

## ADOPTION OF SCIENTIFIC BREEDING MANAGEMENT PRACTICES BY TRIBAL GOAT KEEPERS

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### ABSTRACT

A field study was conducted in Tapi district of south Gujarat to study the scientific breeding management practices followed by the tribal goat keepers. Data was collected from two selected blocks and 100 goat keepers were decided through personal interview with the help of pre-tested structured interview schedule. The study revealed that majority of respondents adopt dual purpose goat breed (77.00 per cent), all the respondents followed natural breeding methods, bred their goats after attaining one year of age (73.00 per cent) and diagnosed pregnancy in goat by them self (74.00 per cent), 65.00 per cent of respondent take care during kidding at night time, prepared a soft bedding material (78.00 per cent) and less than fifty per cent of respondents provide separate kidding space for their kids. None of goat keepers adopted ideal breeding ratio for their maximum production. Major constrain faced by tribal people was lack of knowledge regarding identification of particular goat breeds through their characteristics. Family size (0.2415\*), Size of land holding (0.0303), No. of goat possessed (0.0983) and goat rearing experience (0.0981) found positively correlated with adoption about scientific breeding management practices in goat, while Age (-0.0437), Education (-0.0373) and Family income (-0.0329) were negatively correlated with adoption about scientific breeding management practices in goat.

**Keywords:** adoption, constrains, goat keepers, breeding management

### INTRODUCTION

Goat rearing is immerging as an important source of livelihood particularly for landless laborers and marginal farmers across the country with very low investment (Mohan *et al.*, 2016). Goat being one of the earliest domesticated animals is known for its relatively longer association with human beings (Halpati & Vahoniya, 2023). According to 20<sup>th</sup> livestock census, India rank first with 148.88 million of goat population which was increased by 10.14% over precious livestock census. About 27.80% of the total livestock is contributed by goats in India. In Gujarat, the total goat population is 51864 hundred, whereas 560 goats per households are present in Tapi (DoAH, 2020). There are seven tribal dominating blocks in Tapi district where farmers are rearing goats due to their tiny and dwarf body structure, which is easily manageable. However, the productivity of goats under the prevailing traditional production system is very low (Singh & Kumar, 2007). Understanding of livestock management practices followed by farmers in a tribal region is necessary to identify the strengths and weaknesses of the rearing systems and to formulate suitable intervention policies (Gupta *et al.*, 2008). Therefore, it is very important to ascertain the scientific breeding management practices followed by goat keepers under rural conditions so that

need based extension activities may be launched to make them aware, to increase their knowledge and the adoption of scientific breeding management practices for goat production in study area (Warale *et al.*, 2017).

### OBJECTIVES

- (1) To measure the extent of adoption about scientific breeding management practices by tribal
- (2) To know the constraints faced in adoption of scientific breeding management practices by tribal

### METHODOLOGY

An *ex-post-facto* research method had been used for this present study. Two blocks of Tapi district namely Songadh and Uchchal which have the highest goat population were selected purposively. From each selected blocks five villages were selected and in each village ten respondents thus total 100 respondents were selected randomly for this study. The information was collected through personal interview methods with the help of well structured interview schedule. Dependent variables *namely* adoption regarding scientific breeding management practices in goat rearing by

respondents, Constraints faced by goat keepers for adopting present study. The statistical tools like Mean, Mode, Average breeding management practices in goat were studied for the and ranking methods were used to interpret the result.

**RESULTS AND DISCUSSION**

**Table 1: Distribution of respondents according to their extent of adoption about breeding management in goat (n=100)**

Sr. No.	Variables	Category	Frequency (f)	Percent (%)
01	Breeds of goat	Milch purpose breeds	08	8.00
		Meat purpose breeds	15	15.00
		Dual purpose breeds	77	77.00
		Wool purpose breeds	00	0.00
02	Types of Breeding	Natural Breeding	100	100.00
		Artificial Breeding	00	0.00
03	Appropriate age of breeding	Before 1 year	27	27.00
		After 1 year	73	73.00
04	Pregnancy diagnosis	By self	74	74.00
		Veterinary doctor	00	0.00
		Paravet worker	26	26.00
05	Care during pregnancy	Observation during Kidding: Night duty	65	65.00
		Prepared a soft bedding material	78	78.00
		Separate kidding space	46	46.00
06	Ideal ratio of buck: does for breeding	1:20	00	0.00

The data presented in table 1 shows that majority of (77.00 per cent) respondents adopted the dual-purpose breed of goat. The probable reason for high adoption is might be due to gradually increase the demand of goat milk and meat in urban and periurban region of south Gujarat. All the respondents followed natural method of breeding. The main reason was that this method is less complicated as compared to artificial method and also unaware about the importance of selective breeding for breed improvisation. Similar findings were supported by Ismet Boz (2015) and Vahora *et al.*, (2018).

Most of the respondents (73.00 per cent) bred their goats after attaining 1 year of age. This indicates that they

don't know the ideal age of puberty in goat. This finding is in line with Patel *et al.*, (2020). More than three fifth (74.00 per cent) of goat keepers diagnosed the pregnancy in goat by their own experience and taking cares *viz.* observation during kidding (65.00 per cent), prepared soft bedding material (78.00 per cent) and separate kidding space (46.00 per cent) were followed. Same observations were recorded by Sesane *et al.*, (2015) and Vahora *et al.*, (2018). However, none of the respondents followed ideal ratio of buck: does for breeding. The probable reason for zero adoption is due to they are unaware about the significance of ideal breeding ratio in profitable goat farming. These findings are also supported by Lahoti and Chole (2010) and Vahora *et al.*, (2018).

**Table 2: Constraints faced by goat keepers for scientific breeding management practices in goat (n=100)**

Sr. No.	Constrains	Frequency	Percent	Rank
01	Knowledge regarding different goat breeds	91	91.00	I
02	Abortion problem	87	87.00	II
03	Knowledge regarding flushing ration	81	81.00	III
04	Appropriate breeding age	73	73.00	IV
05	Non availability of breeding stock	71	71.00	V
06	Handling of difficult kidding	67	67.00	VI
07	Identify the goat in heat	62	62.00	VII

The data depicted in table 2 reflected that 91.00 per cent of goat keeper had constrains about lack of knowledge regarding different goat breeds followed by abortion problem (87.00 per cent), knowledge regarding flushing ration (81.00

per cent), appropriate breeding age (73.00 per cent), non availability of breeding stock (71.00 per cent), handling of difficult kidding (67.00 per cent) and indentify the goat in heat (62.00 per cent). These findings were supported by

Warale *et al.* (2017), Jegoda *et al.*, (2022) and Mahammad *et al.* (2022).

**Table 3: Correlation between independent variables and adoption about Scientific breeding management practices in goat** (n=100)

Sr. No.	Independent variables	r - Value
01	Age	-0.0437
02	Education	-0.0373
03	Family size	0.2415*
04	Family Income	-0.0329
05	Size of land holding	0.0303
06	No. of goat possessed	0.0983
07	Goat rearing Experience	0.0981

\*Significant at 5 per cent the level of significance

Data presented in table 3 revealed that Family size (0.2415\*), Size of land holding (0.0303), No. of goat possessed (0.0983) and goat rearing experience (0.0981) found positively correlated with adoption about Scientific breeding management practices in Goat, while Age (-0.0437), Education (-0.0373) and Family income (-0.0329) were negatively correlated with adoption about scientific breeding management practices in Goat.

This indicates that the adoption about Scientific breeding management practices in goat found positive as increasing family size resulting easily manage breeding aspect of goat with sharing responsibilities among family members, due to increasing size of land holding they can easily distribute male and female goat in personal shed as well as providing good space for kidding. With increasing goat rearing experience and goat possessed, they have more knowledge about scientific breeding management in goat. Age is negatively correlated with adoption about scientific breeding management practices in goat due to they are more attached with traditional methods of breeding management in goat. Education and Family income were negatively correlated with adoption about scientific breeding management practices in goat because educated participants were spare less time against goat due to adopting other profession with traditional goat rearing for more income. This finding was supported by Roy and Tiwari, 2017.

## CONCLUSION

It can be concluded that majority of tribal goat keepers were adopt dual purpose breed, bred their goat after attaining one year of age by following natural breeding methods, diagnosed the pregnancy in goat by them self with due care during pregnancy and none of the respondents

maintain a 1:20 ratio for breeding buck: doe. Major constrain faced by goat keepers about scientific breeding management practices was lack of knowledge regarding particular characteristics of goat breed.

The line departments and KVKs should have formulate their action plan with addition of awareness programmes, trainings, exhibitions and other extension activities on the title of improved breeding practices, promote the artificial breeding methods which will undoubtedly increase the goat yield and indirectly the living standard of tribal.

## CONFLICT OF INTEREST

All authors are declare that they have no any conflict of interest for this study.

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