

LIVING CONDITIONS OF DAIRY FARMERS IN RURAL PUNJAB

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Abstract

Dairying is considered as an effective instrument in bringing socio-economic transformation. The present study aims to analyse the basic amenities and living conditions of the dairy farmers in rural Punjab. The present study is based on primary data, collected through a detailed schedule from 21 villages belonging to three districts of Gurdaspur, SBS Nagar and Mansa, situated in three different agro-climatic zones, i.e. Shivalik-Foothills, South-West Dry and Central Plains respectively of Punjab state. A majority of houses of the dairy farmers are owned as well as pucca. Regarding the basic amenities in house, a big number of the dairy farmers have separate kitchen and proper bathroom as well as lavatory facility in their house. A few dairy farmers use gobar gas and LPG as kitchen fuel. Maximum number of the dairy farmers using gobar gas belongs to large farm size category. All dairy farmers have access to electricity. Around three-fourth of the dairy farmers have inverters in their houses. A large number of the dairy farmers depend upon electric pump as their drinking water source, followed by public water works and do not have Reverse Osmosis (R.O.) facility for purifying drinking water.

Keyword: Amenities, Dairying, Gobar gas, Inverter, Reverse Osmos

1.INTRODUCTION

Punjab is an agrarian state. The wheat-rice rotation system has not attained its potential to the fuller extent due to depletion of soil and water reserves of the study. Hence, there is dire need for diversification from agriculture into allied activities, specifically livestock

rearing [1]. During the past several years there has been an increasing awareness that the high expectations from the so-called Green Revolution are not about to be met [5]. The Green Revolution has benefitted only medium and large farmers. Dairying is considered as effective instrument in bringing socio-economic transformation. Operation flood is one of India's highly successful rural developmental programmes. It is a small holder dairy production initiative which, further, has laid foundation for dairy cooperative movement in India. The basic concept behind the project was to increase the rate of commercialisation of milk production by providing on one hand an assured market for milk to the rural producers by linking rural milk sheds with urban milk markets and on the other side to extend to them inputs like artificial insemination for cross-breeding and upgrading, compound cattle feed, veterinary care, etc, for enhancing the productivity of milch animals [4]. There are 22 state federations in India, with 170 district-level unions, more than 76,000 village-level cooperative societies, and 11 million milk-producer members in the different states. These cooperatives collect an average of 15 million litres of milk each day. Fresh liquid milk, packed and branded, is marketed in over 1000 cities and towns in India by these cooperatives; annual sales turnover exceeds 80 billion Indian rupees [6].

There are found changes in livestock composition, expanding network of dairy cooperatives and increased participation of private players in milk marketing and processing [2]. The livestock population in Punjab is found to be 8117.10 thousand in 2012, out of which buffalo population is 5159.73 thousand in 2012 [3]. Increase in livestock population has raised the concern for veterinary services in the state. Better health services reduce the mortality rate among livestock and also reduce the impact of diseases on livestock productivity [8]. Punjab has ample veterinary infrastructure for better

animal health care. In 2019-2020, milk production in state was 13347 thousand tonnes and growth rate was about 5.60 per cent per annum [7]. Out of the total milk produced in the state, buffalo milk is nearly more than half of the total milk produced in the state.

2.OBJECTIVE AND METHODOLOGY

The present study aims to analyse the basic amenities and living conditions of the dairy farmers in rural Punjab. The study is based on primary data, collected through a detailed schedule from 21 villages belonging to three districts of Gurdaspur, SBS Nagar and Mansa, situated in three different agro-climatic zones, i.e. Shivalik-Foothills, South-West Dry and Central Plains respectively of

Punjab state. A multistage sampling technique is used to select the villages and dairy farmers in the study area. One village each from all blocks of sampled districts and 20 dairy farmers from each selected village are chosen randomly, constituting the sample size of 420 dairy farmers. Descriptive statistics is used for the purpose of analysis.

3.RESULTS AND DISCUSSION

3.1. Ownership of House and its Value

House is a basic human necessity. Table 1 depicts the ownership status of house among the dairy farmers.

Table 1: Ownership of House and Value (Value in ₹)

Category	Ownership of house						Total
	Owned			Rented			
	No.	%	Average Value (in ₹)	No.	%	Average Rent (in ₹/month)	
Large farm Hhs	84	100.00	2988095	0	0.00	0	84
Medium farm Hhs	84	100.00	1080357	0	0.00	0	84
Small farm Hhs	84	100.00	739286	0	0.00	0	84
Marginal farm Hhs	83	98.81	494578	1	1.19	10000	84
Landless farm Hhs	80	95.24	245313	4	4.76	4200	84
Sampled	415	98.81	1119337	5	1.19	5360	420

Source: Field Survey, 2019

A majority of houses of the dairy farmers are owned (415, 98.81 per cent) and remaining 5 (1.19 per cent) respondents are living in rented accommodations. This may be due to the reason that dairy farmers are in a position to afford owned house and rented accommodations are preferred because of poor financial position.

Category-wise distribution of the dairy farmers according to ownership of house explains that large, medium and small farm households are living in houses owned by them. In case of marginal farm households, 83 (98.81 per cent) houses are owned. Also, 80 (95.24 per cent) of houses are owned among landless farm

households. Average value of owned house is ₹1119337 and average rent of the rented accommodation is ₹5360 per month.

3.2. House Structure

Infrastructure of house is positively associated with economic profile of the households. All of large farm households own pucca houses due to their economic feasibility. Landless farm households live mostly in semi-pucca and katcha houses because of their weak financial position.

Table 2: House-structure of Sampled Households

Category	House-structure						Total
	Pucca		Semi-pucca		Katcha		
	No.	%	No.	%	No.	%	
Large farm Hhs	84	100.00	0	0.00	0	0.00	84
Medium farm Hhs	82	97.62	1	1.19	1	1.19	84
Small farm Hhs	78	92.86	6	7.14	0	0.00	84
Marginal farm Hhs	75	89.29	8	9.52	1	1.19	84
Landless farm Hhs	52	61.90	20	23.81	12	14.29	84
Sampled	371	88.34	35	8.33	14	3.33	420

Source: Field Survey, 2019

Table 2 explains about the distribution of the dairy farmers as per their house-structure. Out of 420 dairy farmers, 371 (88.34 per cent) own pucca houses, 35 (8.33 per cent) lives in semi-pucca houses and katcha houses belong to 14 (3.33 per cent) of the dairy farmers. All of the dairy farmers from large farm households live in pucca houses. Across the categories, all of the 84 (100 per cent) large farm households own pucca house, whereas 52 (61.90 per cent) of landless farm households lives in pucca houses. Maximum number (20, 23.81 per cent) of semi-pucca houses and katcha houses (12, 14.29 per cent) are owned by landless farm households.

3.3. Availability of Separate Kitchen

Table 3 presents the distribution of the dairy farmers according to the availability of separate kitchen in their houses. A big majority of the dairy farmers, i.e., 391 (93.10 per cent), have separate kitchen in their house and 29 (6.90 per cent) houses have no separate kitchen in their house. Along with infrastructure, facilities

available in the house also depend upon the economic position of the household.

Category-wise distribution of the dairy farmers on the basis of availability of separate kitchen exhibits that all houses of large and medium farm households have separate kitchen. A large number of the small farm households (82, 97.62 per cent) have separate kitchen and 2 (2.38 per cent) have no separate kitchen in their house. Among the marginal farm households, 79 (94.05 per cent) have separate kitchen and remaining 5 (5.95 per cent) do not have the separate kitchen. A big majority of the landless farm households, i.e., 62 (73.81 per cent) have the provision of the separate kitchen, whereas 22 (26.19 per cent) have no separate kitchen in their house.

In case of houses which do not have separate kitchen, maximum number (22, 26.19 per cent) of the dairy farmers belong to landless farm households, followed by marginal farm households (5, 5.95 per cent) and 2 (2.38 per cent) belong to small farm households.

Table 3: Availability of Separate Kitchen

Category	Availability of Separate Kitchen				Total
	Yes		No		
	No.	%	No.	%	
Large farm Hhs	84	100.00	0	0.00	84
Medium farm Hhs	84	100.00	0	0.00	84
Small farm Hhs	82	97.62	2	2.38	84
Marginal farm Hhs	79	94.05	5	5.95	84
Landless farm Hhs	62	73.81	22	26.19	84
Sampled	391	93.10	29	6.90	420

Source: Field Survey, 2019

3.4. Type of Fuel Used in Kitchen

Since long, dung cake remains one of the important traditional kitchen fuels among the rural households. Now, the households of rural Punjab have started using LPG along with firewood. The Pradhan Mantri Ujjwala

Yojana (PMUY) is increasing LPG consumption in the state. The usage of gobar gas is famous among large farm households due to their more herd size and financial viability.

Table 4: Type of Fuel Used in Kitchen

Category	Fuel Used								Total
	LPG		Firewood		Gobar gas		LPG & Firewood		
	No.	%	No.	%	No.	%	No.	%	
Large farm Hhs	35	41.67	0	0.00	30	35.71	19	22.62	84
Medium farm Hhs	25	29.76	0	0.00	11	13.10	48	57.14	84
Small farm Hhs	16	19.05	0	0.00	4	4.76	64	76.19	84
Marginal farm Hhs	11	13.10	0	0.00	3	3.57	70	83.33	84
Landless farm Hhs	10	11.91	4	4.76	0	0.00	70	83.33	84
Sampled	97	23.10	4	0.95	48	11.43	271	64.52	420

Source: Field Survey, 2019

Table 4 provides detailed information about fuel used for cooking in houses of sampled families. LPG, firewood and gobar gas are the fuels used for cooking by the dairy farmers. As many as 271 (64.52 per cent) of dairy farmers' households use both LPG and firewood, 97 (23.10 per cent) use LPG only, 48 (11.43 per cent) use gobar gas and 4 (0.95 per cent) firewood only for cooking.

Among various categories, LPG is widely used by large farm households (35, 41.67 per cent) and minimum (10, 11.91 per cent) by landless dairy farmers. Firewood is used only by landless dairy farmers (4, 4.76 per cent).

The usage of gobar gas for cooking is highest (30, 35.71 per cent) among the dairy farmers from large farm size category and nil among landless dairy farmers. LPG and firewood jointly are used maximum (70, 83.33 per cent each) by landless and marginal farm households and minimum (19, 22.62 per cent) by large farm households.

3.5. Availability of Bathroom and Lavatory

The distribution of the dairy farmers according to facility of proper bathroom and lavatory is shown in table 5. As much as 401 (95.48 per cent) have the facility

Table 5: Availability of Bathroom and Lavatory

Category	Bathroom					Lavatory				Total
	Yes		No		Total	Yes		No		
	No.	%	No.	%		No.	%	No.	%	
Large farm Hhs	84	100.00	0	0.00	84	84	100.00	0	0.00	84
Medium farm Hhs	84	100.00	0	0.00	84	84	100.00	0	0.00	84
Small farm Hhs	83	98.81	1	1.19	84	82	97.62	2	2.38	84
Marginal farm Hhs	81	96.43	3	3.57	84	81	96.43	3	3.57	84
Landless farm Hhs	69	82.14	15	17.86	84	68	80.95	16	19.05	84
Sampled	401	95.48	19	4.52	420	399	95.00	21	5.00	420

Source: Field Survey, 2019

of proper bathroom in their household premises and 19 (4.52 per cent) do not have this facility. All of the dairy farmers from large and medium farm size category have proper bathrooms in their houses, while 83 (98.81 per cent) of the dairy farmers from small farm size category has this facility. A big majority (81, 96.43 per cent) of the dairy farmers belonging to marginal farm size category and 69 (82.14 per cent) landless dairy farmers have the bathrooms in their household premises. In case of the dairy farmers which do not have the proper bathroom facility, maximum number (15, 17.86 per cent) of the dairy farmers belong to landless farm size category. In case of lavatory, 399 (95 per cent) dairy farmers out of total have the facility of proper lavatory in their houses and remaining 21 (5 per cent) do not have this facility. Maximum number (84, 100 per cent) of the dairy farmers having the facility of lavatory belongs to two categories, viz., all of the large and medium farm households each and lowest (68, 80.95 per cent) of the same belongs to landless farm households. The largest numbers (16, 19.05 per cent) of the dairy farmers, which

do not have lavatory facility, are from landless farm size category.

3.6. Access to Electricity and Inverter

Electricity is one of the basic necessities of life. It has many uses in our daily life. It is used for lighting rooms, working fans and domestic appliances. All dairy farmers (420, 100 per cent) have access to electricity due to electrification of villages of rural Punjab (table 6). As much as 313 (74.52 per cent) dairy farmers have inverters and each dairy farmer owns a single inverter. Remaining 107 (25.48 per cent) dairy farmers do not have inverters in their house. Across various categories, the maximum number (83, 98.81 per cent) of the dairy farmers owning inverters belongs to the large farm size category households due to their economic feasibility and minimum (22, 26.19 per cent) of the same are from the landless farm size category households.

Table 6: Access to Electricity and Inverter

Category	Electricity					Inverter				Total
	Yes		No		Total	Yes		No		
	No.	%	No.	%		No.	%	No.	%	
Large farm Hhs	84	100.00	0	0.00	84	83	98.81	1	1.19	84
Medium farm Hhs	84	100.00	0	0.00	84	79	94.05	5	5.95	84
Small farm Hhs	84	100.00	0	0.00	84	70	83.33	14	16.67	84
Marginal farm Hhs	84	100.00	0	0.00	84	59	70.24	25	29.76	84
Landless farm Hhs	84	100.00	0	0.00	84	22	26.19	62	73.81	84
Sampled	420	100.00	0	0.00	420	313	74.52	107	25.48	420

Source: Field Survey, 2019

3.7. Source of Drinking Water

There is rise in scarcity of water due to depletion of groundwater. In such a situation, traditional drinking water source, i.e., hand pump is becoming redundant

now. The state government is trying to provide safe drinking water in all villages. A majority of large farm households have their own individual drinking water source due to their financial feasibility.

Table 7: Source of Drinking Water

Category	Source of Drinking Water								Total
	Public Water Works		Electric Pump		Public Water Works & Electric Pump		Hand pump		
	No.	%	No.	%	No.	%	No.	%	
Large farm Hhs	0	0.00	83	98.81	1	1.19	0	0.00	84
Medium farm Hhs	11	13.10	70	83.33	2	2.38	1	1.19	84
Small farm Hhs	16	19.05	68	80.95	0	0.00	0	0.00	84
Marginal farm Hhs	16	19.05	60	71.43	1	1.19	7	8.33	84
Landless farm Hhs	38	45.24	32	38.10	1	1.19	13	15.47	84
Sampled	81	19.29	313	74.52	5	1.19	21	5.00	420

Source: Field Survey, 2019

Table 7 explains about drinking water source of the dairy farmers. As much as 81 (19.29 per cent) dairy farmers' drinking water source is public water works. Another, 313 (74.52 per cent) dairy farmers depend on electric pump. Only 5 (1.19 per cent) and 21 (5 per cent) dairy farmers' drinking water source is public water works & electric pump both and hand pump respectively. Among various categories, out of their respective totals, none of the large farm households use public water works as drinking water source and 38 (45.24 per cent) landless farm households depend upon public water works. In case of electric pump, maximum number (83, 98.81 per cent) of dairy farmers depending upon it, belongs to large farm size category and minimum (32, 38.10 per cent) of the same are from landless dairy farmers.

Highest number (2, 2.38 per cent) of dairy farmers depending upon both electric pump and public water works are from medium farm size category. Drinking water source of 13 (15.47 per cent) landless dairy farmers is hand pump, whereas none of large and small farm households depend upon hand pump.

3.8. Availability of Reverse Osmosis (R.O.)

The quality of drinking water is deteriorating in Punjab due to water pollution. The people of the state have started using R.O. system to purify water. But, the usage of R.O. is not much prevalent in Punjab.

Table 8: Availability of R.O.

Category	Availability of R.O.				Total
	Yes		No		
	No.	%	No.	%	
Large farm Hhs	54	64.29	30	35.71	84
Medium farm Hhs	24	28.57	60	71.43	84
Small farm Hhs	16	19.05	68	80.95	84
Marginal farm Hhs	7	8.33	77	91.67	84
Landless farm Hhs	1	1.19	83	98.81	84
Sampled	102	24.29	318	75.71	420

Source: Field Survey, 2019

Table 8 shows the distribution of the dairy farmers as per availability of Reverse Osmosis (R.O.) system for purifying the drinking water. Out of 420 dairy farmers, 102 (24.29 per cent) have R.O. facility and remaining 318 (75.71 per cent) do not have this facility. Out of 102 dairy farmers having R.O. facility, maximum number (54, 64.29 per cent) of the dairy farmers belong to large farm size category and minimum number (1, 1.19 per cent) of the same are from landless farm size category. As high as 83 (98.81 per cent) of landless farm dairy farmers do not have R.O. facility, whereas 30 (35.71 per cent) large farm households do not use this facility for drinking water purpose.

4.SUMMARY AND CONCLUSIONS

The results of the study reveal that a majority of houses of the dairy farmers are owned. No dairy farmer from large, medium and small farm size category is living in rented home and all of them own their residences. A big number of respondents live in pucca houses. A few dairy farmers live either in semi-pucca or in katcha houses. Slightly more than nine-tenth of the dairy farmers have separate kitchen in their house. A few dairy farmers use gobar gas and LPG as kitchen fuel. Maximum number of the dairy farmers using gobar gas belongs to large farm size category. A majority of sampled households have proper bathroom as well as lavatory facility. Across the categories, out of their respective totals, all large and medium farm households have access to proper bathroom and lavatory facility in their houses. All dairy farmers have access to electricity. Around three-fourth of the dairy farmers have inverters in their houses. Every dairy farmer owns a single inverter. Slightly more than one-fourth of the landless farm size category households have the facility of inverter. A large number of the dairy farmers depend upon electric pump as their drinking water source, followed by public water works and do not have R.O. facility for purifying drinking water. There is still need to strengthen dairy industry, either by providing remunerative prices to the milk producers or by providing them suitable incentives, to improve the living standard of the people involved in dairying.

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