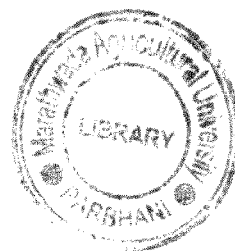


**FEEDING AND MANAGEMENT PRACTICES OF GOATS
IN BEED DISTRICT**

BY
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B.Sc.(Agri.)

T6394

DISSERTATION
*Submitted to the
Marathwada Krishi Vidyapeeth
in partial fulfillment of the
requirement for the award of the degree of*



MASTER OF SCIENCE
(Agriculture)
IN
ANIMAL HUSBANDRY & DAIRY SCIENCE
(ANIMAL HUSBANDRY)

DEPARTMENT OF ANIMAL HUSBANDRY AND DAIRY SCIENCE
COLLEGE OF AGRICULTURE, PARBHANI
MARATHWADA KRISHI VIDYAPEETH
PARBHANI 431402 (MAHARASHTRA) INDIA
2011



*Affectionaly dedicated
My beloved Aai & Tatya*

P3765 JH 6394

CANDIDATE'S DECLARATION

I, hereby declare that entire work

embodied in this dissertation

or part thereof, has not been

previously submitted by

me for a degree of

any University.

Place : PARBHANI

Date : 21/04/2011


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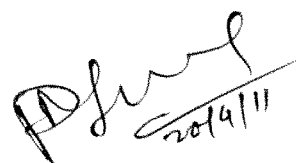
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This is to certify that Shri. **MASKE SAKHARAM VITHALRAO** has satisfactorily prosecuted his course and research for a period of not less than four semesters and that the dissertation entitled “**FEEDING AND MANAGEMENT PRACTICES OF GOATS IN BEED DISTRICT**” Submitted by him is the result of original research work and is of sufficiently high standard to warrant it's presentation to the examination for award of **MASTER OF SCIENCE (Agriculture)** in the subject of **ANIMAL HUSBANDRY AND DAIRY SCIENCE. (ANIMAL HUSBANDRY).**

I also certify that the dissertation or part thereof has not been previously submitted by him for a degree of any university.

Place : PARBHANI
Date : 21/04/2011



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Research Guide

CERTIFICATE-II

This is to certify that the dissertation entitled "**FEEDING AND MANAGEMENT PRACTICES OF GOATS IN BEED DISTRICT**" submitted by **Mr. MASKE SAKHARAM VITHALRAO** to the Marathwada Krishi Vidyapeeth, Parbhani in partial fulfillment of the requirement for the degree of **MASTER OF SCIENCE (Agriculture)** in the subject of **ANIMAL HUSBANDRY AND DAIRY SCIENCE (ANIMAL HUSBANDRY)** has been approved by the student's advisory committee after oral examination in collaboration with the external examiner.



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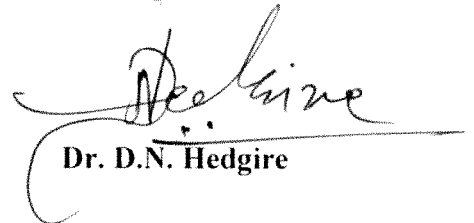
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Maske S.V.

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Introduction

CHAPTER-I

INTRODUCTION

Goat (*Capra hircus*) called mini-cow is one of the important and multipurpose farm animal, which provides milk, meat, skin and hair (fur) and manure for soil. Goat is called as “Poor Man’s Cow” as it is the cheapest and easiest available farm animal for rearing.

This is due to ,

- Initial investment is relatively low, as compared to cattle and buffalo.
- Their hardiness and wider adoptability under extreme climatic conditions.
- They can thrive well on wide range of feeds and fodder, tree leaves, bushes, weeds which are not commonly consumed by other farm animals.
- As small animal, can be easily managed by family member.
- Feeding, milking and care of goats does not require much equipments.
- The reproductive turnover of goat is very high.
- The space requirement for housing is small as compared to other farm animals.

Considering above points we can say that economically goat is cheapest animal for rearing and is suited for landless labourers,

marginal farmers, village artisans and also to people who are living below poverty line, The goats not only supply a regular source of additional income to these poor peoples but also a nutritional security and easily digestible milk for their babies. Thus in rural areas goat farming provides employment and a regular flow of income to the families of marginal farmers and landless labourers.

Goats can thrive under zero input and have been rightly quoted as “poor man’s cow”. Goats have proved a very useful and economically valuable species in Indian agriculture, India possesses 20 recognized breeds of goat which constituted 20 to 25 per cent of total goat population and remaining goats are non-descript or interbred goats. World’s current population of goats is around 810 millions, of which India, possess 124.36 million, which comes to about 15.00 per cent of the world’s population and the country ranks second after China in goat population (Anonymous, 2006). The goat population of Maharashtra was 10.68 million (Anonymous, 2007).

Goats are the principle source of animal meat contribute about 47500 tones of meat per annum. The goat rearing also generates about 5 per cent rural employment and about 20 million families belonging to small, marginal farmers and landless labourers are engaged in goat keeping. In India, goats are generally reared by professional breeders, especially nomadic tribes who have limited resources to maintain the goats. They are mostly dependent on scarce browsing material like shrubs; bushes, pods and hard and thorny vegetation which grow naturally on waste pasture land/ range, including foliage of neem, khejari, babul, kheri and grasses etc (Dhangar *et al.*, 1992), However,

goats are not even supplied the concentrates for fulfilling their nutritional requirements.

Goats are well known for their adoption with different ecological system, as they found in Himalayas, in the semi-arid and arid areas and in the high rainfall and high humid regions (Devendra, 1998). The statistics also indicates the concentration of goats in marginal areas like mountainous region, rainfed dry land area of developing countries, where goats are reared mostly by small (1 to 2 ha land holding) and marginal farmers up to 1 ha land holding) and landless labourers as a source of ready cash to meet immediate family needs (Chander *et al*, 2000).

Now a days the demand for goat industry is increasing due to increasing population and more preference of people to goat meat (Chevon) as goat meat has greater demand in market and in meat eaters country. The estimated value of different subsidiary produces obtained from goats comes to about ₹ 10,087.47 crores per annum. The goat milk is preferred for children's and patients as it is more palatable and digestible than cow and buffalo milk, also it has medicinal value and recommended for patients suffering from peptic ulcers, infantile diarrhea, jaundice and insomnia.

Goat population witnessed 8.1 per cent change/increase between 1990 and 1996 at a global level and the maximum change (+27) has been in Asian countries over the last 15 years, the number of goat has increased by almost 50 per cent at world level, whereas sheep decreased by 4 per cent and cattle increased by only 9 per cent . Thus goat has

emerged as a major livestock species that is enormously rising in number (Morand-Fhar and Boyazoglu, 1999, Devendra, 2001).

The phenotypic characters like colour of goat, orientation of horns, ears and tail are important for defining a particular goat breeds; out of these 20 goat breeds, two are found in Maharashtra *Viz.*, Osmanabadi and Sangamneri. It has contributed significantly to the socio-economic status of pastoral communities of home tract region of that breeds.

Therefore, this business can be very profitable if recommended economic feeding and management practices are followed at goat farms, and in rural areas goat keeping plays an important role on a suitable alternative enterprise by giving a regular income throughout the years.

Hence , the present study was conducted to know “Feeding and Management Practices of Goats in Beed district” with following objectives ;

- 1) Enumeration of goats in terms of age and sex in population.
- 2) To study the feeding and management of goats under field condition.
- 3) To study the existing management practices.
- 4) To study the constraints in feeding and management.
- 5) To study short falls in feeding, management practices and to suggest proper feeding, management practices for goats.

*Review of
Literature*

CHAPTER-II

REVIEW OF LITERATURE

The present investigation entitled “Feeding and management practices of goats in Beed districts” was conducted in order to study the types of goats available in Beed district and their present status in respect of characterization, feeding and management practices to be adopted by the goat owners.

The review of literature is always helpful as a guideline for research. This helps to conduct the investigation on a proper line. In the following pages an attempt has been made to review the research carried on Feeding and management practices and characterization and evaluation of different goats in India and presented on following points.

- 2.1. Colour
- 2.2. Goat feeding
- 2.3 Goat breeding
- 2.4 Goat housing pattern
- 2.5 Constraints faced by the respondents in adoption of goat management.

2.1 Colour

Bhat (1988^a) conducted the study on documentation of phynotypic traits of 314 Barbari goats available at the Central Institute for Research on Goats at Makhdoom. He has reported the goat colour variation as

46.80 per cent animals to be of Barberi B type (brown spotting against white background); 2.90 per cent animals of solid brown SB type (Solid brown coloration with white on fore head, belly and limbs); 18.10 per cent animals of type AB (brown color on face and dark brown colour on neck, back, thigh and limbs); 12.70 per cent animals of type CC (fawn colour), 0.32 per cent of completely white type D with a few brown spots and 0.32 per cent of black type E (black patches on head, black, thighs, belly and limbs); from the mating type data it was observed that these colours were heritable.

Bhat (1988^b) conducted the study on documentation of phenotypic traits of 304 Jamunapari goats at the Central Institute of Research on Goats Makhdoom. The coat colour variation showed that 4.30 per cent animals were completely white, 87.80 per cent white animals had brown, dark brown, fawn, brown and fawn patches on neck, ears and around eyes.

Prakash and Balain (1992) reported that a common colour of Osmanabadi breed was black, although a mixture of white and black or red.

Mishra and Koratkar (1994) surveyed 52 flocks owned by the farmers in different villages in Sangamner tahsil of Ahmednagar district in Maharashtra and reported that the coat colour was predominantly black.

Ruben (1997) reported that the coat colour of Osmanabadi goats was complete black or mixture of black and white or mixture of black and brown colour.

Anonymous (1999) reported that the common colour of Osmanabadi breed is black (98.59%). Hardly 1.37 per cent goats had white coloured spots or patches on the body or ears and only 0.04 per cent goats had red colour mixed with black and white.

Shinde (2000) observed that 69.26 per cent Osmanabadi goats were entirely black, 23.45 per cent were black with white patches and only 7.29 per cent with varied colour.

Banerjee (2002) reported that Osmanabadi goats are large in size, coat colour varies, but mostly 73.00 per cent black and the rest are white, brown or spotted, 90 per cent males are horned; females may be horned or polled.

Shettar and Rudresh (2003) conducted study on 1874 indigenous Bidri goats of Bidar district and reported that the black coat colour constituted 55.00 per cent of total sample. The significant percentage of black colour of coat might be due to contribution of Osmanabadi genes towards Bidri goats gene pool.

Anonymous (2004) reported that 66.26 per cent Sangamneri goats had white coat colour, while 17.89 and 15.85 per cent had whitish brown and brown coat colour, respectively. There was a highly significant difference between whitish brown and brown.

Motghare *et al.* (2005) reported that the coat colour of Osmanabadi goats was mostly found as black (100%).

2.2 Goat feeding

Saini *et al.*(1986) studied the Jamunapari weaner kids reared under three feeding management systems. The body weight gain of kids per day from 90 to 180 days was lower under extensive system (45 g) than that under semi intensive (47g) and intensive system (52g). The cost of rearing kids under intensive and semi-intensive system was higher than that under extensive system.

Gaten by (1988) studied 60 goat farms and found medium flock size was 6. The most important food were legumes, particularly lucaena and sesbania. Only three farmers fed concentrates. The kid mortality was lowest in shepherded flock and highest in free grazing flocks. The body weight gain of kids from birth to one year of age averaged 38 g per day for female. The mean body weight of 30 kg can reached at an age of about 3 years.

Devendra and Lokeshwar (1992) discussed the role and contribution of goats to rural prosperity in the context of their wide

distribution and close association with rural poor. They observed that goats are found across all agro-ecological environments their importance is indicated by various functional contributions in meat, milk, fibre, skins and socioeconomic relevance security, income generation and human nutrition and stability to farming systems. The economic contribution from goat is relatively large. Women and children, the most vulnerable victims of extreme poverty are closely involved with rearing goats as an important means of livelihood security.

Anonymous (1992) reported that in irrigated areas where the owners of goats are usually women who are landless labourers, she will take the goat with her to the work site and tie the goat on field boundaries while she works in the field. She may also collect weeds which she generally carries home for night feeding of her goat. He further reported that villages experience around Naryangaon area in Junner taluka of Pune district shows that people prefer to stall feed their goats for more milk yield.

Prabhakaran and Thirunavukkarasu (1992) reported that goats derived most of their feed requirement from grazing.

Rath (1992) reported that more than a quarter of the rural households of Maharashtra keep goats. The goat keeping households are primarily the poor ones either the landless or marginal and small cultivators.

Gefu *et al.* (1994) conducted survey on small ruminant for management practices in Anambra state of Nigeria indicated that mean

flock size per household averaged 2.4 and 6.2 for sheep and goat respectively. Household waste and cut forage were the main feeds. Few owners had any knowledge of improved feed production and management practices.

Anonymous (1996) reported that livestock farming system in western plateau and hilly agro climatic zone of India consist mainly goat farming system having a composition of livestock, mainly of goat and cattle reared with crop production such as millets, cotton, fruits and sugarcane.

Singh (1996) studied the possibilities and prospectus of employment in goat rearing in rural Mathura (Uttar Pradesh). Flock size was observed to be directly associated with number of workers in family and not with family size. Highest labour employment in goat rearing was observed on large flock.

Mohapatra and Nayak (1996) reported that the goat keepers did not prefer stall feeding, about 13 per cent of them used concentrate feeds.

Guinamard (1997) studied five typical dairy goat farming systems operating in the Rhone-Alpes region of France. They comprise dairy farm producing goat milk, feeding other. Plant products (mainly fruits) herbage, and green forage with some forage brought in, dairy farm producing goat milk and processing it into cheese, feeding herbage under a zero pasture system, dairy farm producing goat milk and processing it into cheese. Feeding herbage pastures; dairy farm

producing goat milk and processing it into cheese, using mountain pasturing system.

Prakash (1997) conducted the study on fifteen Barbari kids of same age and body weight randomly divided into three groups and fed on three system viz., extensive, semi-intensive and intensive. Fortnightly body weight gains was recorded upto nine months of age. The productivity traits viz., age at puberty, age at first conception, gestation period, kidding interval, milk yield, kid weight was recorded periodically. They concluded that productive performance of Barbari kids is better in intensive systems as compared to semi-intensive and extensive system.

Anonymous (1999) reported that the 59.94 per cent goat keepers followed grazing system, 45.06 per cent followed semi grazing, while, none of the farmers followed stall feeding to their goats. The walking distance and grazing period in grazing and semi grazing systems averaged 3.12 ± 0.29 and 2.46 ± 0.28 km and 7.05 ± 0.21 and 421 ± 0.29 hours, respectively in Osmanabadi breed.

Kumbhar (2000) studied the goats maintained in Ahmednagar District in Maharashtra and revealed that most of the goat keepers followed grazing (87.5%) system and only 12.50 per cent followed semi grazing , while none of the farmer followed stall feedling system. The walking distance and grazing period in grazing and semi grazing system averaged 3.42 ± 0.61 and 2.43 ± 0.69 km; 6.00 ± 0.41 and 4.41 ± 0.52 hrs, respectively, in Osmanabadi goats.

Shinde (2000) studied Osmanabadi goats in Ahmednagar district and reported that 88.69 and 11.31 per cent goat keepers followed grazing and semi grazing system, respectively. In grazing and semi grazing system the average grazing distance was 3.48 ± 0.10 and 2.16 ± 0.31 km, respectively where as the corresponding grazing time was 6.91 ± 0.23 and 4.08 ± 0.14 hours in two systems, respectively.

Rustagi and Agarwal (2000) in the study of estimation of cost rearing and maintenance of different categories of goats were obtained on the basis of the data collected from 324 selected house holds in rural areas of Mathura district (U.P.). They found that goats mainly browse on natural vegetation for sustenance. Majority of their intake was through grazing. The goats maintained in the area were grazed and stall fed also, grasses, tree leaves and berseem were the major constituents of green fodder. Among the concentrates wheat, barley and bajra were important feed fed to goats.

Chander *et al.* (2000) reported that goat occurs in marginal areas like mountains region, rainfed dryland areas of developing countries, where goats are reared mostly by small (1-2 ha land holding) and marginal farmers (up to 1 ha land holding) and landless labourers mainly as a source of ready cash to meet immediate family needs.

Anonymous (2002) reported that out of total population of goats, in Maharashtra, nearly 50 per cent under the jurisdiction of Mahatma Phule Krishi Vidyapeeth, Rahuri. Most of these goats are non descript and are generally maintained for milk and meat production.

Rai and Singh (2004) studied that goat reared under traditional management due to lower socio-economic status of goat keepers and reported that goat are adoptable to varying agro climatic, feeding condition and production system. There is need to develop the scientific management practices of goat rearing and to evaluate it's goat rearing and to evaluate it's productivity under field conditions.

Safeer *et al.* (2008) A study was conducted through systematic survey of 25 villages of four districts of Punjab, viz., Gurdaspur, Amritsar, Ferozpur and Ludhina, for phenotypic characterization of beetal goats. During the survey 1726 goats and 66 flocks were studied to know the feeding and management practices followed by the goat farmers.

Pansare *et al.* (2009) conducted study on goat rearing in Junnar Taluka. They had categorized goat keepers according to flock size and land holding and studied the rearing and management practices of goat.

Raskar *et al.* (2009a) conducted stratified sample survey on grazing condition and management practices followed in home tract of Osmanabadi goats. In all 156 Osmabnabadi goat keepers were surveyed out of total goat keepers 76.36 per cent followed grazing system and 25.64 per cent followed semi grazing system, while none of the farmers followed stall feeding to their goats.

Dhupe *et al.* (2009) conducted study on management practices of goats in Sangmaner Tahsil. It was seen that majority of respondents were landless and marginal farmers and reported that goat rearing

enterprise was supplemental to their main earnings i.e. for agriculture and agril. labour.

Lahoti *et al.* (2010) The study was conducted in Ambajogai taluka of Beed district of Maharashtra State with objective to know the extent of adoption of improved feeding practices by goat keepers. Hundred respondents from 10 villages of the taluka were selected randomly for collection of data. The data were collected with the help of well constructed and pretested interview schedule. The data was analyzed by using suitable statistical methods viz., frequency, percentage etc. it is revealed from the study that goat keepers usually did adopt the improved feeding practices.

2.3 Goat Breeding

Nadmukong *et al.* (1989) studied the traditional sheep and goat production in north west providence, Cameroon. They have reported that average size was 4, 5 and 8 for sheep, goat and mixed flock respectively and he found that most breeding was not controlled.

Lawar *et al.* (1991) studied reproductive performance of Angora goats and observed age at puberty average 677.5 ± 22.4 days, body weight at puberty 20.3 ± 0.3 kg, age at 1st conception 910 ± 34.5 days, number of insemination per conception 1.69 ± 0.85 , litter size 1.14 ± 0.26 , duration of pregnancy 146.3 ± 0.86 day, service period 240 ± 11.3 days and kidding interval 451 ± 16 days.

Jagtap *et al.* (1991) studied non-genetic factors influencing reproductive traits in Angora cross bred goats and concluded that month of birth had significant effect on age at 1st conception.

Galina *et al.* (1995) studied reproductive performance of Mexican dairy goats under various management system and concluded that goats gave birth for the 1st time at 14 ± 3 months of age the average litter size was 1.67 ± 0.2 and the interval between kidding was 347 ± 56 days. A quarter of all births occurred between January and March, 11 per cent between April and June, 5 per cent between July and September and 59 per cent between October and December. Correlation existed between rainfall and fertility and rainfall and estrus induction goat giving birth for first time had the lowest prolificacy.

Koratkar *et al.* (1998) studied reproductive performance of Osmanabadi goat on the university farm and observed gestation period averaged 147 days, conception rate was 100 per cent, number of services per conception averaged 1.23, kidding rate was 92 per cent, abortion rate averaged 5.2 per cent, still birth averaged 5.9 per cent and twinning percentage was 24 per cent.

Singh *et al.* (2000) reported that the age at first conception of Beetal half breed was significantly higher than pure bred Black Bengal indicating that the Beetal genes are responsible for increasing age at first conception. It didn't vary due to litter size at birth, season of birth and body weight i.e. non-genetic factors. Similar trend was for age at first kidding. The first service period of Beetal half breed was significantly greater than that of purebred Black Bengal similar trend was observed for first kidding interval.

Gokhale *et al.* (2002) were surveyed in few districts of Maharashtra, and revealed that the average large dairy animals holding

of the goat keepers was 5.67 ± 0.41 which constituted 2.17 per cent of his livestock holding while that of small ruminant was 22 per cent.

Rai and Singh (2005) studied the production performance of Jakhrana goats in it's home tract. They studied that age at first service for Jakhrana goats was recorded $300.53 + 8.80$ days under extensive management while under semi intensive management was recorded $278 + 9.97$ days. Age at conception for Jakhrana female recorded $492.75 + 2.72$ under semi-intensive management.

Zeshmarani *et al.* (2007) studied the reproductive performance of goats in estern and north estern India. They have conducted the study on black Bengal, Assam Hills and Manipur non descript for recording their age at Puberty, age at conception and age at first kidding.

Adhale *et al.* (2009) studied knowledge and adoption of management practices by goat keepers in Ahmednagar district. They have reported that majority of goat keepers had knowledge about proper age of breeding buck (75%), proper age of female for breeding (56.67%) and sign and oestrus (82.22%).

Deshpande *et al.* (2009a) studied the Surti goats and endangered breed of south Gujrat and recorded the mean age at puberty for Surti Female in Situ condition was 2.70 ± 16.8 days.

Janakiraman and Mehta (2009) studied the age at puberty or age at maturity of the Surti males and reported as of 225.25 ± 18.97 days under ex situ condition.

2.4 Goat Housing pattern

Prabhakaran and Thirunavukkarasu (1992) reported that the traditional method of housing and management was mostly followed by the goat keepers in Tamilnadu.

Mohapatra and Nayak (1996) showed management practices used by tribale farmers of Phulbani district, Orissa. In that about 36 per cent of farmers were unable to provide separate shed for goat. The goats, were kept in the farmers provided a thatched shed with katcha flooring.

Patil and Mohite (1998) reported that the goat keepers preferred Kutcha housing type prepared by using sugarcane thatches and dry grasses than that of pacca housing type.

Anonymous (1999) conducted survey on Osmanabdi goats at M.P.K.V., Rahuri of Ahmednagar district and reported that 99.03 per cent goat keepers provided kutcha type of housing and hardly 0.97 per cent provided pucca type of housing. Further reported that 98.14 per cent goats were provided housing only during night. Hardly 0.49 per cent goat were provided with day time housing and 1.37 per cent goats were provided with both day and night housing. The overall 73.47 and 26.53 per cent goat keepers provided closed and open housing, respectively. In housing of goats 66.78 per cent goat keepers used part of their residence while remaining farmers provided separate housing to their goats. The majority of farmers provided katcha flooring and half walled structure. Almost all (97.00%) housing had well ventilation.

Ahmadu *et al.* (2000) carried out a survey of 130 goat keeping household in Laungawa and Sinazongwe districts of Zambia. They reported that 99 per cent respondents consider the provision of shelter as important and the type of housing varied among the households. Huts with roof made of thatched grass seed to be more popular in 76 per cent respondents. Most of the goat houses poorly constructed with no facilities for ventilation and drainage.

Kumbhar (2000) studied the goats maintained in Ahmednagar district in Maharashtra and reported that the 98.21 per cent goat houses had Kutcha floor and only 1.97 per cent had pucca floor. The 97.32 per cent structure had well ventilation.

Shinde (2000) studied Osmanabadi goats in Ahmednagar district and reported that 93.04 per cent goat keepers provided housing during night, 2.61 per cent during day and 4.35 per cent for both day and night. The 70.44 and 29.56 per cent farmers provided open and closed housing, respectively. He also recorded that 73.92 and 26.08 per cent farmers kept goat in part of their residence and separate housing, respectively.

Gokhale *et al.* (2002) surveyed rural families (421) from Ahmednagar, Pune, Satara, Solapur and Thane districts in Maharashtra state, to study the status of goat breeders, goats breeding. Feeding management and health aspects. The survey revealed that 53.68 per cent of goat owners maintained their own bucks for breeding. The goat owners having no breeding facility (45.60 percent) paid from ₹ 5 to 90 per service for breeding their does, most of the goats were housed in

compound (35.86 per cent) some used their residence (14.48 per cent) for housing goats. Only 9.2 per cent constructed permanent cement houses for their goats.

Raskar *et al.* (2008b) conducted the stratified sample survey on housing pattern followed in home tract of Osmanabadi goat. In all 156 Osmanabadi goat keepers were surveyed. Out of total Osmanabadi goat keepers 83.33 per cent goat keepers provided housing at day and 13.46 per cent provided housing at day and night. Further indicated that 84.62 per cent goat keepers provided closed housing and 15.38 per cent provided open housing to their goat. It was also observed that 73.72 per cent goat keepers kept their goats in separate byres while 26.28 goat keepers kept their goat using part of residence.

Deshpande *et al.* (2009b) conducted study on managerial practices followed by goat keepers in south Gujrat region. A field survey was conducted on 1234 goat keepers in villages of Surat, Navasari and Bharuch district of South Gujrat region to study the prevailing goat management practices. It was reported that small flock size (1-5) found to construct house for goat near by the residence of goat keepers (54.63%) or inside the residence (34.59%), 95% per cent goat keepers built a Kachaa type house for goats. It was also observed to follow housing type of goat according to occupation of goat keepers.

Jayashree (2009) conducted study, on housing practices adopted for local goats in Malad area of Karnataka and reported that majority of the goat keepers were landless labourers. The 50 household were surveyed out of which 20 per cent were maintaining pucca shed with

slatted floor raised above the ground and 45 per cent had Katcha floor shed and remaining 35 per cent were maintained their goat unit as open fenced.

2.5. Constraints faced by the respondents in adoption of goat management.

Phadtare (1987) reported that the problems in goat rearing were inadequate pasture, attack of wild animals and thieves and lack of advanced knowledge in respect of breeding, feeding and management, problem of marketing of their animals and animal product.

Suresh *et al.* (1993) observed several problems in goat industry among these lack of grazing land facilities (84.4 per cent) and neglect of animals by veterinary practitioner (77.08 per cent), non availability of medicines never by, difficulty in maintain record (90.00 per cent).

Bhosale (2000) studied knowledge and adoption of goat rearing farmers about goat management practice and constraints faced by them from Man tahasil of Satara. He found that, very few goat keepers had adopted the practices of feeding milk to small kids proportionate to 10 per cent of their body weight while 22.67 per cent and 4.67 per cent were adopting the fodder feeding practices from two months age of kids and feeding of concentrates to 3 to 6 months age kids.

Gour and Patel (2003) concluded that unavailability of quality green fodder round the year, difficulty to store milk in summer season, poor facility of timely vaccination against disease were the problems faced by dairy farmers.

Gaikwad (2003) observed that majority of respondents (34.17 per cent) were educated upto primary standard, followed by secondary (26.67 per cent) higher secondary (13.33 per cent) college level 7.5 per cent and 18.33 respondents were from illiterate.

Gujar and Pathodiya (2008) observed that lack of grazing land was one of the major constraint perceived by the goat rearing (82.55%) followed by lack of improved breeding buck (81.66), lack of credit facility (74.18 per cent), lack of knowledge about scientific goat rearing (67.20 per cent), lack of vaccination (59.93 per cent) and lack of proper housing facilities (48.42 per cent).

*Materials and
Methods*

CHAPTER-III

MATERIALS AND METHODS

There are 20 breeds of goat in India. The Osmanabadi is a pride of Marathwada region of Maharashtra state. The large population is observed in Osmanabad, Latur and Beed. The breed is also reared in other parts of Marathwada. There is more number of goat population which is non descript. To ascertain the goat population and its management aspect at rural level this study has been undertaken.

3.1. Information about place of work

The data for the present investigation entitled “Feeding and Management Practices of Goats in Beed District” were collected from different farmers, specially who are rearing the goats in Beed district of Maharashtra State. A comprehensive questionnaires were prepared to collect information by personal interview with individual goat rearing farmers.

3.2. General information about Beed district

3.2.1. Geographic situation

The Beed district is located on 18°28' to 18°99' North latitude and 74°54' to 75°76' East latitude. The geographical area of entire district is about 10693 sq. km. (3.47 per cent of M.S.). The irrigated area 156495 ha. The altitude of Beed 666 meter above mean sea level.

3.2.2. Climate

The climate in district is generally hot and dry except in monsoon season. The year is divided mainly in to three season:

1. Rainy season (monsoon) : June to September
2. Cool dry season (winter) : October to January
3. Hot dry season (summer) : February to May

Temperature of the district varies according to season. During summer, it touches as high as 42° to 45°C , while during winter, it goes down as low as $12-15^{\circ}\text{C}$. December is the coldest month in a year.

Rainfall

June, July, August and September are the months of higher precipitation. The rains are scare and occur only during monsoon. Average rainfall of Beed district is 666 mm. The rainfall in some parts of Beed district is not uniform and it goes on gradually increasing from West to East.

3.2.3. Soil and topography

The soil is coarse and rocky largely consisting of fertile black cotton soil were seen in the Northern part and in the South at the Western bank of Bindusara. However soils vary widely in texture and depth. Medium and deep black soil rich in plant nutrients, can support good *kharif* and *rabi* crops.

The main hills ranges in the district are Balaghat which emerge from the main Sahyadri and go through Parali tahsil. Beed is situated on

the Deccan plateaus, on the banks of Bindusara which is a sub-tributary of Godavari river, Bindusara originates in the hills of Balaghat ranges, 30 km south, west of the town near the village of Waghira. The river divides the town into smaller eastern and larger western parts. Balaghat range stretches very close up to 10 km South of the town making terrain, mainly in the Eastern part undulating.

3.2.4. Crops

The major crops grown in Beed district are cereals, oilseeds and pulses, leading to harvest in *kharif* and *rabi* season. Jowar, bajra , Black gram , pigeonpea, Maize are the crops taken in kharif and Sunflower in post monsoon. Rabi Jowar , Wheat , *Bengalgram* and Safflower in Rabi. Under irrigation Sugarcane, Banana and summer groundnut crops are grown. Jowar kadbi forms the major bulk of the ration for the ruminants. In addition, crop residues from Green gram , black gram, wheat , Groundnut and Tur are also used for feeding the animals. The maximum and minimum temperature of Beed district is 42° and 16° C. respectively. It exceeds the range limits and prevails for a short period. Kharif, Rabi and Summer cropping pattern is practiced.

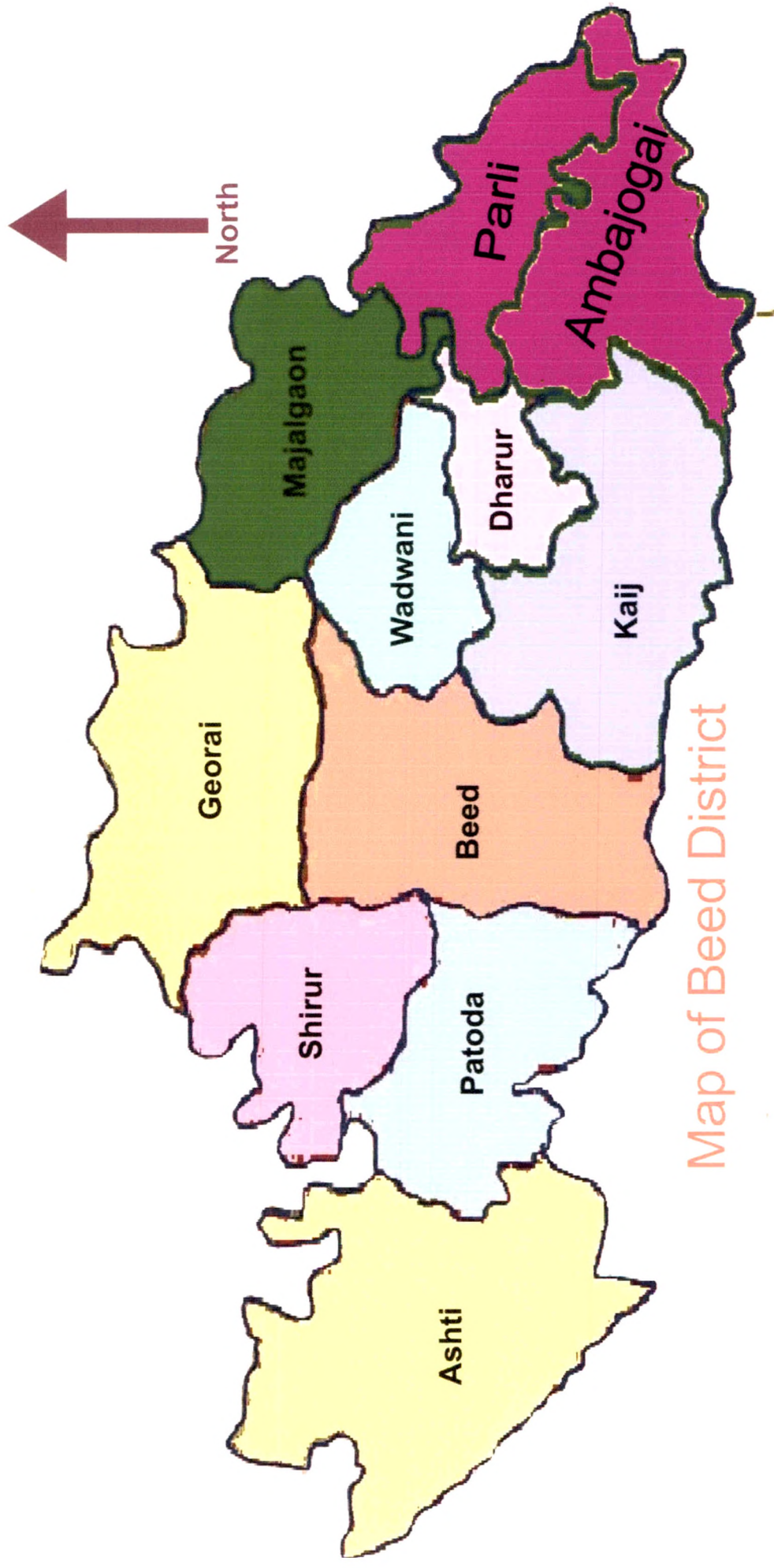
3.2.5. Livestock population

Species wise livestock population of the district is given in table 1.

Table 1. Livestock population in Beed district.

Species	Population
Cattle	667398
Buffalo	265903
Sheep	91589
Goat	456408
Poultry	640037

Population Census :- 2007



Map of Beed District

The bullocks are the draft animals while cows and buffaloes as milch purpose animals and young stock as calves and heifers. The goats are reared by the farmer as a meat purpose and also for income generation. Buffaloes and goats are the major components of the mixed farming model prevalent in this district of Maharashtra state.

3.3. Method of sampling and size of sample

The data obtained for the study was collected by multistage random sampling technique. At first stage, Beed district was selected.

a) Selection of Tahsil

Randomly two tahsils were selected from Beed districts, these are Parali and Ambajogai.

b) Selection of villages

In third stage, random selection of 20 villages were made from randomly selected two tahsils i.e. 10 villages from each tahsil.

The list of villages from each tahsil with sample cases investigated are presented in table 2.

Ten number of goat keepers were randomly selected from each village. Thus, the total sample size comprised of 200 farmers.

The data in respect of number of goats, rearing type, breeding systems, feeding practices, production and reproduction performance of goats, existing management practices were studied.

Table 2. Distribution of villages.

Tahsil	Name of Village	Number of cases investigated
Parali	Vadagaon (Dadahari)	10
	Dautpur	10
	Sangam	10
	Waghet	10
	Belanba	10
	Kanerwadi	10
	Endepwadi	10
	Dabi	10
	Jerewadi	10
	Tokewadi	10
Ambaogai	Chanai	10
	Dagadwadi	10
	Dongarpipla	10
	Rajewadi	10
	Bhavthan	10
	Yelda	10
	Jawalgaon	10
	Girvali	10
	Bharaj	10
	Shri krishana Nagar	10

C) Farm size :

Two hundred respondents were randomly selected @ 10 per village. After the selection of respondents they were classified into groups on the basis of farm size and number of goats as below.

Table 3. Farm size of goat keepers.

Sr. No.	Category	Size of land holding
1	Marginal farmer	Upto 1 ha
2	Small farmer	1-2 ha
3	Medium farmer	2-10 ha
4	Large farmer	Above 10 ha
5	Landless labour	---

Table.4. Flock size of goat keepers

Sr. No.	No. of Goats (flock size)
1	Up to 05
2	6-10
3	11-15
4	More than 15

3.4. Adoption of management practices

Adoption is the decision to continue full use of innovation. The respondents adoption with respect to management practices like Feeding, breeding and housing management practices was studied. Also effect of occupation and literacy on adoption of management practices were studied.

3.5. Statistical Method :

The data collected were classified and tabulated as per the objective concerned and simple tabular analysis was followed for analyzing data, where the comparison was redundant only frequency and percentages were estimated (Panse and Sukhatme, 1967).

*Result
and
Discussion*

CHAPTER – IV

RESULT AND DISCUSSION

The investigation entitled “feeding and management practices of goats in Beed district” was carried out. The results obtained in this investigation are presented and discussed in this chapter under following heads.

- 4.1 Enumeration of goats in terms of age and sex in population.
- 4.2 Adoption of existing feeding and management practices.
- 4.3 Constraints faced by the respondents and suggested proper feeding, management practices for goats.

The observation in enumeration of goats in terms of age and sex from the selected villages under two tahasil was recorded, tabulated and presented as below.

4.1.1 Enumeration of goats in terms of age and sex in population

The data obtained on the enumeration of goats as per age, and sex has been collected, calculated and presented in table 5.

Table 5. Enumeration of goats in terms of age and sex in population.

0-6 month		6 month to 1 year		1 to 2 years		2 to 3 year		Above 3 years		Total
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
362 (15.89)	441 (19.35)	235 (10.31)	248 (10.88)	189 (8.29)	262 (11.50)	169 (7.41)	188 (8.25)	72 (3.16)	112 (4.91)	2278 (100)

(Figures in parenthesis are percentage to total)

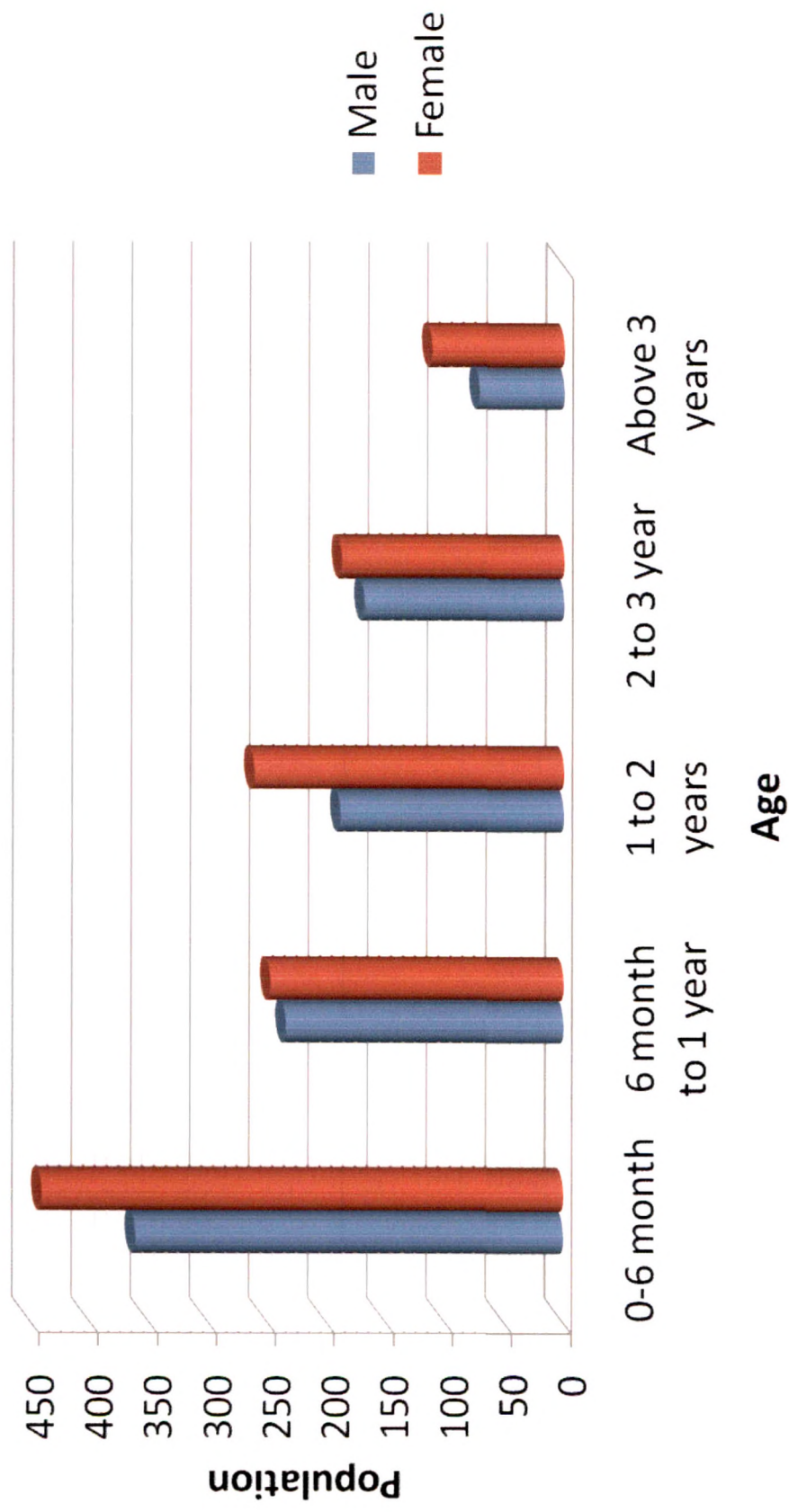


Fig 2. Age and sex wise goat distribution in the population

It is revealed from table 5 that all 2278 number of goat population was enumerated and classified according to age and sex out of 2278 the female population was 1251 (54.92) and male population was 1027(45.08). The male population was less in all groups. The population in the age group of 0-6 months was observed as males 15.89 percent and female 19.35 per cent. The population in the age group of 6month-1year was observed to be 10.31per cent of males and female as 10.88 per cent. The population in the age group of 1 to 2 years was observed males as 8.29 per cent and females as 11.50 per cent. The population in the age group of 2 to 3 years was observed males as 7.41 per cent and females as 8.25 per cent and in age group of above 3 years was 3.16 per cent males and 4.91 per cent females. The males in the higher age group was comparatively less it might be due to sale of males as per family requirement and females are reared for further breeding.

4.1.2 Enumeration of goats in terms of tahsil wise population.

The goats were enumerated from the selected villages under the two tahsils. The data collected was calculated and presented in Table 6.

Table 6. Enumeration of goats in terms of tahsil wise population.

Parali tahsil		Ambajogai tahsil		Total		Grand Total
Male	Female	Male	Female	Male	Female	
442	573	585	678	1027	1251	2278
(43.09)	(45.80)	(56.96)	(54.19)	(45.08)	(54.92)	(100)

(Figures in parenthesis are percentage to total)

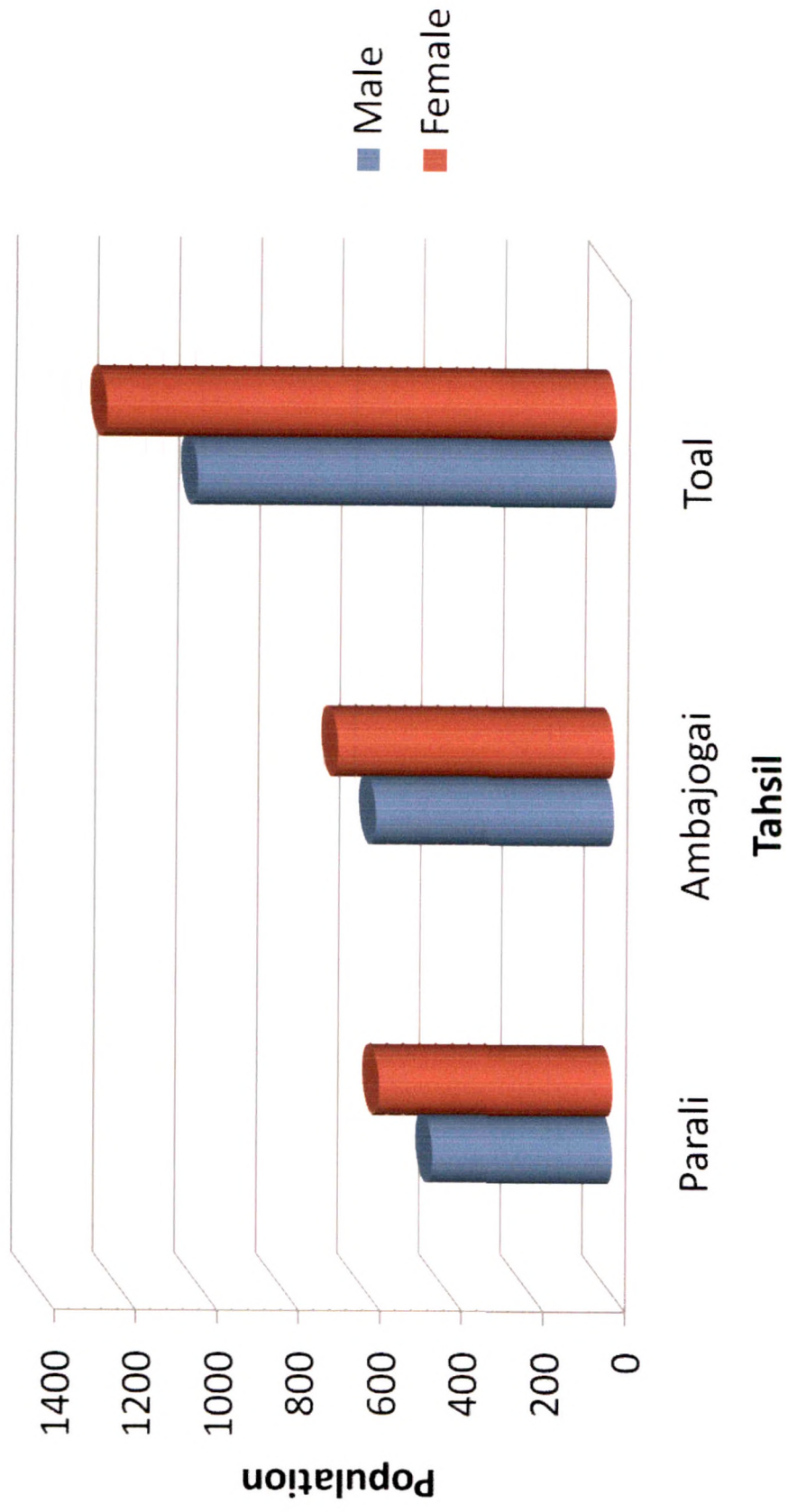


Fig 3. Distribution of goats as per tahsil and sex.

It is revealed from Table 6 that, out of 2278 enumerated total goats 1015 (44.55%) was from Parali tahsil and 1263 (55.44%) was from Ambaiogai tahsil. Further it is revealed that more population of goats was observed under Ambajogai tahsil (1263) than parali tahsil (1015). It is also revealed that female population observed was more under both the tahsil than male population. This might be due to disposal of male goats by way of selling at higher age and maintain females for breeding purpose.

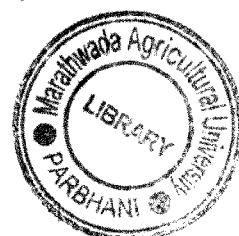
It was also observed from the survey that about 91 per cent of goats are Osmanabadi and are of complete black colour and rest are of black with tan or brown colour at hind quarters and very few with spotted white colour on ears. The males are with horns but the majority of females are with horns and some are polled. The maximum osmanabadi goats had horns oriented in backward direction followed by upward growth. The present findings of osmanabadi breed goats are in agreement with the findings reported by Prakash and Balain (1992), Ruben (1997) and Banerjee (2002).

4.1.3 Enumeration of goat keepers in terms of land holding.

The enumerated goat keepers were classified according to land holding and presented in Table 7.

It is observed from table 7 that out of 200 enumerated respondents 38 (19%) have land holding upto 1 ha (marginal farmer), 45 (22.5%) respondents have land holding between 1 to 2 ha (small farmer), 31 (15.5%) have land holding 2 to 10 ha (medium farmer), 8

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(4%) have land holding more than 10 ha (large farmer) and 78 (39%) were landless labourers.

Table 7. Distribution of goat keepers as per land holding.

Sr. No.	Land Holding	Parali	Ambajogai	Total
1	Marginal farmer (upto 1ha)	15	23	38 (19.00)
2	Small farmer (1 to 2 ha)	20	25	45 (22.5)
3	Medium farmer (2 to 10 ha)	17	14	31 (15.5)
4	Large farmer (Above 10 ha)	03	05	8 (4.00)
5	Landless labour	45	33	78 (39.00)
Total		100	100	200 (100)

The similar trend was observed by Dupe (2009). It is clear from the table 7 that the goat rearing business is mainly in the hands of landless labourers, followed by small farmers and lowest respondents were from large farmer group.

4.1.4 Enumeration of goat keepers in terms of occupation.

The enumerated goat keepers were classified according to their occupation and presented in Table 8.

Table 8. Distribution of goat keepers as occupation.

Sr. No.	Land Holding	Parali	Ambajogai	Total
1	Goat rearing	40	29	69 (34.50)
2	Goat rearing + agriculture	26	19	45 (22.50)
3	Goat rearing + Agril. Labour	13	20	33 (16.50)
4	Goat rearing + dairy	02	04	06 (3.00)
5	Goat rearing + dairy + agriculture	05	07	12 (6.00)
6	Goat rearing + dairy + agriculture + service	03	02	5 (2.50)
7	Goat rearing + service	02	05	7 (3.50)
8	Goat rearing + business	06	07	13 (6.50)
9	Goat rearing + agriculture + business	03	07	10 (5.00)
Total		100	100	200 (100)

(Figures in parenthesis are percentage to total)

It is revealed from Table 8 that out of 200 studied goat keepers 69 (34.50%) were doing only goat rearing, 45 (22.50%) were from goat rearing + agriculture, where as 33 (16.50%), 6 (3%), 12 (6%), 5 (2.5%), 7 (3.5%), 13 (6.5%) and 10 (5%) were from goat rearing + agril labour, goat rearing + dairy, goat rearing + dairy + agriculture, goat rearing + dairy + agriculture + service, goat rearing + service, goat rearing + business and goat rearing + agriculture + business, respectively. The highest number of goat keepers observed were from only goat rearing group and lowest number of respondents were observed from goat rearing + dairy + agriculture + service group.

These findings regarding to occupation as goat rearing + agriculture, goat rearing + agril labour are in line with the previous findings reported by Singh (1996) and Chander *et al.*, (2000) and Jadhav (2010).

4.1.5 Distribution of goat keepers as per flock size.

The enumerated goat keepers were classified according to their flock size and presented in Table 9.

It is observed from Table 9 that in all 29 (14.5%) of goat keepers were have the flock size between 1-5, 71 (35.5%) of goat keepers were have the flock size of 6-10, 52(26%) and 48 (24%) of goat keepers were have the flock size between 11-15 and more than 15, respectively. The similar findings were observed by the Pansare (2009) and Jadhav (2010). The highest number of goat keepers have flock size 6-10 (35.5%) and lowest from the flock size 1-5 (14.5%).

Table 9. Distribution of goat keepers in terms of flock size.

Sr. No.	Flock size	Parali	Ambajogai	Total
1	1 – 5	17	12	29 (14.5)
2	6 -10	30	41	71 (35.5)
3	11-15	33	19	52 (26.00)
4	> 15	20	28	48 (24.00)
	Total	100	100	200 (100)

(Figures in parenthesis are percentage to total)

4.1.6 Distribution of goat keepers according to their literacy

The enumerated goat keepers were classified according to their literacy and presented in Table 10.

Table 10. Distribution of goat keepers according to their literacy.

(n = 200)

Sr. No.	Category	Frequency	Percentage
1	Illiterate	87	43.5
2	Primary (upto 4 th std)	56	28.00
3	Secondary (5 th to 10 th)	47	23.5
4	Higher secondary (11 th to 12 th	10	5.00
5	College (Graduates)	-	-
	Total	200	100

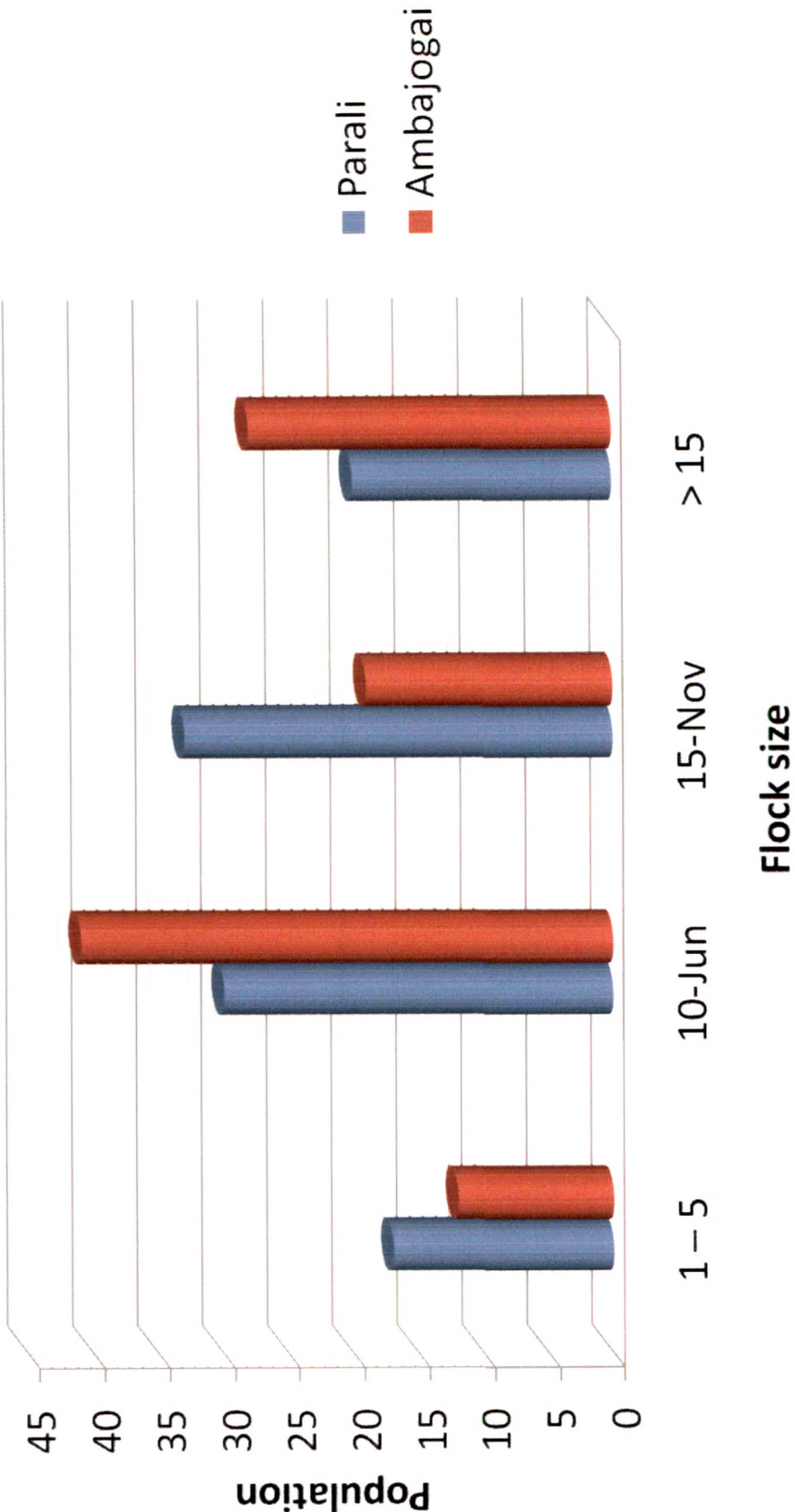


Fig 4. Distribution of goat keepers as per of flock size and tahsil

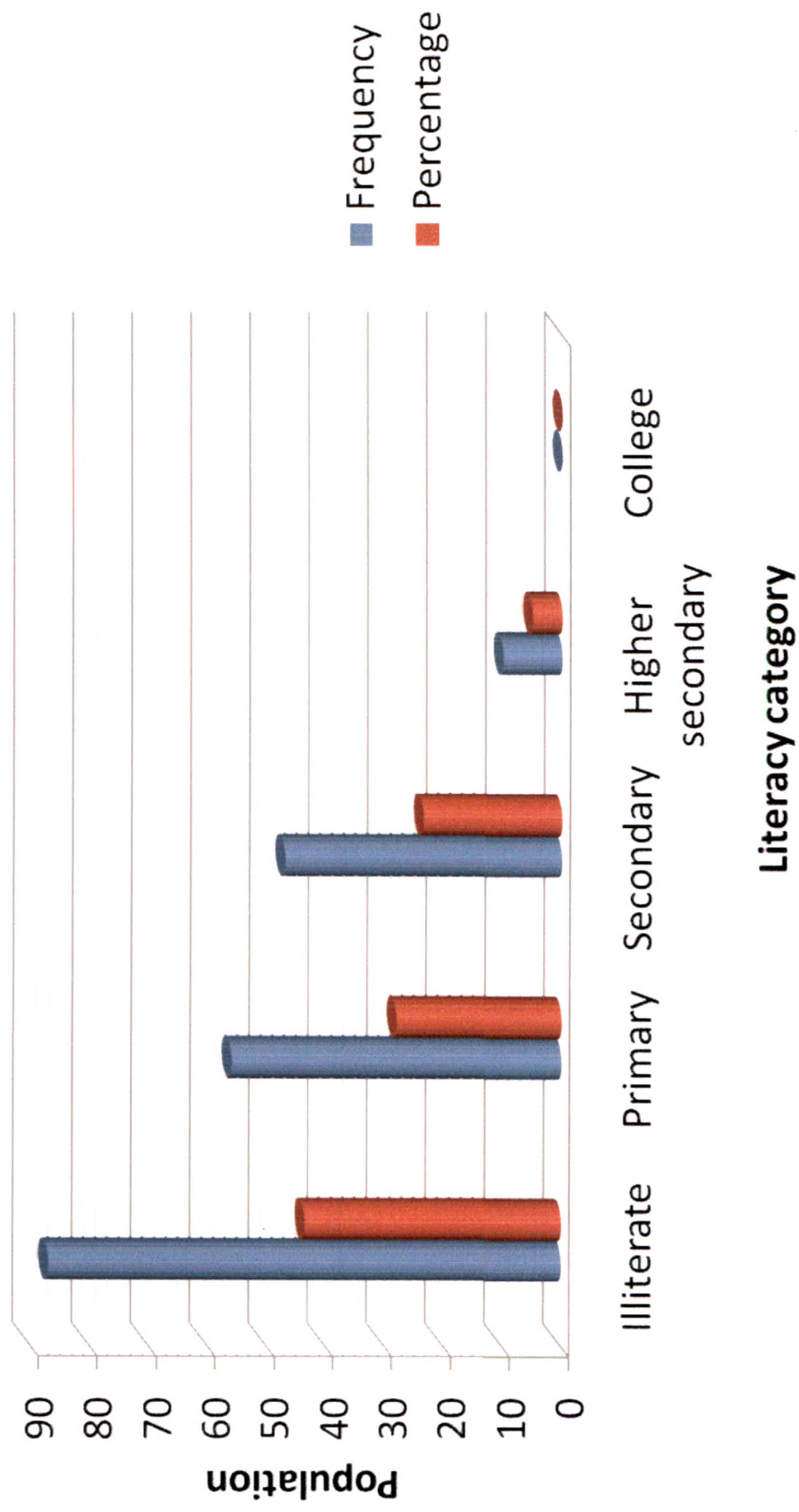


Fig 5 Distribution of goat keepers according to literacy in population .

It is observed from Table 10 that in all 87 (43.5%) of goat keepers were from illiterate category, 56 (28%), 47 (23.5%), 10 (5%) were from primary (upto 4th std.), secondary (5th to 10th) and higher secondary (11th to 12th) category, respectively. The goat breeders from literacy category was high 28 per cent followed by from primary group (upto 4th std) and less from higher secondary (11th to 12th) which was 5 per cent only. The illiterate respondent, are higher in population (43.5%) than any other group of literacy. Similar findings were quoted by Gaikwad (2003)

4.2 Adoption of existing feeding practices and management practices.

4.2.1 Adoption of existing feeding practices

The adoption of existing feeding practices by goat keepers of surveyed area on the basis of type of feeding was studied and distributed in respect of land holding, occupation and flock size.

4.2.1.1 Adoption of feeding practices of goat by the respondents according to land holding.

The adoption of feeding practices of goats and their distribution on the basis of land holding was recorded, tabulated and presented in Table 11.

Table 11. Distribution of goat feeding types according to land holding.

Sr. No.	Land holding(ha)	Grazing (Extensive)	Semi- grazing (semi- intensive)	Stall feeding (intensive)	Total
1	Marginal farmer (upto 1 ha)	25 (65.78)	11 (28.94)	2 (5.26)	38 (19.00)
2	Small farmer (1 to 2 ha)	30 (66.66)	12 (26.66)	3 (6.66)	45 (22.5)
3	Medium farmer (2 to 10 ha)	19 (61.29)	8 (25.80)	4 (12.90)	31 (15.5)
4	Large farmer (more than 10 ha)	4 (50)	3 (37.5)	1 (12.5)	8 (4.00)
5	Land less labour	63 (80.76)	13 (16.66)	2 (2.56)	78 (39.00)
	Total	141 (70.5)	47 (23.5)	12 (6.00)	200 (100)

(Figures in parenthesis are percentage to total)

It is observed from Table 11 that from in all 200 goat keepers 141 (70.5%) had following grazing practices of goat rearing, about 47 (23.5%) had followed semi grazing system and 12 (6%) goat keepers are following stall feeding of goat.

The grazing (Extensive) type of feeding of goats was followed by more number of goat keepers from landless labourers (80.76%) followed by, small, marginal, medium and large farmers.

The semi-grazing type of feeding practice of goat was followed in more number by the large farmers (37.5%), followed by marginal, small, medium and landless labourer, (16.66%). The stall feeding type of feeding system was followed by very less number of respondents (6%). There was not much difference in the type of farmers of goat keeper for following stall feeding. The more number of landless labourers were followed grazing type of feeding.

It might be due to non availability of their own land for fodder production. Small and landless labourers followed mostly grazing reported by Rath (1992) and Kumbar (2000) and Jadhav (2010).

4.2.1.2 Adoption of feeding practices of goat by the respondents according to occupation.

The data on adoption of feeding practices of goat as per occupation was recorded, distributed, tabulated and presented in Table. 12.

It is revealed from table 12 that out of the 200 respondents the more number of respondents following grazing system were from goat rearing occupation group (66) followed by goat rearing + agriculture (32) and (26) of goat rearing + agril. labour occupation group, very few

respondents are from the occupation group of goat rearing + agriculture + business group (7), goat rearing +dairy +agriculture (6) and goat rearing + business (4) .

The semi-grazing types of feeding were followed by 23.5 per cent of the respondents which were ranging from 3 to 13 numbers of respondents from the different occupation.

Table 12. Distribution of goat feeding types according to occupation.

Sr. No.	Occupation	Grazing (extensive)	Semi-grazing (semi-intensive)	Stall-feeding (intensive)
1	Goat rearing	66 (95.65)	3 (4.34)	-
2	Goat rearing + agriculture	32 (71.11)	13 (28.88)	-
3	Goat rearing + agril. Labour	26 (78.78)	7 (21.21)	-
4	Goat rearing + dairy	--	-	6 (100)
5	Goat rearing + dairy + agriculture	6 (50.00)	4 (33.33)	2 (16.66)
6	Goat rearing + dairy + agriculture + service	-	5 (100)	-
7	Goat rearing + service	-	5 (71.42)	2 (28.57)
8	Goat rearing + business	4 (30.76)	7 (53.84)	2 (15.38)
9	Goat rearing + agriculture + business	7 (70.00)	3 (30.00)	-
	Total	141 (70.5)	47 (23.5)	12 (6.00)

(figures in parenthesis are percentage to total)

The stall feeding is followed by only 6 percent of respondents in which higher number of respondents from goat rearing + dairy (6) occupation group followed by goat rearing + service (2), goat rearing+ dairy + agriculture and goat rearing+ business (2) group. The stall feeding system was not followed by the respondents from occupation group of goat rearing, goat rearing + agriculture, goat rearing+ agril labour, goat rearing + dairy + agriculture + service and goat rearing+ agriculture + business group.

It is interested to note that the respondents who were in the occupation of goat rearing + dairy, goat rearing + dairy + agriculture + service and goat rearing + service were not following the grazing type of feeding system. They followed stall feeding where as the respondents from the occupation group of goat rearing + dairy followed by goat rearing + dairy + agriculture, goat rearing + service and goat rearing + business.

The similar type of findings were reported by chander *et al.*, (2000) and Jadhav (2010) concluded that those have the occupation as goat rearing + agriculture mainly as a ready cash to immediate family needs.

4.2.1.3 Adoption of feeding practices of goat by the respondents according to flock size.

The data on adoption of feeding system of goat according to the flock size was recorded, distributed and presented in Table 13.

Table 13. Distribution of goat feeding types according to flock size.

Sr. No.	Flock size	Grazing (Extensive)	Semi-grazing (semi-intensive)	Stall feeding (intensive)	Total
1	1 – 5	14 (48.27)	10 (34.48)	5 (17.24)	29 (14.5)
2	6 – 10	37 (52.11)	27 (38.02)	7 (9.85)	71 (35.5)
3	11 – 15	46 (88.46)	6 (11.53)	-	52 (26.00)
4	> 15	44 (91.66)	4 (8.33)	-	48 (24.00)
	Total	141 (70.5)	47 (23.5)	12 (6.00)	200 (100)

(Figures in parenthesis are percentage to total)

It is observed from Table 13 that grazing type of feeding was followed by more number of respondents (46) those which have the flock size i.e. 11-15 further, it is found that more number of respondents (27) having flock size 6-10 followed semi-grazing type of feeding system.

It is also interested to note that, as the flock size was increased the adoption of grazing system increases. The stall feeding was not followed by the respondents which have the flock size of 11-15 and more than 15 goats.

The similar trend was observed by the Raskar *et al.*, (2009^a).

4.2.2 Adoption of management practices

Data was collected on goat management practices such as feeding, breeding and housing by the respondents and distributed according to the land holding, occupation and flock size.

4.2.2.1 Adoption of management practices according to land holding

The data on adoption of different management practices followed by the respondents was collected and distributed according to the land holding and presented in the Table 14.

Table 14. Adoption of management practices according to land holding.

Sr. No.	Size of Land holding(ha)	No. of sample respondents	Feeding management		Breeding management		Housing management	
			A	NA	A	NA	A	NA
1	Marginal farmer (upto 1 ha)	38 (19.00)	15 (39.47)	23 (60.52)	26 (68.42)	12 (31.57)	14 (36.84)	24 (63.15)
2	Small farmer (1 to 2 ha)	45 (22.5)	19 (42.22)	26 (57.77)	29 (64.44)	16 (35.55)	20 (44.44)	25 (55.55)
3	Medium farmer (2 to 10 ha)	31 (15.5)	13 (41.93)	18 (58.06)	20 (64.51)	11 (35.48)	12 (38.70)	19 (61.29)
4	Large farmer (more than 10 ha)	8 (4.00)	3 (37.5)	5 (62.5)	2 (25)	6 (75)	5 (62.5)	3 (37.5)
5	Land less labour	78 (39.00)	17 (21.79)	61 (78.20)	67 (85.89)	11 (14.10)	12 (15.38)	66 (84.61)
	Total	200 (100)	67 (33.5)	133 (66.5)	127 (63.5)	73 (36.5)	63 (31.5)	137 (68.5)

(Figures in parenthesis are percentage to total)

It is indicated from the Table 14 that out of 38 marginal farmers group the proper feeding, breeding and housing management practices was followed by 15 (39.47%), 26 (68.42%) and 14 (36.84) respondents respectively. It is also noted that the respondents who were not followed

the proper feeding, breeding and housing are 23 (60.52%), 12 (31.57%) and 24 (63.15%), respectively. It is also observed that out of 200 studied respondents for goat feeding 67 (33.5%), 127 (63.5%) and 63 (31.5%) were adopted proper feeding, breeding and housing management practices, respectively. It is interested to note that about 66.5 per cent respondents were not adopted proper feeding and 36.5 per cent respondents not adopted breeding and 68.5 percent of the respondents were not adopted proper housing management.

Further it is observed that from small farmers group 19 (42.22%), 29 (64.44%) and 20 (44.44%) of respondents adopted proper feeding, breeding and housing, respectively but 26 (57.77%), 16 (35.55%) and 25 (55.55%) were not followed the proper feeding, breeding and housing management practices, respectively. where as the respondents from the medium land holding group were adopting proper feeding, breeding and housing were 13 (41.93%), 20 (64.51%) and 12 (38.70%), respectively but non adopting are 18 (58.06%), 11 (35.48%) and 19 (61.29%) for proper feeding, breeding and housing management respectively and from the large farmer group the proper feeding, breeding and housing management adopted were 3 (37.5%), 2(25) and 5 (62.5%) respectively and non adopting were 5 (62.5%), 6 (75%) and 3 (37.5%), respectively.

It is indicated from Table 14 that out of 78 landless labourers the proper feeding, breeding and housing practice were followed by 17 (21.79%) , 67 (85.89%) and 12 (15.38%) respondents, respectively. It is also observed that more number of respondents from the landless group were not followed the proper feeding and housing management.

The similar trend observed regarding the adoption of proper breeding practices followed by the goat keepers concluded by the Andhale *et al.*, (2009) .Kumbar (2000) concluded same finding compare to feeding practices. Jayashree (2009) observed same trend regarding the housing, and also the same findings were observed by Jadhav (2010) regarding the adoption of proper feeding, breeding and housing management practices.

4.2.2.2 Adoption of management practices according to occupation

The data collected on the management practices followed by the respondents according to their occupation was distributed and presented in Table 15.

Table 15. Adoption of management practices according to occupation.

Sr. No.	Occupation	No. of sample respondents	Feeding management		Breeding management		Housing management	
			A	NA	A	NA	A	NA
1	Goat rearing	69 (34.5)	29 (42.02)	40 (57.97)	46 (66.66)	23 (33.33)	29 (42.02)	40 (57.97)
2	Goat rearing + agriculture	45 (22.5)	6 (13.33)	39 (86.66)	33 (73.33)	12 (26.66)	9 (20)	36 (80)
3	Goat rearing + agril. Labour	33 (16.5)	3 (9.09)	30 (90.90)	22 (66.66)	11 (33.33)	8 (24.24)	25 (75.75)
4	Goat rearing + dairy	6 (3)	4 (66.66)	2 (33.33)	03 (50)	03 (50)	4 (66.66)	2 (33.33)
5	Goat rearing + dairy + agriculture	12 (6)	5 (41.66)	7 (58.33)	7 (58.33)	5 (41.66)	8 (66.66)	4 (33.33)
6	Goat rearing + dairy + agriculture + service	5 (2.5)	1 (20)	4 (80)	3 (60)	2 (40)	2 (40)	3 (60)
7	Goat rearing + service	7 (3.5)	5 (71.42)	2 (28.57)	4 (57.14)	3 (42.85)	1 (14.28)	6 (85.71)
8	Goat rearing + business	13 (6.5)	8 (61.33)	5 (38.46)	4 (30.76)	9 (69.23)	—	13 (100)
9	Goat rearing agriculture + business	10 (5)	6 (60)	4 (40)	5 (50)	5 (50)	2 (20)	8 (80)
	Total	200 (100)	67 (33.5)	133 (66.5)	127 (63.5)	73 (36.5)	63 (31.5)	137 (68.5)

(figures in parenthesis are percentage to total)

It is observed from the table 15 that out of the total 200 recorded respondents about 63.5 percent were adopting proper breeding where as only 33.5 percent and 31.5 percent were adopting proper feeding and housing, respectively. The respondents from goat rearing occupation were adopting proper feeding 42.02 per cent, breeding 66.66 per cent, and 42.02 percent respondents were adopting proper housing. The more number (73.33%) of respondents from the occupation of goat rearing + agriculture were adopting proper breeding but very less were adopting proper feeding (13.33%) and proper housing (20%).

It is interested to note that more number of respondents were adopting proper feeding (66.66), breeding (50%) and housing (66.66%) from goat rearing + dairy occupation. The respondents from group of occupation goat rearing + dairy + agriculture were adopted proper feeding, breeding and housing are 41.66%, 58.33% and 66.66%, respectively and non-adopting are 58.33, 41.66 and 33.33 per cent, respectively.

The respondents from the occupation of goat rearing + dairy + agriculture + service group are adopting percentage were 20, 60 and 40 per cent for feeding, breeding and housing management, respectively and non adopting were 80,40, 60 per cent, respectively.

The respondents from the occupation group of goat rearing + service are adopting percentage of feeding was 71.42 per cent breeding was 57.14 per cent but housing was only 14.28 per cent. The respondents from occupation group of goat rearing + business followed

only feeding 61.33 per cent but less breeding (30.76%) and not adopting housing management.

The respondents from the occupation group of goat rearing + agriculture + business were adopting proper feeding breeding and housing were 60, 50 and 20 per cent, and non adopting were 40, 50 and 80 per cent respectively.

Singh and Deshpande (2009^b) reported similar findings regarding to breeding, feeding and housing management.

4.2.2.3. Adoption of management practices according to flock size

The data collected in respect of management practices followed by the respondents was distributed according to the flock size of the goat and presented in table 16.

Table 16. Adoption of management practices according to flock size.

Sr. No .	Flock size	No. of sample respondents	Feeding management		Breeding management		Housing management	
			A	NA	A	NA	A	NA
1	1 – 5	29 (14.5)	6 (20.68)	23 (79.31)	18 (62.06)	11 (37.93)	12 (41.37)	17 (58.62)
2	6 – 10	71 (35.5)	27 (38.02)	44 (61.97)	34 (47.88)	37 (52.11)	19 (26.76)	52 (73.23)
3	11 – 15	52 (26)	13 (25)	39 (75)	38 (73.07)	14 (26.92)	17 (32.69)	35 (67.30)
4	> 15	48 (24)	21 (43.75)	27 (56.25)	37 (77.08)	11 (22.91)	15 (31.25)	33 (68.75)
	Total	200 (100)	67 (33.5)	133 (66.5)	127 (63.5)	73 (36.5)	63 (31.5)	137 (68.5)

(figures in parenthesis are percentage to total)

It is observed from the table 16 that the respondents having small flock size (1-5) and flock size 6-10 were adopting proper feeding to the extent of 20.68 per cent and 38.02 per cent, respectively, whereas the respondents from both groups were adopting proper breeding and housing to the extent of 62.06 and 47.88 per cent and 41.37 and 26.76 per cent, respectively.

It indicates that more number of respondents from these two groups were not adopting proper feeding and housing. It is further observed that the respondents from the flock size of 11 to 15 were less in number for adopting proper feeding and housing management but adopting breeding practices was more 73.07 per cent, as good as the similar trend was observed for the respondents from the flock size of more than 15 goats. In general it indicates that the respondents were adopting proper breeding but not adopting proper feeding and housing. It might be due to the breeding bucks has kept in flock which has resulted in proper breeding.

The present findings were supported by Ndamukong (1989), Pansare (2009), Deshpande *et al.*, (2009^b) and Jadhav (2010).

Constraints faced by the respondents in adoption of goat management.

Data collected on the constraints faced by the respondents for adoption of goat management practices was listed and presented in table. 17.

It is observed from table 17 that, in all 10 major constraints were reported by the respondents from surveyed area. The majority of

respondents (85.5%) were reported the major problem of heavy mortality during rainy season and lack of knowledge about goat management (84.5%). About 40.5 per cent respondents were reported the non availability of grazing area of goats where as about 75.5 per cent respondents reported the non availability of pure breed buck for breeding purpose.

Table 17. Constraints faced by the respondents (n= 200)

Sr.No.	Constraints	Frequency	Percentage
1	Lack of land (landless labour)	78	39.0
2	Lack of grazing area	81	40.5
3	Non availability of buck	151	75.5
4	Lack of knowledge about goat management	169	84.5
5	Non availability of fodder	133	66.5
6	Lack of knowledge about diseases	109	54.5
7	Lack of adequate financial support	145	72.5
8	Heavy mortality during rainy season	171	85.5
9	Lack of housing	137	68.5
10	Non availability of veterinary doctors	153	76.5

It is further seen that, about 72.5 per cent respondents has the problem of inadequate financial support and 66.5 per cent respondents reported the non availability of sufficient fodder. The lack of proper housing was reported by 68.5 per cent respondents.

It is observed from table 17 that, in all 10 major constraints were reported by the respondents from surveyed area. The majority of respondents (85.5%) were reported the major problem of heavy mortality during rainy season and lack of knowledge about goat management (84.5%). About 40.5 per cent respondents were reported the non availability of grazing area of goats where as about 75.5 per cent respondents reported the non availability of pure breed buck for breeding purpose. It is further seen that, about 72.5 per cent respondents has the problem of inadequate financial support and 66.5 per cent respondents reported the non availability of sufficient fodder. The lack of proper housing was reported by 68.5 per cent respondents.

Land less labourers reported non availability of land for grazing of goat. it indicated from above constraints reported by the respondents can improved by supporting them with technical knowledge financial support, veterinary aids, and supplying pure breed bucks for breeding purpose.

Similar type of findings were reported by Phadtare (1987), Bhosle (2000) and Gour and Patel (2003) and Jadhav (2010).

*Summary
and
Conclusion*

CHAPTER – V

SUMMARY AND CONCLUSION

The present investigation entitled, “Feeding and management practices of goats in Beed district” was conducted to enumerate the goats reared in the area and to see the adoption level of feeding and management practices followed by goat keepers. The present study was conducted in Beed district. Two tahsils viz., Parali and Ambajogai were selected. Ten villages were selected from each tahsil randomly and from each village ten respondents those who are rearing the goats were selected. The results are summarized as follows.

5.1. Enumeration of goats in terms of age and sex in population

Total 200 respondents were selected and the data of 2278 goats were considered for study. The less number of (1027) males and more number of (1251) females were observed in the population and the proportion of male and female was 45.08 and 54.92 per cent respectively. The enumeration of goats in terms of age showed that more number of population in the age group of 0 to 6 months (803) followed by 6 months to 1 year age group (483), 1 to 2 years (451), 2 to 3 years (357) and above 3 years (184) in the population.

The observation of 1015 goats from Parali tahsil and 1263 goats from Ambajogai tahsil of beed district was recorded. In both tahsil the goats were reared by marginal, small, medium, large and landless labourers in the surveyed area. The goat rearing is the only occupation of about 34.50 per cent respondents (69). The goat rearing (22.5%) was

found with the respondents (45) from occupation group of goat rearing + agriculture. The goat rearing was found with the respondents from the occupation group of goat rearing + agriculture labourers (16.50%), goat rearing + dairy (3%), goat rearing + dairy + agriculture (6%), goat rearing + dairy + agriculture + service (2.5%), goat rearing + service (3.5%), goat rearing + business (6.5) and goat rearing + agriculture + business (5%). The majority of respondents (35.5%) were rearing who are having the flock size of 6-10 goats. The flock size of 11-15 goats was with 26 per cent respondents, the flock size more than 15 goats was with 24 per cent and flock size 1-5 goats was with 14.5 per cent respondents.

The goats are reared by more number from illiterate category (43.5%) followed by primary (upto 4th std), Secondary (5th to 10th std.) and Higher secondary (11th to 12th std.) were 28.00, 23.5 and 5.00 per cent, respectively.

5.2. Adoption of existing feeding and management practices

The grazing (extensive) system of goat feeding was followed by 70.5 per cent respondents and semi grazing (semi-intensive) was 23.5 per cent and stall feeding (intensive) was followed by 6 per cent respondents. The maximum grazing system of feeding was observed from landless labour group of respondents, the small, marginal, medium and large farmers were also found to be following grazing system in more per cent followed by semi grazing and stall feeding. The more number of (28.94%) marginal farmers following semi-grazing followed by stall feeding (12.9%) of medium farmers.

The respondents from all the occupation group has followed grazing type of feeding in maximum number followed by semi grazing where as the less respondents followed the stall feeding system of feeding. The respondents from occupation group of goat rearing + dairy were followed stall feeding system in more number. The respondents having the different flock size of goats were following grazing in maximum number followed by semi-grazing and stall feeding. The respondents form the flock size 11-15 and more than 15 goats group were not followed stall-feeding.

The adoption level of feeding, breeding and housing management system was studied in terms of distribution of respondents according to land holding, occupation and flock size. The adoption of proper breeding was followed by landless labourers and marginal farmers more in number but small in number by large farmers. The proper feeding was not adopted by more number of respondents form landless labour and marginal farmer group, where as the proper feeding was followed by more number of respondents from small and medium farmers group. The proper housing was not adopted by more number of respondents form landless labour and marginal farmers group but it is more adopted by the respondents from large and small farmers groups.

The adoption levels of feeding, breeding and housing management followed by all types of occupation was varied. The adoption level of feeding, breeding and housing management followed by the respondents having the flock size in different number are also varied. The respondents having more than 15 goats flock size and 6-10 goats were adopting proper feeding to the extent of 43.75 and 38.02 per

cent respectively, The proper breeding to the extent of 77.08 and 47.88 per cent and proper housing 31.25 and 26.76 per cent, respectively. The respondents with flock size 1-5 and 6-10 were adopting proper breeding but lack in adoption of proper feeding and housing.

5.3. Constraints faced by the respondents and suggested proper feeding, management practices for goats.

The constraints faced by majority of the respondents was heavy mortality during rainy season (85.5%), lack of knowledge about goat management practices (84.5%), lack of grazing area (40.5%) and the other constraints were non availability of veterinary doctors (76.5%), non availability of proven buck (75.51%), lack of adequate financial support (72.5%), lack of housing (68.5%), non availability of fodder (66.5%), lack of knowledge about disease (54.5%) and lack of land (39.0%). The improvement in goat feeding and management can be done by providing technical knowledge about goat management, timely financial support, veterinary aids and supply of pure breeding bucks to the goat keepers.

There is more scope for improvement of productive and reproductive performance of the goats through the selection of breeding stock, which will be achieved by record keeping. Economical losses of the respondents may be reduced by vaccination, deworming of goat, and surveillance of the flocks by the veterinarians. Production performance of the goats can be improved by utilizing local fodder after enrichment and supplementation with concentrates.

CONCLUSION

It is concluded from the present study that

- The population of females was more than the males.
- The goats were reared by all types of farmers and by the respondents of differential occupations.
- The 6 to 10 number of goats (flock size) reared by the more number of respondents.
- The adoption of proper breeding was followed to some extent but proper feeding and housing was not followed.
- The grazing type of feeding was followed by majority respondents.

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Thesis

Abstract

THESIS ABSTRACT

- a) Title of the thesis : "FEEDING AND MANAGEMENT PRACTICES OF GOATS IN BEED DISTRICT"
- b) Name of student : MASKE SAKHARAM VITHALRAO
- c) Degree to awarded : M.Sc. (Agriculture)
- d) Year of award of degree : 2011
- e) Major subject : Animal Husbandry
- f) Total number of pages in the thesis : 68
- g) Total number of words in thesis abstract : 302

h) Signature of the student :



Maske S.V.

I) Signature, name and address of major advisor



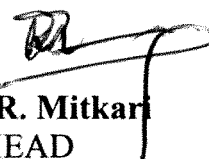
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ABSTRACT

The present investigation was carried out to study the “Feeding and management practices of goat in Beed district”. The twenty villages were randomly selected from parali and Ambajogai tahsils. Ten number of goat keepers were randomly selected from each village. Thus, total sample size was 200 goat keepers with objective enumeration of goats in terms of age and sex in population, to study the existing feeding and managements practices, to study the constraints in feeding and management and suggest proper feeding and management practices of goats.

The study revealed that the population of 2278 goats were considered for study mostly landless labourer and small farmer found to rear the goats. The flock size was observed in between 1-5, 6-10, 11-15 and more than 15 most of the goat keepers were reared the flock size between 6-10 most of the goats respondent were followed goat rearing from the occupation of goat rearing + agril labour and mostly they are from illiterate category.

It was further revealed that 70.5 percent, 47 percent and 6 percent respondents followed grazing, semi-grazing and stall feeding system, respectively. Adoption of management practices viz feeding, breeding and housing management were studied. The feeding management practices were followed by 67 (33.5%) and non adopting followed by 133 (66.5%). The breeding management practices were followed by 127 (63.5%) and non followed by 73 (36.5%). The housing management practices were followed by 63 (31.5%) and non followed by 137 (66.5%).

The constraints faced by the respondents were heavy mortality during rainy season (85.5%), lack of knowledge about goat management (84.5%), non availability of veterinary doctors (76.5%) non availability of bucks (75.5%), lack of adequate financial support (72.5%) lack of housing (68.5%), on availability of fodder (66.5%), lack of knowledge about diseases (54.5%), lack of grazing area (40.5%) and lack of land (39.%).



Appendix

पशुसंवर्धन व दुग्धशास्त्र विभाग
मराठवाडा कृषि विद्यापीठ, परभणी

प्रश्नावली

बीड जिल्ह्यातील शेळी पालन व व्यवस्थापन

अभ्यासकाचे नाव :- मस्के एस.व्ही.

मार्गदर्शकाचे नाव :- प्रा. भोसले पी.डी.

- | | | | | |
|----|-----------------------------------|---|-----------|-----------|
| १. | पशुपालकाचे नाव | : | | |
| २. | गाव | : | | |
| | | | तालुका :- | जिल्हा :- |
| अ. | जमीनधारणा (एकर) | : | | |
| | बागायती | : | | |
| | कोरडवाहू | : | | |
| ब. | कुटुंबातील व्यक्ती | : | पुरुष | स्त्री |
| | साक्षर / शिक्षण | : | पुरुष | स्त्री |
| | निरक्षर | : | | |
| १ | १ ते ४ (प्राथमिक) | : | | |
| २ | ५ ते १० (माध्यमिक) | : | | |
| ३ | ११ ते १२ (उच्च माध्यमिक) | : | | |
| ४ | पदवी | : | | |
| ५ | पशुपालकाची जात/प्रवर्ग | : | | |
| ड. | एकूण जनावरे | : | शेळी | गाय |
| | | | म्हैस | बैल |
| इ. | व्यवसाय | : | | |
| १. | केवळ शेळीपालन | : | | |
| २. | शेळीपालन + शेती | : | | |
| ३. | शेळीपालन + शेतमजुरी | : | | |
| ४. | शेळीपालन + इतर व्यवसाय | : | | |
| ५. | शेळीपालन + शेती + इतर व्यवसाय | : | | |
| फ | वार्षिक उत्पन्न (रु.) | : | | |
| ग | शेळी पालनात असलेल्या एकूण व्यक्ती | : | पुरुष | स्त्री |

शेळ्यांची संख्या

जात	० ते ६ महिने		६ महिने ते १ वर्ष		१ ते २ वर्ष		२ ते ३ वर्ष		३ वर्षावरील	
	नर	मादी	नर	मादी	नर	मादी	नर	मादी	नर	मादी
उस्मानाबादी										
संगमनेरी										
इतर										

व्यवस्थापन पध्दती

- अ शेळी पालन पध्दत :
- पुर्णपणे चरणे :- :
 - अ) अंतर (किमी)
 - ब) वेळ (तास)
 - बंदीस्त शेळी पालन :
 - अंशतः बंदीस्त शेळी पालन :- :
 - अ) अंतर (किमी)
 - ब) वेळ (तास)
- ब निवारा / गोठा :
- खुला-१/बंद-२ :
 - कच्चा-१ / पक्का-२ :
 - अलिप्त-१/घरातीलच एक भाग-२ :
 - गोठ्याचा पृष्ठभाग कच्चा-१/पक्का-२ :
 - गोठ्याची दिशा योग्य आहे -१/नाही-२ :
 - गोठ्याची स्वच्छता आहे-१/नाही-२ :
 - हवेशीरपणा आहे-१/नाही-२ :
 - पाणी पुरेसे -१/ मर्यादित-२ :
 - मुत्र वाहून नेण्यासाठी नाली/मोरी कच्ची-१/पक्की-२ :
- क शेळीचे खाद्य व्यवस्थापन :
- शेळीचे व्यवस्थापन करतात-१ / करत नाहीत-२ :
 - हिरवा चारा (किग्रॅ./शेळी/दिन) :
 - खुराक (किग्रॅ./शेळी/दिन) :

ड	मांसासाठी बोकडाचे व्यवस्थापन	:	
१.	बोकडाची खाद्यगरज पुरवतात-१ / नाही-२	:	चारा खुराक
२.	मांस विक्रीचे वय	:	
३.	मांस विक्रीसाठी वजन	:	
इ	बोकडाचे आरोग्य व्यवस्थापन करतात १ / नाही - २	:	
फ	लसीकरण करतात - १/करत नाही २	:	
१.	लसीकरण करत असल्यास कोणत्या रोगासाठी करतात ?	:	
ग	शेळी व्यवसायात शेतकऱ्यांना येणाऱ्या अडचणी	:	