Knowledge Level vis-à-vis Improved Dairy Farming Practices: An Appraisal on the *Santhal* Dairy Farmers of Burdwan District (West Bengal)

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ABSTRACT

Assessment of knowledge is the perquisite of implementation of any development programme. Implementation of dairy development programme is not exception of this. Therefore, the present study was designed to assess existing knowledge level of the Santhal dairy farmer of Burdwan district of West Bengal regarding improved dairy farming practices. Usingmultistage sampling methodatotal ninety Santhal dairy farmers of six villages of district were selected for this study. It was found that majority (71.11%) of the respondents had the medium level knowledge followed by high (15.56%) and low (13.33) level of knowledge regarding improved dairy farming practices. It was also found that Santhal dairy farmers had maximum knowledge in animal nutrition area. Study revealed that variables namely educational status, social participation, milk production, milk consumption, mass media exposure extension contact, adoption of improved dairy husbandry practices, annual income and time spent in dairying showed a significant and positive relationship with knowledge level of the dairy farmers. Whereas, variables like educational status, operational land holding, milk production, mass media exposure and adoption of improved dairy farming practices had significant influence on the knowledge level of the respondents.

Key word: *The* Santhal, *Improved dairy husbandry practices, Farmers' knowledge level, Burdwan district*

There are 427 main tribal communities in India and they inhabit in almost all the states and union territories. The *Santhal*, like *Bhils* are believed to belong to the 'pre-Aryan' period and inhabiting in the eastern region of India, in an area covering six states, the *Santhali* people are descendants of the oldest humans in India; indeed, linguistic evidence shows this tribe's ancestors as part of the original human migration out of Africa. They are largest tribe in India. The livelihood of the *Santhals* revolves around the forests they live in. They fulfil their basic needs from the trees and plants of the forests. Apart from this they are also engaged in the haunting, fishing and cultivation for their livelihood. Rearing of animals is the part and parcel of tribe from time immemorial and most the activities of animal rearing were performed by the *Santhal* tribe. But, with the advancement of the society, the *Santhal* changed themselves by adopting different entrepreneur activity like dairy farming. In additionwith this, before implementation of different entrepreneurship development programme an assessment of the existing knowledge level of the *Santhal* dairy farmer is the need of the hour. Keeping in view of all, a study was conducted to determine the knowledge level and its determinants on improved dairy farming practices among the *Santhal* dairy farmer.

METHODOLOGY

Ex-post facto research design was used for this study. The study was undertaken in the purposively selected district of Burdwan of West Bengal. There are thirty-one blocks in Burdwan district. Out of these thirty-one blocks, three blocks namely, *Jamalpur*, *Memari* – I and *Kalna*- II were selected purposively on the basis of three highest *Santhal* populated blocks in the district. Two villages were selected randomly from

each of these three selected blocks. Thus, a total number of six villages were covered under this study. The *Santhal* dairy farmers who had minimum two milch cows/buffaloes at the time of data collection were considered as population of this study. The population size varies from 150 to 225 in each of the selected villages. Fifteen respondents were selected randomly from the population of each village. Then, total ninety *Santhal* dairy farmers were selected as sample for this study. A list of thirteen variables (independent) was selected on the basis of pilot study and extensive review of literature. Each of these variables was quantified by using available proved measurement procedure. Data were collected through the personal interview method with the help of a pre-tested structure interview schedule. Collected data were scored, tabulated and subjected to statistical analysis to draw the meaningful conclusion of this study.

The dependent variable for this study was knowledge regarding improved dairy farming practices. This dependent variable was operationalized for this study as the knowledge possessed by the *Santhal* dairy farmer regarding improved dairy farming practices in the four important dimensions i.e. breeding, feeding, health care and management. The knowledge test developed by *Khatik (1994)* was used to measure the knowledge possessed by the respondents regarding improved dairy farming practices. The following formula was used to calculate the per cent extent of knowledge possessed by the *Santhal*dairy in the entire four dimensions dairy farming of independently and the overall knowledge level, which is given below:

$$Knowledge\ Index = \frac{Score\ obtained}{Max\ obtainable\ score} \times 100$$

On the basis of knowledge score, all the respondents were categorized into three groups, viz. low, medium and high by using mean and standard deviation.

RESULTS AND DISCUSSION

Objective of this study was to assess the level of knowledge possessed by the *Santhal* dairy farmers regarding improved dairying farming practices and from the Table 1, it was found that majority (71.11%) of the respondents had medium level knowledge followed by high (15.56%) and low (13.33) level of knowledge, respectively,regarding improved dairy farming

concerned. The result clearly indicates the willingness and interest of the *Santhal* dairy farmer towards this venture. *Patil et al. (2009)* reported that majority of the dairy farmers of Nagpur district (55.11%) had medium level of knowledge followed by high level of knowledge (24.00%) and low level of knowledge (20.89%). *Sarmaet al. (2010)* reported a medium level of knowledge of the majority of the dairy farmers.

Table 1. Knowledge level of the *Santhal* dairy farmer (N=90)

Categories of knowledge level	No.	%
Low (<30)	12	13.33
Medium (30– 38)	64	71.11
High (>38)	14	15.56

Table 2. Knowledge index of the *Santhal* dairy farmers in major areas of dairy farming (N=90)

Major areas of dairy farming	Knowledge Index	Rank
Animal breeding	50.66	IV
Animal nutrition	58.98	I
Animal healthcare	53.79	II
Herd management	50.94	III
Overall knowledge index	53.11	

It was found from the Table 2 that overall knowledge in improved dairy farming practices was found to be 53.11 per cent. It is clearly found from the same table that maximum extent of knowledge i.e. 58.98 per cent was found in animal nutrition area followed by animal healthcare (53.79%), herd management (50.94) and animal breeding (50.66) respectively. Still *Santhal* believed in natural service not in artificial insemination. They thought animal never get sexual satisfaction from the Artificial Insemination. So, these may be the cause of poor knowledge level of *Santhal* dairy farmer in improved dairy farming practices.

Distribution of Santhal dairy farmers according to their knowledge level in major dimensions of improved dairy farming practices: From Table 3, it was observed that majority of the farmers had medium level of knowledge in each dimension of improved dairy farming practices. In case of animal breeding, it was found that 57.78 per cent farmers had medium level of knowledge followed by high (23.33 %) and low (18.89%) respectively. A large chunk (64.44%) of the *Santhal* dairy farmers had medium level of knowledge in animal nutrition followed by high (20.00%) and low (15.56%) respectively. From the same table it was found that two-

third (66.67%) of the respondents had medium level of knowledge in animal healthcare practices followed high (18.89%) and low (14.44%) respectively. In case of herd management practices, it was established that majority (63.33%) respondents had medium level of knowledge followed by high (22.22%) and low (14.45%) respectively.

Table 3. Distribution of the *Santhal* dairy farmer according to their knowledge level in major areas of dairy farming (N=90)

Major areas of dairy farming		No.	%
Animal Breeding	Low (<9)	17	18.89
	Medium (9– 13)	52	57.78
	High (>13)	21	23.33
Animal nutrition	Low (<6)	14	15.56
	Medium (6– 9)	58	64.44
	High (>9)	18	20.00
Animal healthcare	Low (<8)	13	14.44
	Medium (8– 11)	60	66.67
	High (>11)	17	18.89
Herd management	Low (<5)	13	14.45
	Medium (5– 8)	57	63.33
	High (>8)	20	22.22

Table 4. Relationship between traits of the *Santhal* dairy farmers with their knowledge level in improved dairy farming (N=90)

Variables	Correlation coefficient (r)	Confidence interval of 'r' at 95%	
		Lower	Upper
Age	-0.05	-0.25	0.16
Educational status	0.53**	0.36	0.66
Time spent (hrs/day)	0.24*	0.03	0.43
Social participation	0.28**	0.08	0.46
Operational land holing	-0.12	-0.32	0.09
Herd size	0.20	-0.01	0.39
Milk production (Litre)	0.65**	0.51	0.76
Milk consumption (Litre)	0.28**	0.08	0.46
Milk sale (Litre)	0.05	-0.16	0.25
Annual income (Rs.)	0.22*	0.01	0.41
Mass media exposure	0.74**	0.63	0.82
Extension contact	0.31**	0.11	0.49
Adoption of improved dairy husbandry practices	0.53**	0.36	0.66

*Significant at 5% level of significance **Significance at 1% level of significance

Relationship between the traits of Santhal dairy farmers with their knowledge level in improved dairy farming practices: Table 4 clearly noted that out of 13

independent variables under study, 9 variables namely educational status, social participation, milk production, milk consumption, mass media exposure extension contact, adoption of improved dairy husbandry practices, annual income and time spent in dairying showed a significant and positive relationship with knowledge level of the dairy farmers. Out of these 9 variables, first seven were significantly correlated at 1 per cent level of significance and remaining 2 variables were at 5 per cent level of significance. A confidence interval of coefficient of correlation at 95 per cent is also presented in the same table to express the general relationship trend of the population between different traits and their knowledge level in improved dairy farming practices.

Educated dairy farmers and who were more cosmopolite in nature always had a great opportunity of better knowledge level than the common dairy farmers. *Gautam et al. (2007)* also suggested that family education status was significantly correlated with the knowledge in dairy husbandry practices.

Table 5. Characteristics of the *Santhal* dairy farmers on their knowledge level (N=90)

Variables	Regression Coefficient	"t" Value	"p" Value
Constant	23.15	7.87	0.00
Age	0.05	0.91	0.37
Educational status	0.73	1.97	0.05
Time spent (hrs/day)	0.03	0.12	0.90
Social participation	0.04	0.35	0.72
Operational land holing	-0.79	-2.13	0.03
Herd size	-0.04	-0.25	0.80
Milk production (Litre)	0.14	4.06	0.00
Milk consumption (Litre)	-0.08	-0.14	0.88
Milk sale (Litre)	-0.02	-0.35	0.73
Annual income (Rs.)	0.00	-0.71	0.48
Mass media exposure	1.62	4.73	0.00
Extension contact	0.19	1.35	0.18
Adoption of improved dairy husbandry practices	0.67	4.11	0.00
	$R^2 = 0.72$		
	Adjusted $R^2 = 0.68$		
	F stat = 15.24		0.00

Contributory characteristics of the Santhal dairy farmers on their knowledge level : To find out the contributory characteristics of the *Santhal* dairy farmers, regression analysis was done. The result is presented in Table 5 and it was found that educational

status, operational land holding, milk production, mass media exposure and adoption of improved dairy farming practices had significant influence on the knowledge level of the respondents. *Prapatigul (2009)* reported that educational level, income from dairy farming per month, information acknowledgement and authority communication were significantly related to knowledge and practices on dairy farming in Upper Northern Thailand.

The value of coefficient of determination (R^2) was 0.72, which indicated that all the selected independent variables, which fitted in the regression model, explained the variation upto the extent of 72 per cent of their knowledge level in improved dairy farming practices. However, a good deal of 28 per cent remained unexplained which may be attributed to the other variables, infrastructural facility, input delivery system, financial hep, etc which were not included in the present study.

CONCLUSION

The *Santhal* tribe of Burdwan district of West Bengal possessed good knowledge base regarding improved dairy farming practices. Results of the study established that educational status, operational land holding, milk production, mass media exposure and adoption of improved dairy farming practices had significant influence on the knowledge level of the respondents. Therefore, special attention must given these characteristics of the *Santhal* dairy farmers before implementing any dairy related entrepreneurial programme among them.

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