Attributes Influencing Adoption of Health Care Scientific Dairy Management Practices among Tribal and Non-Tribal Dairy Farmers of Assam

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ABSTRACT

The study was carried out to ascertain attributes (variables) influencing adoption of health care scientific dairy management practices among the tribal and non-tribal dairy farmers of Assam. Descriptive (survey method) was used as the study design. The study was conducted in the tribal and non-tribal villages of Sonitpur, Lakhimpur and Dhemaji district of Assam for a duration of 6 months during October, 2019 to March, 2020. A total of 240 (120 each tribal and non-tribal dairy farmers) numbers of respondents were selected for the study. Data were personally collected by interviewing the respondents with a interview schedule. It was observed that experience in dairy farming, extension contact, dairy farming attitude and aspiration level were identified as crucial in their contribution to total adoption and explained about 71 percent variations in the total adoption in case of tribal dairy farmers. On the other hand, in case of non- tribal dairy farmers, variables like age, herd size, land size, experience in dairy farming, livestock income, extension contact, knowledge and dairy farming attitude were found to be crucial in their contribution towards total adoption, which explained about 67 percent variation in total adoption. Therefore, a proper focus needs to be given in the common area of experience on dairy farming, extension contact and dairy farming attitude by the veterinary officials and government in those areas for improved health care of the dairy cattle.

HIGHLIGHTS

⊚ Scientific health care in dairy management is an essential practice for sustainable dairy farming.
⊚ In order to improve the health care management, attributes like experience on dairy farming, extension contact and dairy farming needs to be improved.
⊚ A proper focus is needed to be given in these areas by veterinary officials and government for development of the dairy sector.

Keywords: Dairy, farmer, tribal, non-tribal, Adoption, Management

The role of dairy enterprise in Assam is now changing from subsistence level to a commercialized one to combat the increased demand of milk and its products of the burgeoning urban population. It can be substantiated as Assam has a huge population of cattle population of 10.9 million (20th Livestock Census, 2019). This has necessitated changing completely the outlook of dairy farmers in the state towards dairying as a source of income and income generating activity for their family members. The recent advances in dairy technology have

amply demonstrated that the adoption of scientific / improved animal husbandry management practices contributed significantly towards boosting up milk production and improve the health of milch animals. Therefore, the study was conducted to find out the attributes influencing adoption of health care scientific dairy management practices among tribal and non-tribal dairy farmers of Assam, to focus on the specific attributes to further boost the milk industry in the state.

MATERIALS AND METHODS

The study was conducted in three districts purposively selected viz. Sonitpur, Lakhimpur and Dhemaji of state of Assam due to considerable presence of tribal and non-tribal dairy farmers. From each district, two numbers of blocks were selected and from each selected blocks two villages (one each of tribal and non-tribal village) were selected for the survey. Twenty respondents (each farmer with a minimum of one milch cow) were selected randomly from each villages. Therefore, eighty respondents (40 tribal and 40 non-tribal respondents) were selected from each district, thereby making a sample size of 240 respondents from three aforementioned districts. The reliability of the research schedule was checked by split half test technique and 30 numbers of non-sample respondents of non-sample area in Sonitpur, Lakhimpur and Dhemaji were interviewed. The correlation coefficient calculated between the scores obtained from administering the instrument at two different halves was 0.89, which was found to be highly significant, thereby indicating that the instrument was stable and consistent. Moreover, the content validity of the interview schedule was ensured by discussing the interview schedule with the subject experts and their suggestions were in-corporated , pre-testing of the interview schedule provided an additional support for its validity, the relevancy of each question in terms of the objectives of the study, their logical order and workability of each question was checked. The study was conducted for a duration of 6 months during October, 2019 to March, 2020. The data such collected were tabulated and put to standard statistical test using SPSS and based on results, the conclusions were drawn.

RESULTS & DISCUSSION

A perusal of Table 1 reflected that, attributes like experience in dairy farming, attitude towards dairy farming and aspiration level were found to be contributing positively and high significantly ($P < 0.01$) while, extension contact contributed positively and significantly ($P < 0.05$) to health care adoption in case of tribal dairy farmers. In the present context, a farmer having experience in dairy farming with a positive attitude and aspiration towards dairy farming with regular contact with extension workers will obviously acquire more knowledge and in turn adopt more of health care scientific dairy management practices in his dairy farm.

While in case of non-tribal dairy farmers, age, herd size, land size, experience in dairy farming, extension contact, knowledge and attitude towards dairy farming were found contributing positively and highly significantly ($P < 0.01$) and income from livestock enterprise was also found contributing positively and significantly ($P < 0.05$) to the health care adoption. The explanation for these findings could be given with the logic that older farmers with greater experience in dairying, better extension contact and knowledge with maximum earnings from livestock and who had more land holdings as well as favorable attitude towards dairy farming had more health care adoption, compared to those who did not possess these qualities.

Similar results were observed by Temba (2011) observed that education level, extent of extension visits were positively associated with adoption; while Pratap *et al.* (2012) in their study revealed that characteristics like education, occupation and herd size significantly influence the willingness to pay for Animal health care services. Oyekale (2013) found that number of cattle was significant to the dairy cattle adoption among smallholder farmers whilst Dehinenet *et al.* (2014) where farming experience, availability of dairy production extension services, total income from milk and milk products, availability of training on livestock, age of household head played significant roles on dairy technology adoption; Luyombya (2014) observed that education level, land size and extension services

Table 1: Multiple regression analysis between independent variables and health care adoption of tribal and non-tribal dairy farmers

Sl. No.	Variable	Variable Nos.	Tribal		Non-tribal	
			Regression coefficient	't' value	Regression coefficient	't' value
1	Age	X_1	0.065	0.847	0.263	2.904**
2	Family size	X_2	0.096	0.749	0.200	1.207
3	Family education status	X_4	- 0.072	0.598	- 0.109	0.652
4	Herd size	X_6	0.197	1.190	0.294	2.828**
5	Land size	X_7	0.044	0.638	0.227	2.419**
6	Experience in dairy farming	X_8	0.225	3.087**	0.347	3.304**
7	Social participation	X_9	0.000	0.006	0.072	0.879
8	Annual family income	X_{10}	0.038	0.521	0.051	0.664
9.	Livestock income	X_{11}	0.100	0.589	0.306	2.134*
10	Extension contact	X_{12}	0.306	2.134*	0.224	2.988**
11	Mass media exposure	X_{13}	0.212	1.821	0.077	0.889
12	Knowledge	X_{14}	- 0.126	1.030	0.337	4.382**
13	Dairy farming attitude	X_{15}	0.426	5.363**	0.407	3.397**
14	Value orientation	X_{16}	- 0.078	1.084	0.015	0.179
15	Economic motivation	X_{17}	0.101	1.449	- 0.114	1.022
16	Aspiration level	X_{18}	0.207	2.817**	- 0.099	1.165
			$R^2 = 0.7152$		$R^2 = 0.6732$	
			'F' value for R = 10.489**		'F' value for R = 7.508**	

*, Significant at 5% level, **, Significant at 1% level.

significantly influenced the adoption of improved husbandry practices meanwhile Vekariya *et al.* (2016) observed that education, annual income, land holding and extension participation had significant relationship with adoption level. Ingabire (2018) found that age, education status, extension services were significantly influencing rate of AI adoption. Kandel and Timilsina (2018) observed in their study that total dairy animal, extension contact of farmers were the key factors affecting the livestock insurance adoption whereas De Lauwere *et al.* (2020) found that attitude, relative risk perception and control belief were the main predictors of farmer's choice with regards to joining the dairy health programme. Abbasi and Nawab (2021) found that farm knowledge, accessibility of extension servies, farm size, farming experience had significant association with dairy technology adoption.

CONCLUSION

Therefore, from the study it can be observed that attributes like experience on dairy farming, extension contact and dairy farming attitude are commonly seen to be significantly influencing the adoption of health care scientific dairy management practices among both tribal and non-tribal dairy farmers. Therefore, a proper focus needs to be given in the common area by the veterinary officials and government in those areas for improving the adoption of health care scientific dairy management practices and hence ultimately developing the dairy sector of the state.

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