Original Research article
Socio-economic Perspectiveof Milk Producers of district Ghazipur of Uttar Pradesh, India

Abstract

Socio-economic analysis play crucial role in implementation of any policy.This study, conducted in the Gazipur District of Uttar Pradesh, focuses on the current state of milk production costs. The research employs a descriptive and analytical design, using a survey methodology to categorize cattle owners into small, medium, and large-scale operations based on the number of cattle owned. A total of 10 villages were randomly selected from two blocks, with 150 milk producers chosen for in-depth study from each size category (small, medium, and large). The survey collected data on various demographics, including age, gender, education level, and social categories, as well as detailed information on milk marketing and socioeconomics. Results indicate that out of the 150 respondents, 76 were small-scale farmers, 43 were medium-scale, and 31 were large-scale. The majority of respondents (78%) were male. Economic analysis revealed that small households had an average annual income of Rs. 198,879, medium households Rs. 158,044, and large households Rs. 274,970. Non-farm income was highest for large farms (Rs. 148,140), followed by medium (Rs. 123,024) and small farms. This comprehensive study provides valuable insights into the economic conditions and marketing practices of milk producers in Gazipur, highlighting key areas for potential improvement and policy intervention.

Keywords: Socioeconomics, dairy, demographics, milk producer, Gazipur

Introduction

The scenario of dairy product production and consumption throughout the aforementioned period was also highlighted in the report. Compared to output, consumption is quite low during this time. The production increased by 37% from 203.80 million tonnes in 2010 to 279.42 million tonnes in 2018, whereas the consumption of dairy products decreased by 40.67% from 82.05 million tonnes to 115.42 million tonnes in the same time frame. According to the NITI Ayog working group report, the country's milk supply has outpaced its demand since the 1990s. The projected supply of milk in

2029–30 is 289.00 million tonnes, while the demand is expected to be 256 million tonnes. In 2020–21, the supply and demand are projected to be 194 million tonnes and 174 million tonnes, respectively. In terms of milk output, India is far and away number one. While the country's total milk output in 2018-2019 was 187.7 MT, this is lower than the average milk output in many other nations across the world. The cattle and buffaloes population of our country was reported to be 192.5 million and 109.9 million, respectively, which account 16 percent and 57 percent of the world population (State Animal Husbandry Department Census Report, 2019, (Gupta 2022) The per capita availability of milk was 394g/day in the country (NDDB statistics). The cattle and buffalo population in Uttar Pradesh state was 19.6 and 33 million respectively while in the study area (Jaunpur district) the respective population was 5.37 and 5.84 lacs (State Animal Husbandry Department Census Report, (2019). Dairy exports from India have potential, but they are currently being exported very slowly since the unorganised traditional sector dominates the market and produces low-quality, less marketable items. Countries that sell dairy products around the world, such as the United States, Australia, New Zealand, and Europe, are considering India as one of their possible markets. According to Indian specialists, agricultural economists, and social economists, the country currently has excess marketable surplus, therefore the introduction of imported dairy products would negatively impact India's dairy production and marketing system [FASAR, 2016].

Dairying practised in India by and large is still a small land holder’s enterprise in a mixed farming system. About seventy percent of the milk animals are reared by the marginal and small farmers as well as landless agricultural labourers. Though India has the best breed of buffalo in the world yet the productivity of buffalo is much less as compared to some other Asian countries. This is merely due to the fact that milk animal holders are widely dispersed in the areas with poor infrastructure having limited access to services and markets. Also livestocks are the living bank for many farmers and have a critical role in the agriculture intensification process through draught power, manure fertilizer and fuel. Livestocks are also closely linked to the social and cultural lives of millions particularly resource poor farmers for whom animal ownership ensures varying degree of sustainable farming and economic stability. Livestocks give increased economic stability to farm households acting as a cash buffer, a capital reserve and as a hedge against

inflation. In India where mixed farming system prevails, livestocks reduce the risk through diversification of production and income sources and there is therefore, a much greater ability to livestocks to represent liquid assets which can be realized at any time, adding further stability to the production system. The importance of livestocks as a source of income at the farm level vary across ecological zones and production systems, which in turn determines the species raised and the products and services generated. Dairy product is the most regular income generator. Dairy development thus, has increased income employment and repayment capacity in India.

MATERIALS AND METHODS

This research employs a descriptive and analytical design to explore various aspects of milk marketing and cattle ownership. The study was conducted in the Gazipur District, Uttar Pradesh, focusing on the current state of cost of production of milk. The methodology includes a survey of cattle owners in Gazipur, classifying them into small, medium, and large-scale operations based on the number of cattle owned. A list of the villages of these two selected blocks has been prepared with the help of block personnel and five villages from each block have been selected randomly. Thus 10 villages have been selected for the study. In the next stage all the milk producers of these 10 villages have been categorised into three size groups based on the number of milch animal i.e. Small (1 milch animal), medium (2-3 milch animals) and large (4 and above milch animals). Fifty milk producers from each category have been selected randomly for in-depth study. Finally, 150 milk producers have been selected as the ultimate sample unit of the study.The study also assesses the age, gender, education level, and social categories of cattle owners, alongside a comprehensive analysis of milk marketing channels, including costs, and market efficiency. Primary data were obtained from the sample milk producers using the survey approach through direct personal interviews conducted twice a year using a pre-tested schedule. The required secondary data pertaining to all sorts of dairy development efforts, livestocks, milch animals, milk production, growth and compositional changes in livestock and bovine population (latest livestock censuses), cooperative societies in east U.P., In addition to the demographic information, the study delves into the various factors influencing the cost of milk production, such as feed prices, veterinary care, labor costs, and other related expenses. By segmenting the cattle owners into different scales of operation, the research aims to identify the unique challenges and advantages faced by each group.

RESULTS AND DISCUSSION

Table1. Distribution of respondents on the basis of milch animals

Sr. No.	Category	Deshi respondents	Murrah respondents	Percentage	χ^2-Test value
1.	Small (1-2 cattle)	32	44	76	≈1.61
2.	Medium (3-4 cattle)	17	26	43	
3.	Large (5 and above)	9	22	31	
Total		**58**	**92**	**150**	

CD (Deshi) = 46.33%, CD (Murrah) = ≈ 37.87%

"Table 1 reveals Farm size is one of the prime socio-demographic variables in this study. As farm size affects the buying decision, it has an essential association in market-related research. Due to the distinction in their perception and socialization, farm size tends to have distinct conclusions while buying. Out of the total, 150 respondents 76 respondents were having small size farm, 43 were having medium size farm and remaining 31 were having large size farm". [24]

χ^2- test value **(1.61cal<5.99 tab)**for Deshi and Murrah categories shows that there is no significant difference in the distribution of respondents between Deshi and Murrah breeds across different categories of milch animals at the 5% level of significance. In this case, the CD for Deshi respondents is approximately 46.33% and for Murrah respondents is approximately 37.87%. The higher CD value for Deshi indicates greater variability compared to Murrahrespondents.Based on this, we can infer that there might be a significant difference in the distribution of respondents between Deshi and Murrah breeds across different categories of milch animals.

Table 2.Distributionofrespondentson the basis of their age

S. No.	Category	Respondents Number				χ^2- test value
			Small	Medium	Large	Percentage

1	Youngagegroup (20-35 years)	47	26	14	7	31.33	0.431
2	Middleagegroup (36-50 years)	78	36	22	20	52.00	
3	Oldagegroup (above 50 years)	25	14	7	4	16.67	
Total		**150**	**76**	**43**	**31**	**100.00**	

"Table 2 revealsthatone of the critical socio-demographic factors in this study is Age. Age is given such importanceinmarket-relatedresearch,becauseitaffectsthephysicalandpsychologicalaspectoftheconsumer, which, in turn, affects his/her buying behavior. From this Table it can be concludedthat 47 (31.33%) respondents are in the young age group of 20-35, 78 (52.00%) respondents are in the middle agegroup of 36-50, 25 (16.67%) respondents are in old age of above 50. Therefore,themajorityofrespondentsareinthe middle agegroupof36-50. Since $\chi 2$- test value 0.431<9.488, we fail to reject the null hypothesis. Hence there is no significant association between the age groups and the size of the respondents' categories at the 0.05 significance level".[24]

Table3.Distributionofrespondents on the basis of their gender

Sr. No.	**Category**	**Frequency**	**Percent**	$\chi 2$- test value
1	Male	117	78.00	47.04
2	Female	33	22.00	
Total		150	100.00	

"Table 3 represents Gender is one of the prime socio-demographic variables in this study. As gender affects the buying decision, it has an essential association in market-related research. Due to the distinction in their perception and socialization, men and females tend to have distinct conclusions while buying. Out of the total, 150 respondents 117 respondents were male, that is 78.00% while the remaining 33 were female that is 22% of total sample". [24] Since $\chi 2$- test value 47.04>3.841, we reject the null hypothesis. There

is a significant difference in the gender distribution (Male and Female) at the 0.05 significance level, indicating that the distribution of males and females is not equal in the observed sample.

Table 4 Distributionofrespondents on the basis of their education

Sr. No.	Particulars	Respondents Number	Small	Medium	Large	Percentage	χ2- test value
	Illiterate	27	13	8	6	18.00	31.587
1.	Primary	27	19	8	0	18.00	
2.	High School	19	14	5	0	12.67	
3.	Intermediate	44	18	17	9	29.33	
4.	Graduation & above	33	12	5	16	22.00	
	Total Literate	123	63	35	25	82.00	
Total		**150**	**76**	**43**	**31**	**100**	

Data present on Socio-demographic factor in Table 4 shows the considered in this consumer behavior study is education.From the table below among 150 respondents, 27 respondents found to be illiterate. The highestnumbers of respondents were foundtohaveIntermediatedegreequalification.Theyconstitute 44 (29.33%), 33(22.00%) were found that they are qualified till Graduation and above, 27 (18.00%) were found that they are qualified till primary school, 19(12.67%) were found that they are qualified till high school. Since χ2- test value 31.587>15.507, we reject the null hypothesis.There is a significant association between the education level and the size category of respondents at the 0.05 significance level.

Table 5: Average annual income of respondents:

Particulars	Farm Groups			All Farm Average
	Small	Medium	Large	
Farm Income	83466.00	95020.00	126830.00	**305316.00**
Non- Farm Income	115413.00	123024.00	148140.00	**386577.00**
Total	198879.00	158044.00	274970.00	**691893.00**

Income is directly associated with our daily economic activities it helps us get some of life's intangibles, freedom or independence' the opportunity to make the most of our skills and talents the ability to choose our life course', and financial security. With money' much good can be done and much unnecessary suffering avoided or eliminated. The table 5 shows the small household had an annual income of Rs. 198879 on average

while medium and large households had Rs. 158044and 274970 The non-farm income was found highest in the large farms followed by medium and small that was Rs. 148140 and Rs. 123024 respectively.

CONCLUSION

The findings of present study concludes that the out of the total, 150 respondents 76 respondents were having small size farm, 43 were having medium size farm and remaining 31 were having large size farm, 117 respondents were male, that is 78.00% while the remaining 33 were female that is 22% of total sample. the small household had an annual income of Rs. 198879 on average while medium and large households had Rs. 158044and 274970 The non-farm income was found highest in the large farms followed by medium and small that was Rs. 148140 and Rs. 123024 respectively.

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Author(s) hereby declare that generative AI technologies such as Large Language Models, etc have been used during writing or editing of manuscripts. This explanation will include the name, version, model, and source of the generative AI technology and as well as all input prompts provided to the generative AI technology

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