Association Between Personal Traits and Constraints in Production of Milk Udaipur District of Rajasthan

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Abstract: Dairying and agriculture are bound together by a set of mutual input-output relationships. The role of dairying in shaping the socio-economic life of rural folk living under extreme pressure of climatic stress and infrastructural constraints add to significance of this sector in forming the rural economy. The present study was conducted in Udaipur district of Rajasthan. There are total eleven tehsils in Udaipur district, out of which two tehsils namely, Girwa and Salumbar were selected for the present study on the basis of maximum livestock population. Five villages from each tehsil were selected on the basis of maximum number of milk producers. For selection of respondents, 120 milk producers were randomly selected from identified villages (12 from each village) for data collection. It was found that age, education, occupation, size of land holding, annual income, family size, social participation and extension contact were not significantly associated with constraints in production of milk by the milk producers.

Key words: Dairying, Constraint, Milk, Production, Association

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1. Introduction

Dairying and agriculture are bound together by a set of mutual input-output relationships. Dairying is not an adjunct to the crop-mix of Indian farms but an integral part of the total farming system. Though the dairy industry in India has undergone considerable transformation over the years and is considered the secondary source of income for millions of rural households, still the per animal production of milk is very less. The role of dairying in shaping the socio-economic life of rural folk living under extreme pressure of climatic stress and infrastructural constraints add to significance of this sector in forming the rural economy. The scope for regular flow of income through dairying based activities in relation to seasonal flow of income from crop enterprise is looked upon as an important means to meet out rural household expenditure leading to socio-economic upliftment. The assured flow of regular income at household level is considered as a source of strength and confidence to initiate expenditure on education of children, health care of farm family members and also higher level of consumption expenditure.

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confidence to initiate expenditure on education of children, health care of farm family members and also higher level of consumption expenditure.

2. Methodology

The present investigation was conducted purposely in Rajasthan state. Rajasthan is India's largest state by area. It is located on the western side of the country. The present study was conducted in Udaipur district of Southern Rajasthan. Girwa and Salumbar were selected for the present study on the basis of maximum livestock population to draw the sample of village for inclusion in the study. From the prepared list, five villages from each tehsil were selected on the basis of maximum number of milk producers. Thus, ten villages were selected for the present investigation. Out of the prepared list, 12 farmers were selected from each village on the basis of random sampling technique. Thus, total 120 farmers were selected for investigation.

3. Results and discussion

Associations of selected personal traits with constraints in production and marketing of milk by the milk producers

Association between constraints faced by milk producers in production of milk and selected personal variables *viz.* age, education, occupation, annual income, size of land holding, family, social participation and extension contact. To find out the association between these personal characteristics and the constraints, chi-square test was applied. The milk producers were categorized into three categories i.e. low, medium and high on the basis of mean score and standard deviation of the constraints scores obtained by the respondents. The results have been presented in subsequent Tables**.**

Association between age of the respondents and constraints in production of milk:

An observation of data in Table 1 shows that out of total 20 respondents from young age group, 5 (25.00%) had viewed in category of high level of constraints in production of milk, while 10 (50.00%) and 5 (25.00%) milk producers were found in the group of medium and low level of constraints in production of milk, respectively.

In the middle age group, 44, 17 and 16 milk producers possessed medium, high and low constraints in production of milk, respectively. In case of old age group, out of 23 respondents, 26.08 per cent, 47.84 per cent and 26.08 per cent milk producers had low, medium and high constraints in production of milk.

Table 1: Association between age of the respondents and constraints in production of milk n=120

Age category	Level of constraints			Total	x^2value
	Low	Medium	High		
Low (< 31years)	5 (25.00)[1] (18.52)[2]	10 (50.00) (15.38)	5 (25.00) (17.86)	20 (100) (16.67)	**0.80[NS]**
Medium (31-54 years)	16 (20.79) (59.26)	44 (57.14) (67.70)	17 (22.07) (60.71)	77 (100) (64.17)	
High (> 54 years)	6 (26.08) (22.22)	11 (47.84) (16.92)	6 (26.08) (21.43)	23 (100) (19.16)	
Total	27 (22.50) (100)	65 (54.17) (100)	28 (23.33) (100)	120 (100)	

1 = Percentage of row, 2 = Percentage of column, NS- Non-Significant

Table 2: Association between education of respondents and constraints in production of milk n=120

Education level	Level of constraints			Total	x^2 value
	Low	Medium	High		
Illiterate	8 (24.24)[1] (29.62)[2]	16 (48.48) (24.62)	9 (27.28) (32.14)	33 (100) (27.50)	**1.17[NS]**
Up to primary	12 (21.42) (44.46)	33 (58.93) (50.76)	11 (19.65) (39.28)	56 (100) (46.67)	
Above primary	7 (22.58) (25.92)	16 (51.61) (24.62)	8 (25.81) (28.58)	31 (100) (25.83)	
Total	27 (22.50) (100)	65 (54.17) (100)	28 (23.33) (100)	120 (100)	

1 = Percentage of row, 2 = Percentage of column, NS- Non Significant

Table 3: Association between occupation of respondents and constraints in production of milk n=120

Occupation level	Level of constraints			Total	x^2 value
	Low	Medium	High		
Labour	7 (25.92)[1] (25.92)[2]	13 (48.16) (20.00)	7 (25.92) (25.00)	27 (100) (22.50)	**0.88[NS]**
Agriculture	15 (20.54) (55.56)	42 (57.53) (64.62)	16 (21.93) (57.14)	73 (100) (60.83)	
Business and service	5 (25.00) (18.52)	10 (50.00) (15.38)	5 (25.00) (17.86)	20 (100) (16.67)	
Total	27 (22.50) (100)	65 (54.17) (100)	28 (23.33) (100)	120 (100)	

1 = Percentage of row, 2 = Percentage of column, NS- Non Significant

Further analysis of Table 1 clearly indicates that the calculated chi-square value (0.80) was less than tabulated value. Thus, the null hypothesis (NH_{03}) was accepted and research hypothesis was rejected. This non-significant value shows that there was no association between age and constraints in production of milk. Hence, it is concluded that age did not play any significant role in constraints as perceived by the respondents in the study area.

Association between education of respondents and constraints in production of milk

The results in Table 2 indicates that out of total 56 respondents in upto primary group, 58.93 per cent, 19.65 per cent and 21.42 per cent had medium, high and low category of constraints in production of milk. In the group of illiterates, out of 33 respondents, 48.48 per cent, 27.28 per cent and 24.24 per cent respondents were in medium, high and low category of constraints in production of milk.

Out of 31 respondents in above primary group, 7 respondents (22.58%) were in low, 16 respondents (51.61%) were in medium and 8 (25.81%) respondents were in high constraints category.

Further analysis of Table 2 clearly indicates that the calculated chi-square value (1.17) was less than tabulated value. Thus, the null hypothesis (NH_{04}) was accepted and research hypothesis was rejected. This non-significant value shows that there was no association between education and constraints in production of milk. Hence, it is concluded that education did not play any significant role in constraints as perceived by the respondents in the study area.

Association between occupation and constraints in production of milk

An observation of data in Table 3 shows that out of total 27 milk producers from labour group, 7 (25.92%) had viewed in category of high level of constraints, while 13 (48.16%) and 7 (25.92%) milk producers were found in the group of medium and low level of constraints in production of milk, respectively.

In the agriculture group, 42 (57.53%), 16 (21.93%) and 15 (20.54%) milk producers were in medium, high and low category of constraints in production of milk, respectively. In case of business and service group, out of 20 respondents, 50.00 per cent, 25.00 per cent and 25.00 per cent milk producers were in medium, low and high category of constraints in production of milk.

Further analysis of Table 3 clearly indicates that the calculated chi-square value (0.88) was less than tabulated value. Thus, the null hypothesis (NH_{05}) was accepted and research hypothesis was rejected. This non-significant value shows that there was no association between occupation and constraints in production of milk. Hence, it is concluded that occupation did not play any significant role in constraints as perceived by the respondents in the study area.

Association between annual income of respondents and constraints in production of milk.

Table 4: Association between annual income of respondents and constraints in production of milk n=120

Income level	Level of constraints			Total	x^2 value
	Low	Medium	High		
Rs. 10,000 to 1.0 lac per annum	8 (26.67)[1] (29.63)[2]	14 (46.66) (21.53)	8 (26.67) (28.57)	30 (100) (25.00)	**1.38^{NS}**
Rs. 1.0 lac to 2.5 lac per annum	14 (20.00) (51.85)	41 (58.57) (63.07)	15 (21.43) (53.57)	70 (100) (58.33)	
Above Rs. 2.5 lac per annum	5 (25.00) (18.52)	10 (50.00) (15.40)	5 (25.00) (17.86)	20 (100) (16.67)	
Total	27 (22.50) (100)	65 (54.17) (100)	28 (23.33) (100)	120 (100)	

1 = Percentage of row, 2 = Percentage of column, NS- Non Significant

Table 5: Association between size of land holding of respondents and constraints in production of milk n=120

Land holding	Level of constraints			Total	x^2 value
	Low	Medium	High		
Landless	9 (25.00)[1] (33.33)[2]	17 (47.22) (26.15)	10 (27.78) (35.72)	36 (100) (30.00)	**1.98^{NS}**
Less than 1 ha land	13 (20.00) (48.15)	39 (60.00) (60.00)	13 (20.00) (46.43)	65 (100) (54.17)	
More than 1 ha land	5 (26.32) (18.52)	9 (47.36) (13.85)	5 (26.32) (17.85)	19 (100) (15.83)	
Total	27 (22.50) (100)	65 (54.17) (100)	28 (23.33) (100)	120 (100)	

1 = Percentage of row, 2 = Percentage of column, NS- Non Significant

Table 6: Association between family size and constraints in production of milk

n=120

Family size	**Level of constraints**			**Total**	**x^2 value**
	Low	**Medium**	**High**		
Nuclear	10 (26.32) (37.04)	18 (47.36) (27.70)	10 (26.32) (35.72)	38 (100) (31.67)	**1.05^{NS}**
Joint	17 (20.73) (62.96)	47 (57.32) (72.30)	18 (21.95) (64.28)	82 (100) (68.33)	
Total	27 (22.50) (100)	65 (54.17) (100)	28 (23.33) (100)	120 (100)	

1 = Percentage of row, 2 = Percentage of column, NS- Non Significant

Table 7: Association between social participation and constraints in production of milk

n=120

Social participation	**Level of constraints**			**Total**	**x^2 value**
	Low	**Medium**	**High**		
No participation	7 (24.13)[1] (25.92)[2]	14 (48.28) (21.54)	8 (27.59) (28.58)	29 (100) (24.17)	**0.66^{NS}**
Member of organization	10 (22.73) (37.04)	24 (54.54) (36.92)	10 (22.73) (35.71)	44 (100) (36.67)	
Member of local committees	10 (21.28) (37.04)	27 (57.44) (41.54)	10 (21.28) (35.71)	47 (100) (39.16)	
Total	27 (22.50) (100)	65 (54.17) (100)	28 (23.33) (100)	120 (100)	

1 = Percentage of row, 2 = Percentage of column, NS- Non Significant

Table 8: Association between extension contact of respondents and constraints in production of milk n=120

Contact with extension agencies	Level of constraints			Total	x^2 value
	Low	Medium	High		
Regularly	7 (25.00)[1] (25.92)[2]	14 (50.00) (21.54)	7 (25.00) (25.00)	28 (100) (23.33)	**1.98[NS]**
Occasionally	10 (18.52) (37.04)	33 (61.12) (50.77)	11 (20.36) (39.28)	54 (100) (45.00)	
Never	10 (26.32) (37.04)	18 (47.36) (27.69)	10 (26.32) (35.72)	38 (100) (31.67)	
Total	27 (22.50) (100)	65 (54.17) (100)	28 (23.33) (100)	120 (100)	

1 = Percentage of row, 2 = Percentage of column, NS- Non-Significant

The data presented in Table 4 shows that out of 30 respondents, 14 (46.66%), 8 (26.67%) and 8 (26.67%) respondents of Rs.10, 000 to 1.0 lac annual income group were viewed in medium, low and high category of constraints in production of milk, respectively. Whereas, out of 70 milk producers from Rs. 1.0 lac to 2.5 lac annual income group, 14 (20.00%), 41 (58.57%) and 15 (21.43%) were in low, medium and high category of constraints in production of milk, respectively. In case of above Rs. 2.5 lac annual income group, out of 20 respondents, 5 (25.00%), 10 (50.00%) and 5 (25.00%) milk producers were observed in low, medium and high category of constraints in production of milk, respectively.

The data further shows that calculated chi-square value (1.38) was less than tabulated value. Thus, the null hypothesis (NH_{06}) was accepted and research hypothesis was rejected. This non-significant value shows that there was no association between income level and constraints in production of milk. Hence, it is concluded that annual income did not play any significant role in constraints as perceived by the respondents in the study area.

Association between size of land holding of respondents and constraints in production of milk.

The data recorded in Table 5 shows that out of 36 landless milk producers, 25.00 per cent, 47.22 per cent and 27.78 per cent were in low, medium and high category, respectively. Whereas, out of 65 milk producers who had less than 1 ha land, 13 (20.00%), 39 (60.00%) and 13 (20.00%) were in low, medium and high category of constraints in production of milk, respectively. In case more than 1 ha land group, out of 19 respondents, 5 (26.32%), 9 (47.36%) and 5 (26.32%) had low, medium and high constraints, respectively.

Further observation of Table 5 clearly shows that calculated chi-square value (1.98) was less than tabulated value. Thus, the null hypothesis (NH_{07}) was accepted and research hypothesis was rejected. This non significant value shows that there was no association between size of land holding and constraints in production of milk. Hence, it is concluded that size of land holding did not play any significant role in constraints as perceived by the respondents in the study area.

Association between family size of respondents and constraints in production of milk

The results in Table 6 indicates that out of total 38 respondents in nuclear family group, 26.32 per cent, 47.36 per cent and 26.32 per cent were in low, medium and high category of constraints in production of milk, respectively. In joint family group, out of 82 respondents, 57.32 per cent, 21.95 per cent and 20.73 per cent respondents were in medium, high and low category of constraints in production of milk, respectively.

The data further shows that calculated chi-square value (1.05) was less than tabulated value. Thus, the null hypothesis (NH_{08}) was accepted and research hypothesis was rejected. This non-significant value shows that there was no association between family size and constraints in production of milk. Hence, it is concluded that family size did not play any significant role in level of constraints in the study area.

Association between social participation and constraints in production of milk

The data recorded in Table 7 shows that out of 29 milk producers who had not participated in any organizations, 24.13 per cent, 48.28 per cent and 27.59 per cent were in low, medium and high category, respectively, whereas, out of 44 milk producers who were member of organization, 10 (22.73%), 24 (54.54%) and 10 (22.73%) respondents were in low, medium and high category of constraints in production of milk, respectively. In case of member of local committees group, 10 (21.28%), 27 (57.44%) and 10 (21.28%) were in low, medium and high group of constraints in production of milk, respectively.

The data further shows that calculated chi-square value (0.66) was less than tabulated value. Thus, the null hypothesis (NH_{09}) was accepted and research hypothesis was rejected. This non-significant value shows that there was no association between social participation and constraints in production of milk. Hence, it is concluded that social participation did not play a significant role in level of constraints in the study area.

Association between extension contact of respondents and constraints in production of milk

The data recorded in Table 8 shows that out of 28 milk producers who regularly contacted with extension agencies, 7 (25.00%), 14 (50.00%) and 7 (25.00%) had low, medium and high level of constraints in production of milk, respectively. In the occasionally contacted with extension agencies group, out of 54 respondents 10 (18.52%), 33 (61.12%) and 11 (20.36%) possessed low, medium and high level of constraints in production of milk, respectively. In case of never contacted with extension agencies group, out of 38 respondents 26.32 per cent, 47.36 per cent and 26.32 per cent possessed low, medium and high level of constraints in production of milk, respectively.

The data further show that calculated chi-square value (1.98) was less than tabulated value. Thus, the null hypothesis (NH_{10}) was accepted and research hypothesis was rejected. This non-significant value shows that there was no association between extension contact and constraints in production of milk. Hence, it is concluded that extension contact did not play a significant role in level of constraints in the study area.

4. Conclusion

It was found that age, education, occupation, size of land holding, annual income, family size, social participation and extension contact were not significantly associated with constraints in production of milk by the milk producers.

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