Goat Farming in India

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Some facts about Goat

Special economic importance
- poor, tribals and people living in variety of climates
- Meat, Milk, Fibre, Skin, Manure and Employments

The total population of goats is 135.17 million and produces Chevon 37% of total meat production, contributes 2.8% of total milk production of India

Besides valuable skin, fibre, manure, casings and offals

Requires small capital investment, small piece of land, fits in diverse climate, small amount of feeds, prolific and short life cycle

Livestock contributes 23% of GDP from Agriculture and goats contribute 7.60% of the GDP from livestock
Population Growth Trend of Goats in India

Population in Millions

Year | Population
--- | ---
1951 | 47.1
1956 | 55.4
1961 | 60.9
1966 | 64.6
1972 | 67.5
1977 | 75.6
1982 | 95.3
1987 | 110.2
1992 | 115.3
1997 | 122.7
2002 | 124.4
2007 | 135.2
2012 | 140.5
India possesses 26 breeds of goats.

There is large intermixing among the breeds in the regions where two or more breeds exists.

Most of the breeds of goat have evolved through natural selection for adaptation to various agro-climatic conditions.
## Registered Goat breeds of India

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Breed (Body size)</th>
<th>Utility</th>
<th>Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Changthangi (S)</td>
<td>Fibre (Pashmina)</td>
<td>Ladakh and hilly tract of Leh</td>
</tr>
<tr>
<td>2</td>
<td>Chegu (S)</td>
<td>Fibre (Pashmina)</td>
<td>Spiti and Kashmir Valley</td>
</tr>
<tr>
<td>3</td>
<td>Gaddi (M)</td>
<td>Long hair, pack</td>
<td>Chamba in Himachal Pradesh</td>
</tr>
<tr>
<td>4</td>
<td>Barbari (S)</td>
<td>Meat and milk</td>
<td>Etawah, Agra, Aligarh in Uttar Pradesh</td>
</tr>
<tr>
<td>5</td>
<td>Jamunapari (L)</td>
<td>Milk and meat</td>
<td>Etawah, Agra, Aligarh in Uttar Pradesh</td>
</tr>
<tr>
<td>6</td>
<td>Beetal (L)</td>
<td>Milk and meat</td>
<td>Gurdaspur and Amritsar in Punjab</td>
</tr>
<tr>
<td>7</td>
<td>Jakhrama (L)</td>
<td>Milk and meat</td>
<td>Jakhrama villages of Alwar in Rajasthan</td>
</tr>
<tr>
<td>8</td>
<td>Marwari (M)</td>
<td>Meat and hair</td>
<td>Jodhpur, Pali, Jaisalmer, Nagaur in Rajasthan</td>
</tr>
<tr>
<td>9</td>
<td>Sirohi (M)</td>
<td>Meat and milk</td>
<td>Sirohi in Rajasthan</td>
</tr>
<tr>
<td>10</td>
<td>Zalawadi (M)</td>
<td>Meat and hair</td>
<td>Surendranagar and Rajkot in Gujarat</td>
</tr>
<tr>
<td>11</td>
<td>Surti (M)</td>
<td>Meat and milk</td>
<td>Surat and Baroda in Gujarat</td>
</tr>
<tr>
<td>12</td>
<td>Gohilwadi</td>
<td>Meat and milk</td>
<td>Bhavnagar, Amreli and Junagarh districts of Gujarat</td>
</tr>
<tr>
<td>13</td>
<td>Mehsana (M)</td>
<td>Milk and Meat</td>
<td>Mehsana, Gandhinagar and Ahmedabad in Gujarat</td>
</tr>
<tr>
<td></td>
<td>Breed</td>
<td>Type</td>
<td>Region</td>
</tr>
<tr>
<td>---</td>
<td>-------------------</td>
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<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>14</td>
<td>Kutchi (M)</td>
<td>Meat and milk</td>
<td>Kutch region and Ahmedabad in Gujrat</td>
</tr>
<tr>
<td>15</td>
<td>Malabari (M)</td>
<td>Meat and milk</td>
<td>Calicut, Cannanore, and Malapuram in Kerala</td>
</tr>
<tr>
<td>16</td>
<td>Osmanabadi (M)</td>
<td>Meat and milk</td>
<td>Osmanabad, Ahmednagar and Solapur in Maharashtra</td>
</tr>
<tr>
<td>17</td>
<td>Sangamneri (M)</td>
<td>Meat and hair</td>
<td>Pune and Ahmednagar in Maharashtra</td>
</tr>
<tr>
<td>18</td>
<td>Kanni Adu (M)</td>
<td>Meat</td>
<td>Virudnagar and Tirunelveli in Tamil Nadu</td>
</tr>
<tr>
<td>19</td>
<td>Black Bengal (S)</td>
<td>Meat and skin</td>
<td>West Bengal, N.E. States, Bihar and Odisha</td>
</tr>
<tr>
<td>20</td>
<td>Ganjam (M)</td>
<td>Meat</td>
<td>Ganjam in Orissa</td>
</tr>
<tr>
<td>21</td>
<td>Attapady black (M)</td>
<td>Meat</td>
<td>Palakkad in Kerala</td>
</tr>
<tr>
<td>22</td>
<td>Konkan Kanyal (M)</td>
<td>Meat</td>
<td>Sindhudurg district of Maharashtra</td>
</tr>
<tr>
<td>23</td>
<td>Berari (M)</td>
<td>Meat</td>
<td>Akola, Amrawati, Wardha, Nagpur districts of Maharashtra</td>
</tr>
<tr>
<td>24</td>
<td>Pantja (M)</td>
<td>Meat and milk</td>
<td>Uttarakhand and Uttar Pradesh</td>
</tr>
<tr>
<td>25</td>
<td>Teressa (L)</td>
<td>Meat</td>
<td>Andaman and Nicobar island</td>
</tr>
<tr>
<td>26</td>
<td>Kodi Adu (L)</td>
<td>Meat</td>
<td>Tamil Nadu</td>
</tr>
</tbody>
</table>

*S-Small, M-Medium and L-Large*
Speciality of goat genetic resources of India

• Landless, small and marginal farmers, pastoralists are dependent on the livestock
• Goat continues to produce meat, milk, hair/fibre and other produce without much input
• In spite of this, goat breeds are in danger of extinction, pushed out by modern production techniques
• There are many goat genetic resources which are unique and are popular among the local population
Goat Breeds with unique Characteristics

- **Jamnapari**
  - Characteristics: High milk production

- **Jakhrana**
  - High milk potential
Beetal
High growth rate
Dual purpose

Chegu
Fine fiber (Pashmina) production
• Changthangi
  Fine fiber (Pashmina) production

• Malabari
  High fecundity

• Black Bengal
  High fecundity
India has been divided into four eco-zones for the purpose of description of goats depending upon their production and adaptability.

**Temperate Himalayan region**

- Important breeds: Gaddi, Changthang, Chegu and Pantja.
- Breeds of temperate Himalayan region include Chegu and Changthang, which possess the finest natural fibre known as Pashmina.
North -Western region
• Important Breeds: Beetal, Jamunapari, Barbari, Sirohi, Marwari, Jakhrana, Surti, Gohilwadi, Kutchi, Zalawadi and Mehsana

• Most of the goat breeds of Western region are suitable for meat and milk production under semi - intensive feeding system

Southern region
• Important Breeds: Sangamneri, Osmanabadi, Kannai Adu, Malabari, Attapady black, Konkan Kanyal, Berari, Kodi Adu

• Southern region goat breeds attain early maturity and are more prolific.

Eastern region
• Important Breeds: Black Bengal, Ganjam

• Highly prolific dwarf breed, Black Bengal covers a major part of Eastern India.
Goat Improvement Programmes and their Impact

• The research experiences on goats suggested that superior germplasm in the farmers flock may be identified and used for further improvement.

• Crossbreeding of native goat breeds with exotic is not suitable under Indian conditions.

• Selective breeding should strictly be practiced for improvement in meat, milk and fibre.

• Up-gradation of non-descript goats with improver breeds (Beetal, Jakhrana, Jamunapari and Brabari etc.) may be practiced under field conditions.
### Goat Improvement Programme under All India Coordinated Research Projects

<table>
<thead>
<tr>
<th>Breed</th>
<th>Centre</th>
<th>Purpose</th>
<th>Farm/Based</th>
<th>Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Jamunapari</td>
<td>CIRG, Makhdoom</td>
<td>Milk and meat</td>
<td>Farm</td>
<td></td>
</tr>
<tr>
<td>2. Barbari</td>
<td>CIRG, Makhdoom</td>
<td>Milk and meat</td>
<td>Farm</td>
<td></td>
</tr>
<tr>
<td>3. Sirohi</td>
<td>CSWRI, Avikanagar</td>
<td>Milk and meat</td>
<td>Farm</td>
<td></td>
</tr>
<tr>
<td>4. Jamunapari</td>
<td>CIRG, Makhdoom</td>
<td>Milk and meat</td>
<td>Field</td>
<td></td>
</tr>
<tr>
<td>5. Marwari</td>
<td>RAU, Bikaner</td>
<td>Meat</td>
<td>Field</td>
<td></td>
</tr>
<tr>
<td>6. Black Bengal</td>
<td>WBUAF, Kolkatta</td>
<td>Meat</td>
<td>Field</td>
<td></td>
</tr>
<tr>
<td>7. Ganjam</td>
<td>OUAT, Bhubaneshwar</td>
<td>Meat</td>
<td>Field</td>
<td></td>
</tr>
<tr>
<td>8. Malabari</td>
<td>KV&amp;ASU, Thrissur</td>
<td>Milk and meat</td>
<td>Field</td>
<td></td>
</tr>
<tr>
<td>9. Sirohi</td>
<td>RAJUVAS, Vety College Vallabhnagar</td>
<td>Milk and meat</td>
<td>Field</td>
<td></td>
</tr>
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</thead>
<tbody>
<tr>
<td>10. Sangamneri</td>
<td>MPKV, Rahuri</td>
<td>Milk and meat</td>
<td>Field</td>
</tr>
<tr>
<td>11. Surti</td>
<td>N.A.U., Navsari (Guj.)</td>
<td>Milk and meat</td>
<td>Field</td>
</tr>
<tr>
<td>12. Assam Hill Goat</td>
<td>AAU, Khanpara Guwahati</td>
<td>Meat</td>
<td>Field</td>
</tr>
<tr>
<td>13. Bengal Goat</td>
<td>BAU, Ranchi</td>
<td>Meat</td>
<td>Field</td>
</tr>
<tr>
<td>14. Osmanabadi</td>
<td>NARI, Phaltan</td>
<td>Meat and milk</td>
<td>Field</td>
</tr>
<tr>
<td>15. Andmani Goat</td>
<td>CARI, Port Blair, Andman</td>
<td>Meat</td>
<td>Field</td>
</tr>
<tr>
<td>16. Himalayan Goat (Chaugaraha)</td>
<td>IVRICampus, Mukteshwar</td>
<td>Meat</td>
<td>Field</td>
</tr>
<tr>
<td>17. Changthangi</td>
<td>SKUAST-K, Leh, J&amp;K</td>
<td>Fibre (Pashmina)</td>
<td>Field</td>
</tr>
<tr>
<td>18. Uttarakhand goat (Pantja)</td>
<td>GBPUA&amp;T, Pantnagar</td>
<td>Meat</td>
<td>Field</td>
</tr>
</tbody>
</table>
Major Issues Related to Goat Improvement

- Indiscriminate breeding
- Insufficient availability of improved breeding bucks
- Poor exploitation of genetic potential of native stock
- Lack of breed society
- Conservation programmes
- Poor and unhygienic housing
- Shortage of feed and fodder resources, nutritional deficiencies and shortage of drinking water
- Occurrence of diseases, poor health coverage and disease monitoring
- Reproductive problems
- Unorganized marketing of meat, milk, skins and poor credit support
- Training and education
- Socio-economic conditions of the farmers
- Migration and problems faced by farmers
- Lack of grazing policy
TARGET POINTS

• Improving yield and quality of milk, pashmina fibre and carcass weight
• Improving prolificacy and life time productivity
• Optimum exploitation of superior germplasm
• Establishment of Nucleus/Super nucleus herds
• Establishment of Buck mother farms
• Value addition: Meat, milk, fibre and skin
• Intervention by agencies like Central wool and sheep/Goat Development Board/ Corporations/ NGO’s/ State Departments
• Rapid Diagnostics and preventive vaccinations
• HRD for Trainers, Farmers and Artisans
Success Stories of Pashmina Goat Rearing

• **Kargil**: Harsh dry climate ranging from -40°C to 30°C

• Very low precipitation and hypoxia

• Livestock based farming system in this area forms the main source of livelihood for the population
# Socio-Economic Status of the Farmer's

<table>
<thead>
<tr>
<th>Name of the farmer with parentage</th>
<th>Mohammad Musa S/o Ghulam Hussain R/o Panikhar</th>
<th>Syed Abdullah Shah s/o Syed Hussain R/o Drass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of Livelihood</td>
<td>Labourer</td>
<td>Agriculture Farming</td>
</tr>
<tr>
<td>Initial strength of unit provided</td>
<td>1+9</td>
<td>1+9</td>
</tr>
<tr>
<td>Current livestock (goat) strength after three years</td>
<td>53</td>
<td>42</td>
</tr>
<tr>
<td>Current unit value</td>
<td>Rs 2,65,000/= (@ 5000/= per animal)</td>
<td>Rs 2,10,000/= (@ 5000/= per animal)</td>
</tr>
<tr>
<td>Additional Income from sale of pashmina (1st year)</td>
<td>2914</td>
<td>4210</td>
</tr>
<tr>
<td>Additional Income from sale of Pashmina Fibre (2nd year)</td>
<td>6450</td>
<td>8250</td>
</tr>
<tr>
<td>Additional income from sale of extra male animals</td>
<td>30000 (6)</td>
<td>27000 (6)</td>
</tr>
<tr>
<td>Expected unit value after 5 years (after selling extra animal from time to time)</td>
<td>250000/= (say 50 animals)</td>
<td>250000/= (say 50 animals)</td>
</tr>
</tbody>
</table>
Success Story of Barbari Goat Rearing

• Smt. Purni Devi w/o Sh. Lal Chand, Village Fulelmajra, Ambala, Haryana, India
• Was given one pair of goats under Lab to Land Programme in the year 2003
Socio-economic Status

- **Community:** Shepherd
- **Landless Agricultural labourer**
- **Family Size:** 5
- **Source of family Income:** Milk sale and seasonal agriculture labourer
- **Other Livestock Reared:** Buffalo - 2 No.
- **Family Income (INR):** 24,480/annum from all sources
- **Education Level:** Illiterate
- **Major Family Problems:**
  - Chronic disease of her husband
  - Low Family Income
  - Responsibility of family on Mrs Purni Devi due to her husband sickness
Training Received

Vocational Training on “Scientific Goat Rearing” under backyard goat keeping of “3-day” during 2003 Based on “Teaching by doing and learning by doing”
She started back-yard goat keeping with one pair of goats in the year 2003.

Animal sold from 2003 to 2015 - 26 no.

Present herd size:
- Adult Goats - 32 No.
- Adult Buck - 3 No.
- Kids/ Growers (male/female) - 13 No.

Total Animals Population during the period:
- Adult - 61 (26+ 35) No.
- Kids - 13 No.

She developed Backyard goat rearing with 2 adults to goat enterprise - 35 adults and 13 No. of Kids/ growers.
Economic Profile of the Unit

- **Sale of Animals** - 26 no. (mixed age group) - INR 41,600
- **Total milk sold** - 2920 lits - Rs.23,360
- **Total income** - Rs.64960
- **Annual Income** - Rs.10824
- **Monthly Income** - Rs.902
- **Value of present stock** 35 adults and 13 kids/growers - Rs.66000
- **Rates of milk per litre** - INR 8.0
- **Average sold price/animal** - INR 1600
- **Range of sale value of animals** - INR 1200 to 2500
Experiences of Mrs Purni Devi in Goat Farming

- Goat loves dry and clean places to sit
- Exchange of breeding bucks from distant villages every after 2-3 years gives good results.
- Breeding in November-December and kidding in March-April is always good for sale of milk and low mortality in kids.
- Grazing is always good in dry pastures area.
- More management care is required for goats during and after rearing season.
- Two goats can easily be reared with one buffalo under stall-fed conditions as Integrated Livestock Production
INDIGENOUS TECHNOLOGY PRACTICES IN GOATS
ITK Application in Goat Identification of sheep and goats - 90%
Milk protection bags - 95%  

Ear Cutting - 95%
Breeding Apparem - 100%

Winter management in goats - 70%
Hair Cutting of tail and hind legs

Weighing Technique
THANKS