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GOAT BREEDS OF INDIA

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Abstract: Goats are used for milk as well as for meat production. One can develop specialized dairy type goats or specialized meat type goat or dual purpose ones; the dual purpose ones being most desired in India. Goats are also raised for hair fibres in the Himalayan region; e.g., the Kashmere or Pashmina goat. Hair of goats of other regions is rather coarse and is used for carpet making. Goat skins are also a very important commodity in this country. Hence, breeding techniques for goats have to be used for improving the above characteristics in them. There are several well developed breeds of goats in India as described in the previous section. Constant endeavours have to be made via production recording, selection and mating (selective breeding), to improve the potential of such breeds. These breeds, in turn, can be used for upgrading non-descript stock in other regions. Jamnapari and beetal are most promising ones for this purpose. In fact, Jamnapari is extensively used for grading local stock not only in India but also in several other Asian countries; such a breeding programme giving progeny with better growth performance as well as milk production. Some synthetic breeds can also be developed using different breeds in crossbreeding. This is being attempted at several institutions in India with variable success. One of the outstanding examples of the evolution of a synthetic breed is the Anglo-Nubian breed, which has been evolved from Nubian (of Sudan) and Jamnapari. It is a very goat tropical milch goat. Some of the recognized European dairy goat breeds like Saanen, Toggenburg and Alpine have also been tried for crossbreeding with indigenous breeds of goats in India and other tropical countries. Even purebred exotic goats have also been reared in warm regions.

Key words: Goat Breed, India

BREEDS:

SPECIES AND BREEDS:

The domestic goat (*Capra aegagrus hircus*) is a subspecies of goat domesticated from the wild goat of southwest Asia and Eastern Europe. The goat is a member of the family Bovidae and is closely related to the sheep as both are in the goat-antelope subfamily Caprinae. Goats (*Capra hircus*) were among the first domesticated animals, adapted from the wild bezoar ibex *Capra aegargus* in western Asia. Bezoar ibexes are native to the southern slopes of the Zagros and Taurus mountains, and evidence shows that the goat descendants spread globally, playing an important role in the advancement of Neolithic agricultural technology where they were taken. Beginning between 10,000-11,000 years ago, Neolithic farmers in the Near East started keeping small herds of ibexes for their milk and meat, and for their dung for fuel, as well as for materials for clothing and building: hair, bone, skin and sinew. Today over 300 breeds of goats exist on our planet, living on every continent except Antarctica and in a quite astonishing range of environments, from human tropical rain forests to dry hot desert regions and cold, hypoxic high altitude regions. Because of this variety, the domestication history was a bit obscure until the development of DNA research.

The morphological and physiological characters formed the basis of dividing the animal kingdom into species and breeds within a species. The first division is into species. The most important feature of division is the reproductive discontinuity which means that two species do not interbreed or the progeny of two species do not produce fertile progeny when they are further mated together. For example, horses and asses are two species and on mating produce viable but sterile progeny, except few rare cases. The interspecies crosses have variable fertility e.g., the female progeny produced by mating yak and cattle are fertile but their male ones are sterile. However, fertile male progeny of yak and cattle can be produced by two back crossing to cattle. Therefore, the reproductive discontinuity as a dividing criterion between species in some cases is liquidated.

A species is further divided into breeds or sub species. Different breeds have both qualitative and quantitative characters which differ for one breed to the other. These qualitative characters are more morphological such as colour and type of hairs, shape and size of horns, presence or absence of some body parts like zebu breeds of cattle are humped whereas European breeds are hump less for which they are regarded as subspecies of the same genus, *Bos*. The quantitative characters can be considered as differences in type and size of the body, milk production and fat percent in milk etc. However, there is no clear dividing line

between breeds for quantitative characters for the reason that these traits show continuous variation under the control polygenes.

Each species of farm animals contains a number of breeds. A group of animals of the same species having same origin (related by descent) and having common characteristics like general appearance, body colour, feature, size, configuration etc. is said to be a breed. The mating of animals within a breed maintains the purity of breed. A breed is a genetic entity developed over a long period of time as result of planned matting and selection. Therefore, a breed has certain well defined physical conformation different from other breeds in the vicinity and has distinct local names.

The breeds are not included in the Linnean Taxonomic classification and hence the binomial nomenclature of different breeds of a species is same.

There is further division of a breed into strains based on isolation from each other due geographical conditions or due to different aims of breeding the animals. This is called as strain breeding. The individuals of a breed or strain are more closely related to each other than others due to interbreeding. This group is called a line. A line is called an inbred line when the inbreeding coefficient is reached at least 0.375 as a result of two generations of full sib mating. The full sib or half sib group of animals in cattle is the sire dam or sire family and all the individuals of a family are equally closed related to each other.

What is Breed?

A group of animals related by descent and similar in most characters like general appearance, features, size, configuration etc., are said to be a breed. There may be considerable differences between individuals; still they have as a group many common points which distinguish them from other groups. Such a common characteristic group is termed a breed. The purity of the breed is maintained by confining the mating of animals to within the breed.

What is Species?

A group of individuals which have certain common characteristics that distinguish them from other groups of individuals. Within a species the individuals are fertile when mated, in different species they are not.

Indian Goat breeds:

Breeds : 23 well defined breeds goats in India for meat and skin – Black Bengal, Kanni adu Meats, skin and milk – Barvari, Malabari (Tellicherry), Sirohi, Surti Meat hair and skin – Gaddi, Kutchi, Marwari Milk meat and skin – Beetal, Jamunabari,

Sl.No.	Breed	Home Tract	Sl.No.	Breed	Home Tract
1	Attapady	Kerala	14	Malabari	Kerala
2	Barbari	Uttar Pradesh and Rajasthan	15	Marwari	Rajasthan
3	Beetal	Punjab	16	Mehsana	Gujarat
4	Black Bengal	West Bengal	17	Osmanabadi	Maharashtra
5	Changthangi	Jammu and Kashmir	18	Sangamneri	Maharashtra
6	Chegu	Himachal Pradesh	19	Sirohi	Rajasthan and Gujarat
7	Gaddi	Himachal Pradesh	20	Surti	Gujarat
8	Ganjam	Orissa	21	Zalawadi	Gujarat
9	Gohilwadi	Gujarat	22	Konkan Kanyal	Maharashtra
10	Jakhrana	Rajasthan	23	Berari	Maharashtra
11	Jamunapari	Uttar Pradesh	24	Pantja	Uttarakhand and Uttar Pradesh
12	KanniAdu	Tamilnadu	25	Teressa	Andaman & Nicobar
13	Kutchi	Gujarat	26	Kodi Adu	Tamil Nadu

➤ Jamunapari

- Jamunapari breeds are found mainly in the state of Uttar Pradesh.
- Its coat colour is white with tan or black markings at neck and ears
- They are bearded in both sexes; have tuft of long hairs in the buttocks.
- It is largest and most elegant of the long-legged goats of India.
- It has pronounced Roman nose having a tuft of hair which results in parrot mouth appearance.
- Their horns are short and flat and horizontally twisting backward.
- An adult male ranges from 90 to 100 cms in height, whereas a female goat ranges from 70 to 80 cms in height.
- It is, tall and leggy with convex face line and large folded pendulous ears.
- Generally found in white colors.
- Their ears are large and drooped downwards.
- An adult female weighs between 45kgs to 60kgs, whereas an adult male ranges between 65kgs to 80kgs.
- Average birth weight is up to 4 kg.
- Average age at first kidding is 20-25 months.
- They have large udder and big teats and average yield is 280 kg / 274 days.
- Have the ability to yield 2 to 2.5kgs of milk per day.
- The fat content of the milk ranges between 3 to 3.5%.
- They thrive best under range conditions with plenty of shrubs for browsing.



Fig.1:Jamunapari

➤ Beetal

- It is are found mainly in the state of Punjab.
- These breeds are grown mainly for the purpose of milk and meat.
- Generally smaller than the breed of Jamunapari.
- Coat Colour is predominantly black or brown with white spots of distering size
- Males usually possess beard.
- They are not so heavy in weight.
- Average birth weight - 3 kg.
- An adult female goat ranges between 40kgs to 50kgs, whereas an adult male ranges between 50kgs to 70kgs.
- Age at first kidding - 20-22 months.
- Average lactation yield - 150 kg.
- They are having the ability to give, one kg to two kgs of milk per day.
- Maximum yield being 591.5 kg in a lactation period of 177 days.



Fig.2:Beetal

➤ Barbari

- This is short haired and erect-horned goat popular in urban areas of Delhi, Uttar Pradesh, Gurgaon, Karnal, Panipat and Rohtak in Haryana state.
- Barbari breeds are grown mainly for milk and meat purpose.
- The color of this breed is white with light brown patches.
- An adult female goat weighs between 25kgs to 35kgs, whereas an adult male goat ranges between 35kgs to 45kgs.
- They are having the ability to give one kg to 1.5kgs of milk per day.
- This breed has better reproductive capabilities.
- They will give, 2 to 3 kids in parturition.
- They are usually stall-fed and are reported to yield 0.90-1.25 kg of milk(fat content 5%) a day in a lactation period of 108 days.
- They are prolific breeder and kid twice in 12-15 months.



Fig.3:Barbari

➤ **Sirohi**

- Coat colour is brown, white, and admixture of colours in typical patches; hair coarse and short.
- Compact and medium sized body.
- Tail twisted and carries coarse pointed hair.
- Horns are small and pointed, curved upward and backward.
- Average body weight of buck is 50 and doe is 23 kg.
- Average birth weight is 2.0 kg.
- Kidding is once a year, twins are common.
- Average age at first kidding is 19 months.
- Average lactation yield - 71 kg.
- Average lactation length - 175 days.



Fig.4: Sirohi

➤ **Kanni aadu**

- These are the tallest goat breeds found in Thirunelveli and Ramanadhapuram districts of Tamilnadu.
- Black or white spots in the black background are the characteristics colors of this breed.
- They are usually grown for meat purpose.
- The adult females of this breed ranges from 25kgs to 30kgs and the adult males ranges from 35kgs to 40kgs in body weight.
- They are having ability to give birth to 2 to 3 kids.
- They grow well in the draught regions.



Fig.5:kanni aadu

➤ **Kodi aadu**

- These breeds are taller and found with different colors, but predominantly black
- They usually give birth to one or two kids.
- They are usually grown for the purpose of guiding the goat flocks, which goes for grazing..
- These types of breeds are mostly found in the districts of Sivagangai, Ramanadhapuram, and Tuticorin districts of Tamilnadu.



Fig.6:kodi aadu

➤ **Black Bengal**

- Coat colour is predominantly black, brown/grey and white with soft, glossy and short hairs.
- Dwarf in body size, legs short, straight back; both sexes are bearded.
- Average live weight of buck is 15 kg and doe is 12 kg.
- Most prolific among the Indian breeds.
- Multiple births are common - two, three or four kids are born at a time.
- Kidding is twice a year.
- Average litter size is 2.1.
- Average age at first kidding is 9-10 months.
- Average lactation yield is 53 kg. Lactation length is 90 to 120 days.
- Its skin is in great demand for high quality shoe-making.



Fig.7:Black Bengal

➤ **Chegu**

- Coat colour is predominantly white but greyish red and mixed colours are also seen.
- Average buck live weight of buck is 39 kg and doe is 26 kg.
- Average birth weight is 2.0 kg.
- Kidding is once a year and mostly single.
- Average lactation yield is 69 kg and lactation length is 187 days.
- Used for draught to carry salt and small loads.
- Have long hair with under coat of delicate fibre below (cashmere or pashm).
- Legs are medium sized. Face and muzzle is tapering. Ears are Small.
- Horns are bent upward, backward and outward with one or more twists.
- Used for draught (pack) to carry salt and small loads.



Fig.8:Chegu

➤ **Changthangi**

- Predominantly white and the rest are brown, grey and black. Undercoat white/grey; yields warm delicate fibre - pashmina (cashmere, pashm).
- Body and legs are small, have strong body and powerful legs.
- Ears are small, pricked and pointed outwards.
- Horns are large turning outward, upward and inward forming a semicircular ring.
- Average live weight of buck is 20 and doe is 20 kg; average birth weight is 2.1 kg.
- Kidding is once a year, normally single;
- Average age at first kidding is 20 months.



➤ Fig.9: Changthangi

➤ **Attappady Black Goat (The black gem of Kerala)**

The Attappady black goat hales from the Palakkad district of Kerala. This district is home to the Irula, Muduka and Kurumba tribal communities. The economy of this region is primarily dependent on goat rearing clubbed with a few other agricultural activities. The Attappady breed, locally known as the poor man's cow, is highly resistant to diseases and can adapt itself to extreme climatic conditions. They are blessed with a peculiar adaptability to hot and dry climate and low quality roughage of hill tracts. They are immune to common foal diseases such as foot and mouth disease, pneumonia, enteritis, enterotoxaemia, etc. This breed is also considered to be an endangered species – their number runs below 5000.



Fig.10:Attappady Black Goat (The black gem of Kerala)

➤ **Gaddi**

The breed derives its name from the nomadic tribe —Gaddi, who normally keep this breed. Gaddi is a medium sized goat breed, well built and with long hair. The coat color is mostly white but some animals with black, brown or tan markings are also found. Ears are medium, long and drooping. Skin is very tough, covered with coarse long hair measuring 7-10 inches (18-25 cm). The udder is small and rounded with pointed teats. Both sexes have long spiral horns directed upward and backward with pointed tips. The ears are long and drooping. These animal are found in Kangra and Kullu valley, Chamba, Sirmur, Simla and Lahaul and Spiti in Himachal Pradesh, hilly districts of Tehri Garhwal, Chamoli in Uttaranchal and in parts of Jammu hills.



Fig.11:Gaddi

<u>Size</u>	<u>Adult males</u>	<u>Adult females</u>
Body weight (kg)	27.45 ± 0.41	24.72 ± 0.51
Body length (cm)	69.5 ± 0.84	65.2 ± 1.18
Height at withers (cm)	61.3 ± 0.84	58.1 ± 1.02
Chest girth (cm)	72.2 ± 0.68	69.3 ± 0.48

Sl.No	Size (average)	Adult male	Adult female
1	Body weight (kg)	33.00	26.00
2	Body length) cm)	70.0	63.0
3	Chest girth	70.0	68.0

➤ **Marwari**

Marwari is found in Marwar region of Rajasthan, comprising Jodhpur, Pali, Bikaner, Jalor, Jaisalmer and Barmer districts.

The breed has also moved into certain areas of Gujarat, especially at Mehsana district. They are popular for their meat, hardiness and disease resistance.

The breed is predominantly black with long coarse hair. Individuals with white or brown patches are also found in about 5% cases. Both sexes are bearded. The animals are medium in size, ears are flat, medium in length and drooping. Both sexes have short, pointed horns directed upward and backward. The tail is small and thin. Daily milk yield is very poor. The breed is reputed for its meat and also for hair which is available to about 300 grams per year.



Fig.12:Marwari

➤ **Mehsana**

Mehsana breed is mainly found at Mehsana, Banaskantha, Gandhi Nagar and Ahmedabad districts of Gujarat. The breed is considered as dual purpose, i.e. for meat and milk.

The breed is large sized, coat colour is black with white spots at the base of the ear. The hair coat is long and coarse. Ears are always white. Both sexes have twisted horns curved upward and backward. The udder is moderately developed having large and conical teats. Milk yield averages 1.0 kg/day, litter size mostly single. Average yield of hair per goat per year is 200 grams.



Fig.13:Mehsana

Sl.No	Size (average)	Adult male	Adult female
1	Body weight (kg)	36.00	32.00
2	Body length (cm)	70.0	68.0
3	Chest girth (cm)	76.5	72.5

➤ **Jhakrana**

Jhakrana breed is found in Jhakrana and some surrounding villages near Behror, of Alwar district of Rajasthan. The breed is large and also a good dairy type.

Animals are large and predominantly black with white spots on ears and muzzle. The breed is very similar to Beetal, the main difference is that Jhakrana is comparatively longer. It has highly developed udder. Forehead is slightly bulging. These goats are used mainly for milk production. Average daily milk yield varies from 2.0 -3.0 kg for a lactation length of about 180-200 days. These are prolific. Kidding is mostly single but in 40% cases twins are produced. Triplets are not uncommon. The goats are also useful meat producers, and their skin is popular with the tanning industry.



Fig.14:Jhakrana

Sl. No.	Size (average)	Adult male	Adult female
1	Body weight (kg)	55.00	45.00
2	Body length (cm)	84.0	77.0
3	Chest girth (cm)	86.0	79.0

➤ **Osmanabadi**

S. No.	Size (average)	Adult male	Adult female
1	Body weight (kg)	34.00	32.00
1	Body length (cm)	68.0	66.0
3	Chest girth (cm)	72.0	71.0

Osmanabadi breed is mainly distributed at Latur, Tuljapur, and Udgir taluks of Osmanabad district of Maharashtra. The goats are large in size, colour varies, but mostly it is black (73%) and the rest are white, brown or spotted. Ninety per cent males are homed, females may be homed or poled.



Fig.15:Osmanabadi

The breed is considered useful both for meat and milk. Average daily yield varies from 0.5 to 1.5 kg for a lactation length of about four months. The dressings percentage varies from 45 to 50. In favourable conditions the does will breed regularly twice a year and twins are common.

➤ Malabari

Malabari is also known as Telicherry, mostly reared at Calicut, Cannanore and Malapuram districts of Kerala. The animals are medium in size. They have no uniform colour which varies from completely white to full black. About 30% goats are long haired. All males and a small number of females are bearded. Animals are medium sized, head with flat and occasional Roman nose and medium sized ears directed outward and downward.

The breed is reared mainly for meat purpose and their skin is popular with the tanning industry. The average milk yield of this breed is 100-190 kg with a lactation period of 180-210 days.



Fig.16:Malabari

Sl.No	Size (average)	Adult male	Adult female
1	Body weight (kg)	38.00	31.00
2	Body length (cm)	70.0	63.0
3	Chest girth (cm)	73.0	67.0

➤ Sangamneri

Sangamneri breed is commonly found in Poona and Ahrnednagar districts of Maharashtra. Medium sized animals. They have no uniform colour, it varies from white, black or brown, with spots of other colours. Ears are drooping. Both sexes have horns directed backward and upward. Average daily milk yield varies between 0.5 to 1.0 kg with an average lactation length of about 165 days. Dressing percentage is about 41% at 6 months, 45% at 9 months and 46% at 12 months of age.



Fig.17:Sangamneri

Sl.No	Size (average)	Adult male	Adult female
1	Body weight (kg)	38.00	29.00
2	Body length (cm)	69.0	62.5
3	Chest girth (cm)	76.0	71.0

➤ Kutchi Goat

The Kutchi goat (also known as *Kathiawari*) is an important breed of domestic goat from Gujarat state of India. It is a dual purpose breed and raised for both meat and milk production. The breed is native to the Kutch district of Gujarat. And the Kutchi goat breed derives its name after the 'Kutch' district. The Kutch district in northern Gujarat is the natural habitat of this goat breed. Although the goats are also found in adjoining areas of southern Rajasthan, apart from the Kutch region. The breed is valued for its meat and milk production capabilities in its native areas. The Kutchi goat's flock size ranges from small to large, having 5-300 goats in each flock. Most of the flocks of Kutchi goats are stationary. But they migrate for a limited period to the adjoining areas. They usually migrate to the adjoining areas during the period of scarcity and most of the Kutchi goat flocks are raised and maintained exclusively in an extensive grazing system round the year. Read more information about the Kutchi goat breed below. Kutchi goat is a medium sized animal with a compact body and long legs. It has a predominantly black colored coat with a few white spots. Ears of the Kutchi goats are medium in size, flappy and drooping with typical white markings. Their face is slightly raised. The hair is coarse and long and the nose is slightly Roman. Both bucks and does usually have horns. The bucks



Fig.18:Kutchi goat

have relatively long and strong horns, while the does have flat and weak horns. Udder of the does is reasonably developed with well placed long and conical teats. The Kutchi bucks on average weigh about 46 to 49 kg, and average body weight of the does is about 40 kg. Info and photo from Animal Genetics Training Resource.

➤ Ganjam

Ganjam and Koraput districts of southern Orissa are the home lands of Ganjam breed. Animals are tall, coat colour varies but black predominates over white, brown or spotted. Hairs are short and lustrous. Both sexes have long and straight horns directed upward and slightly backward. Very poor in milking aspect, average may be 250 to 300 grams per day



Fig.19:Ganjam

Sl.No	Size (average)	Adult male	Adult female
1	Body weight (kg)	44.00	31.50
2	Body length (cm)	76.0	67.5
3	Chest girth (cm)	83.0	74.5

➤ Zalawadi

Zalawadi is one of the major goat breed in Gujarat. Animals of this breed are reared by traditional shepherd community known locally as 'Rabaris' and 'Bharwads' in the semi-arid area of Sourashtra region of the state where rainfall is erratic and low. (Singh et al 2005). It is believed that the breed originated in the erstwhile 'Zalawad' region now known as Surendranagar district and part of Zalawad falling in Rajkot districts. Singh et al (2007) observed that Zalawadi goats are locally known as Tara bakari and native of then Zalawad province of Kathiawad now known as Surendranagar district of Saurashtra (Gujarat). It has spread in the adjoining area of Jamnagar and Ahmadabad districts also. Out of the total goat population of the state, Zalawadi alone constitute 27.8%. Flock size ranges from 15-200. Flock is stationary except few flocks which migrate to Ahmadabad and Khera district in summer and return back in rainy season. The flocks are maintained under extensive grazing management. The average milk yield recorded at fortnightly intervals ranged from 1.09 (first parity) to 1.42 litre (fourth parity) with an average of 1.17 ± 0.09 litres in 120 days. The average body weight of adult male and female are 38 and 32 kg respectively. The average daily milk yield is 1.75 kg ranging from 1.5-2.0 kg/day. Some goats produce 154 kg of milk in a lactation period of 150 days under village conditions. The prolificacy is high with 55% twinning and 2% triplets. Singh et al (2009) observed the performance of the breed in its home tract where the averages of age at first kidding, lactation length, kidding interval and herd life were 22.17 ± 0.16 , 6.57 ± 0.31 , 11.28 ± 0.87 and 91 ± 7 months, respectively. The multiple birth rates observed were 57%.



Fig.20:Zalawadi

➤ Changthangi

Sl.No	Size (average)	Adult male	Adult female
1	Body weight (kg)	20.00	19.80
2	Body length (cm)	49.0	52.5
3	Chest girth (cm)	63.0	65.0

Changthangi breed is also known as Pashmina due to the ability of the breed to produce longer and finer pashmina on the sides and shoulders. Pashmina goats are mostly reared in Ladakh, Lahul and Spiti Valleys and its neighbouring areas of Himachal Pradesh. Large herds of this breed are found in the Changthangi region of Ladakh at an elevation of 4,000 metre.

Medium sized animals, half of the animals are white, the rest are black, grey or brown. Both sexes have large horns, turning outward, upward and inward to form a semi-circle, but a wide variation exists in both shape and size. The breed looks pretty having fast movements and is used for transport in hilly areas. Body is covered with long coarse hair including the facial areas. Apart from meat the breed is highly prized for pashmina. The fine costly hair is harvested once a year, generally in June/July, either by shearing or by combing. Average production of pashmina is 215 g with a variation range of 70-500 g per animal. Used for making Kashmiri ring or shawl of high quality.



Fig.21:Changlhanghi

➤ Gohilwadi Goat

Category: Multipurpose breed (milk, meat and fibre)

Home Tract: Bhavnagar, Amreli and Junagarh districts in Gujarat

Body: Large sized

Body Coat colour: Black and covered with coarse long hairs

Face: Nose line is slightly convex

Ears: Tubular and drooping

Horns: Both sexes have slightly twisted horns, turned backward

Average kidding age: 20 months

Litter size: Singles: $84.2 \pm 4.1\%$; twins: $15.8 \pm 4.1\%$

Morphometric characters

Body weight: Adult male: 37.10 ± 1.42 kg; Adult female: 36.03 ± 0.38 kg

Ear length: 17.5 ± 2.7 cm

Horn length: 12.5 ± 0.20 cm

Body length: Adult male: 73.4 ± 1.3 cm, Adult female: 72.4 ± 0.3 cm

Body height at withers: Adult male: 81.2 ± 1.2 cm, Adult female: 79.5 ± 0.3 cm

Chest girth: Adult male: 74.7 ± 0.9 cm, Adult female: 75.2 ± 0.2 cm

Production characteristics

Daily milk production: 1.710 ± 0.145 kg

Lactation period: 227.2 ± 8.9 days

Hair yield per annum: 317.1 ± 22.0 g



Fig.22:Gohilwadi goat

➤ Surti Goat

The Surti goat is an important breed of domestic goats in India. It is a dairy goat breed and mainly raised for milk production. Surti goat is one of the best dairy goat breeds in India. Name of the breed derives from the place called 'Surat' in Gujarat state of India. The breed is found in pure form in this area. But the total population of this breed is very small when compared to other goat breeds. And it is one of the endangered breed of goats of Indian origin. The Surti goat is distributed in surrounding areas of Surat, Baroda and Nasik of Maharashtra. The breed is very popular in its native areas, and they are raised and maintained in small flocks ranging from 2 to 15 goats. Most of the flocks are raised on extensive grazing system. But a few numbers are seen kept under intensive conditions and fed in stall. The Surti goat is most suited and can perform well under stall fed goat farming system. It is mainly kept as a dairy goat for milk production. But the breed is also good for meat production. Today the total number of Surti goat is very less. And it is one of the most endangered goat breeds of Indian origin. Read more information about this goat breed below. Surti goats are small to medium sized animal with compact body. Their coat is predo.



Fig.23:Surti goat

➤ Konkal Kanyal

Konkal Kanyal goat is meat type breed adapted to high rainfall and hot and humid climate of Konkan region of Maharashtra. Animals have typical white bands on black face and black ear with white margin. They are native to the Konkan region of Maharashtra, and are reared mostly by the Dhangar and Maratha communities for meat. These goats are mainly black with a white marking in a specific pattern—the ventral surface of the body is white and the legs have white 'stockings'. Konkan Kanyal goats have bilateral white strips from nostrils to ears; a flat and broad forehead; flat, long drooping ears; backward, straight,



Fig.24:Konkal Kanyal

pointed, cylindrical horns; white muzzle and long legs, laterally black, medially white from knee to the fetlock joint. The body weight of adult bucks and does averages 35 and 30 kg respectively. Konkan Kanyal goats are regular breeders and breed round the year, with a twinning percentage of about 66%.

➤ Berari

Berari goat has recently recognized at national level as 23rd goat breed of India. Berari is reared mainly for meat purpose in Vidarbha region of Maharashtra. As a unique feature, animals have light to dark strips on lateral sides from horn base to nostrils of face. The scientific study of Berari at phenotypic as well as genotypic level in all districts of Vidarbha region of Maharashtra state. This breed is Originated from BERAR region of Central Province & Berar, which is recently known as Vidarbha region of Maharashtra state. Goat prominently occurs in Nagpur, Wardha, Amravati and Akola districts, however, also occurs in rest of the districts of Vidarbha region. i) Black coloured ring around neck in adult male and ii) Black hair line along with the vertebral column extending upto tail. The Berari goat are slowly diminishing in their number and losing their identity in their natural habitat. The present status of the breed is not known and the information in the literature is very limited. No systemic programme has been initiated for its improvement that tempted to undertake research for recognition of this goat breed. Considering the adoptability trait of this breed in the Vidarbha region of the state it is essential to conserve and improve the native breeds for the production potential on sustainable basis for human economic food. Future planning for Conservation & breeding policy is to be adapted.



Fig.25:Berari

➤ Pantja Goat

Category: Meat and milk type

Country: India

Home Tract: Udham Singh and Nainital districts of Uttarakhand and adjacent Tarai area of Uttar Pradesh.

Morphological Characters:

Body: Medium sized

Body Coat: Uniformly light brown to tan colour with white streak on either side of face.

Reproductive parameters

Average kidding age: 569.6±15.3 days

Litter size: Twins: Common

Morphometric characters

Body weight: Adult male: 20.03 ± 1.24 kg

Body length: Adult male: 54.68 ± 2.66 cm

Body height: Adult male: 61.71 ± 1.92 cm

Chest girth: Adult male: 66.09 ± 1.68 cm

Production characteristics

Daily milk production: 0.808±0.09 kg, peak milk yield: 1.39±0.078

Milk yield per lactation: 113.89±8.92 kg

Lactation period: 156.1±6.075 days

Remarks: Well adapted to humid condition of Tarai region.



Fig.26:Pantja Goat

➤ Teressa Goat

Home Tract: Terresa, Katchal and Bambooka Islands of Andaman.

Morphological Characters

Body: Tall

Body Coat: Brownish or tan in colour with white or black patches.

Reproductive parameters

Litter size: They generally give birth to twins and triplets.

Morphometric characters:

Body weight: Adult male: 50-70 kg, Adult female: 50-65 kg

Remarks: These goats are semi-feral in nature. They can survive in hot and humid climate. These goats are generally reared in free-range system. These goats are resistant to common diseases. These goats need for in-situ and ex-situ conservation.



Fig.27:Teressa Goat

IMPROVEMENT OF GOATS:

Goats are used for milk as well as for meat production. One can develop specialized dairy type goats or specialized meat type goat or dual purpose ones; the dual purpose ones being most desired in India. Goats are also raised for hair fibres in the Himalayan region; e.g., the Kashmere or Pashmina goat. Hair of goats of other regions is rather coarse and is used for carpet making. Goat skins are also a very important commodity in this country.

Hence, breeding techniques for goats have to be used for improving the above characteristics in them. There are several well developed breeds of goats in India as described in the previous section. Constant endeavours have to be made via production recording, selection and mating (selective breeding), to improve the potential of such breeds. These breeds, in turn, can be used for upgrading non-descript stock in other regions. Jamnapari and beetal are most promising ones for this purpose. In fact, Jamnapari is extensively used for grading local stock not only in India but also in several other Asian countries; such a breeding programme giving progeny with better growth performance as well as milk production.

Some synthetic breeds can also be developed using different breeds in crossbreeding. This is being attempted at several institutions in India with variable success. One of the outstanding examples of the evolution of a synthetic breed is the Anglo-Nubian breed, which has been evolved from Nubian (of Sudan) and Jamnapari. It is a very goat tropical milch goat. Some of the recognized European dairy goat breeds like Saanen, Toggenburg and Alpine have also been tried for crossbreeding with indigenous breeds of goats in India and other tropical countries. Even purebred exotic goats have also been reared in warm regions.

Experimental evidence from India and other tropical countries indicates that, perhaps, the Anglo-Nubian is the best as regards allround performance; they produce on an average one litre of milk per day with a lactation length of around 250 days. Next, the Saanen and British Alpine are considered to be better suited than Toggenburg for the tropical regions with good feed resources, especially to the sub-tropical regions.

The black Bengal breed of goats along with its variant the Brown Bengal are dwarf goats that are renowned for the quality of their meat, though they are very small and hence yield ten kilos or less meat. This breed is well suited for more humid regions of the country, i.e., eastern and north-eastern states. The efficiency of introducing the inheritance of this breed in others for improvement of meat quality has not yet been clearly established. Mohair, a quality goat fibre, is produced by the Angora goat that originated from central China. Its hair grows about 12 cm long on an average in long lustrous white locks. This breed can be successfully used, and is being used, in the hilly regions of the country for mohair production.

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