

Adoption and Adoption Gap of Goat Keepers towards Recommended Goat Rearing Practices

K.N. Yadaw¹ and M.L. Sharma²

1.Ex. PG. Student, 2. Professor (Agril. Ext.), I.G.K.V., Raipur (C.G.)

Corresponding author Email: k2gdnr_03@yahoo.com

ABSTRACTS

The study was conducted in 12 selected villages of three blocks of Mahasamund district of Chhattisgarh. A total of 120 respondents were randomly selected from the selected villages for the study. This study aims to assess the extent of adoption of recommended goat rearing practices by goat keepers. The data collection was done by the use of pre-tested structured interview schedule and through personal interview. The findings revealed that 80 per cent of the respondents had low level of adoption regarding improved feeding followed by 82.50 per cent had medium level of adoption regarding improved breeding, 76.67 per cent had medium level of adoption regarding improved management and 85 per cent had medium level of adoption about improved health care practices and on the overall basis the level of adoption regarding improved management was 58.27 per cent followed by improved breeding (55.41%), improved health care practices (52.40%) and improved feeding (29.33%). Adoption gap is highest in improved feeding (70.67%) overall adoption was noted to be 50.95 per cent and adoption gap was 49.05 per cent. In correlation coefficient of selected 17 independent variables only 7 variables i.e. occupation, land holding, knowledge about recommended goat rearing practices, cosmopolitaness, extension contact, number of animal, housing pattern showed significant contribution in the adoption of recommended goat rearing practices and in multiple regression only 4 variables i.e. annual income, credit acquisition, knowledge about recommended goat rearing practices and cosmopolitaness showed the significant contribution in the adoption of recommended goat rearing practices.

Key words: Adoption; Adoption gap; Goat rearing;

Adoption of goat husbandry practices is an individual phenomenon in all social system. It is widely recognized fact that neither flow of goat husbandry innovations to farming commonly in the rural sectors in neither rapid nor smooth (Mohan *et al.*, 2009).

India possesses about 124 million goats making 14.87 per cent of the world population stands second to China. Although the population of all livestock species shows increasing trend since 1951, the goat population has increased at a much faster than other in India. The growth rate of goats in India has varied from 0.95 to 5.10 per cent with an average of 3.05 per cent during 1951 to 2005 in spite of about 41 per cent slaughter and about 15 per cent natural annual mortality. The goats around the world contributed 12438.4 TMT of milk, 4562.1 TMT of meat and 985.9 TMT of fresh skins per annum. The Asian region contributed 54.08 per cent of the milk, 75.34 per cent of the meat and 79.91 per cent

of the fresh skins of the world production of goats. India produced 2700 TMT of milk, 475 TMT of meat and 130 TMT of skins, 8.5 MT pumina and 400 TMT of manure which make 21.71 per cent of the milk, 10.47 per cent of the meat and 13.15 per cent of fresh skins of the world goat production. The estimated value of different types of goat produces works out to about Rs. 1,06,335 million per annum.

India stands 8th rank in meat production and 3rd in goat meat production in the world. Between 1961 and 2006, the total meat production in India increased from 1.69 MT to 6.10 MT (2.23% of total world meat production). The share of goat meat is estimated at 0.475 MT (23% of total meat). The per capita consumption of meat (8.3kg) is quite low as compared to other developed countries of the world. (FAOSTAT, 2006)

Wilkening (1953) described the adoption of a specific practice is not the result of a single decision to

act but series of actions and meaningful decisions. This is a tremendous task, which need dedicated and skilled workers to produce the desirable impact of adoption of improved practices in goat keeping. Implementation of any improved scientific technology in practical field depends on the adoption behavior of the individual who wants to implement. Adoption of a specified practice is not the result of a single decision to act but series of actions and thought decisions. According to Rogers (1995), "adoption process is the mental process through which an individual passes from hearing about an innovation to final adoption. Adoption has been the central point of research endeavours in the field of extension education. But in real sense, adoption is a very complex phenomenon and is affected by a number of overt and covert factors in the real field situation. It is more so in the field of animal husbandry because there is wide gap between the improved and real practices of improved animal husbandry practices (IAHPs).

Keeping in this view, the present study was undertaken with main objectives of the studying the level of adoption and adoption gap towards recommended goat rearing practices and their associations with selected characteristics of goat rearing.

METHODOLOGY

This study was conducted in three purposively selected blocks i.e. Pithora, Basana and Saraypali of Mahasamund District of Chhattisgarh during 2010-11. From each selected block 4 villages (total $4 \times 3 = 12$) and from each village 10 goat keepers were selected randomly for the study. In this way a total of 120 goat keepers ($10 \times 12 = 120$) were considered as respondents for collection of data. The data were collected through personal interview with the help of pre-tested structured interview schedule. Different 17 socio-economic characteristics of the respondents were studied to determine the responsible factors for extent of adoption about recommended goat rearing practices by the goat keepers.

Recommended four practices i.e. improved feeding, improved breeding, improved management and improved health care practices were considered to analyze the overall extent of adoption about recommended goat rearing technology. The response of the respondents about each practice was recorded on four point continuum scale i.e. 'Full', 'Partial', 'Least' and 'Not at all' with score of '3', '2', '1' and '0' respectively.

Further a separate index for each selected practices was worked out and presented individually.

To analyze overall extent of adoption of the respondents about recommended goat rearing technology, the sum of total scores obtained from all the selected four practices are summed up to obtain the average total adoption score of the respondents. The overall adoption index is the ratio of total actual score obtained by the respondent from all the four practices. The following formula was applied to calculate the adoption index:

$$AI_i = \frac{O_i}{S} \times 100$$

Where,

AI_i = Adoption index of i th respondent

O_i = Total score obtained by the i^{th} respondent

S = Total obtainable score

RESULTS AND DISCUSSION

Extent of adoption and adoption gap about recommended goat rearing practices: The findings on extent of adoption and adoption gap regarding improved feeding, improved breeding, improved management and improved health care practices are presented in Table 1 and 2. The findings revealed that 80 per cent of the respondents had low level of adoption regarding improved feeding followed by 20 per cent had medium level of adoption.

Table 1. Adoption by the respondents about recommended goat rearing practices (N=120)

S. No.	Practices	Level of adoption		
		Low (Up to 33.33%)	Medium (33.34-66.66%)	High (Above 66.66%)
1.	Improved feeding	96 (80.00)	24 (20.00)	00
2.	Improved breeding	06 (05.00)	99 (82.50)	15 (12.50)
3.	Improved management	06 (05.00)	92 (76.67)	22 (18.33)
4.	Improved health care practices	07 (05.83)	102 (85.00)	11 (09.17)

Note: figures in parenthesis indicate percentage

As regards to improved breeding, 82.50 per cent of the respondents had medium level of adoption followed by 12.50 per cent and 5 per cent of the respondents had high and low level of adoption, respectively. Regarding improved management, 76.67

per cent of the respondents had medium level of adoption, followed by 18.33 per cent and 5 per cent had high and low level of adoption, respectively. About improved health care practices, 85 per cent of the respondents had medium level of adoption followed by 9.17 per cent and 5.83 per cent had high and low level of adoption, respectively. *Sinha (1997), Singh et al. (2003) and Singh et al. (2010)* also reported that the almost similar findings in their studies.

On the overall basis, the level of adoption regarding improved feeding was 29.33 per cent, followed by improved breeding (55.41%), improved management (58.27%) and improved health care practices (52.40%). The overall level of adoption regarding goat rearing practices was noted to be 50.95 per cent.

Table 2. Over all adoption and adoption gap among the respondents about recommended goat rearing practices (n=120)

S. No.	Practices	Max. OMS	Total OMS	Extent Ado %	Adoption gap %
1.	Improved feeding	27	07.92	29.33	70.67
2.	Improved breeding	63	34.91	55.41	44.59
3.	Improved management	36	20.98	58.27	41.73
4.	Improved health care practices	27	14.15	52.40	47.50
	Overall adoption	153	77.96	50.95	49.05

Note: figures in parenthesis indicate percentage and

Max OMS = Maximum of obtainable Mean score

Total OMS = Total obtained mean score

Extant Ado % = Extent Adoption (%)

The per cent adoption gap indicates that highest adoption gap (70.67%) was reported for improved feeding, followed by improved health care practices (47.50%), improved breeding (44.59%) and improved management (41.73%). The overall adoption gap was noted to be 49.05 per cent.

Correlation coefficient and multiple regression analysis of independent variables with adoption of recommended goat rearing practices : To determine the correlation and regression analysis of selected variables with adoption of recommended goat rearing practices the analysis was done and results are given in Table 3. The finding revealed that out of 17 independent variables only 7 variables i.e. annual income, land holdings, knowledge about recommended goat rearing practices, cosmopolitaness, extension contact, number of animals and housing pattern were found to be positively and significantly correlated with extent of

adoption of recommended goat rearing practice of the respondents, out of this significant variables annual income, land holdings, knowledge about recommended goat rearing practices, number of animals was found positive and highly significantly correlated at 0.01 level of probability and cosmopolitaness, extension contact and housing pattern was found positive and significantly correlated at 0.05 level of probability, while other variables like age, education, caste, family size, social participation, experience of goat rearing, occupation, credit acquisition, source of information and marketing pattern showed statistically non significant correlation with adoption of recommended goat rearing practices.

Table 3. Correlation coefficient and multiple regression analysis of independent variables with the adoption of recommended goat rearing practices followed by goat keepers

Independent variables	Correlation coefficient	Partial regression coefficient	
	'r' value	'b' value	't' value
X1 Age	-0.1501	-0.3685	-0.5704
X2 Education	0.11448	-0.2868	-0.7296
X3 Caste	0.0217	0.5356	0.9022
X4 Family size	0.0918	0.4476	0.8069
X5 Social participation	0.0671	1.1005	0.7411
X6 Experience of goat rearing	0.1203	-0.1237	-0.3341
X7 Occupation	0.0959	-0.1487	-0.2377
X8 Annual income	0.3691**	7.24	1.988*
X9 Land holding	0.3106**	0.0033	0.0056
X10 Credit acquisition	-0.0702	-1.0334	-2.2037*
X11 Knowledge	0.7629**	0.6979	10.7567**
X12 Cosmopolitaness	0.1975*	1.3411	2.2862*
X13 Source of information	0.1722	0.1797	0.4145
X14 Extension contact	0.1947*	0.1671	1.1845
X15 Number of animals	0.3169**	0.0144	0.2370
X16 Housing pattern	0.1903*	-1.0711	-0.6125
X17 Marketing pattern	0.0626	0.2496	0.7160

*Significant at 0.05 level of probability

Multiple R²=0.6499

** Significant at 0.01 level of probability

F value = 11.95 at 17, 99 d.f.

Intercept contact (a) = 17.08

In the case of multiple regression analysis, out of selected 17 independent variables only 3 variables i.e. annual income, knowledge about recommended goat rearing practices, cosmopolitaness showed the positive and significant contribution and credit acquisition showed the negative and significant contribution in the adoption

of recommended goat rearing practices. Remaining 13 variables did not contribute significantly in the adoption of recommended goat rearing practices. However, all the selected 17 variables in the model show 64 per cent contribution in the adoption of recommended goat rearing practices.

The corresponding F value was found significant with 17 and 99 *d.f.*, therefore it is suggested that for increasing the adoption of recommended goat rearing practices, focus should be given to increase annual income, credit acquisition, knowledge about recommended goat rearing practices and cosmopolitaness of the respondents through the financial, training support and better exposure of the goat keepers in Mahasamund district of Chhattisgarh. Awasthi *et al.* (2000) and Gaikwad *et al.* (2003) noted almost similar findings in his study.

CONCLUSION

The results found that from the above are 80 per cent of the respondents had low level of adoption about improved feeding, 82.50 per cent, 76.67 per cent had medium level of adoption about improved breeding and improved management and 85 per cent had medium

level of adoption about improved health care practices. Increase of overall adoption and adoption gap, overall extent of adoption are 50.95 per cent and overall adoption gap was 49.05 per cent. Out of selected 17 independent variables only 7 variables i.e. annual income, land holding, knowledge about recommended goat rearing practices, cosmopolitaness, extension contact, number of animals and housing pattern were found significant and positively correlated with extent of adoption. In regression analysis only 4 variables i.e. annual income, credit acquisition, level of knowledge and cosmopolitaness significantly contributed in adoption of recommended goat rearing practices. However, all the selected 17 variables explained 64 per cent contribution in adoption of recommended goat rearing practices. Thus, it can be concluded from the study that intensive effort should be made to increase the annual income, credit acquisition, level of knowledge and cosmopolitaness for enhancing the extent of adoption about recommended goat rearing technology among the goat keepers of the area.

Paper received on : April 19, 2011

Accepted on : July 23, 2011

REFERENCES

1. Awasthi, H.K., Singh, P.R. and Sharma, R.N. 2000. Knowledge and attitude of dairy farmer toward improved dairy practices. *Mah. J. Ext. Edu.*, **19**: 290-294.
2. FAOSTAT. 2006-2007. www.fao.org
3. Gaikwad, S.P., Nadre, K.R. and Bhosale, P.B. 2003. Adoption of improved goat management practices by goat keepers. *Mah. J. Ext. Edu.*, **22** (2): 172-174.
4. Mohan Braj, Sagar, R.L., and Singh K. 2009. Factors related to promotion of scientific goat rearing. *Indian Res. J. Ext. Edu.*, **9** (3) 47-50.
5. Rogers, E. M. 1995. *Diffusion of innovations*, The Free Press, New York.
6. Singh, M., Dubey, M.K. and Khare, Y. R. 2003. Factor Affecting adoption of Dairy management practices by members of dairy cooperative society. *Indian Res. J. Ext. Edu.*, **6** (1) : 25-28.
7. Singh, S., Kumar, R. and Meena, B.S. 2010. Adoption Level of Scientific Dairy Farming Practices by Dairy Farmers of Haryana. *Indian Res. J. Ext. Edu.* **10** (3) : 45-48.
8. Sinha, V.K. 1997. Study on decision-making pattern and adoption of improved dairy farming practices in rural area of Rohtas district (Bihar). M.Sc. Thesis (Unpub.). NDRI, Karnal.
9. Wilkening, E. A. 1953. Adoption of improved farm practices as related to family factors; Wisconsin Experiment Station Research Bulletin. 183 Wisconsin, U.S.A.
