

## Association Between Personal Attributes with Level of Knowledge and Extent of Adoption about Improved Animal Husbandry Practices

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### ABSTRACT

*The present investigation was concerned with Uttari Rajasthan Sahkari Dugdh Utpadak Sangh Limited (URMUL) Bikaner of Rajasthan to find out the adoption of improved animal husbandry practices by the farmer. URMUL dairy Bikaner rank sixth in terms of milk collecting union and consist of 32 milk procurement routes, out of which eight routes and one dairy cooperative society were selected on the basis of highest milk collection routes. The information was gleaned from 160 respondents i.e., 80 members and 80 non-members by applying random techniques. There was significant association between different variable viz., age, education, size of land holding, family type and family size with knowledge level as well as extent of adoption of member, non-member and overall respondents. Personal attribute of respondents like caste had no association with knowledge level and extent of adoption in Bikaner of Rajasthan.*

### Introduction

In the world, about 2445 million people are economically involved in agriculture, out of which about three-fourth are partially dependent on livestock farming. In our country, about 65 to 70 per cent of the population is engaged in agriculture and rearing of livestock (mainly cattle and buffaloes) which is complementary to agriculture. Livestock production in India is of backyard type. The gap between achievable and achieved in livestock productivity with existing resources and infrastructure is wider than any other enterprise. In India dairy cooperatives were formed only after 1912. The real beginning was made only after the Second World War. The Khaira district co-operative milk union Ltd., popularly known as AMUL, was the first producer oriented dairy organized in 1946. This milk union has proved that dairying can be best conducted in production, processing

and marketing by the farmers themselves. The dairy cooperatives are organized with a three tier structure. This structure is evolved by the National Dairy Development Board (NDDB) and is known as "Anand Pattern". The milk production has increased substantially with the efforts of the "NDDB" operation flood programme started in 1970.

India ranks number one milk producing country in the world. The total milk production in India in 2018-19 was 187.7 million tonnes. The per capita availability of milk in 2019-19 was 394 gm/day which is less than the minimum recommended level of 280 gms/day recommended by the Indian Council of Medical Research (ICMR). Considering the rapid minimum per capita level is a real challenge not only we have to increase our milk production in near future, but also, we have to concentrate our efforts on improving the quality of milk and

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milk product with better management. In context to the state of Rajasthan. It is the first largest state of Indian union covering an area of 3.42 lacs sq. km. It lies between 23.290 and 30.120 North latitude and 78.170 East longitude bordered by Pakistan on the west and states of Gujarat, M.P., U.P., Punjab and Haryana. The state is administratively divided into 33 districts. At present private and co-operative organization are engaged in the production, procurement, processing and milk marketing in rural areas. The milk producers who sell their milk through private local traders are always exploited. The private traders have been interested in maximizing their own profits and are least concerned in improving the productivity of dairy farming. The burden has therefore, fallen on the co-operative sector. Primary, milk co-operative societies have been organized to help dairy farmers in developing dairy as an industry. Rajasthan co-operative dairy federation consists of 19 milk unions. These milk unions cover the 33 districts in the state. District co-operative unions provide extension services like breeding (A.I.) and animal health care including vaccination mobile clinics. Out of nineteen (19) milk unions. "Uttari Rajasthan Sahkari Dugdh Utpadak Sangh Limited" (Bikaner dairy union) famous URMUL was established in August 28, 1972 co-operatives body registered under the co-operative societies at 1956. The objective was to ameliorate the socio-economic status of the rural population by providing them market for their milk at the doorstep irrespective of their difficult geographical conditions. The URMUL covers Bikaner, Sriganganagar, Hanumangarh and Churu districts (Anonymous, 2008).

URMUL started its business in July, 1973 with the initial membership of 64 societies and an average milk collection of 1500 liters a day. The milk union established its own processing facilities during the year 1977. In August, 1983, URMUL collected 2.69 lack liters of milk in a day which was a record. Now there are 704 milk societies covered by 32 milk routes collecting about 6.88 lacs liter milk/day. No one had ever thought that there existed a huge quantity of milk in the hot Thar deserts of Bikaner districts. URMUL is progressing constantly as it believes in farmers' leadership and professional management. Now the migration of the border population is a nightmare as their bread and butter is being well taken care of by URMUL. The present status of URMUL Dairy plant is 5 kms away from the main city, located on the Sriganganagar road. The rated capacity of the plant is 1.5 lacs litres of milk per day. URMUL Dairy is one of the main suppliers of milk among the units of R.C.D.F. to D.M.S. and mother Dairy Delhi. Recently URMUL has accepted a common pack design (MNEMONIC SYMBOL) for different types of milk sold in the market. An agreement to this effect has been signed between NDDDB and RCDF. The plant is managed and operated by well qualified, competent and experienced managerial cadre and highly motivated work force to provide the good quality products.

## Research Methodology

The study was undertaken in Bikaner district of Rajasthan. The investigation was concerned with URMUL dairy, which is the

largest milk collecting union in arid region of northern Rajasthan which collected 6.88 lakhs liter/milk/day. URMUL dairy Bikaner consist of 32 milk procurement routes/dairy cooperatives societies, out of which eight societies were selected on the basis of highest milk collecting routes namely, 50, 17+19+21, 24+28, 25+27, 29A, 8, 35, 34 for the present investigation. For the selection of respondents from each selected dairy cooperative society, 10 members and 10 non-members of dairy cooperative societies were selected by applying systematic random techniques. This way, the total sample consisted of 160 respondents i.e. 80 members and 80 non-members respondents. In order to ascertain the association between selected personal characteristics of dcsc members with level of knowledge and extent of adoption about improved animal husbandry practices. "chi-square" test was applied.

## Result and discussions

Association between personal attributes and level of knowledge and extent of adoption of respondents about improved animal husbandry practices are presented in Table 1.

### Association between personal attribute and knowledge level of respondents

The data incorporated in Table-1 show that the calculated chi-square value was 20.49 for overall respondents, 10.59 for DCSs members and 11.45 for non-member respondents, respectively which was significantly associated with the knowledge level of respondents about improved animal husbandry practices at 1 per cent level of significance. It means age of respondents exerted a highly significant effect on the knowledge level. The calculated value of chi-square for caste was 1.67 for overall respondents, 2.22 for DCSs member respondents and 0.21 for non-member respondents, which were less than tabulated value and were found non-significant. Thus, reveals that there was no association between knowledge level and caste of respondents. In case of Education the calculated value of chi-square was 19.17 for overall respondents, 9.36 for DCSs member and 8.22 for non-member respondents, which is found to be significantly associated with the knowledge of respondents about improved animal husbandry practices at 1 and 5 per cent level of significance, thus educational level of respondents had significantly effect on the knowledge level of respondents. As far as size of land holding is concerned calculated value of chi-square was 16.67 for overall respondents, 10.21 for DCSs member and 7.24 for non-member respondents, which was significantly associated with the knowledge of respondents about improved animal husbandry practices at 1 and 5 per cent level of significance, thus the size of land holding of respondent's effects significantly the knowledge level of respondents. The calculated value for knowledge of chi-square was 6.97 for overall respondents, 6.15 for DCSs member and 4.12 for non-member respondents respectively, which was significantly associated with the

**Table 1** Association between personal attribute and knowledge level of respondents about improved animal husbandry practices of members and non-members (N=160)

S. No.	Personal attributes	Members of DCSs (n=80)				Non-members of DCSs (n=80)				Pooled (N=160)			
		Low (below 25)	Medium & high (above 25)	Total	X <sup>2</sup> & 'C' value	Low (below 25)	Medium & high (above 25)	Total	X <sup>2</sup> & 'C' value	Low (below 25)	Medium & high (above 25)	Total	X <sup>2</sup> & 'C' value
<b>1</b>	<b>Age group</b>												
(i)	Young (below 30 years)	8	11	19	10.59**	10	5	15	11.45**	18	16	34	20.49**
(ii)	Middle (30 to 50 years)	5	40	45	(0.34)	15	31	46	(0.35)	20	71	91	(0.34)
(iii)	Old (above 50 years)	7	9	16		14	5	19		21	14	35	
<b>2</b>	<b>Caste</b>												
(i)	General	6	9	15	2.22NS	8	8	16	0.21NS	14	17	31	1.67NS
(ii)	OBC	11	40	51	(0.16)	20	23	43	(0.05)	31	63	94	(0.1)
(iii)	SC/ST	3	11	14		11	10	21		14	21	35	
<b>3</b>	<b>Education</b>												
(i)	Illiterate	14	20	34	9.36**	25	16	41	8.22*	39	36	75	19.17**
(ii)	Upto secondary	4	15	19	(0.32)	11	12	23	(0.31)	15	27	42	(0.33)
(iii)	Above secondary	2	25	27		3	13	16		5	38	43	
<b>4</b>	<b>Size of land holding</b>												
(i)	Marginal (less than 1 ha.)	8	8	16	10.21**	12	7	19	7.24*	20	15	35	16.67**
(ii)	Small (1-2 ha.)	7	14	21	(0.34)	14	8	22	(0.29)	21	22	43	(0.31)
(iii)	Big (above 2 ha.)	5	38	43		13	26	39		18	64	82	
<b>5</b>	<b>Family type</b>												
(i)	Nuclear family	11	15	26	6.15*	12	5	17	4.12*	23	20	43	6.97**
(ii)	Joint family	9	45	54	(0.32)	27	36	63	(0.25)	36	81	117	(0.24)
<b>6</b>	<b>Family size</b>												
(i)	Small (upto 5 member)	11	16	27	5.39*	15	7	22	4.59*	26	23	49	7.95**
(ii)	Large (above 5 member)	9	44	53	(0.30)	24	34	58	(0.27)	33	78	111	(0.26)
	<b>Overall</b>	<b>20</b>	<b>60</b>	<b>80</b>		<b>39</b>	<b>41</b>	<b>80</b>		<b>59</b>	<b>101</b>	<b>160</b>	

\*Significant at 5 per cent level of significance, \*\*Significant at 1 per cent level of significance, NS = Non-significant, ( ) = 'C' value

knowledge of respondents about improved animal husbandry practices at 1 and 5 per cent level of significance, means type of family respondents had significantly effect on the knowledge level of respondents. However, calculated value of chi-square was 7.95 for overall respondents, 5.39 for DCSs member and 4.59 non-member respondents, respectively. The calculated value of chi-square were significant at 1 and 5 per cent level of significance. It means family size of respondent's effects significantly the knowledge level of respondents. The findings are in line with Sharma and Saini (2003). Khan *et al* (2004), Kumhar (2006), Prasad *et al* (2007). Launoncn *et al* (2008), Deshmukh *et al* (2008).

## Association between personal attribute and extent of adoption

The data incorporated in Table-2 show that the calculated value of chi-square was 17.33 for overall respondents, 11.82 for DCSs member and 7.69 for non-member respondents, respectively which were positive and significantly associated with the extent of adoption of respondents about improved animal husbandry practices at 1 and 5 per cent level of significance whereas calculated value of chi-square for caste was 5.68 for overall respondents, 4.24 for DCSs member and 1.23 for non-member respondents,

**Table 2** Association between personal attribute and extent of adoption of respondents about improved animal husbandry practices of members and non-members (N=160)

S. No.	Personal attributes	Members of DCSs (n=80)				Non-members of DCSs (n=80)				Pooled (N=160)			
		Low (below 25)	Medium & high (above 25)	Total	X <sup>2</sup> & 'C' value	Low (below 25)	Medium & high (above 25)	Total	X <sup>2</sup> & 'C' value	Low (below 25)	Medium & high (above 25)	Total	X <sup>2</sup> & 'C' value
<b>1</b>	<b>Age group</b>												
(i)	Young (below 30 years)	10	9	19	11.82**	10	5	15	7.69*	20	14	34	17.33**
(ii)	Middle (30 to 50 years)	7	38	45	(0.36)	20	26	46	(0.30)	27	64	91	(0.31)
(iii)	Old (above 50 years)	8	8	16		15	4	19		23	12	35	
<b>2</b>	<b>Caste</b>												
(i)	General	6	9	15	4.24NS	9	7	16	1.23NS	15	16	31	5.68NS
(ii)	OBC	12	39	51	(0.22)	21	22	43	(0.12)	33	61	94	(0.19)
(iii)	SC/ST	7	7	14		13	8	21		20	15	35	
<b>3</b>	<b>Education</b>												
(i)	Illiterate	16	18	34	9.27**	28	13	41	8.77*	44	31	75	19.98**
(ii)	Upto secondary	5	14	19	(0.32)	13	10	23	(0.31)	18	24	42	(0.33)
(iii)	Above secondary	3	24	27		4	12	16		7	36	43	
<b>4</b>	<b>Size of land holding</b>												
(i)	Marginal (less than 1 ha.)	9	7	16	10.46**	14	5	19	7.29*	23	12	35	17.62**
(ii)	Small (1-2 ha.)	9	12	21	(0.34)	15	7	22	(0.29)	24	19	43	(0.31)
(iii)	Big (above 2 ha.)	7	36	43		16	23	39		23	59	82	
<b>5</b>	<b>Family type</b>												
(i)	Nuclear family	12	14	26	3.98*	14	3	17	5.98*	26	17	43	6.68**
(ii)	Joint family	13	41	54	(0.22)	31	32	63	(0.26)	44	73	117	(0.20)
<b>6</b>	<b>Family size</b>												
(i)	Small (upto 5 members)	13	14	27	5.42*	17	5	22	5.45*	30	19	49	8.76**
(ii)	Large (above 5 members)	12	41	53	(0.25)	28	30	58	(0.25)	40	71	111	(0.23)
	<b>Overall</b>	<b>25</b>	<b>55</b>	<b>80</b>		<b>45</b>	<b>35</b>	<b>80</b>		<b>70</b>	<b>90</b>	<b>160</b>	

\*Significant at 5 per cent level of significance, \*\*Significant at 1 per cent level of significance, NS = Non-significant, ( ) = 'C' value

which were less than the respective tabulated value of chi-square and found to be non-significant. The data presented in Table-2 show that the calculated value of chi-square for education was 19.98 for overall respondents, 9.27 for DCSs member and 8.77 for non-member respondents, which were significantly associated with the extent of adoption of improved animal husbandry practices by the respondent at 1 and 5 per cent level of significance. Further table reveals that calculated value for land holding of chi-square was 17.62 for overall respondents, 10.46 for DCSs member and 7.29 for non-member respondents, which were

significantly at 1 and 5 per cent level of significance. It means the extent of adoption of respondents about improved animal husbandry practices and size of land holding was associated significantly. It can be seen calculated value of chi-square for family type was 6.68 for overall respondents, 3.98 for DCSs member and 5.98 for non-member respondents, which were significantly associated with the extent of adoption of respondents about improved animal husbandry practices at 1 and 5 per cent level of significance. It means type of family exerted significant effect on the extent of adoption by farmers. Similarly family size chi-

squire was 8.76 for overall respondents, 5.42 for DCSs member and 5.45 non-member respondents, respectively which were significantly associated with the extent of adoption of respondents about improved animal husbandry practices at 1 and 5 per cent level of significance. It means family size of respondents exerted a significant effect on the extent of adoption by farmers. The findings are supported by Gosh and Chand (2000), Sankhala *et al* (2004), Rahman *et al* (2005), Channegowda, *et al* (2008), Yedukkondalu *et al* (2008).

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