by low (34.44%) i.e. up to 10 years and medium (27.77%) i.e. 11 to 20 years. Whereas, majority of untrained dairy farmers are having low level (43.33%) of dairy experience i.e. up to 10 years followed by high (31.11%)

i.e. above 20 years and medium (25.55%) i.e. 11 to 20 years. The experience of farmers in dairying may have an impact on their knowledge and abilities because experience aids in the development of positive attitudes towards dairy farming in making timely and proper decisions to handle a variety of scenarios. The similar findings were found in the study of Chandrasekhar *et al.*, (2017) ^[4].

Economic motivation

A glance at Table 1 revealed that majority of the trained farmers are having medium level of economic motivation (62.23%) followed by high (27.78%) and low (10.00%) level of economic motivation. Whereas more than half of the untrained dairy farmers are having medium economic motivation level (55.55%) followed by high (24.45%) and low (20.00%) level of economic motivation. This could be due to their average economic position and standard of living in the society. The similar findings were found in the study of Raut and Sankhala (2014) ^[15].

Extension participation

The data in Table 1 states that majority of the trained dairy farmers are having medium level of extension participation (48.89%) they have participated in training programme, field

visit, demonstration programme, and Krishi mela, etc., followed by high (35.55%) and low (15.56%). Whereas in untrained dairy farmers they are having medium extension participation (44.44%) followed by high (30.00%) and low (25.55%) level category. Participation in the extension programme will help them to get idea and knowledge which will help them to be up to date with the new technology. The similar findings were found in the study of Jeelani *et al.*, (2014) ^[9].

Organisational participation

As shown the data in Table 1 revealed that majority of the dairy farmers are having medium level of organisational participation (35.55%) followed by low (33.33%) and high (31.11%) level of organisational participation. While in untrained dairy farmer's more than half of (57.77%) respondents having low level of participation in organisation followed by medium (22.22%) and high (20.00%) level. Trained dairy farmers are engaged in the cooperative society as a member which becomes important tool to get more contact with different organisation. But untrained are not participating in any field. The similar findings were found in the study of Gautam *et al.*, (2007) ^[8].

Scientific orientation

As shown the data in Table 1 revealed that majority of the dairy farmers are having medium level of scientific orientation (72.23%) followed by high (16.67%) and low (11.12%). Where as in untrained they are having medium level of scientific orientation (44.44%) followed by low (42.22%) and high (13.33%). So, trained dairy farmers are adopting the new methods which help them to do better in their dairy farming. But untrained dairy farmers are following the ancient methods because they are doing it from their childhood and they are having fear to adopt new methods.

Market orientation

The data shown in Table 1 revealed that majority of trained dairy farmers are having high level of market orientation (62.22%) followed by medium (26.67%) and low (11.11%). As comes to untrained most of the farmers are having high level of market orientation (44.45%) followed by medium (34.44%) and low (21.11%). Both are having high level of market orientation because for selling milk they have to up to date about market price. The similar findings were found in the study of Chauhan and Patel (2003) ^[6].

Leadership ability

The data shown in Table 1 revealed that majority of the trained dairy farmers are having medium level of leadership ability (51.12%) followed by high (41.12%) and low (7.78%). Whereas in untrained, majority of the dairy farmers are having medium level of leadership ability (54.45%) followed by low (23.34%) and high (15.56%). As the trained dairy farmers are under gone training programme, they are having more idea compare to untrained. That's why trained dairy farmers are having high level leadership while untrained are having medium level.

Extension contact

The data shown in Table 1 revealed that majority of the trained dairy farmers are having medium level of extension participation (50.00%) followed by low (31.12%) and high

(18.89%). As comes to untrained dairy farmers they are having medium level of extension contact (51.12%) followed by low (33.34%) and high (15.56%). This is due to a smaller number of reliable sources available in the dairy field. If the

veterinary department will be regular to that field it will be help full to them for improving the animals' health. The similar findings were found in the study of Senthil Kumar *et al.*, (2012) [16].

Table 1: Distribution of respondents according to their personal, socio-economic and psychological characteristics

S. No	Characteristics	Dairy Farmers			
		Trained (n1=90)		Untrained (n2=90)	
		F	%	F	%
1.	Age				
	Young (<35 Years)	22	24.44	27	30.00
	Middle (36 – 50 years)	49	54.44	45	50.00
	Old (>50 Years)	19	21.11	18	20.00
2.	Education				
	Illiterate	12	13.33	36	40.00
	Primary School (1-4th std)	16	17.77	23	25.55
	Middle School (5-8th std)	32	35.55	16	17.77
	High School (9-10th std)	13	14.44	10	11.11
	Inter collage (12th std)	10	11.11	04	4.44
	Graduation and above	07	7.77	01	1.11
3.	Occupation				
	Dairy	12	13.33	25	27.77
	Dairy + Agriculture	64	71.11	53	58.88
	Dairy + Ag+ Other	14	15.55	12	13.33
4.	Land holding				
	Marginal (up to 1.00 ha)	45	50.00	68	75.55
	Small (1.01 to 2.00 ha)	38	42.22	18	20.00
	Medium (4.01 to 10.00ha)	07	07.77	04	4.44
5.	Family size				
	Small (Up to 4 members)	36	40.00	13	14.44
	Medium (5-8 members)	43	47.77	60	66.66
	Large (Above 8 members)	11	12.22	17	18.88
6.	Annual income				
	Low	33	36.66	42	46.66
	Medium	38	42.22	32	34.44
	High	19	21.11	16	20.00
		Avg.-1,72,380		Avg.-1,61,820	
		SD-134300		SD-1164516	
7.	Dairy Experience				
	Low(Up to 10 years)	31	34.44	39	43.33
	Medium(11-20 years)	25	27.77	23	25.55
	High(Above 20 years)	34	37.77	28	31.11
8.	Economic motivation				
	Low	9	10.00	18	20.00
	Medium	56	62.23	50	55.55
	High	25	27.78	22	24.45
		Avg.-8.76, SD-1.22		Avg.-6.61, SD-1.34	
9.	Extension participation				
	Low	14	15.56	23	25.55
	Medium	44	48.89	40	44.44
	High	32	35.55	27	30.00
		Avg.-4.4, SD-1.14		Avg.-4.4, SD-1.14	
10.	Scientific Orientation				
	Low	10	11.12	38	42.22
	Medium	65	72.23	40	44.44
	High	15	16.67	12	13.33
		Avg.-9.96, SD-1.03		Avg.-7.24, SD-0.96	
11.	Market Orientation				
	Low	10	11.11	19	21.11
	Medium	24	26.67	31	34.44
	High	56	62.22	40	44.45
		Avg.-4.51, SD-0.69		Avg.-3.86, SD-1.20	
12.	Leadership Ability				
	Low	7	7.78	21	23.34
	Medium	46	51.12	49	54.45
	High	37	41.12	20	22.22

		Avg.-6.07, SD-1.25		Avg.-5.6, SD-1.32	
13.	Extension Contact				
	Low	28	31.12	30	33.34
	Medium	45	50.00	46	51.12
	High	17	18.89	14	15.56
		Avg.-4.04, SD-1.00		Avg.-1.83, SD-0.70	
14.	Organisational Participation				
	Low	30	33.33	52	57.77
	Medium	32	35.55	20	22.22
	High	28	31.11	18	20.00
		Avg.-5.6, SD-1.32		Avg.-4.51, SD-0.69	

Distribution of respondents according to their livestock possession

The information related to livestock possession have been presented in Table 2 revealed that, Majority of trained dairy farmers (68.88%) and untrained dairy (75.55%) farmers were having up to 3 local cows whereas, 18.88 percent of trained and 17.77 percent of untrained dairy farmers were having 4 to 6 cows while, very few of trained (12.22%) and untrained (6.66%) dairy farmers were having above 7 cows. Regarding cross breed cows

33.33 percent trained and 22.22 percent untrained dairy farmers are having up to 3 cows and very less trained (16.66%) and untrained (7.77%) dairy farmers are having 4 to 6 cows. In case of buffalo's 55.55 percent trained and 46.66 percent untrained dairy farmers are having up to 3 buffaloes whereas, very few of trained (7.77%) and untrained (8.88%)

dairy farmers are having 4 to 6 buffaloes but very less trained i. e. 4.44% and untrained i.e. 3.33% dairy farmers are having above 7 buffaloes. Regarding cross breed buffaloes very few trained (22.22%) and untrained (13.33%) dairy farmers are having up to 3 buffaloes whereas, 16.66 percent trained and 8.88 percent untrained dairy farmers are having 4 to 6 buffaloes. Regarding Sheep only few trained (1.11%) dairy farmers are having 4 to 6 sheep whereas, 4.44 percent trained dairy farmers are having above 7 sheep. Most of the dairy farmers are keeping cow because most of the people preferred cow milk in Odisha rather than buffalo milk. And cow maintenance is less as compared to buffalo. Due to average economic condition, they are buying local cows as their price is less compared to cross breed animals. The similar findings were found in the study of Beerannarvar (1995) [3].

Table 2: Distribution of respondents according to their livestock possession (n=180)

S. N.	Characteristics	Dairy Farmers			
		Trained (n1=90)		Untrained (n2=90)	
		F	%	F	%
		Local cows			
1.	Up to 3 cows	62	68.88	68	75.55
	4 to 6 cows	17	18.88	16	17.77
	Above 7 cows	11	12.22	06	6.66
		Cross breed cows			
2.	Up to 3 cows	30	33.33	20	22.22
	4 to 6 cows	15	16.66	07	7.77
	Above 7 cows	-	-	-	-
		Buffaloes			
3.	Up to 3 buffaloes	50	55.55	42	46.66
	4 to 6 buffaloes	07	7.77	08	8.88
	Above 7 buffaloes	04	4.44	03	3.33
		Cross breed buffalo			
4.	Up to 3 buffaloes	20	22.22	12	13.33
	4 to 6 buffaloes	15	16.66	08	8.88
	Above 7 buffaloes	-	-	-	-
		Sheep			
5.	Up to 3 sheep	-	-	-	-
	4 to 6 sheep	01	1.11	-	-
	Above 7 sheep	04	4.44	-	-

Conclusion

Dairy farming plays important role in income generation of small and marginal farmers in Ganjam District. From the study it was observed that majority of trained and untrained dairy farmers has medium level of age group. Both the category farmers are doing dairy as well as agriculture. Trained dairy farmers are having more cross breed than the untrained dairy farmers because cross breed cows give more milk than the local cows. Trained dairy farmers sale their milk in the co-operative society while untrained they sale few milk in society and rest in village area and they are keeping more

their home purpose. Trained dairy farmers are having active participation in kisan mela, demonstration. Field visit, etc. that's why they are having more information than the untrained dairy farmers. Due to training, they are having more skill than the untrained dairy farmers. Trained dairy farmers are engaged in cooperative society as a member which helps them to get training programme, regular information about the dairy. But untrained dairy farmers are following their forefathers' methods and they are not having training programme for which they are facing problem. From the above study trained farmer got more benefit of training and

applied their skill in managing the dairy animals and got more milk yield as well as returns with scientific management technique.

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