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Impact of extension intervention on knowledge and adoption level of goat farming in adopted village of Jabalpur

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Abstract
The objectives of this study were to analyze the knowledge and adoption of scientific goat farming practices before and after extension intervention of goat owners in adopted village of Jabalpur. The study was conducted in five adopted villages of Jabalpur district. The sample sizes of respondents were 80 from all adopted village to analyze the knowledge and adoption level of respondent. Suitable extension interventions such as 02 awareness camps, 05 animal health camps and 02 exposure visits were applied in the study areas. Study showed that before applying the extension interventions majority of the respondents (77.50%) and (81.25%) had low level of knowledge and adoption respectively. Whereas, after extension interventions majority of the respondents (48.75%) and (47.5%) had medium level of knowledge and adoption respectively. Regarding extension interventions, the study showed a significant improvement in the knowledge (χ^2 -21.25) and adoption (χ^2 -22.66) of goat owners. Thus, it can be concluded that proper extension interventions on goat farming are profitable and can improve the socio-economic status of goat owners.

Keywords: Adoption level, Extension Intervention, Goat Farmer, Knowledge Level

Introduction
Goat is the economic backbone of small and landless farmers of rural India. India is a home to 18 per cent of world goat population (FAO, 2015) [1]. Goats and their products accounted for about 8.5 per cent of value of livestock output (at current prices) in 2010-11. 19th livestock census revealed that India accounts 135.17 million of goat population among them rural area contributes 129.08 million goats. Goat population accounts for 22.06 per cent of total livestock population in Madhya Pradesh. Goat rearing is a wide spread activity in Madhya Pradesh and is an eminent source of earning a livelihood for landless and small-scale farmers. Households cultivating less than 2.0 hectare land (marginal and small) are the custodian of more than 76 per cent of the total goats in the country (Government of India, 2006-07).

Goats mainly depend on grazing in common lands, village waste lands, irrigation canals and channels. The majority of the goats kept in villages are seldom given any grain or good fodder; as a result their average meat and milk production is very low. Meat type goats respond readily to good care and proper feeding, and to ensure best results.

In order to make the goat rearing a profitable enterprise, technologies have been developed by the research institutions. Improved management practices have been recommended by various research and development organizations to improve the goat production, but for adopting of these technologies, the farmers faced many constraints (Sharma and Riyaazuddin, 1989) [2] however, goat farmers have poor linkage with extension agencies. The proper adoption of these improved practices by the goat farmers will be the only means to hasten further development in this sector. Understanding these facts, suitable strategies will be implemented to improve the goat farming practices. Keeping in view the above facts proposed research work was designed.

Material and Methods
Knowledge and adoption level of scientific goat farming practice
Initially, an exhaustive list of goat owners was prepared from the all adopted villages. Then from five adopted village all goat owners were selected for study the knowledge and adoption

level of scientific goat farming practices. Goat owners were observed in village Chattarpur and found to be 25 numbers where as in village Deori, Silua, Padariya and Ghana, it was 19, 17, 12, and 07 goat owners respectively. Thus, the final sample sizes of 80 goat owners were selected. Knowledge and adoption level of scientific goat farming practice was recorded before extension interventions. The improvement in knowledge and adoption of scientific goat farming practice of the adopted village goat owners after extension interventions was collected through personal interview method with the help of pretested well structured interview schedule. Extension Interventions i.e. two awareness camps, five animal health treatment camps, two exposure visits were organized to improving the knowledge and adoption of scientific goat farming practices of rural people regarding the housing, feeding, management, healthcare, vaccination and marketing of improved goat farming practices.

Result and Discussion

Knowledge gain

The improvement in knowledge gain of the adopted village goat owners 'before' and 'after' extension interventions is presented in Table 01. A cursory look at Table indicates that before applying the extension interventions majority (77.50%) of the respondents had low level of knowledge whereas, after extension interventions (i.e. awareness camps, animal health camps, farmers exposure visits) majority of the respondents (48.75%) had medium level of knowledge. Chi-square test was applied to find out the test of significance between 'before' and 'after' knowledge level of the respondents. The Table shows that, the chi-square value is highly significant at 1 per cent level which is a clear indication of improvement in knowledge among goat owners in the study areas. This is indicating the improvement in knowledge among goat owners. Average knowledge scores of pre and post training programmers were increased significantly in finding of Dixit *et al*. (2014) [3]. Singh *et al*. (2015) [4] reported the z-value (3.96) which indicated that highly significant gain in knowledge and Tripathi and Mohanasundarraj (2012) [5] also reported that improvement in knowledge about goat farming due to extension services.

Table 1: Distribution of respondents according to knowledge level 'before' and 'after' extension interventions (N=80)

Variable	Category	Technological intervention		χ^2 value
		Before	After	
Knowledge	Low (0-34)	62	35	21.25**
	Medium (35-68)	18	39	
	High(69-102)	00	06	
Total		80	80	

**Significant at the 0.01 level of probability

Adoption level in goat farming practices

The adoption level of respondent was change 'before' and 'after' extension interventions is presented in Table 02 which indicates that before applying the extension interventions majority of the respondents (81.25%) had low level of adoption but after the extension interventions majority of the respondents (47.5%) had medium level of adoption. The Chi-square value is highly significant at 1 per cent level which is an obvious sign of change in adoption level of respondents towards goat farming practices. Snthil *et al*. (2014) [6] revealed that the overall adoption percentage by the farmers which indicated that training had a significant impact in uptake of new technologies. To improve the adoption of goat rearing practices in rural area, extension agencies have to arrange training, awareness and demonstration programme of improved practices to goat keeper reveled by Sabapara and Kharadi (2015) [7].

Table 2: Distribution of respondents according to adoption level 'before' and 'after' extension interventions (N=80)

Variable	Category	Technological intervention		χ2 value
		Before	After	
Adoption	Low (0-24)	65	37	22.66**
	Medium (25-49)	15	38	
	High (50-74)	00	05	
Total		80	80	

**Significant at the 0.01 level of probability

Conclusion

The rural goat owners had poor knowledge about housing, feeding, management, healthcare and marketing practices, which led to poor performance of the goats. Therefore, the study showed that proper extension programmes can improve/ change the knowledge and adoption of goat owners. Regarding extension interventions, the study showed a significant improvement in the knowledge and adoption of goat owners. Thus, it can be concluded that proper extension interventions on goat farming are profitable.

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