Unlocking the Potential: The Current State of Goat Farming in India

Kanta Godara[1], Amit Kumar[2], Gourav Biswas[3], R. S. Godara[4]* and Tahir Manzoor[5]

[1,5]PG Scholars (LPM), College of Veterinary and Animal Sciences, Bikaner
[2] PhD Scholar (AGB), ICAR-Indian Veterinary Research Institute, Bareilly
[3]PhD Scholar (Animal Nutrition), ICAR-Indian Veterinary Research Institute, Bareilly
[4]Scientist, ICAR-Central Sheep and Wool Research Institute, Avikanagar, Rajasthan

Corresponding Author
R. S. Godara
Email: rg7012@gmail.com

OPEN ACCESS

Keywords

Goat farming, genetic improvement, agro-climatic regions, registered breeds

How to cite this article:

Godara, K., Kumar, A., Biswas, G., Godara, R. S. and Manzoor, T. 2024. Unlocking the Potential: The Current State of Goat Farming in India. *Vigyan Varta* 5(5): 45-50.

ABSTRACT

Goat is a multipurpose animal that produces milk, meat, fiber and manure. Goat has been described as a poor man's cow because of its immense contribution to the poor man's economy. India has 148.88 million of goats, highest population in the world. There are 39 registered breeds of Goat in India till January, 2024. A large chunk of goat population is still non-descript. Goats in India are adopted to wide variety of Agro-climatic conditions ranging from arid dry to cold arid to hot humid, they can thrive well with poor quality roughages. Goat farming in India is characterized by poor socio-economic conditions of farmers and is faced with constraints like low returns, and poor breed and poor feed. For genetic improvement, government had started All India Coordinated Research Project (AICRP) on Goats.

INTRODUCTION

Goats, one of the earliest domesticated livestock, are indispensable to India's small-scale farmers. With diverse genetic resources across varied climates, they provide milk, meat, and other products. Their economic advantages include low investment,

high prolificacy, and adaptability to harsh environments. Goat milk is prized for its unique qualities, and their manageable size makes them ideal for smallholders, including women and children. Overall, goats offer significant economic and nutritional benefits to communities, underscoring their importance in India's agricultural landscape.

Goat Population and Production Dynamics-

The global goat population stands at approximately 1.2 billion animals. This number has been steadily increasing over the years, reflecting the economic and ecological importance of goats in various regions. India occupies first position in terms of goat population with over 148.88 million goats (13.39% of world goat population) followed by China and Pakistan. Goats contribute about 27.8% of the total livestock population of India. Rajasthan has the highest goat population across India, at about 20.84 million as per 20th livestock census (2019). West Bengal (16.28 million) stands second, followed by Uttar Pradesh (14.48 million), Bihar (12.82 million), Madhya Pradesh (11.06 million), Maharashtra (10.60 million). Out of 148.88 million goats, 27.4% are purebred (Indigenous goats), 9.1% are graded breeds and the remaining 63.5% are non-descript (Breed-wise survey, 2022). Among the indigenous breeds, the Black Bengal (highest in West Bengal) breed contributes the highest in the number with 18.6% followed by Marwari, Barbari (highest in Uttar Pradesh), Osmanabadi with 3.4%, 3.2%, 2.4%, respectively. All other recognised breeds contribute 7.2% of total goat population.

World-wide goat milk was 18.71 million tonnes in 2018 (FAOSTAT 2018) and India with 6.17 million tonnes of goat milk is contributing 33% of global goat milk production and ranking first. India, Sudan, Bangladesh, Pakistan, and France are the major goat milk producing countries with 53.12% global goat milk production. Goat milk contributes 3.30% in the total milk production of the country.

India is the largest exporter of sheep and goat meat in the world (APEDA, 2023). The total meat production in the country is 9.77 million tonnes. Nearly 14.47% of meat production is contributed by goat to the total meat production of the country. The largest meat producing state is Uttar Pradesh that produces 12.20% of the total meat produced in the country followed by West Bengal that produces 11.93% of the total meat production. Maharashtra is the third largest meat producing state in the country that produces nearly 11.50% of the total meat production in the country.

Goat breeds of India -On the basis of utility

Milch (dairy) Breeds: Beetal, Jakhrana, Jamunapari, Surti, Zalawadi and Gohilwadi with 150-500 litres milk in 150-200 days lactation period.

Dual Purpose Breeds (Milk and Meat): Barbari, Sirohi, Sojat. Gujari, Karauli Marwari, Kutchi, Mehsana, Kahmi, Rohil Khandi, Sangamneri, Osmanabadi, Malabari and Berari with 100-145 litres milk in 90-160 days lactation period.

Meat Purpose Breeds: Black Bengal, Terresa, Assam Hill, Sumi-Ne, Kodi-Adu, Kana-Adu, Salem-black, Black Attapady, Konkan Kanyal, Bidri, Nandi-Dugra, Pantja, Ganjam with 20-45 litres milk in 40-75 days lactation period.

Other Dual-Purpose Breeds (Meat and Fibre): Chegu, Changthangi, Gaddi and Bhakarwali with 20-45 litres milk in 50-75 days lactation besides 200-350 g fibre/year.

Classification of Goat breeds on the basis of their agro-climatic regions and utility: The goats are widely distributed all over the

country in different agro-climatic regions. The goat of the temperate Himalayan region grows fibres of good quality, where rainfall is low and possesses the finest quality of under coat called **"Cashmere"** or **Pashmina"**. The goat breeds in north and north-western regions are reasonably large in size and primarily of dairy type. In the southern and peninsular part of the country, goats of dual utility (meat and milk) are found. The highly prolific meat breeds are found in the eastern region of the country.

Sr. No	Breeds	Home tract	Major Utility
Temperate Himalayan region (includes the UT of Jammu and Kashmir and Ladakh, Himachal Pradesh and hilly areas of Uttarakhand)			
1	Bhakarwali	Jammu and Kashmir and Ladkah	Meat and milk
2	Changthangi	Jammu and Kashmir and Ladakh	Fibre, meat and pack animal
3	Chegu	Himachal Pradesh	Fibre
4	Gaddi	Himachal Pradesh	Long hair, meat and pack animal
5	Pantja	Uttarakhand and Uttar Pradesh	Meat and milk
North-western region (States of Haryana, Punjab, Rajasthan, Gujarat, Plains of Uttar Pradesh and north and western parts of Madhya Pradesh)			
6	Barbari	Uttar Pradesh and Rajasthan	Meat and milk
7	Rohilkhandi	Uttar Pradesh	Meat and milk
8	Jamunapari	Uttar Pradesh	Meat and milk
9	Gujari	Rajasthan	Meat and milk
10	Jakhrana	Rajasthan	Meat and milk
11	Marwari	Rajasthan	Meat and hair
12	Karauli	Rajasthan	Meat and milk
13	Sojat	Rajasthan	Meat and milk
14	Sirohi	Rajasthan and Gujarat	Meat and milk
15	Kutchi	Gujarat	Meat and milk
16	Gohilwadi	Gujarat	Meat and milk
17	Mehsana	Gujarat	Meat and milk
18	Zalawadi	Gujarat	Meat and hair
19	Kahmi	Gujarat	Meat and milk
20	Surti	Gujarat	Meat and milk
21	Beetal	Punjab	Meat and milk
Southern region (States of Maharashtra, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh and parts of Madhya Pradesh)			
22	Attapady	Kerala	Meat
23	Malabari	Kerala	Meat and milk
24	Salem Black	Tamilnadu	Meat
25	KanniAdu	Tamilnadu	Meat
26	Kodi Adu	Tamilnadu	Meat
27	Konkan Kanyal	Maharashtra	Meat
28	Berari	Maharashtra	Meat
29	Sangamneri	Maharashtra	Meat and hair
30	Osmanabadi	Maharashtra	Meat and milk
31	Nandidurga	Karnataka	Meat
32	Bidri	Karnataka	Meat
Eastern region (States of Bihar, West Bengal, Odisha and all the states in the eastern part of the country			
33	Assam Hill	Assam and Meghalaya	Meat
34	Black Bengal	West Bengal	Meat
35	Ganjam	Orissa	Meat
36	Sumi-Ne	Nagaland	Fibre
37	Teressa	Andman & Nicobar	Meat
38	Andmani	Andman & Nicobar	Meat
39	Anjori	Chhattisgarh	Meat

"Pashmina". The goat breeds found in north and north-western regions are reasonably large in size and primarily of dairy type. In the southern and peninsular part of the country, goats of dual utility (meat and milk) are found. The highly prolific meat breeds are found in the eastern region of the country.

Exotic Goat breeds-

Sr. No	Breed	Origin & Distribution	Utility
1	Alpine	France	Meat and milk
2	Angora	Turkey	Mohair
3	Nubian	Africa	Meat and milk
4	Boer	Southern Africa	Meat
5	Orenburg	Russia	Fibre
6	Saanen	Switzerland	Milk
7	Toggenburg	Switzerland	Meat and milk

Genetic improvement programmes for Goat-

Selective breeding and Crossbreeding-

Both selective breeding and crossbreeding can be adopted based on the need of the locality, demand for the market, traits under consideration. Crossing indigenous breeds with exotic breeds like Anglo-Nubian, Boer goat may be encouraged for improving growth rate and chevon production in areas where there is availability of good quality feed resources or where intensive feeding is possible. The exotic breeds like Alpine, Sannen have been used with indigenous breeds to improve their milk production and Angora for Mohair production. Among indigenous breeds, Jamunapari, Beetal, Barbari, Jhakrana, Sirohi and Surti are the major dairy breeds.

By Cloning-

Noori was a female pashmina goat, the first pashmina goat to be cloned using the process of nuclear transfer at the Faculty of Veterinary Sciences and Animal Husbandry, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Shuhama, Srinagar in the Union Territory of Jammu and Kashmir. Noori was born on 9 March 2012 to three mothers (one provided the egg, another the DNA and a third carried the cloned embryo to term). She was created using the technique of somatic cell nuclear transfer, in which the cell nucleus from an adult cell is transferred into an unfertilised oocyte (developing egg cell) that has had its nucleus removed. The hybrid cell is then stimulated to divide by an electric shock, and when it develops into a blastocyst, it is implanted in a surrogate mother using laparoscopic surgery.

All India Coordinated Research Project (AICRP)- on Goat Improvement is a major long term programme focused to bring upon genetic improvement under prevailing ecosystems and also to conserve goat genetic resources in their area of evolution and adaptation. It was launched in 1971 by ICAR. The major thrust of the project is to build up long term capacity of goat keepers through technology demonstration, application of health management practices and introduction of genetically superior breeder goats for enhancing their production and reproduction potential. Presently, 15 recognised goat breeds and 3 local genotypes in 15 states are covered through 21 centres across the country, which are coordinated by CIRG, Makhdoom.

Units of AICRP on Goat improvement-

Sr. No	Breed	Location of centres	Types of units
1	Assam Hill	AAU, Khanpara Guwahati	Field Unit
2	Barbari	CIRG, Makhdoom	Farm Unit
3	Bengal	BAU, Ranchi	Field Unit
4	Black Bengal	WBUV and FS, Kolkata	Field Unit
5	Gaddi	HPKVV, Palampur	Field Unit
6	Ganjam	OUAT, Bhubaneswar	Field Unit
7	Jamunapari	CIRG, Makhdoom	Farm Unit
8	Malabari	KV & ASU, Thrissur	Field Unit
9	Marwari	RAJUVAS, Bikaner	Field Unit
10	Osmanabadi	NARI, Phaltan	Field Unit
11	Sirohi	RAJUVAS,	Field

		Vallabhnagar	Unit
12	Sangamneri	MPKV, Rahuri	Field Unit
13	Sirohi	CSWRI, Avikanagar	Farm Unit
14	Andamani Goats	CARI, Port Blair, Andman & Nicobar	Field Unit
15	Himalayan Local Goats	IVRI Campus, Mukteswar	Field Unit
16	Changthangi	SKUAST-K, Leh, J&K	Field Unit
17	Uttarakhand Local Goats	GBPUAT, Pantnagar	Field Unit
18	Surti	N.A.U, Navsari	Field Unit
19	Bengal	ICAR-RCER, Patna	Field Unit
20	Bundelkhandi	ICAR-IGFRI, Jhansi	Field Unit
21	Beetal	GADVASU, Ludhiana, Punjab	Field Unit

Advantages of Goat farming-

- Goat farming requires low initial investment than dairy, piggery and poultry.
- Goat consumes less feed (1/5th of cattle and buffalo).
- Goat is a prolific animal, produces twin even triple and quadruplet.
- Goat being hardy animal is highly resistant to diseases.
- Goat milk is easily digestible and has medicinal values. Goats are called the "foster mother of human" as it is the milk for human consumption with less allergic problems.
- Goat milk is rich in amino acids, vitamins and minerals.
- Goat skin is of high values e.g. Bengal goat skin is of best quality in world.
- Goat meat is very tasty, nutritious and healthy.
- It's hair e.g. Pashmina and Mohair is valued high in international market.
- Faeces and urine of goat is rich in NPK and is used in field for improving soil fertility.
- No competition with human beings for grains like pig and fowl resulting in lesser feed cost.
- Goat farming is a great source of employment and income for poor people.
- Goats are easy to maintain and capable of adopting themselves with almost all types of agro climatic environments.

SWOT Analysis of Goat Farming Sector

STRENGTHS	**WEAKNESSES**
➢ India is having the highest number of Goat. ➢ Extraordinary hardiness and ability to adapt to the harsh climatic regions. ➢ Indigenous breeds with good potential. ➢ Marketing potential for milk and meat. ➢ Regulatory compliance. ➢ Low production costs compared to other breeds and animal species.	➢ Unorganised structure of sector. ➢ Lack of marketing infrastructure facilities for Value addition such as meat processing, warehousing, Cold storage, refrigerated vehicles. ➢ Absence of Public Private Partnership. ➢ Lack of demand driven interventions. ➢ Low income/productivity/production efficiency. ➢ Scarcity of good breeding stock. ➢ Absence of sufficient System of financial support. ➢ Absence of National Breeding Policy.
OPPORTUNITIES	**THREATS**
➢ The growing demand of products. ➢ Low start-up cost ➢ Integrated Systems Farming/ Mixed Species Farming. ➢ Untapped potential for the export and value-added products. ➢ Paradigm shift in Government policies. ➢ Modern production technologies	➢ Extreme climatic conditions and natural calamities. ➢ Invasion of diseases. ➢ Depletion of natural resources (pastural land). ➢ Urbanisation. ➢ Tax regulations for marketing and other transactions.

CONCLUSION:

India is endowed with vast genetic resources of goat with good milk and meat purpose

breeds. Goat farming is livelihood of millions of poor farmers in India.as a means of augmenting household income, particularly among landless agricultural laborers and small and marginal farmers. Women are increasingly finding it as a potential source of earning cash income to meet their personal requirements. Even though they are economically impoverished, tradition-bound communities that do not already raise goats should be encouraged to do so through educational and incentive-based developmental interventions in order to elevate them. By providing education on better goat farming techniques, one can increase women's empowerment, increase their access to resources, skills, and marketing channels, and make better decisions. These improvements can then benefit the socioeconomic standing, self-sufficiency, and welfare of farm women.

REFERENCES:

20th Livestock Census- 2019 all India report, Ministry of Fisheries, Animal Husbandry &

Dairying, DAHD, Animal Husbandry Statistics Division, Krishi bhawan, New Delhi, Pp-29.

Breed-wise report of livestock and poultry based on 20th Livestock Census. (2022). Govt. of

India, Ministry of Fisheries, Animal Husbandry & Dairying, DAHD, Animal Husbandry

Statistics Division, Krishi bhawan, New Delhi

https://pcgoatcirg.icar.gov.in/home/centers. Accessed on 08.04.2024

https://apeda.gov.in/apedawebsite/SubHead_Products/Sheep_Goat_Meat.htm. Accessed on 08.04.2024