Extent of Adoption of Low-cost Technologies of Animal Husbandry by Tribal Dairy Farmwomen

J. V. Prajapati[1], J. B. Patel[2] and P. M. Bhatt[3]

1. P.G.Student, Veterinary Science College, Anand Agril. University, Anand, Gujarat
2. Associate Professor, Department of Extension Education, BACA, AAU, Anand,
3. Director, Institute of Distance Education, Anand Agril. University, Anand, Gujarat

Corresponding author e-mail: jbvadodara@gmail.com

Paper Received on July 31, 2015, Accepted on October 01, 2015 and Published Online on October20, 2015

ABSTRACT

The present study was conducted in five tribal talukas of Vadodara district in Gujarat State. Important and relevant no-cost and low-cost animal husbandry technologies in six major areas i.e housing and general management, feeding and watering, calf rearing, breeding, clean milk production and health care were selected for the study . With the help of random sampling method three villages were selected from each selected tribal taluka. From each selected village, ten tribal dairy women members were randomly selected which constituted a total sample size of 150.The independent variables viz; Size of family, land holding, herd size, annual income, extension contact, mass media exposure, innovation proneness, scientific orientation, economic motivation, and knowledge had positive and highly significant correlation with adoption of tribal dairy farmwomen, whereas, experience in dairy farming had negative but significant correlation with adoption. Age of dairy farmwomen had negative and non-significant correlation with adoption, whereas, education of dairy farmwomen had positive and non-significant correlation with adoption of no-cost and low-cost technology of animal husbandry .

Key words : *No-cost, Low-cost animal husbandry technologies, Tribal dairy women,*

Animal husbandry plays an important role in national economy, socio-economic development and employment generation for rural people especially, to small and marginal farmers and landless laboures by providing round the year steady income from animal produce.

India has largest milch animal population in the world but productivity of Indian dairy animal remains substantially low compared to potential and world average. Besides the poor genetic potential and poor economic status, this low productivity could largely be attributed to low level of knowledge and adoption of scientific technologies regarding four important pillars of dairy farming- i.e. breeding, feeding, health care & excellent management. Many of these technologies are mostly cost effective, either no-cost technologies or low-cost technologies. About 75 per cent of rural women are engaged in animal husbandry occupation and plays a key role in this occupation by doing more than 60 per cent of different activities of animal husbandry occupation like, feeding, watering, milking, cleaning and sale of milk, etc. The knowledge and adoption of such no-cost and low-cost animal husbandry technologies by dairy farmwomen has great scope for improving productivity, profitability and sustainability of dairy farming enterprise, especially for resource poor and socio-economically deprived tribal dairy farmwomen.

The adoption of no-cost and low-cost technologies of animal husbandry has some association with socio-personal, economic, communicational and psychological characteristics. If this association is ascertained and the actual situation at grass-root level is understood, it may be possible to draw out certain inferences about adoption of no-cost and low-cost technologies of animal husbandry by tribal dairy farmwomen.

So far, very limited efforts have been made to

determine the relationship between profile of dairy farm women and adoption of no-cost and low-cost technologies of animal husbandry by dairy farmwomen in tribal area of Gujarat state. Therefore, a study on "Factors influencing the Adoption of no-cost and low-cost technologies of animal husbandry by tribal dairy farmwomen in Gujarat" was undertaken with the objective to ascertain relationship between profile of tribal dairy farmwomen and extent of adoption of no-cost and low-cost technologies of animal husbandry by tribal dairy farmwomen

METHODOLOGY

The present study was conducted in five tribal talukas of Vadodara district in Gujarat. Important and relevant no-cost and low-cost animal husbandry technologies in six major groups of practices i.e. housing and general management, feeding and watering, calf rearing, breeding, clean milk production and health care were selected under study through expert opinion. Multistage sampling technique was used to select the respondents. In first stage, out of total 12 talukas of Vadodara district, the five talukas namely Chotaudepur, Pavi-jetpur, Kavant, Nasvadi and Shankheda which comes under tribal areas were selected purposively.Three villages were selected randomly from each selected tribal taluka and from each selected village, ten dairy women members were randomly selected which constituted a total sample size of 150 women respondents.The factors influencing the adoption of no-cost and low-cost technologies were measured with the help of a well developed structural schedule. The collected data were compiled, tabulated and analyzed with the help of statistical tools such as co-efficient of correlation, multiple regression and path co-efficient analysis were used.

RESULTS AND DISCUSSION

Relationship between profile of tribal dairy farmwomen and their extent of adoption of no-cost and low-cost technologies of animal husbandry : The adoption or acceptance of recommended animal husbandry technology is a complex process involving sequence and thought of action. The action of an individual dairy farmwoman is governed by personal, social, economic, psychological and cultural factors involved in situation. Some dairy farmwomen adopt new animal husbandry technology more quickly than others because of the difference in personal characteristics. This was determined and tested with help of Karl Pearson's coefficient correlation test and result obtained is presented in Table 1

Table 1: Relationship between profile of tribal dairy farmwomen and their extent of adoption of no-cost and low-cost technologies of animal husbandry (N=150)

Independent Variables	('r')
Age	(-) 0.151**NS**
Education	0.160**NS**
Experience	(-) 0.176*
Size of family	0.236**
Land holding	0.229**
Herd size	0.397**
Annual income	0.487**
Extension contact	0.650**
Mass media exposure	0.527**
Innovation proneness	0.626**
Scientific orientation	0.617**
Economic motivation	0.572**
Knowledge	0.956**

*= significant at 5% level of probability, **= significant at 1% level of probability, NS = non-significant

Age and adoption : It is apparent from the data presented in the Table 1 age had negative and non-significant correlation with the adoption of no-cost and low-cost technologies of animal husbandry among the tribal dairy farmwomen. Negative correlation was found in case of age and adoption and it might be due to the old age of dairy farmwomen and their traditional way of thinking, them to change and were taking any risk. This finding is in the line with the results of *Khokhar (2007) and Durga (2009).*

Education and adoption: The data presented in Table 1 make it clear that, education had positive and non-significant correlation with the adoption of no-cost and low-cost technologies of animal husbandry by the tribal dairy farmwomen. Adopting parental occupation since young age and medium level of extension contact and mass media exposure might be the probable reason for this non-significant relationship. This finding has been supported by the findings of *Khokhar (2007) and Rathore et al. (2009).*

Experience in dairy farming and adoption: It is evident from Table 1 that there was negative and significant relationship between experience in dairy farming and level of adoption of no-cost and low-cost

technologies of animal husbandry by the tribal dairy farmwomen. It could be inferred that there was a negative influence of experience of animal husbandry occupation on adoption of no-cost and low-cost technologies of animal husbandry by the tribal dairy farmwomen. This might be due to the fact that dairy farmwomen with more experience followed traditional animal husbandry practices, while dairy farmwomen who were relatively new in dairy farming, were more favorably inclined to adopt recommended improved practices for more income and minimization of risks. *Mishra et al. (2009)* have also reported similar finding.

Size of family and adoption: The data presented in table 1 makes it clear that size of family of the dairy farmwomen had positive and significant correlation with the extent of adoption of no-cost and low-cost animal husbandry technologies. It can be concluded that as size of family of dairy farmwomen increased, their extent of adoption regarding no-cost and low-cost animal husbandry technologies increased/improved which might be due to easy and regular availability of family members as labor to perform various activities related to dairy farming. These findings are well supported by the finding of *Rathore et al. (2009).*

Land holdings and adoption: From Table 1 it can be evident that land holding had positive and highly significant relationship with the extent of adoption of no-cost and low-cost technologies of animal husbandry. This result indicates that adoption increase with increase in the size of land holding. It could be concluded from this finding that large land holding facilitated to manage fodder and housing requirement in a better way. Moreover they could maintain larger herd and get high returns. This finding is in the line with result of *Durga (2009) and Rathore et al. (2009).*

Herd size and adoption: The data presented in the Table 1 illustrated that herd size of tribal dairy farmwomen had positive and significant correlation with their extent of adoption of no-cost and low-cost technologies of animal husbandry.

It can be concluded that the dairy farmwomen who owned more number of milch animals may had more investment and return to ensure better from dairy farming, hence they might be more economically sound which led them to realize and adopt the scientifically proven technologies of animal husbandry. Similar findings were reported by *Arora et al. (2006),* and *Rathore et al. (2009).*

Annual income and adoption: It is apparent from the data presented in the Table 1 that annual income of the tribal dairy farmwomen had positive and highly significant correlation with their level of adoption of no-cost and low-cost technologies of animal husbandry. It can be concluded that, better financial condition of tribal dairy farmwomen might have helped them to be capable in purchasing the essential inputs for successful dairy farming. This finding is supported by the finding of *Mavi et al. (2006) and Durga (2009).*

Extension contact and adoption : Relationship between extension contact of dairy farmwomen and their extent of adoption of no-cost and low-cost technologies of animal husbandry was positive and highly significant. The probable reason might be the interaction between extension personnel and tribal dairy farmwomen that has lead to gain in knowledge and skill. This finding is similar to the findings of by Khokhar (2007) and Durga (2009).

Mass media exposure and adoption: The data presented in Table 1 clearly indicated that, mass media exposure of the tribal dairy farmwomen had positive and highly significant correlation with their level of adoption of no-cost and low-cost technologies of animal husbandry. It could be concluded that better exposure of tribal dairy farmwomen to mass media helped in acquiring knowledge of various no-cost and low-cost animal husbandry technologies for sustainable dairy farming occupation. This indicated the potential of mass media in disseminating knowledge among the farmwomen in tribal area related to dairy husbandry. This finding is in the line with the results of *Khokhar (2007) and Mishra et al. (2009).*

Innovation proneness and adoption: Innovation proneness of the tribal dairy farmwomen had positive and highly significant relation with adoption of no-cost and low-cost technologies of animal husbandry. This shows that level of adoption of no-cost and low-cost technologies of animal husbandry increased with increase in level of innovation proneness of tribal dairy farmwomen. Similar result was observed by *Siddhartha (2001) and Durga (2009).*

Scientific orientation and adoption: It is apparent from Table 1 that scientific orientation of the tribal dairy farmwomen had positive and significant correlation with level of adoption of no-cost and low-cost technologies of animal husbandry which indicates that scientific orientation had positive influence on adoption of no-cost

and low-cost technologies of animal husbandry. This finding is in conformity with the findings of *Gour (2002) and Durga (2009)*.

Economic motivation and adoption: It is obvious from in Table 1 that level of adoption of no-cost and low-cost technologies of animal husbandry had positive and highly significant correlation with economic motivation. This indicates that higher level of economic motivation of tribal dairy farmwomen had played a vital role in adopting more number of no-cost and low-cost technologies of animal husbandry. From this finding it economic motivation plays vital role in adoption of technologies related to animal husbandry. The finding is in line with the findings of *Gour (2002) and Durga (2009)*.

Knowledge and adoption: It is obvious from the data presented in Table 1 that, the adoption level of tribal dairy farmwomen regarding no-cost and low-cost technologies of animal husbandry had positive and highly significant correlation (r = 0.956**) with their knowledge level. It means that as knowledge level of tribal dairy farmwomen regarding no-cost and low-cost technologies of animal husbandry increases adoption level of those technologies also increases.

Knowledge of various no-cost and low-cost technologies of animal husbandry helped dairy farmwomen to understand its main features very well and act as an important precursor to its adoption. This finding is in agreement with the findings of *Khokhar (2007) and Kumar et al. (2009)*. Hence to increase the adoption of no cost and low cost technologies of animal husbandry knowledge level of dairy farm women in tribal areas should be increased through educational training programme.

CONCLUSION

The independent variables viz; Size of family, land holding, herd size, annual income, extension contact, mass media exposure, innovation proneness, scientific orientation, economic motivation, and knowledge had positive and highly significant correlation with adoption of tribal dairy farmwomen, whereas, experience in dairy farming had negative but significant correlation with adoption. Age of dairy farmwomen had negative and non-significant correlation with adoption, whereas, education of dairy farmwomen had positive and non-significant correlation with adoption of no-cost and low-cost technology of animal husbandry.Knowledge level annual income and motivation were the key factors affecting the adoption of no cost and low cost technologies of animal husbandry. So, efforts should be made through various extension methods and communication.

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