



# Attitude of farmers towards scientific dairy practices

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**ABSTRACT :** Dairy development in India has plays a major role in improving the nutritional standards of the people, generating employment opportunities and improving incomes in rural areas besides fulfilling consumer demands. There is an urgent need to enhance productivity of dairy animals by promoting adoption of scientific practices. The present article summarises the findings of a study that was conducted in three randomly selected districts of Haryana with sample size of 225 respondents. The study was conducted to measure the attitude of farmers towards Scientific Dairy Practices and antecedents factors affecting their attitude. Attitude was measured by using scale containing 11 items. The study revealed that average scores obtained by respondents are indicative of not so favourable attitude. It is argued that this is not desirable as the attitude favourableness is associated with adoption of scientific dairy practices. Attitude was found significantly associated with education, caste, occupation, size of land holding, mass media exposure, social participation. The uneducated, aged, landless farmers are the ones who need special directed efforts in future extension programme.

**KEY WORDS :** Dairy farming, Rural farmers, Attitude, Independent variables

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## INTRODUCTION

Dairy sectors are critical for the rural economy, especially the small and marginal farmers. They not only contribute to such poor farmers' income, but also act as their best insurance against any natural calamity. On the other hand, it is generally accepted that the Indian dairy industry has bright future with demand likely to reach 200 million tonnes by 2022 from 132 million tonnes in

2013 (Anonymous, 2014a). At the same time, there has been a decrease in the population of cattle in the country (Anonymous, 2014b). In such a case there are only two possibilities. One, the imports will fill in the rising demand and likely production gaps. Two, the productivity of dairy animals will have to be improved to meet the growing demand. And to improve upon the productivity, the farmers will have to make choices in favour of scientific farming practices given their ability to achieve high resource efficiency. Further, such productivity gains will help in improving farmers' income from diary animals. But the lack of adoption of scientific practices itself is cited as a major stumbling block in achieving a faster growth rate in milk production. It is often conjectured that not more than 30 per cent of the improved technologies released by research organizations are adopted by the farmers. The huge gap between recommended and adopted practices has been attributed to a variety of factors like lack of knowledge, inappropriateness of technology, poor extension services, resistance to change,

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The farmer himself is one of the main actors in the adoption or rejection of technology. It is generally believed that attitude is an important determinant of the adoption or rejection. For example many have reported that attitude towards dairy farming significantly correlates with adoption of improved dairy cattle management practices (Meena *et al.*, 2013 and Prokopy *et al.*, 2008). Similarly, Sharma and Singh (2010), reported that attitude towards recommended buffalo husbandry practices had significant and positive relationship with adoption of feeding and health care. The attitude towards scientific dairy farming, in turn, is related to a variety of psychological, social and cultural factors. A better understanding of attitude towards scientific dairy practices and factors affecting can be valuable in designing extension programmes to facilitate higher adoption of such practices. However no systematic study has been conducted in the state so far to measure farmers attitude towards scientific dairy practices. Therefore the present study was conducted to measure attitude of farmers towards scientific dairy practices.

### MATERIAL AND METHODS

The present study was conducted in three randomly selected districts of Haryana (Bhiwani, Karnal, Jhajjar). Out of these randomly selected districts, three villages each from a district were randomly chosen using simple lottery method. Thus nine villages were selected. Further, twenty five respondents were randomly chosen from each selected villages thus making it 225 respondents in total.

The research variable attitude was operationally defined as the tendency of individual farmer to respond favourably or unfavourably towards scientific dairy farming. The attitude scale developed by Gautam (2004) was utilized for the measurement of the same. This scale contained 11 items with three point continuum. The antecedent variables were age, education, caste, occupation, size of land holding, herd size, social participation, economic motivation, mass media exposure, risk orientation and extension contact.

### RESULTS AND DISCUSSION

It can be inferred from Table 1 that the average scores obtained by respondents are indicative of not so favourable attitude of farmers. This is not a very desirable state of affairs as the attitude favourableness has been found to be associated with adoption level as pointed out

earlier. Grade (1980) had earlier reported that a large number of farmers do not have a favourable attitude towards dairy farming as such. On the other hand, Veeranna and Singh (2004) reported that 58 per cent had more favourable and 30 per cent had favourable attitude score towards dairy farming, respectively, while 12 per cent of them had less favourable attitude score towards dairy farming. Attitude not being innate, develops as a result of the individual's contact with the object and its environment. It is hypothesized that a number of factors like lack of incentives, remunerative prices, credible information, inputs, knowledge, etc., may be associated with the attitudinal unfavourableness.

For further analysis, the respondents were classified in three different groups based on their attitude scores. Farmers were nearly equally distributed in three categories based on attitude favourableness scores (Table 1). The findings are in agreement with the finding of Reddy *et al.* (1998) wherein they reported that almost equal percentages of farmers lie in low, medium and high categories based on their attitude favourableness towards recommended dairy production technologies. In the same study, the authors stressed that extension agencies must focus on these two third of farmers (lying in medium and low attitude score category). Targeted approach for these farmers was suggested. However, Sharma and Singh (1998), had earlier reported that 14, 71 and 16 per cent of respondents fall in low, medium and high category when classified on the basis of their attitude scores towards rearing cross bred cows.

#### Effect of antecedent variables on the attitude level of respondents:

Age was found negatively associated with attitude level of respondents. The value of correlation co-efficient observed between age and attitude scores was -0.25 (Table 2). Non-significant association of age and adoption level has earlier been reported (Verma and Tyagi, 1993). Sharma and Singh (2010) also found age of the dairy farmers having more than 2 hectares of land to be negatively and significantly correlated with adoption of feeding practices. Formal education appeared to strongly influence the attitude favourableness as indicated by the correlation co-efficient (Table 2). The respondents of illiterate and middle category rated poorly on attitude favourableness as compared to those in high category. Suitable motivational extension programme are need of

hour for such respondents. These findings are in agreement with the earlier studies (Rahelizoatovo *et al.*, 2004; Sandeep *et al.*, 2006; Halakatti *et al.*, 2007; Hasan *et al.*, 2008; Nchinda and Mendi, 2008; Karamjit *et al.*, 2009; Quddus, 2012 and Fita *et al.*, 2012). Perhaps formally educated farmers acquire more of a scientific value system thereby changing their attitudes significantly. Even in other countries the same association has been reported. For example, Khanal and Gillespie (2011) reported that in the US dairy sector specialised, younger, more educated farmers are more likely to adopt advanced breeding technologies such as AI, sexed semen and embryo transplants. Also, those with the formal education are likely to have higher mobility, wider mass media exposure, better receptivity and scientific aptitude, all of which might have contributed to their higher scores. Similarly caste scores and attitude favourableness appeared strongly correlated (Table 2). Rao *et al.* (2000) had earlier reported caste to be significantly affecting adoption of dairy innovations. But Ghosh (2004) stated adoption of deworming by the dairy farmers was not significantly correlated with caste and occupation. Farmers with different castes are like to have different resource base, aspirations, aptitudes, etc. These factors might have contributed to differences in scores. Similarly, respondents with higher occupational scored higher on attitude favourableness. This finds agreement with study

of Rao *et al.* (2000). Also, attitude favourableness of the respondents varies positively with average size of land holdings. The average attitude scores obtained by farmers of low, medium and high category are 16.39, 21.96, and 25.87, respectively indicating resource-fullness has a role in attitude development towards scientific dairy practices. Positive and significant association between land holding and adoption levels has been well established (Kunzru *et al.*, 1989 and Verma and Tyagi, 1993). Sharma and Singh (1998) observed significant positive association between size of land holding and farmers attitude towards rearing crossbred cows. Non-significant though positive association was found between herd size and attitude scores of respondents. The co-efficient of correlation between attitude scores and social participation was 0.52 indicating a moderate significant positive association. It may be opined here that those individuals having higher social participation are likely to have higher knowledge level and are likely to rate favourably in terms of attitude towards scientific dairy practices. However report of non significant though positive association between adoption level and social participation are not uncommon. For example, Rao *et al.* (2000) opined that social participation in some formal organizations may at times be passive at the behest of officials especially in case of co-operatives. Fairly moderate positive association between attitude and economic motivation was also observed in the study. Other

**Table 1 : Mean attitude of respondents of different attitude levels**

Sr. No.	Variable	Attitude		
		Low	Medium	High
1.	No. of respondents	78.00	72.00	75.00
2.	Per cent of respondents	34.66	32	33.33
3.	Attitude scores	15.76	22.16	28.63

**Table 2 : Correlation between attitude of farmers and independent variables**

Sr. No.	Antecedents variables	"r" values
1.	Age	-0.252
2.	Education	0.781*
3.	Caste	0.78*
4.	Occupation	0.81*
5.	Land holding	0.71*
6.	Social participation	0.52*
7.	Mass media exposure	0.58*
8.	Risk orientation	0.64*
9.	Extension contact	0.63*
10.	Economic motivation	0.63*

\* indicates significance of value at P=0.05

workers have found economic motivation positively associated with the change in their attitude (Sharma, 2014) and positively and significantly correlated with technology adoption (Dana and Kanbid, 1996 and Singha, 2012). Similarly, Ghosh (2004) stated that adoption of deworming by the dairy farmers was positively and significantly correlated with economic status at 5 per cent level and material possession at 1 per cent level. It may be conjectured that people with higher economic motivation are likely to be more receptive and scientific orientation. It is very unlikely that people with higher economic motivation would restrict to traditional practices as suggested by Sawarkar *et al.* (2001). On the other hand, it is suggested that economic motivation that pushes an individual farmer to try out new things (innovations) and look for improved ways and means. The assumption is further strengthened by the fact that farmers lying in low category are classified on the basis of economic motivation rate poorly on attitude favourableness (Table 3). Mass media exposure seems to have influence on the attitude favourableness of the respondents. The respondents with higher mass media exposure had more favourable attitude as compared to those with moderate exposure. The value of co-efficient of correlation between mass media scores and attitude score was 0.58 indicating moderate association. Similar findings were reported by Ghosh *et al.* (2004); Rahelizoatovo *et al.* (2004); Arora *et al.* (2006) and Halakatti *et al.* (2007). Although mass media cannot substitute the face to face communication in motivating people to adopt new technology but the role of mass media in knowledge enhancement is well accepted. Also, a moderate positive association was observed between risk orientation and attitude scores of respondents (Table 2). Sawarkar *et al.* (2001) reported positive relationship between risk preference level among dairy owners and adoption level. Kadian and Kumar (2000) concluded that

**Table 3 : Relationship of antecedents with attitude of farmers towards scientific dairy practices**

Antecedents	Categories	Frequency	Average value	Percentage (%)	Attitude scores
Age	Young (upto 30 years)	23	26.43	10.23	27.47
	Middle (31-45 years)	112	36.52	49.77	23.05
	Old (>45 years)	90	53.57	40.00	20.78
Education	Illiterate (0)	59	0	26.23	16.54
	Medium (1-4)	65	3.07	28.89	20.29
	High (5-6)	101	5.45	44.89	26.77
Caste	Low	57	1.00	25.34	16.15
	Middle	48	3.08	21.34	19.53
	High	120	5.31	53.54	26.06
Occupation	Low	54	0	24.00	16.39
	Medium	50	1.68	22.23	21.96
	High	121	3.81	53.77	25.87
Land holding	Low	64	0	28.44	16.39
	Middle	62	1.58	27.55	21.96
	High	99	3.81	44.00	25.87
Social participation	Low	45	0	20.00	17.08
	Middle	90	1.00	40.00	21.68
	High	90	2.74	40.00	24.98
Mass media exposure	Low	125	3.21	55.55	19.45
	Medium	49	7.40	21.77	23.31
	High	51	11.78	22.66	27.10
Risk orientation	Low	21	12.38	9.33	16.71
	Medium	106	15.50	47.11	18.85
	High	98	19.35	43.55	27.01
Extension contact	Low	82	1.81	36.44	18.19
	Medium	103	3.95	45.77	2.23
	High	40	7.95	17.77	27.37

risk preference has a significant bearing on information seeking pattern of dairy farmers. Persual of Table 3 indicates that those respondents with high risk orientation scores have considerably higher attitude scores as compared to respondents lying in medium and low category. Innovations do generally involve risk. Scientific dairy practices require comparatively higher investments and this might be the cause of risk perception. A better dairy animal insurance system and a good veterinary support system would help minimise such risk perception. Moreover a good credit delivery would also facilitate adoption of scientific dairy practices as otherwise poor farmers are unlikely to invest their little savings in the enterprise. Attitude scores are moderately associated with the extension contact. Positive and significant relationship of extension contacts with the adoption of scientific dairy husbandry practices had earlier been reported (Arora *et al.*, 2006; Sandeep *et al.*, 2006; Halakatti *et al.*, 2007; Nichinda and Mendi, 2008 and Karamjit *et al.*, 2009).

### Conclusion :

Attitude is an important determinant of the adoption or rejection. But attitude of farmers is not so favourable towards scientific dairy practices. The extension personnel should take note of this and employ improved motivational strategies when dealing with dairy farmers of the state. Efforts to bring about desirable attitudinal changes should include knowledge enhancement as a strategy since the two are favourably associated. Specialized target specific efforts are desirable to cover poorly educated, schedule caste and those with small land holding since they rate unfavourably on attitude scores. Mass media can play a significant role in inducing desirable attitudinal reinforcements but will not be sufficient to induce change if used solely. Further studies for deeper understanding of attitude formation and change are suggested.

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