



## Research Article

# INTERACTIVE ROLE OF SOCIO-ECONOMIC CHARACTERISTICS ON THE INVOLVEMENT OF MALES AND FEMALES IN DAIRY FARMING ACTIVITIES IN KANPUR NAGAR, UTTAR PRADESH

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**Abstract:** In India, dairy farming is highly gender sensitive because most of the dairy activities are generally performed by female workers with less or no contributions from the male counterpart. Women constitute seventy one percent of labour force in livestock sector. In present study, an attempt has been made to find out association between personal and socio-economic profile of male and female dairy workers and their involvement in milking operation. Descriptive research design was adopted for conducting field survey. Total 120 respondents (60 males and 60 females) of three villages namely Hirdayapur, Ishwariganj and Dhampur From Kalyanpur block of District Kanpur (U.P.) were selected for data collection. Multistage random sampling was used to select the study area and respondents.  $\chi^2$  test was used to find out association between personal and socio-economics profile of respondents and their involvement in milking operation. Results showed significant association between personal and socio-economics profile of respondents and their involvement in milking operation.

**Keywords:**  $\chi^2$  test, Socio-economic characteristics, Milking, Random sampling

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## Introduction

Livestock is the fastest growing source of productive employment as compared to any other sector of Indian economy [1]. Within India the livestock sector supports the livelihood of nearly two hundred million poor [2]. India has witnessed a white revolution in eighties and nineties of the last century which is largely due to manifold increase in milk production [3]. Today, India has become number one milk producer in world leaving a per capita availability of two hundred thirty-three g per day [4]. In dairy sector, dairy workers and cattle are two main factors responsible for milk production. The entire responsibility of successful dairy business in dairy farming goes to dairy workers. Dairy farming is physically arduous occupation and exposes the dairy workers to various risk factors that have been associated with musculo-skeletal disorders. Various dairy development programmes have been run by Government and non-government organizations for the development of dairy industry. However, all the attempts made in India, were totally related to development of cattle breeding, cattle feeding, cattle health and hygiene, cattle vaccination and other cattle management practices. Unfortunately, worker who is integral part of more milk production is ignored. More over dairy farming is highly gender sensitive because most of the dairy activities are generally performed by female workers with less or no contributions from male counterpart. Women constitute seventy one percent of labour force in livestock sector [5]. In dairy sector there is an estimated seventy-five million women as compared to fifteen million men. Data on gender division of labour in livestock rearing show that the total mean working hours of women was significantly higher than that of men [6]. Triple burden of child rearing, farm work with dairy farming activities and household has fallen on the women. Economic pressure and third shift phenomenon result in long hours without rest and increased hours of exposure to potential injury producing agents. In present study an attempt has been made to find out the association between personal and socio-economic profile of male and female dairy workers and their involvement in selected dairy farming activities.

## Materials and Methods

For conducting field survey descriptive research design was adopted. Multistage random cum purposive sampling design was used to select the study area and respondents. District Kanpur (U.P.) was selected purposively for the present study with the assumption that the rural population of district were intensively engaged in dairy farming activities. District Kanpur was covered by 10 developmental blocks. Out of 10 blocks, Kalyanpur was selected randomly. The total population of Kalyanpur block was 1,40,285 lakh comprised of 75,666 lakh males and 64,619 lakh female. Three villages namely Hirdayapur, Ishwariganj and Dhampur were selected randomly from the list of villages of Kalyanpur block (Lottery or chit system). Total number of respondents selected for the field survey was 120 (60 males and 60 females). List of households of selected villages, possessing more than three cattle was prepared. Twenty females and twenty male respondents were selected randomly from the list of households of each selected village possessing more than three cattle. Pre-coded interview schedule was used as a tool for data collection. The collected data were tabulated and analyzed with the help of tabulation, frequency and  $\chi^2$  test.

## Results and Discussion

$\chi^2$  test for testing the association between involvement of male and female respondents in dairy farming activities and their family characteristics. Study describes association between family income of the respondents and milking operation [Table-1]. Significant value of  $\chi^2$  shows that that involvement of females and males in milking has association with their family income. The hypothesis was rejected both for male and female respondents. According to findings, the value of  $\chi^2$  is significant for females thus the hypotheses is rejected and it can be understood that family size and involvement of females in milking are associated with each other [Table-2]. Contrary to female, involvement of males in milking has no association with family size because of the non- significant values of  $\chi^2$ .

Table-1 Involvement of males and females in milking according to their family income

S	Family income (monthly)	Involvement in milking					
		Females			Males		
		Full	Partial	Total	Full	Partial	Total
1	Less than Rs. 6000	19	6	25	22	2	24
2	Above Rs. 6000	7	28	35	9	27	36
	Total	26	34	60	31	29	60
	$\chi^2$ value	$\chi_c = 18.62443$ DF=1			$\chi_c = 23.02836^*$ DF= 1		

*Ho=There is no association between family income of female and male respondents and their involvement in milking.*

Table-2 Involvement of males and females in milking according to their family size

S	Family size	Involvement in milking					
		Females			Males		
		Full	Partial	Total	Full	Partial	Total
1	Up to 4 members	10	4	14	8	2	10
2	Above 4 members	16	30	46	23	27	50
	Total	26	34	60	31	29	60
	$\chi^2$ value	$\chi_c = 2.11482^*$			$\chi_c = 1.6178$		

*Ho=There is no association between family size of female and male respondents and their involvement in milking.*

Table-3 Involvement of males and females in milking according to their education

S	Education	Involvement in milking					
		Females			Males		
		Full	Partial	Total	Full	Partial	Total
1	Illiterate	21	6	27	11	3	14
2	Literate	5	28	33	27	19	46
	Total	26	34	60	38	22	60
	$\chi^2$ value	$\chi_c = 23.71^{**}$ DF=1			$\chi_c = 2.79861^*$ , DF=1		

*Ho=There is no association between the education level and involvement of females and males in milking*

Table-4 Involvement of females and males in milking according to their age

S	Age (years)	Involvement in milking					
		Females			Males		
		Full	Partial	Total	Full	Partial	Total
1	Less than 40 years	16	18	34	28	6	34
2	Above 40 years	10	16	26	3	23	26
	Total	26	34	60	31	32	60
	$\chi^2$ value	$\chi_c = 0.4438$ , DF=1			$\chi_c = 8.39395^{**}$ , DF=1		

*Ho=There is no association between age and involvement of females and males in milking*

Table-5 Involvement of females and males in milking according to their caste

S	Caste	Involvement in milking					
		Females			Males		
		Full	Partial	Total	Full	Partial	Total
1	General	4	11	15	8	11	19
2	Backward	13	14	27	15	9	24
3	Scheduled	9	9	18	8	9	17
	Total	26	34	60	31	29	60
	$\chi^2$ value	$\chi_c = 3.382$ , DF = 1			$\chi_c = 1.9$ , DF = 1		

*Ho=There is no association between caste of females and males and their involvement in milking*

Table-6 Involvement of females and males in milking according to their livestock possession

S	Livestock possession	Involvement in milking					
		Females			Males		
		Full	Partial	Total	Full	Partial	Total
1	1-5 cattle	5	10	15	9	12	21
2	5-7 cattle	10	14	24	6	10	16
3	Above 7 cattle	11	10	21	16	7	23
	Total	26	34	60	31	29	60
	$\chi^2$ value	$\chi_c = 1.338074$ , DF = 1			$\chi_c = 9.530^{**}$ , DF=1		

*Ho=There is no association between livestock possession of females and male dairy workers and their involvement in milking*

In reference to education level of respondents and their involvement in milking,  $\chi^2$

value is significant for female at 0.1 percent level hence the hypothesis is rejected and there is no association between education level and involvement of females in milking. Significant values of  $\chi^2$  for both the male and female respondents shows that involvement of male and female respondents in milking operation [Table-3] has no association with their education level and the hypothesis was rejected no. In the case of male respondents  $\chi^2$  is also significant and thus here also hypothesis is rejected and there is no association between education level and involvement of male and female respondents [Table-3]. The [Table-4] explicit that for females,  $\chi^2$  value was non-significant and thus, the hypothesis is accepted whereas for males  $\chi^2$  was significant at 0.01 level of significance and hence the hypothesis is rejected. It can be concluded that female's involvement in milking is not associated with their age whereas male's involvement in milking is associated with their age. [Table-5] signifies that the value of  $\chi^2$  was non-significant for both females and males and therefore the hypothesis is accepted. On the basis of above analysis, it can be said that caste has non-significant association with female and male participation in milking. The [Table-7] shows that the value of  $\chi^2$  is non-significant for females and thus the hypothesis is accepted and the value of  $\chi^2$  for males is significant at 1 percent level of significance and thus hypothesis is rejected and hence the involvement of males in milking was significantly associated with livestock possession of their family whereas female involvement in milking was not associated with livestock possession of their family.

**Application of research:** The scientists and research scholars can use findings of the study to take-up future research in the concerned field. The information's gathered from the study may also be helpful to the extension workers, NGOs and other extension organizations to extend the useful information to the beneficiaries.

**Research Category:** Agriculture economics

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**Study area / Sample Collection:** District Kanpur, Uttar Pradesh

**Conflict of Interest:** None declared

**Ethical approval:** This article does not contain any studies with human participants or animals performed by any of the authors.

Ethical Committee Approval Number: Nil

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