BUILDING A VIBRANT GOAT SECTOR: APPROACH PAPER FOR VISION 2030
APRIL 2018
BUILDING A VIBRANT GOAT SECTOR:
APPROACH PAPER FOR VISION 2030

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International Fund for Agricultural Development
Department of Animal Husbandry Dairying and Fisheries, MoAFW, GOI
Creative Agri Solutions

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1. THE CONTEXT: INCREASING FOCUS ON THE GOAT SECTOR
INCREASING FOCUS ON THE GOAT SECTOR

Development of the goat sector has the potential to impact the livelihoods of 20 million goat rearers (NSSO, 2013) belonging to resource poor and socially backward segments of the society living in ecologically vulnerable areas

- 83.4% of goat rearers belong to landless, small and marginal farmers category
- 84.4% belong to SC/ST and OBC communities
- Goat rearing is dominated in ecologically vulnerable and drought prone areas

Goat rearing is a traditional backyard activity supplementing household income, largely considered as a moving ATM to be sold in situation of emergency.

- Contributes about 10-40% to household income in different regions rearing small herds of 3-5 or 5-10 goats.
- Share of income from goats is higher in areas where goat rearing is a dominant activity with limited alternate livelihood options along with higher access to Common Property Resources – tribal belt of Odisha, desert region of Rajasthan.

Goat rearers could earn 250-300% higher incomes from goat rearing only by adopting scientific norms of goat management (BAIF, 2015) and potentially higher by improving herd size and engaging in goat rearing as an enterprise by rural households.

Recent initiatives across the developing world emphasize goat-oriented activities as pathways out of poverty:

Media Buzz

“Investing in Bihar goats to improve rural poor incomes”
- The Asian Age, March 2, 2018

“Meet the men behind Vistara Farms, makers of goat cheese and goat-milk yoghurt”
- The Hindu, Feb 10, 2018

“Agriculture Marketing Reforms: Why APLM Act May Become Future”
- Business World, Aug 10, 2017

“TN women goat rearers’ company gets equity grant”
- The Times of India, Dec 22, 2016

“The goat ATMs of Badaun empower women”

“Starting a ‘goat bank’ made all the difference”
- The Hindu, Nov 27, 2015
INCREASING FOCUS ON THE GOAT SECTOR

In stark contrast to the goat rearers belonging to the poorest communities, goat meat consumption is largely by the richest segments of the population. Goat is the most preferred meat priced at INR 450/kg as compared with poultry and beef at INR 180/kg. As per NSSO 2013 6.4% of rural Indians eat mutton, 21.7% eat chicken, 26.5% consume fish, while 29.2% eat eggs. In urban India, about 10% consume goat meat, 21% and 27% population consuming fish and chicken respectively, and a huge 37.6%, of the urban population, eating eggs.

With increasing incomes, health consciousness leading to higher consumption of livestock products, future growth rate of meat consumption ranging between 3-7% based on different estimates. Consumer preference for high value processed goat and milk product is increasing in India and globally, with potential premium for high quality products.

Goat sector has focused internally on meeting the domestic demand. There is a growing opportunity for multi-dimensional growth of the sector to meet the robust demand for high value goat meat and milk products in domestic and global market

- Linking small farmers engaged in traditional livelihoods to global markets.
- Progressive commercial farmers supplying quality goats are linked to export units.
- Agribusinesses invest in state-of-the-art cold-chain infrastructure to cater go high value markets.
- Many budding entrepreneurs have left high tech commercial jobs to engage in production of niche products from goat meat and milk processing

Global Buzz

Dairy goat industry grows to keep up with demand for cheese
- Winsconsin State Farmer, May, 2017

“Goat meat prices at record levels as international demand grows for Australian product”
- ABC News, August, 2016

"The demand is there. So why aren’t American farmers raising as many goats as we eat?"
- The New Food Economy, February, 2016

"Mooove over cows: Goat milk sales climb in U.S. Dairy Market"
- wtop.com, January, 2016
INCREASING FOCUS ON THE GOAT SECTOR

Detailed sector assessment reveals that it is an opportune time to invest in the sector by all stakeholders. Government Bodies and development agencies recognize intervention in goat sector as a conduit towards impacting poverty

- Doubling Farmers Income Committee has emphasized small ruminants as important contributors to poverty alleviation
- Goat sector development is an important component of the National Rural Livelihood Mission
- SDGs recognize that goat sector can contribute towards the objective of poverty alleviation, impacting nutrition and women empowerment
- Ongoing projects of the UN agencies and world bank emphasize goat sector development as key project component

Industry players and entrepreneurs are engaged in developing innovative models focusing on all aspects of the value chain – developing innovative vaccine and medicine supply chain, breed development, innovative farming approaches, marketing, processing, retailing, exports, etc.
INCREASING FOCUS ON THE GOAT SECTOR

There is immense energy from all stakeholders to invest in initiatives for the development of the sector with potential for high impact from synergies resulting from collaboration.

In the absence of an integrated effort, the small efforts by the various agencies will get dissipated resulting in suboptimal impact. Developing a joint vision for the future growth and development of sector is the first step towards creating a desired future.

Approach paper comprehensively covers the functioning of the traditional goat value chain. A critical assessment based on SWOT analysis provides insights for critical assessment and identifying the key challenges to be addressed.

Overview of the emerging and future value chains guides the vision for the future growth sector. Overall framework of the approach to achieve this vision is discussed which can be adapted as the specific needs of the state and region.

Overall assessment of the sector paves the way forward for a comprehensive growth and development of the sector focusing on impacting livelihoods of small holders while supporting the growth and development of the commercial high value sector to meet the growing demand of the domestic and global markets.
2. GOAT SECTOR IN INDIA: KEY FACTS
PROFILE OF THE GOAT SECTOR

Situation of the Global Goat Sector
Of the global goat population of 1000 million heads in 2016, Asia and Africa are home to about 95% of the global goat population with Asia accounting for almost 55%. India and China jointly accounting for about 30% (~140 million) vie closely for the leading goat population.

An alarming signal is that for the first time since independence, Census 2012 reports a dip in population from 141 million to 135 million over the census period 2007 to 2012.

There can be multiple causes of the current trend, however important contributing factors includes health constraints in addition to factors like decreasing agriculture land, fellow land and grazing area; change in socio-economic dynamics; available choices in selection of animal source of protein food etc. Declining population is an important signal to address the key challenges facing the sector. Top 10 states in India account for 80% of the goat population in the country.
## PROFILE OF THE GOAT SECTOR

### Goat Meat-Milk Production and Trade

As per FAOSTAT (2016) the world goat meat production was five million tonnes. With 2.2 million tonnes of annual production, China tops in goat meat production. India stands second in world production (1.04 million tonnes) contributing 20% to global production (DAH, 2016-17). The annual growth rate of goat meat production is 2.4%.

The average meat produced per goat in leading countries is relatively higher than India- Pakistan at 17.0 kg/carcass followed by Iran (14.0 kg), China (27.7 kg), Malaysia (27.3 kg), Sudan (13%), Nigeria (12.7 kg), while Indian goats yield 10.0 to 10.5 kg meat. The world goat milk production was 15.2 million tonnes (FAOSTAT, 2016). India leads the global goat milk production at 5.6 million tons accounting for about 25% of the total production.

### Major Exporting Countries of Goat/Sheep Meat in 2016 (Qty in Metric Tonnes)

<table>
<thead>
<tr>
<th>Country</th>
<th>Qty in MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>11,586</td>
</tr>
<tr>
<td>Germany</td>
<td>11,169</td>
</tr>
<tr>
<td>France</td>
<td>10,843</td>
</tr>
<tr>
<td>India</td>
<td>19,021</td>
</tr>
<tr>
<td>Spain</td>
<td>30,938</td>
</tr>
<tr>
<td>Netherlands</td>
<td>17,164</td>
</tr>
<tr>
<td>Ireland</td>
<td>40,205</td>
</tr>
<tr>
<td>U K</td>
<td>74,866</td>
</tr>
<tr>
<td>Australia</td>
<td>402,790</td>
</tr>
<tr>
<td>New Zealand</td>
<td>393,582</td>
</tr>
</tbody>
</table>

Source: APEDA

India exported 23612 tons of sheep and goat meat worth Rs. 8.281 billion during 2014-15 mostly to the Middle East (APEDA, 2015). The top meat importers in the world are USA, UAE, China, Qatar, Saudi Arabia, Italy, and France Despite being a leading producer, India accounts for barely 2% of the global meat export, whereas Australia and New Zealand with equal share jointly contribute about 80% of the global exports. India exports a miniscule 2-3% of the production whereas the rest is consumed locally. Middle-eastern Islamic countries are the main importers of goat meat from India.

### Contribution to Gross Value Added of Agriculture Sector

Goat sector contributes 8.4% to India’s livestock Gross Domestic Product with the total value of the produce at Rs. 38.59 billion, Rs. 22.625 billion from meat, Rs. 9.564 billion from milk, Rs. 1.49 billion from skin, Rs.1.535 billion from manure and 3.360 billion from others (CIRG, 2015).
3. TRADITIONAL VALUE CHAIN
A thorough understanding of the functioning of the goat value chain is limited as few in-depth studies have been conducted. The current findings are presented from the study on Goat value chains in UP, Bihar and Odisha (ICSD, 2015).

The studies were conducted as a part of the project titled “Public-private-producer partnerships (4Ps) in small ruminant value chain development in India (4P Programme), a joint initiative of BMGF and IFAD.

Based on the findings of the study we present the detailed analysis of the functioning of the traditional value chains along with typologies of the stakeholders involved in the value chains.
### TYPOLOGY OF GOAT REARERS

#### Goat Population Dominated in the Poorest States
- UP, Bihar and Odisha rank 2nd, 3rd, and 10th in Goat Population in the country.
- High share of rural population BPL Odisha (46.8%), Bihar (43%), UP (33.4), All India (28.3).
- Odisha (1st), Bihar (3rd), and UP 7th in ranking of share of rural population BPL below Poverty line

<table>
<thead>
<tr>
<th>State</th>
<th>Living in poverty</th>
<th>Goat as main source of living</th>
<th>Small size flock (&lt;5 head)</th>
<th>Medium size flock (5 to 10 heads)</th>
<th>Large (&gt;10 heads)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttar Pradesh</td>
<td>74.4</td>
<td>37.6</td>
<td>46</td>
<td>39</td>
<td>15</td>
</tr>
<tr>
<td>Bihar</td>
<td>94.4</td>
<td>37.7</td>
<td>26</td>
<td>40</td>
<td>34</td>
</tr>
<tr>
<td>Odisha</td>
<td>90.2</td>
<td>35</td>
<td>72</td>
<td>27</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Small Herd Size
- Average herd size per household is small (3-4 goats in Bihar), UP (<5) and Odisha (5-10).
- High forest coverage and access to CPRS is probably the reason for higher herd size in Odisha.

#### Production System
- Goats are reared on extensive system relying on CPRs with women and children engaged in grazing for 4-5 hours.
- Tethering is also common in UP, restricting grazing to protect standing crops.
- Feeding of tree-tops widely available in the Gangetic plain areas of UP is also common whereby women and children are engaged in collecting tree tops

#### Marketing of Goats
- Goat rearers sell goats to primary traders or directly to small butchers operating in the rural areas on cash payment.
- Goats are usually sold at 9 months of age in Bihar and Odisha (18-20 kg), UP sale at 12 months (live weight 25 KG).
- Different in weight at the same age is also a consequence of the breeds – black Bengal in Bihar, Jamnapari, Barbari in UP which are relatively bigger in size.
**Typology of Livestock Markets**

**Village markets/rural haats**
- Village markets operate once or twice per week.
- They fall under the jurisdiction of Gram Panchayat, State jurisdiction or managed by private players.
- Livestock markets are open spaces, badly managed without shelter and drinking water.
- Scale of operations Bihar (200-500), Odisha and UP (500-1000)
- Under reporting of goats
- Payment of INR 10/15 per goat in the private market
- Veterinary services are not available in these markets.

**Block and District markets**
- These markets operate 2-3 days in a week.
- Most transactions take place between primary traders and butchers; few secondary traders who buy goats for Terminal Markets.
- Odisha (Markets committees manage these markets and levy a fee of Rs. 5-10 per goat.)
- Scale of operation per day is Bihar (500-1000 goats) Odisha/UP (1000 to 2000 goats)
- These markets are located in a strategic locations like with high goat density Bihar (Chak Sikendarpur in Vaishali district, Muzaffarpur); UP reports 15 major district markets
TYPPOLOGY OF LIVESTOCK MARKETS

Terminal Markets
- End markets are few in number operating 2-3 days in a week.
- Secondary traders bring goats from distant places to these markets.

Bihar
- Raja Bazaar and Bazaar Samiti (managed by Masjid committee) are very old animal markets in Patna.
- Approximate volumes traded is 2000 per day operating 2 days a week.
- They cater to the meat requirements of major markets of West Bengal, Jharkhand and parts of UP in addition to Patna city.
- Alternately, local traders and traders from UP access these markets to sell goats during Eid.

Odisha
- Volumes handled in these markets range from 3000 to 5000.
- Some provision for accommodation and shelter on cost basis.
- Controlled by municipal authorities and run by outsourcing through auctions.
- The auctioneer collects an entry fee ranging from Rs.15 to 25 as stipulated by the Municipality.

Uttar Pradesh
- Major markets of Ghazipur, Sultanpur and Kapli.
- Ghazipur, the largest mandi in India is strategically located between UP and Delhi.
- Sale of goats is in the range of 10,000 to 20,000 goats per day.
- Sourcing is largely from Rajasthan, and other major producing states.
- The supply is to major markets including J&K, Kolkata, Kanpur, etc.
**Typology of Market Players**

**Primary traders**
- Located in villages have strong linkages with farmers
- Travel to the villages, collecting 1-2 goats per day from the livestock rearers
- Travel 25-30 KM per day using motorcycles to buy goats
- Keep goats for 2-5 days before selling in village/block markets

**Secondary traders**
- **Block Level**
  - Located in block headquarters
  - Buy goats from aggregators/rural haats and for sale to secondary traders operating in markets in cities
  - Strong communication with primary traders and secondary traders in districts and cities
  - Scale of operation is 150-200 goats per week.
  - Maintain goats for 2-3 days before selling using hired labor for caretaking
  - Mini-vans or trucks

**Secondary traders**
- **District/City Level**
  - Located in towns/cities
  - Buy goats from secondary traders at the block level for to butchers in cities and also send goats to other cities and towns
  - Strong communication with secondary traders at the block level, butchers in cities and traders in other markets
  - Scale of operation

**Small Butchers**
- Located in rural areas and small towns.
- Procure 1-2 goats per day from the primary traders or rearers directly

**Big Butchers**
- Located in cities procure goats from secondary/primary traders.
- Cater to the meat demands of consumers in the cities.
- Supply meat to dhabas, canteens, hotels, households
## TYPOLOGY OF MARKET PLAYERS

### Cost of the Transportation

<table>
<thead>
<tr>
<th>Mode</th>
<th>Vehicle capacity</th>
<th>Distance (Kms)</th>
<th>Expenses (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor cycle</td>
<td>4</td>
<td>20-30</td>
<td>Rs. 50</td>
</tr>
<tr>
<td>Auto</td>
<td>20</td>
<td>40-50</td>
<td>700-900</td>
</tr>
<tr>
<td>Pick up van</td>
<td>60-70</td>
<td>70-90</td>
<td>2000</td>
</tr>
<tr>
<td>Truck</td>
<td>120-150</td>
<td>&gt;100</td>
<td></td>
</tr>
<tr>
<td>Fabricated truck</td>
<td>200-300</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Situation of transportation is similar across states
- Goat transportation to markets is crude
- Overloaded leading to suffocation and trampling resulting in injuries and death
- Sick animals sold at low price
- The mode of transportation depends on volumes and distance.

- None of the goat transporters carry way bills and health certificate of goats on board
- Most of the transporters and secondary traders are unaware of animal transportation rules and consequences.
- All those transport goats do pay bribe to police.
TRADITIONAL VALUE CHAIN

**Assessment of the traditional value chain**

- Farmers get almost 80% of the final consumer price which is much higher as compared with other agricultural commodities.
- The scale of operations at every levels in the value chain is very small.
- Setting up large processing units call for very high volumes of goats which will be difficult to procure, along with the quality requirement which will pose as a strong constraint to optimal utilization of the infrastructure.

<table>
<thead>
<tr>
<th>Scale of operations of the Traditional Value Chain</th>
<th>Bihar</th>
<th>Odisha</th>
<th>UP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producers Income*</td>
<td>7</td>
<td>1260/2260</td>
<td>10</td>
</tr>
<tr>
<td>Primary Traders</td>
<td>450</td>
<td>76500</td>
<td>500</td>
</tr>
<tr>
<td>Secondary Traders</td>
<td>1500</td>
<td>75000</td>
<td>2000</td>
</tr>
<tr>
<td>Small Butchers</td>
<td>300</td>
<td>56000</td>
<td>450</td>
</tr>
<tr>
<td>Urban Butchers</td>
<td>900</td>
<td>107500</td>
<td>700</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scale of Operation of Emerging Modern Value Chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity of Processing Unit</td>
</tr>
<tr>
<td>Sale of Meat by Supermarkets</td>
</tr>
</tbody>
</table>

*Producers income without accounting for economic costs of buck, Labor, feed/fodder

Market Mapping- Chik Sikandarpur, Vaishali District, Bihar
SITUATION OF INPUTS AND SERVICES AVAILABILITY

Breeding Stock:
- Goat rearing families retain female stock for replacement and purchase from fellow goat rearing families if required.
- UP (4 farms) and Odisha (6 farm) government breeding farms to produce and supply superior quality breeding bucks to rearers. Actual contribution to improving supply of quality buck is questionable.

Feed Inputs:
- Feed input sellers are available in almost all blocks selling cattle feed, poultry feed, chuny and wheat bran.
- Branded feed is available for cattle, which is sometimes fed to goats in small quantities.
- Loose ingredients are purchased for feeding goats.
- Goats account for 1-2% of the sale of feed inputs, as they are largely reared on CPRS

Vaccines/ Medicines
- Vaccines they are available with veterinary institution (supply of vaccines through the department is much lower as compared with the population).
- Sufficient deworming drugs are available for Rs.2 per dose but not many rearers demand.
- Curative medicines are not with the veterinary dispensaries and have to be prescribed for purchase from medical shops
**SITUATION OF INPUTS AND SERVICES AVAILABILITY**

**Health/Breeding Services**
- The strong network of veterinary service centers focus largely on large ruminants, UP (5048), Bihar (2417) and Odisha (3793)
- Private service including retired professionals are available in UP and Bihar, charging a service fee of INR 50.
- In Odisha and Bihar, CAHWs are rendering services for small ruminant in specific districts where NGOs are active.
- Breeding services are used either from their own buck or the buck of other farmer/ village flocks or stray buck.

**Skill Training:**
- Goat Trust operates in UP to conduct training for goat rearing families they have a standard training module.
- KVKS have focus on goats, but there is limited awareness of the role of KVKS for providing training related to goat rearing.
- **SMILE in Odisha is an institution involved in training, small ruminant families by developing training modules.**

**Credit:**
- Access to credit is a major challenge throughout the value chain.
- In Bihar, SHG groups promoted under SGSY are able to receive credit from banks under the Jeevika Program. However, the uptake is weak.
- Credit for butchers, traders is a serious constraint and finance institutions do not recognize them as entrepreneurs.
REGULATORY ENVIRONMENT

- **Notification of Minor Veterinary Health services**: Odisha is one of the 15 states to have notified Minor Veterinary Health Service – UP and Bihar have not undertaken such notification.

- **Comprehensive Small Ruminant Policy**: Policies on livestock largely focus on breed development for large ruminants. Odisha state has initiated a draft small ruminant policy. Bihar and UP are yet to focus on developing a comprehensive policy for small ruminant development.

- **Marketing Regulations**: Till recently livestock sector did not come under the ambit of regulatory framework for marketing resulting in no proper database for livestock arrivals, prices along with no proper mechanism for price discovery through auction etc.

- **Livestock transportation policy**: By following livestock transport policy the main advantage will be less stress to goats and irregular practices will be stopped. But the transportation cost will increase the unit cost by almost three times.

- **Food Quality and Safety**: FSSAI regulations for meat shops requires FSSAI License for operating meat shops along with following the norms for clean meat production. These norms are not being implemented.

- **Support to modern abattoirs**: The policy provides enabling environment for establishing food processing units in the state by providing subsidies, provide training and simplification of procedures.
## SWOT Analysis

### Strengths
- Existence of strong institutional infrastructure comprising of ICAR research institutions, government breeding farms, KVKS,
- Ongoing government/NGO efforts for coverage of preventive care
- Existing schemes to finance the sector
- High number of CAHWs engaged in providing services
- Sound knowledge of computer technology to support use of technology platforms for sale of goats

### Weaknesses
- Lack of policy focus on providing an enabling environment for growth and development of the sector.
- Lack of horizontal integration among various concerned departments such as animal husbandry, forestry, marketing board and so on.
- Limited contribution of research institutions towards research and outreach on innovations and best practices for the development of the sector.
- Limited coverage by health services providers leading high to mortality and morbidity.
- Poor extension services leading to poor awareness about goat husbandry practices including breed development, feed/fodder management and housing practices leading to low productivity.
- Limited efforts on ensuring quality breeds for breed up gradation.
## SWOT Analysis

### Strengths

The list of weaknesses is very long implying that the sector has not received much attention and there are many aspects have to be addressed to improve the business potential. Each area of weakness deserves critical attention and needs to be addressed.

### Weaknesses

- Limited focus on regeneration of Common Property Resources (CPRS).
- Limited availability of required vaccines and medicines in the states.
- Poor access to credit services does not enable households to optimize the income from sales, while limiting the functioning of other actors in the chain.
- Low scale of operations at the farm level
- Inadequate efforts on collective goat farming
- Limited investments in developing livestock market yard.
- Livestock is outside the ambit of marketing regulations.
- Poor implementation of FSSAI regulations on meat shops focusing on quality meat production.
- Limited capacity for processing of small ruminants in organized sector
- Inadequate cold chain infrastructure to support exports
- Lack of food technology training for processing of non-traditional goat meat and milk products popular in the global market
## SWOT Analysis

### Opportunities
- Robust and growing demand for goat meat because of taste preference by consumers.
- Strategic location of India to meet the demands of the middle-eastern countries.
- Goat meat is free from religious taboos.
- Conducive political environment to focus on improving livelihoods of the poorest.
- Willingness of the multi-lateral agencies to invest in the sector.
- Educated youth interested in working in the sector.
- Enterprising Entrepreneurs investing in processing of various value added products.
- Opportunity to link with existing livelihood development projects (Jeevika).
- Increasingly quality conscious consumer willing to pay premium for quality.
- Highly committed and professional NGOs interested in working in the sector.
- Goat is a hardy species relatively free from zoonotic diseases.
- The GoI initiative allowing 100% FDI in food processing industry.
- Centrally sponsored scheme for modernization of abattoir.

### Threats
- Declining area of CPRs driven by urbanization.
- Climate change and limited water for goats.
- Limiting Forest Rights restricting use of CPRs as fodder resource.

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The image contains a table titled **SWOT Analysis**. The table is divided into two main sections: **Opportunities** and **Threats**. The text under each section lists various points that can be considered as either opportunities or threats. The **Opportunities** section includes points such as robust and growing demand for goat meat, strategic location of India, and will of multi-lateral agencies to invest. The **Threats** section includes declining area of CPRs due to urbanization, climate change, and limiting forest rights. A note to the right of the table highlights that the long list of opportunities with few threats reflects a positive and favourable external environment for investing in the sector. It suggests that the SWOT analysis points to significant opportunities to bridge the demand-supply gap for goat meat while improving the livelihoods of the households involved in goat rearing.
4. EMERGING VALUE CHAIN
EMERGING VALUE CHAIN

Consumers Local Market
- Retailer
- Wholesaler
- Processors
- Farmers’ groups
- Village Traders
- Poor livestock keeper

Modern Trade Stores
- Retailer
- Wholesaler
- Processors
- Farmers’ groups
- Village Traders
- Livestock keeper

Consumers External Market
- Retailer
- Wholesaler

Quality Standards
- Contract Farming

Input suppliers (Feed, medicine, electricity, workers, fertilizer, herbicides and insecticides, seeds, water, etc.);
Capacity-building, veterinary and financial services

Self Consumption
EMERGING VALUE CHAIN

With the changing needs of the domestic and global market, innovative value chains are emerging to meet the demands for high value products using innovative approaches to marketing.

- “AOV Exports Pvt. Ltd.” is catering to institutional (premium hotels) and supermarket demand for high quality products in domestic and export market
- “Licious” and is an online meat selling initiative catering to consumer needs of the major cities along with selling to supermarkets
- “Brown apron”, an online meat shop caters to the high quality fresh meat demands of Bangaluru City
- “Chevon Agrotech Private Limited” an integrated agribusiness is focused on goat meat segment supplying to leading supermarkets through their own farm in Maharashtra along with sourcing from nearby areas.
- “Vistara Farms” in Bengaluru are manufacturers of goat milk products include feta cheese and flavored goat milk under the brand name “Basta”. They plan to increase the herd-size to 3000 goats.
EMERGING VALUE CHAINS

**Increasing Semi-commercial, Commercial Farms and Industrial Farms**
Emerging and future value chains will evolve to meet the demands for quality and premium products in domestic and export markets. Parallel to the traditional system, supply chain for quality products catering to high value markets emerge. Advanced goat-rearers including progressive farmers, commercial farms, industrial farms, strong FPOs, engaged in the sector will be able to meet the quality requirements of the high value markets.

**Continued Importance of Small Holders**
In spite of emerging modern retail chains, unorganized or traditional markets are likely to continue to grow. Smallholders will likely continue to supply the bulk of ruminant livestock products, even as the role of larger commercial producers will grow in importance. Important to bridge the gap between “organized” and “unorganized” players

- Continued innovation is needed for better linking smallholders to markets.
- Cluster development approach needs to be explored to foster greater private sector provision of services.
- Small-scale actors who form the bulk of suppliers in unorganized markets are often ignored by development efforts, and have few incentives to improving practices.
- Capacity building among such actors can bring about changes in market practices that improve the safety and quality of livestock products, and generally improve market performance.
5. VISION FOR THE GOAT SECTOR : 2030
HERALDING A GOAT REVOLUTION: VISION 2030

“The vision for 2030 is comprehensive growth of the goat sector with equal focus on developing the backyard and commercial farms along with focus on organized marketing and processing of goat products to ensure quality, while ensuring environmental sustainability.”

Change the image of goat as a “poor man’s cow” to a “green business option for the Bottom of the Pyramid (BOP)”.
VISION OBJECTIVES

1. Make India the Global Player in Goat Sector
   - Bridging the demand and supply gap
   - Being a dominant player in global trade

2. Impacting Livelihoods
   - Increase in Income
   - Empowering Women
   - Empowering Rural Youth

3. Improving Processing of Meat, Milk and By-Products

4. Ensuring sustainable growth
VISION OBJECTIVE 1:
INDIA EMERGES AS A STRONG GLOBAL PLAYER IN GOAT SECTOR

As a leading global player India will focus on bridging the demand supply gap in the domestic market, while emerging as a dominant position in global trade focusing on goat meat as a high value export.

Bridging the Demand Supply Gap

Current meat production in India is 1.041 million MT, demonstrating an annual growth rate of 2.4% over the past decade. The growth rate of demand estimated by FAO (2011) is 3% per annum, while according to Gandhi and Zou (2010) it is 7-8% considering the increase in incomes and price elasticity. Considering the growth rate of 3% the estimated gap is 125 thousand MT, which can significantly escalate with higher growth rates.

As per CIRG (2013) estimates, the growth rate of goat population in India will touch 216 million heads in 2050. Improving productivity is along with increase in population is critical to bridge the demand supply gap, to restrict further price escalation (current price INR 450/kg) to ensure affordability. Though productivity varies by breed, there exists productivity gap of at least 20-30% (Bihar study 8 kg/animal), which can be tapped addressed through breed up gradation and improved management practices.
Emerging as a Dominant Player in the Global Market

India is strategically located in the center to cater to the import needs of the middle-eastern and Southeast Asian countries. Currently these countries are importing from distant Australian and New Zealand markets which cost implications.

Along with adequate export surplus, developing the export segment will require intense support in terms of investment and capacity building, while overall developing a conducive environment for private sector investments

- support to commercial/industrial farms,
- strengthening FPOs
- entrepreneurship development
- investments in modern abattoirs meeting international quality norms
- dedicated cold chain infrastructure
- Facility for air-cargo shipping to enable fast movement of goods.

Required to put in place Policies and schemes of the government emphasizing strengthening the existing value chain along with developing a parallel value chain for meeting the critical quality norms.

**Tanjung Manis Halal Hub -SEZ**

Tanjung Manis is on its way to becoming a major industrial port city and a key element in Malaysia’s global Halal Hub strategy. The deep water port will eventually be able to handle 100,000 40-foot containers and 6 million tonnes of general cargo a year.
VISION OBJECTIVE 1:
INDIA EMERGES AS A STRONG GLOBAL PLAYER IN GOAT SECTOR

Strategic location of India
**VISION OBJECTIVE 2: IMPACTING LIVELIHOODS**

### Increasing Income of Goat Rearing Households

Through engaging in backyard goat rearing activity with a flock of about 3-5 to 5-10 goats, the households earn about INR 20,000-40,000 per annum.

This income can go up by 250 to 300% with improved management practices and marketing linkages to reach a scale of 50,000 to 100,000 per household and even higher where the scope exists to improve herd size.

In regions where there is scope to increase the herd-size due to availability of CPRs, housing space, etc. the scope for impacting income is higher.

The traditional production system will be improved through activates focusing on ensuring access to required inputs for curative and preventive care, ensuring access to health services along with widespread dissemination of extension information and updated technologies for adoption of improved management practices.

These initiatives will address the issue of mortality and morbidity while improving quality of animal and productivity per animal. Improved market linkages will help to ensure better prices.

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84.4% of goat farmers belong to SC,ST and OBC.

83.4% are small and marginal farmers.

Envisioned Impact on Income of Goat Rearing Families

- **2018:** INR 20,000
- **2030:** INR 50,000
VISION OBJECTIVE 2: IMPACTING LIVELIHOODS

Empowering Women

Because of strong engagement of women in goat rearing, any investment in this sector is expected to have direct impact in uplifting the women economically as well as socially. Special focus will be on developing women oriented formal/informal grass-root institutions including SHG groups, FPOs, FPCs, cooperatives, etc. which will help to develop backward and forward linkages. Completing the activities in the goat sector with strong implementation of State Rural Livelihood will result in positive synergies towards meeting the vision objectives.

Commercial Goat Farms- Employment Opportunity for Rural Youth

Many educated rural youth have invested in commercial goat farms, which can potentially have positive externalities for the sector. The entrepreneurs who have pioneered organized farming can be engaged in knowledge transfer for the implementation of goat farming projects. Rural youth will potentially connect unorganized goat farmers to the organized processing sector.

Such linkages will pave the way for a change in perception regarding the sector from a “poor mans cow” to a “smart and green business option”. Concomitantly, expansion of income generating options in rural areas will also address the issue of rural migration.
VISION OBJECTIVE 3:
IMPROVING QUALITY MEAT AND MILK PROCESSING

Improving Meat Processing – Quality and Product Range

Quality of meat will be improved through emphasis on quality at all levels in the value chain.

- Production stage, on developing quality animals through proper health care along with breed improvement.
- Market level: checking by veterinary officials
- Traditional retail chain, ensure implementation of FSSAI regulations regarding licensing of meat shops.
- Training of butchers on “Clean Meat Production Practices” by developing manuals in collaboration with leading ICAR institutions – National Research Center on Meat.
- Role for municipalities in facilitating clean meat production.
- Collaboration with financial institutions for investing in “Model Meat Retail Shop” with the necessary infrastructure.

To address the issue of limited capacity of modern abattoirs, Ministry of Food Processing Industries had initiated a centrally sponsored scheme, National Mission on Food Processing for modernization of abattoirs. Proper implementation of this scheme will help to ensure quality for large-scale meat processing units and contributing to higher exports along with improving the range of processed products.
VISION OBJECTIVE 3: IMPROVING QUALITY OF MEAT AND MILK PROCESSING

Improving Processing of Milk and Milk Products

Goat Milk production is 5605 thousand MT accounting for 3% of the milk production. Goat milk sector has not received much attention and the functioning of the chain is not well documented. Based on the existing information, goat milk is marketed to a small extent and largely through informal channel.

Recent initiatives on commercial goat farming and processing have focused on goat milk to capitalize on the nutritional value and market for high value processed products. Developing the sector will require focused efforts on up-gradation of milk breeds, support to commercial farms, encouraging entrepreneurs to invest in the sector through training programs on processing along with facilitating access to finance.

Processing of goat milk, especially goat cheese is popular in European countries. Since it is not a traditional activity in India, scientists at leading Food technology institutes can avail training in the leading countries in order to undertake capacity building of entrepreneurs in India.

Goat milk is widely recognized as having high nutritional properties. Goat cheese is globally a premium product. In the global market, demand for goat milk, and milk products like cheese, yoghurt far exceeds supply. In the current financial year (2017-18) imports of goat cheese was worth INR 156 million. Leading premium hotels and restaurants are sourcing cheese at INR 1000-2000 per kg.
VISION OBJECTIVE 4: ENSURING SUSTAINABLE GROWTH

Almost 100% of the feed and fodder requirements of Sheep and goats are through CPRs, which makes it a viable income generating option for the resource-poor livestock owners.

With increasing livestock population along with move to commercial agriculture and climate change issues, the dependence on CPRs is going to be more intense. The trends show decline in CPRs by 10% over the past 2 decades. There has been no specific focus on regenerating the deteriorating CPRs posing significant threat to future development of the sector.

According to discussion with experts, regeneration of CPRs, the holding capacity can go up by 100%. Regeneration of CPRs in nearby areas needs to be an important part of the initiatives for goats. Projects focusing on goat sector development can engage with gram panchayats to address issues related to land tenure rights in developing CPRs.

Along with regeneration of CPRs, production of specific crops used as feed/fodder for goats has to be improved. Availability of leafy material for feed/fodder can be improved through utilizing waste areas, using bunds for planting fodder crops, while increasing use of crop residue for feeding.

Though the emerging semi-commercial and commercial farms will adopt intensive production systems, the regeneration of CPRs is critical to support the livelihoods of small holders while ensuring environment sustainability.
APPROACH TO ACHIEVING THE VISION TARGETS

Developing the Approach

- Under the project “Public-private-producer partnerships (4Ps) in small ruminant value chain development in India (4P Programme), a joint initiative of BMGF and IFAD, an in-depth diagnosis of the Goat value chain was undertaken in UP, Bihar and Odisha.
- The professional team included the IFAD Lead Technical Advisor on Livestock Development, along with three leading institutions in India, namely BAIIF Development Research Foundation, Inter-cooperation Social Development India and the International Livestock Research Institute (ILRI).
- The study team interacted with more than 400 sector experts and stakeholders through the implementation of Innovative Platforms, extensive field visits, interactions with public and private sector representatives, researchers and scientists, and the organization of an investors roundtable, and interviewed more than 3,000 goat smallholder and commercial farmers.
- This effort resulted in the preparation for each targeted State of (i) a socio-economic baseline study; (ii) a goat value chain analysis (including input supply, production, processing, marketing and consumption); and (iii) policy analysis and roadmap for policy engagement.
- The approach presented in this paper is the outcome of detailed design for comprehensive goat development. The approach is based on the findings from UP, Bihar and Odisha and may be adapted as per the requirements of specific states.
Component -1
Enhanced goat production and productivity through cluster development

Objectives:
(a) to improve livelihood of goat keepers;
(b) to improve goat productivity and management;
(c) to encourage and facilitate the emergence of commercially-oriented goat keepers.

Implementation:
- Developing and Strengthening Goat Clusters with well established backward and forward linkages
- Establish Formal Producer Groups: Mobilise Goat Keepers and organize them into Producer Groups which can be institutionalized as SHG Federations, Producer Companies or Cooperatives
- Ensure Access to Health Services: Develop linkages with health service providers through CAHWs for extension and preventive care and Veterinary doctors for curative care to impact mortality and morbidity
APPROACH TO ACHIEVING THE VISION TARGETS

Component 2 - Value chains and business development

Objectives:
- To support the development of value chains related to goats’ by-products such as milk, meat and skin;
- To support the implementation of sustainable backward and forward linkages between all VC stakeholders;
- To support the improvement of market access, especially export markets in the Middle East, and diversified services (financial, business advisory, insurance etc.)

Implementation to Support Business Development at all Levels in the Chain:

- Extend required support training to development of commercial farms for breeding stock, meat and milk
- Entrepreneurs engaged in setting up veterinary clinics
- Investments in Modernization of traditional butchers.
- Entrepreneurs investing in processing of goat meat/milk products.
- FPOS investing in marketing and aggregation centers
- Investments in state-of-the-art modern Abattoirs meeting international quality norms.
- Private players investing in ensuring supply of vaccines/medicines
- Investments in packaged/branded feed for the goat
- Large Scale investments in developing cold chain infrastructure, air cargo logistics,
- SEZ Hubs can also be undertaken through FDI to benefit from technical knowhow and international capital investments.

The 4P APPROACH: Public-Private-Producer-Partnership

- A 4P arrangement ensures that smallholder producers are respected partners and not relegated to the receiving end of public-private partnerships (PPPs).
- Possible private investments under 4P arrangements might include construction or expansion of slaughterhouses along with the development of meat/milk processing units, developing breeding farms, modernization of butcheries, setting up private veterinary clinics.
- Public investments might include the construction of Goat Mandi - gathering and selling points for livestock fully equipped with sheds, water and electricity, vet facilities, loading and unloading facilities.
- These Mandis will be under the local authorities’ responsibility and can be either privately or publicly managed.
Component 3 - Policy and Support to Institutions

Objectives:

- To create a conducive policy environment for VC stakeholders.
- To assist partnering institutions to develop products and services that match VC stakeholders’ needs and requirements.

Implementation of Policy Formulation and Support to Institutions

- **Developing a Comprehensive Policy for the Goat Sector**: Formulating National and state level policy covering all aspects -breed development, recognition to CAHWS, extension policy, disease mapping and reporting along with disease control, marketing regulations, legal framework for registration of FPOs, food quality and safety regulations along with strong implementation of the policies.

- **Capacity building at all levels in the value chain**: training to farmers, FPOs; service providers on production practices, training on clean meat production for meat shops, training to entrepreneurs for processing of value added meat and milk products, training to NGO partners on Value Chain Development.

- **Institutional support**: Financial Inclusion, Value Chain Financing to support investments in modern infrastructure.

- **Public Investments**:
  - Developing Marketing Infrastructure and market information systems.
  - Schemes and model to provide incentives system to encourage investment.
  - Investments in scaling up of identified models.
Component 4 - Support Research and Innovation

Objectives:

- To further improve goat productivity and production through innovative practices adopted by producers and disseminated through adequate information and extension channels.

Implementation

**Technical Research and Innovation**

- Provide sound research and technical input for implementing activities throughout the goat value chain
- Innovative technologies for breed upgradation
- Cold Chain Management of Vaccines
- Developing Technical training modules
- Improved Management Practices
- Issues related to Meat Quality in Meat Value Chain
- Food Technology related input for developing meat and milk products

**Technical Research and Innovation**

- Impact Evaluation of implementation of various activities
- Marketing models
- Innovative models from global experiences
- Consumer Preferences
WAY FORWARD

The goat sector has the potential to be a vibrant sector demonstrating robust and dynamic growth moving away from the traditional low growth path evolution. This dynamic growth cannot be achieved without focused efforts of many stakeholders influencing the sector - state and national governments, multi-lateral agencies, private investors, agribusiness firms, NGOs, financial institutions, research institutes, along with producers and producer groups.

- First and foremost a comprehensive policy framework addressing all aspects of the sector is critical to guide the direction of the growth of the sector. The direction of the National Policy will guide the formulation of state level policies. Policies along with supporting institutional framework will form the basis for the growth of the sector. A strong action plan with specific roles and responsibilities, investments by various stakeholders along with targeted approach will guide the implementation of the policy.

- The government investments will focus on creating an enabling environment for the development of the sector with focus on basic infrastructure, developing policies and providing a regulatory framework along with providing incentives and required support for private sector investments.

- Investments by national and Multi-lateral development agencies will focus on specific projects for goat sector development while also piloting innovative approaches which can be further up-scaled.

- Investments by Private entrepreneurs and agribusinesses will provide support to the growth of the sector by providing the required services along with marketing of products.

- All of which will contribute to a strong producer base while supporting producer collectives and commercial farms

- In the immediate steps, implementing comprehensive projects focusing on the goat sector development will pave the way for scaling up such initiatives based on impact assessment and learning lessons.
Credits

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