

Small Ruminant Rearing

Product Markets, Opportunities and Constraints



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SOUTH ASIA
Pro Poor Livestock Policy Programme

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यह बकरी का जो व्यापार हैं -

कभी खूब घना

कभी मुट्ठी भर चना

और कभी वोह भी मना

Jainul Aabedin, West Bengal

“Yeh bakri ka jo vyaapar hain –

Kabhi khoob ghana

Kabhi mutthi bhar chanaa

Aur kabhi who bhi manaa”

This business of goats –

Sometimes it flourishes

Sometimes it yields only a handful of chickpeas

And sometimes even that is denied

This report has been developed by Varsha Mehta, Freelance Consultant working with SA PPLPP, and is based on information gathered from extensive field visits and discussions with practitioners and small ruminants rearing communities in various states of the country.

Photo credits: Varsha Mehta

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Varsha Mehta



Contents

<i>Executive Summary</i>	<i>Page 1</i>
<i>Chapter 1: Introduction</i>	<i>Page 7</i>
<i>Chapter 2: Livestock Ownership</i>	<i>Page 9</i>
<i>Chapter 3: The Meat Industry</i>	<i>Page 11</i>
<i>Chapter 4: The Leather Industry</i>	<i>Page 35</i>
<i>Chapter 5: The Wool Industry</i>	<i>Page 43</i>
<i>Chapter 6: Policy Issues and Recommendations</i>	<i>Page 52</i>
<i>References</i>	<i>Page 58</i>
<i>Annexure 1</i>	<i>Page 59</i>
<i>Annexure 2</i>	<i>Page 61</i>
<i>Annexure 3</i>	<i>Page 65</i>
<i>Abbreviations</i>	<i>Page 66</i>



Executive Summary

Objectives

This report, commissioned by the South Asia Pro-Poor Livestock Policy Programme (SA PPLPP), aims to place the economic context of small ruminant rearing within broader policy and institutional frameworks, and studies the value chains of goat and sheep meat, goat and sheep skin, and sheep wool. The study also documents some of the approaches and practices on small ruminant rearing submitted in response to SAPPLPP's call for the same. The objective of the study was "the analysis and documentation of approaches and practices related to market prospects, and identification of opportunities for facilitating access of small-holder livestock owners to more remunerative markets."

Methodology

Over a six-month period (November 2010—April 2011), the researcher gathered information and evidence for constructing value chains for meat, leather and wool, important products of the sector. As part of the assignment, rearing sites, district-level markets, terminal markets, manufacturing units and concerned institutions across the country were visited for field research, validation and documentation of good practices and approaches. Interviews were conducted with the entire range of stakeholders in the market channels for the three products. At the same time, the policy and institutional context within which these transactions occur were studied and analyzed, with the objective of identifying possibilities for enhancing the income of producers and rearers from the trade.

Limitations

For a national-level study requiring research and analysis of markets, policies and institutions, the time allocated for the study was too short. A major limitation of the study was that the market study component was not adequately supported by field personnel, and there was limited scope for triangulation and validation of the data and information collected. However, the policy implications being more relevant than the statistics, for the purpose of this study, the need for accuracy in figures was not over-emphasized.

Findings

Sheep and goat ownership

With 15% of the world's goat population and 6% of its sheep, India is among the highest livestock holding countries in the world. As of 2009, its estimated sheep and goat population was 191.7 million, comprising 10% of the world total. In the country, 70% of the goat population is found in the seven states of West Bengal, Rajasthan, Uttar Pradesh, Maharashtra, Bihar, Tamil Nadu and Madhya Pradesh. Similarly, 72% of the sheep population is concentrated in the four states of Andhra Pradesh, Rajasthan, Karnataka and Tamil Nadu.

Although there has been a rise in the total number of ovines in the country, the average ovine stock has fallen by about 25%, from 85 to 64 per 100 households between 1991–92 and 2002–03. On an average, 15% of households in rural areas reported ownership of goat/sheep across the country. *Around 70% of the goat and sheep in the country are reared by small and marginal farmers and landless labourers.* Evidently, the ownership and distribution of small ruminants in the country is more equitable than that of land resources.

The meat industry

Over two decades, between 1990 and 2009, India's production of goat and sheep meat increased by 17.5%, from 0.6 to 0.7 million tonnes, as compared to the increase in world production by 26%. Despite its high livestock population, the market for meat and meat products in India is relatively small, with the emphasis historically having been on the production of milk, eggs and wool. A 2008 study reports that 33% of the sheep and 38% of the goat population is culled for meat in the country. An FAO estimate suggests that 718,560 MT of goat and sheep meat was produced in the country in 2009, of which two-third was goat meat; this constituted 6% of the world's chevon and mutton production.

The per capita meat consumption in India is estimated at 5.5 kg per year, which is about 50% of that recommended by the Indian Council of Medical Research (ICMR). Among the reasons for this are

vegetarianism (an estimated 20–30% of the population is vegetarian), un-affordability and a preference for low-protein, high-carbohydrate diets.

Very little of the meat consumed in India is pre-processed. An estimate of the Ministry of Food Processing Industries (MoFPI) suggests that the level of processing of meat in India is just about 6%, which includes pork and beef. The meat market is predominantly a wet market, with consumers preferring fresh meat as against frozen.

There is little processing or value-addition that takes place in the chain from goat/sheep rearers to the end user; the actors in the chain gain simply through economies of scale, the economics of market location and credit-based market dynamics, which necessitate the presence of brokers and guarantors. Although multiple products are obtained from sheep and goat, the value of this is not reflected in the price of live animals obtained by shepherds and rearers. There is wide variation in the prices obtained by the rearers at different locations and in different seasons. The returns to the rearers are further diminished in cases where they borrow money from the traders or their agents.

Village markets for livestock are the most accessible to breeders and rearers, and they also happen to be the most under-developed and unregulated. Lack of infrastructure notwithstanding, village markets are considered the most level playing field for negotiations between the rearers and the traders, who purchase animals from them. As distances from the place of rearing increase, the rearer/shepherd's bargaining power also diminishes, to the extent that one seldom finds any rearer or shepherd at district or terminal markets. At the terminal markets (except in Kolkata), transactions are negotiated only through commission agents, which makes them central players in the meat trade and industry.

At the same time, whereas transactions are transparent and in cash at the village and district markets, they become less transparent and more codified at the terminal market, where a third stakeholder (the commission agent) enters the scene to negotiate on behalf of the buyer/seller, and bear guarantee for credit purchases (by institutional buyers). In addition, a range of other stakeholders and service providers also materialize to facilitate trade at the terminal market; these include (for example, in Deonar, Mumbai), the *gawaal* (caretaker), the *daawan* (one who waters and feeds the animals), the *halkari* (two types—one for escorting animals to the slaughterhouse and one for wrapping carcasses in cloth for export), the *bhusewala* (seller of fodder) and the slaughter contractor.

Although rearing of animals is often the primary responsibility of women (except for migrating herds), the markets for small ruminants are almost exclusively dominated by men.

Shepherds and rearers in Rajasthan estimate their returns as ranging from Rs 100–150 per day, depending on herd size, village/market location, and incidence of morbidity/mortality in a given year. According to this study, the average annual return per animal in Tumkur district of Karnataka is estimated to be Rs 1,100 approximately, for a herd size of 100 ewes and 4 rams. A lamb-fattening unit (with 126 lambs to begin with and 13% mortality) in the same district yields Rs 1,000 per lamb over a six-month period, with an initial investment of Rs 400,000 (Rs 300,000 received as loan). It may, therefore, be assumed that the average annual income of a goat rearer/shepherd is in the range of Rs 50,000 to 100,000.

Using very conservative estimates, the annual income of a village-based butcher in Dausa district (Rajasthan) was estimated at Rs 168,000. A town-based butcher in the same district earns Rs 200,000 approximately per annum. Traders who sell at terminal markets are expected to earn approximately Rupees one million per annum. The urban retailer's income is estimated at Rs 700,000 per annum. An agent's income ranges from 1–4% of the selling price of animals, and is received from sellers. Evidently, the returns are highest when both the volume and the risk are more, except in the case of rearers, wherein both risk and labour are the highest but returns are the poorest.

An exception to the above scenario has been demonstrated by the residents of Rasgan village in Alwar district, Rajasthan. This village, along with about 20 others in the Nawgaon block, has carved a niche for itself in the Bakr Id market. Rasgan follows a strategy of purchasing and fattening goat kids over a period of 8–12 months, targeting the lucrative Bakr Id market, and selling these directly to buyers in Deonar (Mumbai) and in Delhi. For a herd size of 10 bucks, the profit for a family ranges between Rs 25,000–35,000, over a 10 month period.

The leather industry

The leather industry plays a significant role in the Indian economy on account of its immense scope for providing employment, and its' potential for growth and exports. It employs about 2.5 million people, of which nearly 25% are women.

India produced 72 million pieces of goat skin and 33 million pieces of sheep skin in 2009 (FAO). According to the Central Leather Research Institute (CLRI), the potential availability of goat skins in India is 92.3 million pieces; however, due to non-recovery of carcasses, an estimated 15 million ovine skins were wasted (in 2003); the estimated loss on account of this was Rs 730 million.

The main production centres for leather and leather products are located in Tamil Nadu, West Bengal, Uttar Pradesh and Punjab. Tamil Nadu alone accounts for 70% of the country's tanning capacity and 40% of its leather exports.

The leather sector comprises the following:

- a. Flaying and/or collection of hides and skins from dispersed rural and urban centres
- b. Tanneries (where raw hides and skins are converted into leather)
- c. Industrial units transforming leather into a variety of consumer products

The first of these three activities is carried out in the unorganized sector and is of utmost importance to the industry, to ensure the supply of quality raw material in adequate volumes; however, this segment of the value chain has almost always been overlooked, especially in policy making and programme formulation aimed at development of the leather industry.

In the leather value chain, apart from the quality of raw material, the process of its conversion into leather and, later the design, product development and process of manufacture of products play a key role in adding value to the raw material, namely, raw hide and skin. For the procurement of skins, quality is a primary consideration. However, quality parameters are not well-defined, and considerable subjectivity is exercised by selectors in the purchase of skins; some of the criteria that were understood to play an important role include the quality of the grain pattern, the presence/absence of scars and other marks on the skin caused by injury, of flay cuts, and of skin disease, and the size and thickness of the skin. The prices in urban markets range from Rs 50–130 for one skin. However, as far as the earnings of the goat/sheep rearer go, he/she does not receive any returns for the skin because the animal is sold purely on the basis of visual estimation of its weight, with no consideration for the potential returns from the sale of skin.

The cost of procurement of skins, salting and storage of cured skins is estimated at between Rs 3 and 8 per piece, depending on the market location (which has a bearing on the cost of transportation) and the cost of labour. A majority of the agents, who procure sheep and goat skin, process it up to the wet blue stage only, after which it is sold in lots to industrial units located mostly in Chennai, and other towns of Tamil Nadu, where it is further processed. On an average, the cost of wet blue tanning of sheep and goat skin is in the range of Rs 15 to 20 per piece (from raw to wet blue). Thereafter, the costs incurred and value added depends on the nature of processing undertaken and the type of product manufactured.

The wool industry

Small and scattered, the Indian wool industry accounts for about 1.8% of the world production of wool. The total number of persons employed in the wool industry and sheep rearing in the rural sector of the country is estimated at 2.7 million approximately, with 1.2 million being associated with sheep rearing activities; a large majority of them comprise marginalized households.

The salient characteristics of sheep rearing in India are a dependence on self and family surplus labour, zero input sheep farming, extensive range management system and sustainable output management. India ranks sixth in the world sheep population and seventh in wool production. The total production of wool in India was approximately 45 million kg per annum in 2005–06 and has reached a plateau since then, having declined by about 10% over the last decade. Productivity of wool is relatively low in the country as compared with the world average; as against about 3.5 kg/sheep per year in the world, the average for India is only 0.8 kg/sheep per year.

Based on its suitability for final use, wool is broadly classified into two types: (i) carpet grade and (ii) apparel grade. Carpet grade wool is coarse and long, with the ability to withstand abrasion loss and rough usage, whereas apparel grade wool is finer. Of the total production of raw wool in the country, 5% is estimated to be apparel grade, 85% carpet grade, and 10% coarse grade, the last being unsuitable for both apparel and carpet-making. It follows, therefore, that the demand for Indian wool today is a derived demand, arising from the demand for carpets, both in domestic and international markets, the role of the latter being more pronounced.

In Rajasthan, the first shearing is done when the lamb is about six months old, and although lamb wool is of finer quality, shepherds do not sell it separately because of its availability in very small quantities. When sheep are sheared twice a year, the average wool yield per shearing ranges from 500 to 1,000 gm. Male sheep tend to produce slightly more wool than female sheep. Shepherds who borrow from commission agents are bound to sell their wool to them, which means that they forego the higher returns that could possibly accrue from an open auction in the market. Further, they are also required to pay an interest of 2% per month on the outstanding loan. These factors further diminish the already poor returns that accrue to shepherds.

The market price of wool (white, Chaitu variety from the Uttarda belt in Rajasthan, which is considered to be of the best quality) at the time of the study was between Rs 150 and 180 per kg. The lowest price (from the Jaisalmer patta region) was Rs 90–110 per kg. The price difference between washed and unwashed wool was found to be in the range of 6–25%, depending on the degree of impurities and organic matter contained in the wool.

At the Bikaner wool *mandi*, the largest market for wool in Asia, sales transactions are undertaken through licensed commission agents. The sales are conducted through an open auction, with buyers calling out their offers for the entire lot on a *maund* (40 kg) basis. A 2% commission is charged by the agent from the sellers. A 1.6% fee is also charged from the buyer, which goes towards payment of the *mandi* fee.

The wool-to-yarn conversion ratio is between 65 and 90%, depending on the quality of raw material. The value added at this stage is difficult to estimate on account of the multitude of possible permutations and combinations in the usage of raw material because all or most of the yarn being manufactured is of the blended variety, with varying proportions of imported and indigenous wool.

In Himachal Pradesh, the average wool production per sheep ranges from 1.5–2.0 kg per year, and the market price of the wool is Rs 80–90 per kg. Apart from a small quantity that is used for local value addition for self-use, almost all of the wool is procured by the HP Wool Marketing Federation, without any grade differentiation.

In southern India, the wool of the Deccani sheep is valued for weaving the *gongadi* (*kambali* in Karnataka), a traditional multi-purpose blanket with a coarse texture. On account of declining institutional and government purchases, the market for the *gongadi* has all but collapsed. The market price of wool used for making the *gongadi* has also seen a sharp fall, with black wool (most highly priced) fetching Rs 10 per kg and all other colours Rs 6 per kg.

Policy issues and recommendations

In the macro policy landscape, the single-minded pursuit of agriculture enhancement at all costs has claimed a victim of animal husbandry; government planned and sponsored schemes for agriculture intensification through land development and irrigation have completely side-stepped the necessity for a balance in ecosystem functions, including the maintenance of a synergistic relationship between agriculture and animal husbandry. There has been a rapid loss of available lands for grazing sheep and goats, primarily on account of changing land use and property rights regimes. These changes in elements of the farming ecosystem manifest in declining land and soil productivity, greater reliance on chemical fertilizers, and a higher cost of agriculture inputs. The loss of lands for grazing has resulted in decreased flock sizes and a reduced number of shepherds.

Meat trade—unorganized and unregulated

There are an estimated 25,000 unauthorized slaughter locations, as against 4,000 registered slaughterhouses in the country. There is a multiplicity of entities for licensing, regulation and quality

control in the meat processing and the exports sector, including in the establishment and management of facilities such as slaughterhouses, and, yet, the mechanisms for regulation are ineffectual and the institutions are largely under-resourced.

Despite the meat market being a predominantly wet market, there is complete lack of knowledge of and adherence to food safety standards and regulations. Unlike the Hazard Analysis and Critical Control Points (HACCP) and Good Manufacturing Practice (GMP) standards that are followed for the export of carcasses, no such regulations are found to be in practice for the domestic meat market.

An intermediaries' market

Livestock markets are structured in favour of intermediaries, to the *disadvantage of the consumer, rearer and the by-products market*. A large part of the consumer's costs are on account of inefficient systems, costs of transportation and inefficient handling of operations related to goat/sheep sale and slaughter, resulting in losses and inefficient utilization of the industry by-products. The operational focus on meat, to the exclusion of all other by-products obtained from small ruminants, manifests in poor price realization for the rearer.

There are invisible barriers to the entry of new players in the market, with the existence of robust networks of agents and strong resistance to government attempts to introduce change.

Poor value addition along the value chain

Transactions in the livestock trade are non-standardized and one comes across numerous unfair trade practices because of the ad-hoc nature of the market, which is almost completely unregulated by any policy or agency of the government, especially in areas closer to the field (the production base). In the meat industry, the gains of the intermediaries are on account of economies of scale, market location and market dynamics. It is only at the point of sale that the animal is slaughtered, converted to meat and the meat sold by weight.

By-product utilization

Except where the operations have been modernized and mechanized, there is a lot of wastage, inefficient by-product collection and sub-optimal utilization of offals. Even in mechanized slaughterhouses, the use of by-products collected continues to be poor. In order to enhance the returns to small ruminant rearers, systematic and efficient collection and development of by-products from the meat industry needs to be undertaken.

Slaughterhouses at the district level

By bringing the market closer to the production base, it would be possible to address a number of issues and problems that seem to plague efficient operations in the meat industry. Long distances between the production base and the end consumer also mean that producers have to engage with intermediaries at multiple levels along the channel, which often results in their harassment, exploitation and/or poor returns. If livestock trade centres could be developed at the district level, these would become more accessible to the producers. The cost of transportation of live animals would also fall because of shorter distances, reducing mortality and improving pre-slaughter animal conditions, resulting in improved quality of meat for the consumer. The cost of transporting meat in temperature-regulated vehicles would be offset by the savings on the transportation of live animals, as well as the possibility of carrying more quantity in a packaged form.

Raw material supply issues in the leather industry

Many of the problems that affect the availability of raw material and have serious implications for export performance and quality in the sector are linked to the methods of procurement of raw hides and skins, and of flaying and curing. Losses from putrefaction and quality issues in the supply of raw material could possibly be addressed through workers' collectives, established close to the source of production.

Of the total employment provided by different segments of the leather industry, the share of 'flaying, curing and carcass recovery' alone is 45%; however, this segment continues to remain neglected in the policy domain.

Loss of grazing lands and reduced flock size

The entire production system that supports the indigenous wool industry is crippled on account of loss of grazing lands and decreased flock sizes.

Rising costs and shrinking wool markets

Wool procurement prices have either remained static or declined over the past two decades, primarily on account of the opening up of markets and low import duties/tariffs. Since the changes in import policies and licenses for wool have taken effect, the markets have been flooded with products made of imported wool, both shoddy and superior. The costs incurred by shepherds in sheep rearing and shearing of wool have steadily been rising; however, this is not matched by a corresponding rise in returns from wool, making sheep rearing for wool production a less preferred option.

Introduction

With the objective of documenting approaches and practices related to small ruminant rearing, the SA PPLPP¹ had issued a public call for small ruminant rearing practices and approaches in 2010. In response to this, information was received from 31 organizations (including government programmes) on interventions across the country promoting small ruminant rearing. These approaches were categorized into six sections (reference Annexure 1), including a section on opportunities, value addition and facilitating access to remunerative markets for small ruminant products (such as meat and wool). In addition, this section also focuses on the detailing of the value chain of meat, leather and wool.

The study was carried out over a six month period (November 2010–April 2011), and its objective was “the study, analysis and documentation of approaches and practices related to market prospects, and identification of opportunities for facilitating access of small-holder livestock owners to (more) remunerative markets.” The specific objectives of the study included:

- Secondary research—establish the macro market picture vis-à-vis small ruminant rearers, including analyses and documentation of the policy and institutional environment
- Documentation of approaches and practices submitted in response to the SA PPLPP call for approaches and practices on small ruminant rearing.
- Value chain studies for goat and sheep meat, sheep wool, and goat and sheep skin

Methodology

The methodology followed in mapping the markets and value chain analysis included:

1. Secondary research to identify major production and market centres based on:

- (i) Livestock (sheep and goat) population
- (ii) State-wise production statistics for products under study (primarily, meat and wool)
- (iii) Presence of traders/commission agents/processing units/physical market places (market infrastructure)

Further, secondary and internet-based research were also used to collect information on import-export trade statistics, and to help identify countries where Indian exports of meat (goat, sheep, lamb), skin (goat and kid, sheep and lamb) and sheep wool are in high demand.

The policy and legal environment that facilitates as well as constrains trade in livestock and its derived products was documented and analyzed through available literature, interviews and discussions with experts in the sector, particularly at research institutions and trade promotion agencies.

Another objective of secondary research was to review different methods used for the study of the livestock sector elsewhere, and the value chain analysis of other products in the unorganized sector, and use this information to fine-tune the methodology and approach adopted for this study.

2. Preparations for field visits

Based on a review of submitted approaches (details provided in Annexure 1) and information gleaned from secondary research, a programme for field visits was prepared and discussed with the SAPPLPP Regional Team. For every site identified for a visit, a checklist of questions/interview guide was prepared to facilitate systematic data collection and recording. Different research tools and methods were used to study markets, processing units, trade channels and value addition initiatives that have proven successful.

Once the major actors (and categories of actors/stakeholders) in the value chain were identified, the information was translated onto a map (a diagram showing the flow of both goods and income), with as much detail as possible, in terms of process(es), services, raw material, costs, volumes or quantities, quality standards or grades, labour and capital requirements, and so on. Requirements in terms of licenses, if any, were also flagged. Mapping and filling out details was an ongoing process, interspersed with (3) and (4) given here.

¹SA PPLPP is a joint initiative of the National Dairy Development Board (NDDB) and the Food and Agriculture Organisation (FAO) of the UN; it was established with the objective of facilitating and contributing to the development of pro-poor livestock policy and programme implementation.

3. Field research, validation and documentation of good practices and approach proposals received

Proposals and sites, shortlisted by the SAPPLPP Regional Team for further study and documentation, were visited, validated and documented; in addition, some other sites and organizations were also visited, to inform the value chain analysis. The following sites were covered:

- (i) Shramik Kala in Belgaum district, Karnataka
- (ii) Rasgan in Alwar district, Rajasthan
- (iii) Mahila Mandal Barmer, Agor, in Barmer district, Rajasthan
- (iv) URMUL Setu, Lunkaransar, in Bikaner district, Rajasthan
- (v) Sheep fattening units in Tumkur district, Karnataka

Further leads into market operations and policy issues were obtained through discussion/s with facilitating agencies, traders and livestock rearers. These were then followed through for collecting further information on the value chain. District-level markets at the following locations were visited:

- (i) Balaheri-Mahua in Dausa district, Rajasthan (livestock)
- (ii) Firozpur Jhirka in Haryana (livestock)
- (iii) Ludhiana and Jalandhar in Punjab (for wool and leather, respectively)
- (iv) Bikaner in Rajasthan (for wool)
- (v) Kullu in Himachal Pradesh (for wool)

Terminal markets at the following locations were visited as part of the study:

- (i) Hyderabad—Jiyaguda (livestock and meat) and Musheerabad (skins)
- (ii) New Delhi—Ghazipur (livestock and meat)
- (iii) Mumbai—Deonar (livestock and meat)
- (iv) Kolkata—Topsia/Tangra (slaughterhouse) and Narkeldanga (livestock)

Manufacturing units at the following locations were visited:

- (i) Jalandhar (leather)
- (ii) Kolkata (leather)
- (iii) Bikaner (wool)
- (iv) Kullu (wool processing)

The following offices/institutions were visited in connection with the study:

- i. National Research Centre on Meat (NRCM), Chengicherla, Hyderabad
- ii. Andhra Pradesh Sheep and Goat Development Cooperative Federation Ltd., Hyderabad
- iii. State Department of Animal Husbandry and Veterinary Services, Sira *Taluk*, Tumkur, Karnataka
- iv. Central Sheep and Wool Research Institute (CSWRI), Avikanagar in Malpura, Rajasthan
- v. Indian Leather Technologists' Association (ILTA), Kolkata
- vi. CSWRI—Regional Centre, Garsa, Himachal Pradesh
- vii. Intercooperation Delegation in India
- viii. Bhutti Weavers Co-operative Society Ltd., Kullu, Himachal Pradesh
- ix. HP State Handloom and Handicrafts Weavers Apex Co-op Society Ltd., Himbunkar, Kullu, Himachal Pradesh
- x. HP State Cooperative Wool Procurement and Marketing Federation Ltd., Palampur

4. Market visits and trade analysis

Whereas (3) entailed some market visits, additional markets and retail shops in Delhi and Hyderabad were also studied to better understand and gain a comprehensive picture of market dynamics.

Questionnaires and telephonic interviews were used for obtaining information from exporters/commission agents/traders/processors/farm owners, although the response to the mailed questionnaires was very poor.

5. Documentation

Documentation of places visited and approaches studied has been an ongoing process; case reports and data were submitted to SA PPLPP office for review intermittently; an interim report was submitted in March 2011, and the final report in August 2011. This version incorporates responses to the detailed comments received on all of the above.

Livestock ownership

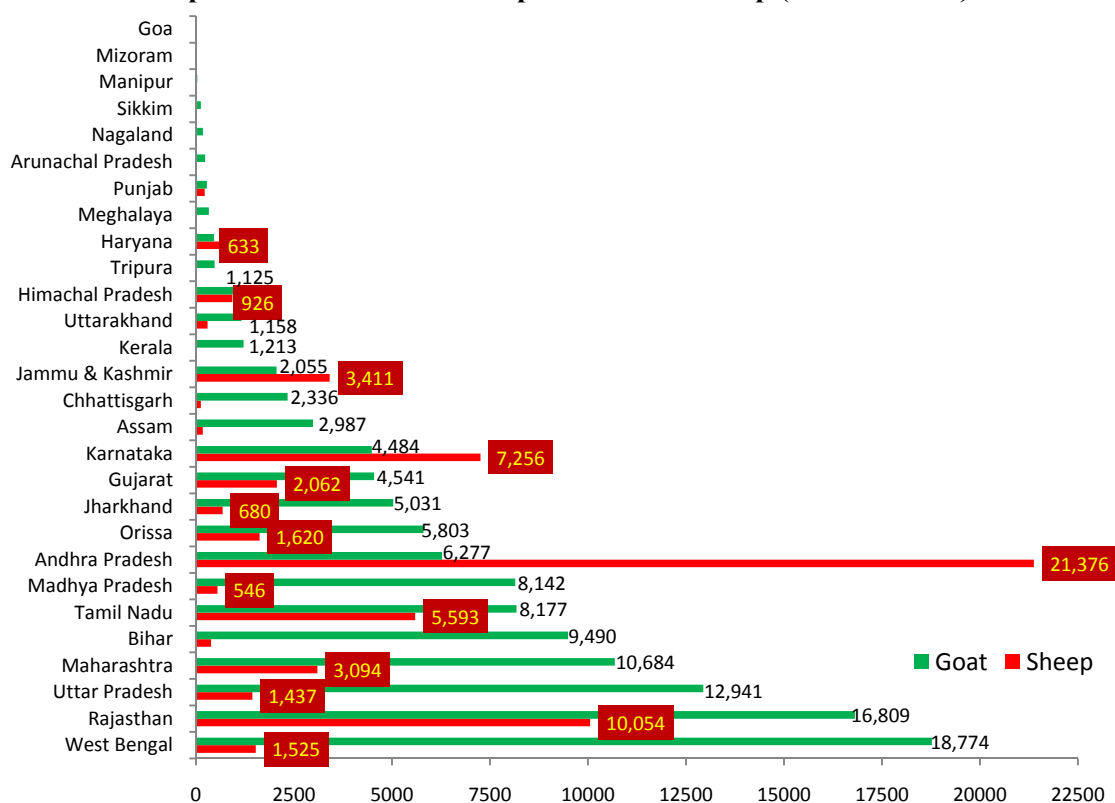
With 15% of the world's goat population and 6% of its sheep, India is among the highest livestock holding countries in the world. As of 2009, its estimated sheep and goat population was 191.7 million, comprising 10% of the world total (FAO). As per the statistics of the Department of Animal Husbandry, Dairying and Fisheries (DAHDF), the number of sheep and goat in the country in 2003 were 61.5 and 124.3 million, respectively (DAHDF, 2009).²

Goats are found across all agro-climatic zones in the country, with higher densities in irrigated eco-systems, followed by hill and mountain eco-systems. The states with the highest number of goats are West Bengal (18.8 million), Rajasthan (16.8 million), Uttar Pradesh (12.9 million), Maharashtra (10.7 million), and Bihar (9.5 million), followed closely by Tamil Nadu (8.2 million) and Madhya Pradesh (8.1 million). These seven states together own nearly 70% of the country's goat population.



On the other hand, sheep rearing is a feature of the arid and semi-arid regions of western India, the Deccan plateau and western Himalayas. Sheep ownership is the highest in Andhra Pradesh (21 million), followed by Rajasthan (10 million), Karnataka (7.2 million) and Tamil Nadu (5.6 million)—the combined sheep ownership of these four states makes up 72% of the country's total. The two states of Andhra Pradesh and Rajasthan account for more than 50%, Jammu and Kashmir has 5.5% and Maharashtra 5% of the total sheep population.

Graph 1: State-wise Ownership of Goat and Sheep ('000 numbers)



Although there has been a rise in the total number of ovines in the country, the average ovine stock has fallen by about 25%, from 85 to 64 per 100 households between 1991–92 and 2002–03. The average ovine stock in Rajasthan, which has always been much higher than in other large states, has suffered a proportionate decline—from 391 per 100 households to 299. The average ovine holding was higher than

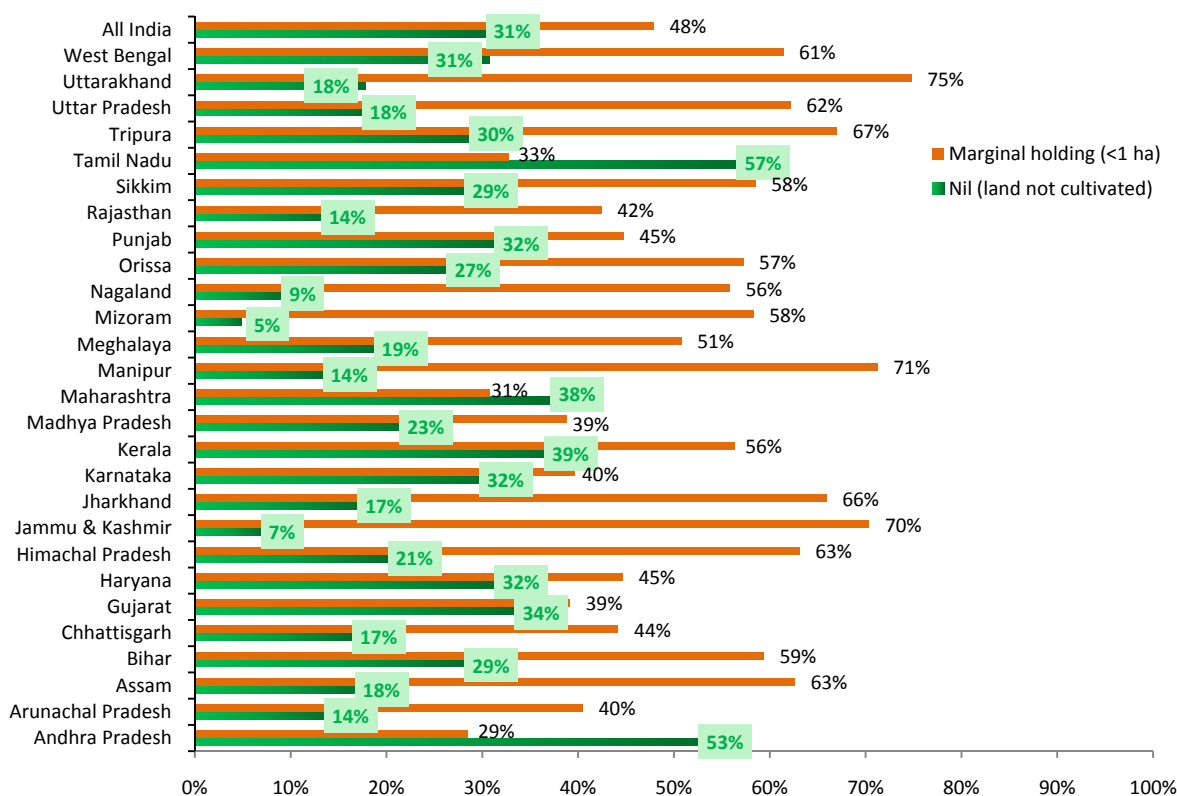
² More recent statistics of livestock census (national level) are not available.

the national average of 64 per 100 households in Himachal Pradesh (107), Jammu and Kashmir (86), Jharkhand (82), Andhra Pradesh (67) and Tamil Nadu (66). On an average, 15% of households in rural areas reported ownership of goat/sheep across the country (NSS, 2006). The animal husbandry and fisheries sector provided employment to 23.68 million people, and contributed 31.7% of the agriculture production value (output) in 2006–07.

Around 70% of the goat and sheep in the country are reared by small and marginal farmers and landless labourers (Biswas, 2010); it would be worthwhile to add here that a majority of the operational holdings in the country are marginal and small (see Graph 2 for state-wise distribution of households based on size of operational holdings in 2005–06).



Graph 2: Distribution of Households (Rural) by Size of Operational Landholding (2006)



Interestingly, the average ovine holding is lowest in those states where the standard of living in rural areas as measured by per capita consumer expenditure is highest, notably Kerala, Punjab and Haryana. According to the NSS, Land and Livestock Holdings Survey of 2003³ (59th round), it has declined to 13–14 per 100 households in Kerala and Punjab, and to 20 in Haryana.

Based on available data, it appears that the rate of increase in sheep population is greater than the goat population, with an annual 1.12% increment between 1997 and 2003; on the other hand, the goat population has increased only at the rate of 0.22% per annum during the same period. Within sheep too, there is a marked preference for crossbreds, the numbers of which have increased from 3.1 million in 1997 to 5.7 million in 2003 (10.72% growth per annum). On the other hand, the indigenous sheep population showed a very slight increase from 54.3 to 55.7 million (0.41% growth per annum) according to the 17th Livestock Census. This trend is possibly explained by the rising local market for mutton (sheep meat), and the promotion of lamb fattening schemes aimed at enhancing economic returns from sheep rearing.

³ The NSS Land and Livestock Holding Survey tables provide only combined ovine (goat and sheep) statistics.

The Meat Industry

Although India’s livestock population is one of the highest in the world (its sheep and goat population accounts for 10% of the world total), its market for meat and meat products is relatively small, with the emphasis historically having been on the production of milk, eggs and wool. A 2008 study reports that 33% of the sheep and 38% of the goat population is culled for meat in India (IBEF, undated).⁴

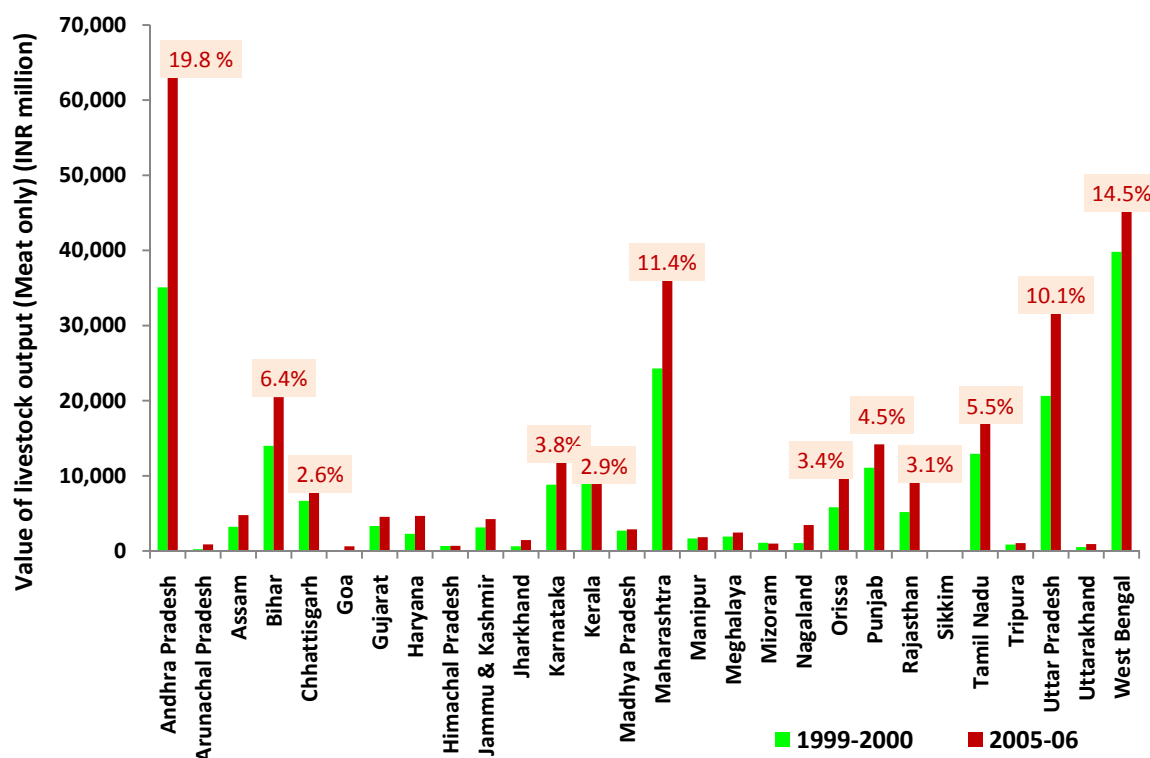
Meat production and consumption

Of the 718,560 MT of total chevon and mutton (goat and sheep meat) produced by India in 2009, the share of goat meat was 66%, and sheep meat contributed 33%; this constituted 6% of the world production (FAOSTAT, 2010).



In terms of the value of output (meat), the highest meat producing states are Andhra Pradesh, West Bengal, Maharashtra and Uttar Pradesh, in that order. These estimates are derived from the number of slaughtered and fallen (dead) animals, based on data furnished by the states to the Central Statistical Organisation. The results are, therefore, indicative of major meat markets rather than the livestock owned in these states because the major livestock trading centres (Hyderabad, Kolkata, Mumbai, Kanpur and Hapur) also attract traders from other states. Graph 3 shows the comparative picture across all the states in the country.

Graph 3: State-wise Value of Output from Livestock (Meat) 1999–2000 and 2005–06 (At Current Prices)



Percentages in the chart above indicate the proportionate value of the meat output of respective states as a percentage of the total (2005–06). A significant growth in the meat output value is seen in Rajasthan, Andhra Pradesh, Orissa and Maharashtra over the six-year period from 1999–2000 to 2005–06.

⁴<http://www.osec.ch>

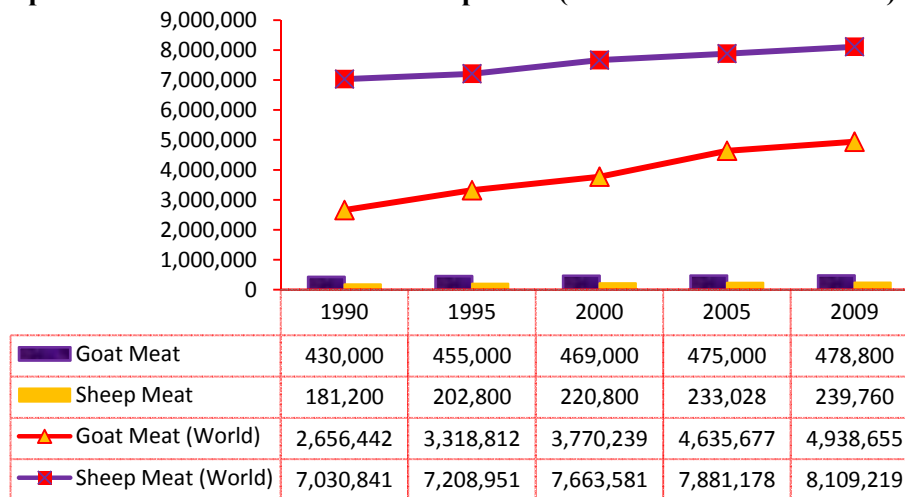


Over two decades, between 1990 and 2009, the world production of goat and sheep meat has increased by 26%. During this period, India's production increased by 17.5%, from 0.6 to 0.7 million tonnes; at the same time, the share of sheep meat in total production increased from 30 to 33%. However, sheep meat production from India remains a static 3% of the total world production, and the share of goat meat produced has declined from 16% in 1990 to 10% in 2009 (ibid., 2010).

Graph 4 shows the trend in goat and sheep meat production in India vis-à-vis the world. In India, unlike the rest of the world, the production of goat meat has historically been

higher than sheep meat, as may be observed, but the gap between the two is diminishing.

Graph 4: Production of Goat and Sheep Meat (India Vis-à-vis the World)



Meat consumption varies greatly by region and socio-economic status. In the developing world, people eat about 30 kg of meat a year. But consumers in the industrial world eat more than 80 kg per person each year (Halweil, 2008). In India, the per capita consumption of meat is far below the international average of 46.6 kg per annum⁵ (2007); among the reasons for this are vegetarianism (an estimated 20–30% of the population is vegetarian), unaffordability, and a preference for low protein-high carbohydrate diets (the share of eggs, fish and meat in the total protein intake is only 4% in rural and 5.5% in urban areas). The per capita meat consumption in India is estimated at 5.5 kg per year, which is about 50% of that recommended by the ICMR. Nevertheless, changing lifestyles and food patterns are also becoming evident, with a shift from the dominance of cereals/pulses to fruits, vegetables, processed foods, meat and meat products.

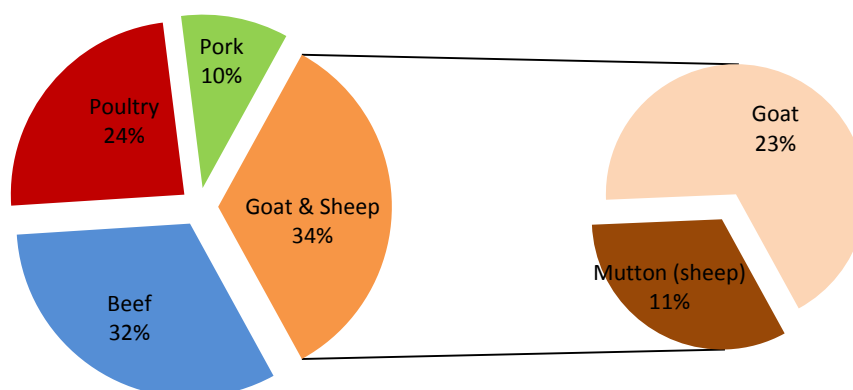


Sheep and goat meat production in the country has remained relatively stagnant and the supply has failed to keep pace with the increasing demand. As a result, goat and sheep meat are the most expensive meat among all categories (buffalo, sheep, goat and poultry). The prices of goat and sheep meat in Delhi range from Rs 260/280 and Rs 280/300 per kg, as compared with poultry, which averages Rs 150 per kg.

⁵<http://chartsbin.com/view/bhy> for country-wise meat consumption statistics; as per these FAO statistics (2007 data), the per capita meat consumption in India was 3.26 kg per annum.

Goat meat appears to be the most preferred meat in the country, and also the most expensive. It constituted 23% of the total meat produced in the recognized sector/registered slaughterhouses in the country in 2005–06.⁶

Graph 5: Meat Production in India (Category-wise Share) 2005–06



Processing and value addition

The processing of meat is licensed under the Meat Food Products Order (MFPO), 1973. The level of processing of meat in India is just about 6% of the total meat produced (MOFPI), with the Indian consumer preferring fresh meat over processed/frozen varieties; a large part of the processed meat, including buffalo meat,⁷ caters to the export market.

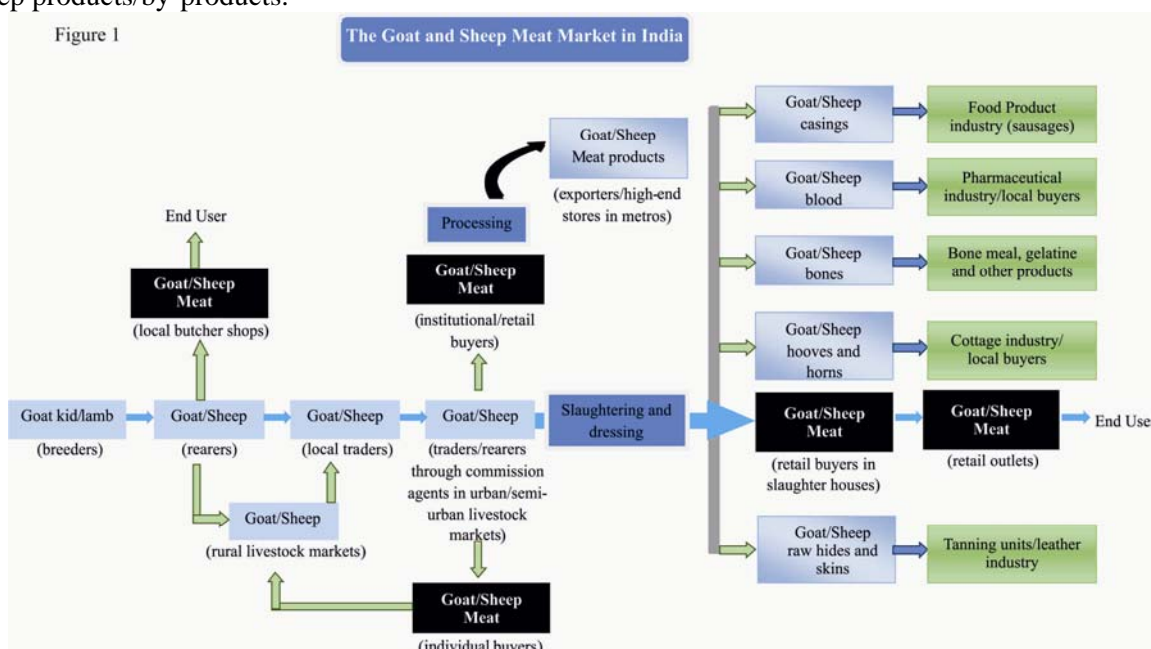
Slaughterhouses in the Country

Government	Cooperative	Private	Unrecognized [#]
1,105	9	917	273

(Source: Advisory Committee on Animal Husbandry and Dairying, Planning Commission, 2009)

[#] Slaughterhouses without a valid license

Multiple products are obtained from sheep and goat, the value of which is not reflected in the price of live animals obtained by shepherds and farmers. Figure 1 represents the products and markets of goat and sheep products/by-products.

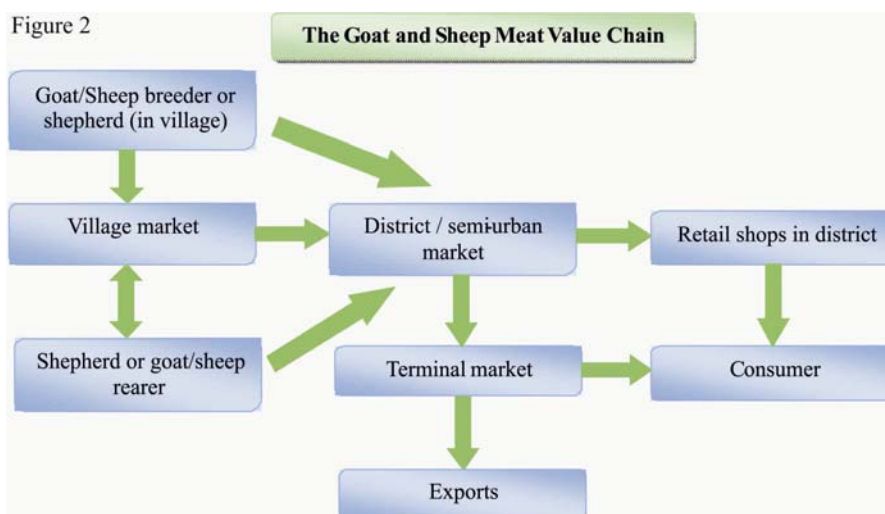


⁶However, a significant proportion of animals, particularly goat and sheep, are slaughtered in unregistered/unlicensed slaughterhouses.

⁷Buffalo meat is processed to the extent of 21%.

It may be observed that there is little processing or value-addition happening in the chain from goat/sheep rearers to the end user; the actors in the chain gain simply through the economies of scale and the economics of market location.

The value chain for meat, indicating the stakeholders at each node and their relative profit margins, is as shown in Figure 2 and in the following paragraphs.



1. Goat breeder/Shepherd in village

The goat/sheep breeder is often synonymous or interchangeable with the goat/sheep rearer, especially in the case of animals raised for the regular meat market (as distinct from animals raised for the Bakr Id market/for sacrificial purposes).

The breeder is assisted by the entire family in the upkeep and care of his flock. Other than the cost of labour involved in grazing and rearing ewes and does, there are few other costs. Even in areas serviced by NGOs and state animal husbandry departments, de-worming and vaccination are carried out regularly only by a small percentage of all goat rearers/shepherds, and this is ascribed to be a reason for the high mortality rates among lambs/kids. In some locations visited, particularly in Rajasthan, the mortality rate is as high as 40–50%. The monsoon season is also a period when the lamb/kid/adult goat and sheep mortality is very high, mainly because of lack of appropriate housing for animals and the higher incidence of disease during this period.

Shepherds and rearers tend to perceive lambs and kids as a source of instant/ready cash, and often dispose of their ‘assets’ in emergencies to meet their requirements of cash income. For a 3–4-month-old lamb/kid of breeds raised for the regular meat market, the sale price at the local village market in Rajasthan is between Rs 500 and Rs 1,000, depending on size, appearance, time of sale, weight and location.



Very often, shepherds sell their animals to goat traders (called *khatiks* in Rajasthan) in the village. Traders, retailers and commission agents keep doing the rounds of villages, scouting for animals to purchase, and being on the lookout for shepherds/goat rearers in need of cash advances, in an attempt to secure future supplies. A majority of the butchers belong either to the Khatik (Hindu) or Qassab/Qureshi (Muslim) communities; however, among the traders and commission agents, one also comes across other castes.

Andhra Pradesh—Medak

The following is based on interactions with shepherds in the Gudam Gadda village of Medak district. A herd of sheep, numbering between 50 and 60, produces about 30–40 surviving lambs a year (approximately 60–70% survival). Of these, 50% may be female (which are retained for increasing flock size) and the remaining 50% (male lambs) are sold off anytime between 4 months and 1 year of age.

Price realized from the sale of lambs

- At 2.5 months: Rs 1,000–1,200 (4 kg)
- At 6 months: Rs 1,500–1,600 (8–9 kg)
- At 8 months: Rs 2,000–2,200 (10–12 kg)

Adult sheep (7–8 years old) are sold off to butchers for Rs 1,500–2,000 on an average. The skin is purchased from the butchers by the *Tolulu* community (*tolu* means hide/skin, and *tolulu* refers to animal hide workers) at prices varying from Rs 80–120 per piece, depending on the size and quality of the skin. Young lamb skin sell for Rs 30–40 apiece.

Karnataka—Tumkur

In Udanna Chikkana Hatti (UC Hatti) village, in Sira *Taluk*, Tumkur district, 26 of the 35 village households are of shepherds (Gollas). Together, they own ~4,000 sheep and goats (125 goats, the rest are all sheep). Barring four families, all the rest migrate for nearly six months in a year (mid-December to July). Most migrate to Bangalore, Mysore and Asan, travelling up to distances of 200 km from the village. Usually, 6–7 families travel together with their herds, carrying a month's ration with them. Along the way, they pen their sheep on farmlands, in return for which they receive rice/ragi and some cash income (500 sheep on an acre overnight will fetch 50 kg of rice/ragi, or Rs 250–500 cash, or a part of both). On an average, shepherds are able to negotiate deals for penning animals in farmlands for 20–22 days in a month.

Based on discussions with farmers, it was learnt that agriculture yield increases >100% in fields that have been manured by sheep dung and urine.

Estimate of the Annual Income of a Shepherd from a Herd Comprising 100 Ewes (Tumkur District, Karnataka)

Income Source	Assumptions and Particulars	Amount Per Annum (Rs)
Manure (during stay in village)	100 sheep over 6 months will produce 5 tonnes of manure. Sold at Rs 7,000 per tonne	35,000
Manure (during migration)	Shepherds are able to negotiate deals with farmers for 20 nights/month for 6 months. Estimated (monetized) income per night is Rs 400.	48,000
Wool	Although ~20 kg of wool is produced from 100 sheep per shearing, this is not sold for lack of a market (for the coarse quality wool produced by these sheep). On the other hand, shearing costs Rs 8 per sheep, and needs to be done twice a year.	(1,600)
Lambs	100 ewes produce around 80 lambs a year; the average mortality is about 10%; thus, 72 lambs survive, of which 50% are males. Female lambs are retained to increase the flock size whereas male lambs are sold off at 4–6 months for Rs 2,000–2,500 each.	81,000
Sheep	Adult/aged sheep are replaced @ 20% every year 20 adult sheep sold @ Rs 2,000 each	40,000
Total gross income in a year (Rs)		202,400

For the same herd, it is estimated that the total annual expenses would be in the range of Rs 90,000 approximately.

Labour cost (1.5 persons @ Rs 100 per person per day for 365 days)	54,750
Cost of vaccines and medicines (Rs 30 per animal; 100 ewes + 4 rams + 72 lambs)	5,280
Supplemental feed and other miscellaneous costs (<i>ad hoc</i>)	30,000
Total costs per annum (Rs)	90,030

Accordingly, the net annual income is Rs 112,370 and the net income per animal is Rs 1,080.

In a slightly dated study, estimates made at the Central Arid Zone Research Institute (CAZRI), Jodhpur, indicated that a good indigenous goat may provide Rs 250 per year to a small farmer, besides 2 quintals of manure and benefits of clearing obnoxious weeds and thorny bushes (Ghosh and Khan, 1980, cited in Karim et al (eds.), 2008).

A relatively recent trend, observed particularly in Karnataka and Andhra Pradesh, is of commercial goat/sheep breeding and rearing on sheep farms, fuelled in part by financial assistance from banks such as NABARD. This form of intensive management is, however, seen only in the exclusively commercial sector.

Case Study: Eeranna's lamb fattening unit

Eeranna belongs to the Yadav community of Karnataka, officially classified as an OBC category. The Yadavs are the traditional goat and sheep rearing community of south Karnataka. There are five members in his household, including his wife, two sons and a daughter. The family owns 2.5 acres of rain-fed agriculture land; irrigation is possible through a neighbour's leased bore well. Among the crops grown on the farm land are maize, ground nut (400 kg yield from 1.5 acres), ragi (700 kg yield from 1 acre) and horse-gram (100 kg yield, planted along the periphery of the farm). Animal assets include one buffalo, five goats and 123 lambs.

The State Animal Husbandry Department helped Eeranna obtain financial assistance in the nature of a loan of Rs 300,000 from the Cauvery Kalpatharu Grameena Bank (CKGB), of which 25% is a subsidy. His land is mortgaged with the bank in return for the loan, taken at an interest of 12% per annum. Repayment is expected to start after 6 months, and the EMI is Rs 37,000 to be paid 6-monthly for five years.

Feed regime

1. Morning: The flock is grazed in the surrounding fields for three hours every morning.
2. Afternoon:
 - a. The lambs are fed water mixed with oil cake (0.5 kg ground nut oil cake in 20 litres of clean drinking water).
 - b. This is followed by green maize and horse gram clover (approximately 20 kg of green maize and 5 kg of horse gram clover per day, for the entire flock)
3. Evening: The flock is grazed again for an hour in the neighbouring fields.
4. Nightfall:
 - a. A mix of sesbania leaves and tender shoots/stems is given (approximately 250 gm/lamb).
 - b. Drinking water is provided in troughs.



Eeranna's flock being fed on green maize and horse gram clover

Cost-benefit analysis

Of the 126 lambs purchased initially, three had died by the time of this study.

(Assumptions: A total of 110 lambs of the initial 126 will survive till it is time for sale; the bamboo shed is expected to have a three-year life span and, therefore, only one-third of the cost is included in the cost benefit analysis for the first year. Similarly, because the water troughs last five years, one-fifth of the cost is included in the analysis for the first year. For feed costs, because the sale of lambs will begin at the end of five months and continue for a month, the cost of feeding will range from Rs 930 (150 days) to Rs 1,116 (180 days). Further, it is assumed that mortality losses will mean that the total feed costs will not be for 126 lambs for the entire cycle. Given these factors, Rs1,000 has been taken as the approximate cost per lamb).

Cost Heads	Amount (Rs)	Cost Per Lamb Survived (Rs)	Benefits	Amount (Rs)
Initial Costs				
Construction of bamboo shed	30,000	91	Sale of lambs @ Rs 4,500 each	495,000
Steel and concrete troughs (two)	10,000	18.2	Sale of manure @ Rs 5,000/ton (4 tons)	20,000
Procurement of lambs (126 @ Rs 2,000 each)	252,000	2,000	Insurance claims recovered (16 lambs @ Rs 1,800 each)	28,800
Insurance costs	4,000	31.7	Total	543,800
Other miscellaneous expenses	5,000	45.5		
Recurrent Costs				
Feed costs @ Rs 6.2 per animal per day over 150 days	126,000	1,000		
Vaccinations and de-worming @ Rs 30 per lamb	3,780	30		
Total	430,780	3,216.4		



A profit of Rs 1,300 per lamb is estimated, not taking mortality into account; however, a net profit of Rs 113,000 is expected over a period of 6 months from the entire flock, assuming 13% mortality. This analysis does not take into consideration the subsidy or the interest payments because it tries to estimate the costs and the benefits to a farmer, who is not provided financial assistance by banks.

2. Village markets

The market most accessible to breeders and rearers is the local village market, most often held on a weekly/bi-weekly basis. It is also the most under-developed and unregulated of all markets along the value chain. Depending on its location, market management is either with the concerned Gram Panchayat or Panchayat Samiti (at the block level). This place is considered a level playing field by shepherds/rearers because they may choose not to sell their animals should the prices offered appear unreasonable, without incurring any major expenses on travel/other incidentals; usually, rearers travel to these market places on foot, even if it means walking for a couple of hours to get there.

The unit of sale here is a set of goats/sheep and individual buck/ram. Prices are offered and negotiated merely on the basis of looks and/or visual estimation of weight. Whereas goats may be sold individually, or with a kid or two, the normal practice is to sell in sets of 4–10 animals, all belonging to the same rearer; the animals may, however, belong to different age groups.

For non-descript breeds and low-milk yielding goats between 2 and 5 years of age, the market price in Rajasthan is usually in the range of Rs 2,000 to 3,000 each. The non-descript variety of goat is raised specifically for low-input meat production. Older (spent) goats are sold for lower returns, say, Rs 1,000–1,500 each. The Sirohi goat, which almost always produces two kids at each kidding, is available in the Ramgarh *Tehsil* (Dausa district, Rajasthan) for Rs 2,000–2,200 when purchased directly from goat rearers. A Sirohi buck is available for Rs 3,000–3,500. Other (non-descript breed) bucks (1.5–2 years old) are sold at Rs 3,000–3,500 each.

Milk as a by-product is also valued, especially in parts of Rajasthan where agro-climatic conditions are not particularly favourable for cattle rearing. For breeds such as the Barbari and the Batisi (both found in Rajasthan), which not only yield substantial milk but also produce good-looking kids that may be reared for the Id market, the market price of goats is upwards of Rs 3,000 each.

The ‘value added’ in rearing a lamb/goat kid has quite a wide range from Rs 800 to 3,000, depending on the breed, age of the animal at the time of purchase and sale, and the feeding/management regime followed. As a rule of thumb, goat kids reared for the Id market fetch higher returns.

Shepherds in Bikaner estimate that their average net profit is in the range of Rs 100–150 per day for a flock of 50 sheep⁸. This would mean an annual income in the range of Rs 36,000–55,000 approximately.

⁸ This was mentioned during a focused group discussion with shepherds in Bikaner district of Rajasthan. It is an estimate, and could not be corroborated with primary or secondary data.

3. Local (village) butcher shop (based on one case only, of Joharilal Khatik, Jasaunda village, Dausa district, Rajasthan)

Sales at the local butcher shop in a village are quite low, and animals are slaughtered only after ascertaining adequate demand. In a case that was studied, 2–3 animals are slaughtered a day and only twice a week. Demand is highest during the festival of Holi, when meat of up to 10 animals may be sold off during a day.



Joharilal Khatik with his buck

Particulars	Amount (Rs)
Purchase price of a buck (Sirohi); expected meat weight 12 kg	2,300
Returns from sale of meat @ Rs 220 per kg	2,640
Returns from sale of offals (head, legs, intestine) (parts of the liver and kidneys are given complimentary with the meat that is sold)	450
Returns from sale of skin (sold to the skin merchant/his agent in village)	50
Net profit	840 per buck

Annual expenses of the butcher are within Rs 500. Assuming a sale of 200 animals a year, the net profit for the village butcher is Rs 168,000 per annum.

4. District or semi-urban market

At this node in the value chain, negotiations are often skewed in favour of the traders-buyers. Sellers are mostly rearers and village-level traders, who travel quite some distance to arrive at the market, and incur costs of both transportation as well as other incidentals.



Livestock market in Firozpur Jhirka



From the visits undertaken, it is quite evident that livestock markets have not received even a fraction of the attention or investment as markets meant for other agriculture produce have. In Firozpur Jhirka (Haryana), for example, there is an uneven stretch of land that serves as the market yard; it is located along the roadside (a national highway), is devoid of

any vegetation or shade, and does not even have a boundary wall for demarcation of the site. Most of the livestock markets at the district/small town level are controlled by commission agents and contractors, who invest huge sums of money to win the bids for the management and control of these markets. In return for the same, they levy a fee on sellers (not buyers), which may be a fixed amount or a percentage



Enclosures where purchased animals are kept at the Balaheri mandi

of the selling price. The Balaheri *mandi* (in Mahua, Dausa district) is an exception to this rule, where a fee is charged from the buyers; this is probably because the market infrastructure is owned and has been developed by the Rajasthan Khatik Samaj Seva Samiti, a body of Khatiks, a community that has traditionally been involved in the rearing, trade and slaughter of domestic animals. At the same time, the infrastructure and facilities provided to both buyers and sellers in the Balaheri market are the best observed; the market yard is surrounded by a

5-ft-high boundary wall, there is a large hall for the sellers to rest, water tankers are deployed within the market, there is running water supply and water troughs for the animals to drink from, ample parking space for trucks, lairs for the buyers to stall the animals before loading them on to trucks, and so on.



Organised parking for transportation of animals at the Balaheri mandi

Sellers at the district markets include shepherds/goat rearers and small town traders/agents of contractors and commission agents. Among the buyers are butchers from towns and nearby cities, traders from cities with terminal markets, and some institutional buyers.

As at the previous stage, there are no standards for price fixation, and ‘anything goes’, as long as the buyer and seller are able to mutually agree on a price, which is a function of the market demand and supply scenario, the individuals’ (buyer and seller’s) requirements and constraints, sex, age and appearance of the animal, time of the year (prices start gaining prior to and around the time of festivals, such as Holi in north India and Dussehra in south India; also before Bakr Id), and other indeterminable factors. A thumb rule that, however, seems to be followed involves visual estimation of live weight, dressed weight being approximately 50% of the same, and offering a price about 10–20% lower than what the estimated meat weight would fetch in the market. The sellers are not as adept at estimating the meat weight, and tend to negotiate on the basis of offers that are made, asking for a sum slightly higher than the offer, but often reaching a compromise as the day progresses. Few are able to hold out in the face of the repeated low offers that the traders are prone to making.



Prospective buyer checking meat mass of a goat at Balaheri market

In general, prices are negotiated for entire lots, which may comprise 3–10 (sometimes more) similarly sized animals, all tethered together and belonging to the same seller; further, same sex animals are usually sold in a lot, even though the age of the animals may vary considerably.



Price negotiation at the Balaheri market

Female goats and sheep command lower rates than their male counterparts, except for the young ones (< 1 year old) being sold for meat, which command similar rates. Prices observed at different markets in Rajasthan are indicated below.

Selling Prices of Sheep and Goat in Balaheri on 28 March 2011

Description/Breed	Age (Estimated)	M/F	Number of Kids (if Female)	Observed Price Per Animal (Rs)
Totapari ¹ goat	2 years	Male	--	25,000 (asking price) ²
Barbari goat	2 years	Female	One kid (3 months old)	5,200 (selling price)
Totapari goat	2 years	Male	--	8,000 (selling price)
Totapari goat	2 years	Female	Two kids (3 months old)	15,000 (selling price)
Non-descript/ local breed (lot of 8 goats) (yield <1 lt milk/day, and produce 2 kids per year)	3 years	Female	0	2,025 (selling price)
Local breed (lot of 6 bucks)	4 months	Male	--	3,000 (asking price) 2,750 (buyer’s offer)
Local breed (black and white goat)	3.5 years	Female	0	2,700 (selling price)

¹ The Totapari breed is particularly sought after in these parts because of its high demand in the Bakr Id market.

² Although this was quoted by the seller as his asking price, it seemed like a gross overestimate.

Selling Price of Goats in Firozpur Jhirka (Haryana) on 25 November 2010

Description/Breed	Age (Estimated)	M/F	Number of Kids (Accompanying Female Goat)	Observed Price/Animal (Rs)
Totapari ¹ /Nagphani buck	3 months	Male	--	3,000 (asking price)
Totapari/Nagphani buck	5 months	Male	--	5,000 (asking price)
Totapari goat	6 months	Female	--	8,000 (selling price)
Totapari goat	10 years	Female	(pregnant)	7,000 (selling price)
Batiasi goat	1.5 years	Female	1 kid	5,000 (asking price)
Non-descript/local breed (lot of 6 goats)	3–4 years	Female	0	2,400 (asking price)

¹ The Totapari breed is particularly sought after in these parts because of its high demand in the Bakr Id market.

Given the large number of variables and the small size of the sample, it is not possible to arrive at a single estimate of the value added at each stage; the information provided here is anecdotal and indicative of the variations and the absence of any standards in price estimation. Nevertheless, some of the small traders, who transact regularly in Balaheri, said that their net profit margin is in the range of Rs 100–200 per animal, depending on the season of sale and whether or not it is festival time. The agent's profit at the local/district market ranges between 4 and 7% of the selling price.

Based on a systematic analysis of cost and returns from sheep farming in two districts of Rajasthan—Bikaner and Ajmer, it was estimated by Gupta et al (2010) that the average expenditure for a flock of 125 sheep was Rs 14,477, and the gross return was Rs 61,089, giving rise to a net return of Rs 46,612 annually. The net return per sheep for an average flock was Rs 287 in Ajmer and Rs 451 in Bikaner, giving rise to an aggregate average of Rs 373. The share of animal sale was nearly 74% in the gross return, followed by wool (12.7%), milk (6.7%) and manure (6.6%). There was significant difference in the net returns in Ajmer and Bikaner districts. This was constituted mainly by the difference in return obtained from live animal sales that amounted to Rs 52,698 in Bikaner but only Rs 37,733 in Ajmer. Such a big difference was mainly due to the difference in the age of disposal of lambs. In Ajmer district, the average age of the disposal of surplus lambs was about 5 months whereas it was about 12 months in Bikaner. Gupta et al (2010)

5. District butcher shop (Dausa district)

There are five *jhatka*⁹ and five *halal*¹⁰ meat shops in Dausa, the former owned by Khatiks and the latter by Muslims.

The fixed costs of running the shop are Rs 3,000 per annum (Rs 250 per month), which includes cost of equipment (wooden slab, knife, etc.) and the recurring monthly expenses are Rs 15,000 per month (rent, electricity and labour charges). Assuming a turnover of 70 animals per month, the monthly costs (fixed and recurring) per animal would be Rs 445 approximately.

Particulars	Amount (Rs)
Purchase price of a buck (from a borrower in the village) ¹ ; expected meat weight 9 kg	1,300
Expected returns from sale of meat @ Rs 240 per kg	2,160
Expected returns from sale of offals (head, legs, intestine; parts of the liver and kidneys are given complimentary with the meat that is sold)	280
Returns from the sale of skin (lower prices during summer months)	30
Gross profit	1,170
Less costs incurred (fixed and recurring as mentioned above)	445
Net profit	725

⁹ *Jhatka* is meat from an animal that has been killed by a single strike of a sword or axe to sever the head and cause instant death, with the intention of causing the animal minimal suffering.

¹⁰ *Halal* (Arabic) is a term designating any object or an action which is permissible to use or engage in, according to Islamic law. The term is used to designate food seen as permissible according to Islamic law. *Dhabihah* (ذبيحة) is the prescribed method of slaughtering all animals, excluding fish and most sea-life as per Islamic law. This method of slaughtering animals consists of using a well sharpened knife to make a swift, deep incision that cuts the front of the throat, the carotid artery, wind pipe and jugular veins but leaves the spinal cord intact. (Source: Wikipedia)

¹The butcher said that the buck was raised ‘in partnership’ with the seller, which is why it was procured for a very low price. Even assuming that Rs 500 would have been the cost incurred by him, his net profit would still be Rs 225.

Based on the above calculations and assumptions, it is estimated that the annual income of a butcher in Dausa town is Rs 200,000 approximately.

6. Terminal market

In terminal markets, animals arrive only for the purpose of slaughter. These are markets most distant from the place of production, and where one seldom finds any rearer. The functioning of these markets is far more complex than the district or village markets, with an elaborate system of licenses, transactions through commission agents, negotiation/s in coded terms and the necessity to adhere to rules and regulations that the shepherds and new entrants to the trade are not conversant with. Except for the livestock market in Kolkata, all the other places visited (Delhi, Hyderabad and Mumbai) have an integrated market-cum-slaughterhouse complex.



Livestock market in Kolkata

Sellers at terminal markets are traders from small and big towns, who have procured animals from village and semi-urban markets. Among the buyers are retailers, traders from places where there is a high demand but where such markets do not exist (as in Jammu and Kashmir), or where the demand far outstrips supply (as in Himachal Pradesh), institutional buyers and exporters.

With the exception of Kolkata, transactions are negotiated only through commission agents, which make them central players in the meat trade and industry. The agents bring to the table two commodities that are highly valued in the trade: (i) information about buyers; and (ii) the ability to risk credit on behalf of the buyers—the two being closely related. In addition, they also claim ownership over small plots of land within the market premises, which is where traders ‘stall’ their animals upon arrival. In Delhi (Ghazipur), for example, the agents are required to pay a hefty sum (Rs 10,000 per month) to the agency that is contracted by Municipal Corporation of Delhi (MCD) for maintenance of the market premises. Irrespective of the buyer’s credentials and ability to pay (a risk for which he gets paid a commission), the agent makes the full payment to the trader within a day of the sale (in Hyderabad and Mumbai; in Delhi, payments often get delayed by a week or more).

Delhi

Ghazipur *mandi* in East Delhi is the largest livestock market in north India; it meets the goat and the sheep requirements of almost the entire northern India region, viz., Jammu and Kashmir, Himachal Pradesh, Uttar Pradesh, Punjab, Haryana and Delhi. The number of trucks arriving at the *mandi* is estimated to be between 200 and 300 per day, each truck carrying 100–200 animals.

The *mandi* was established by the MCD in July 2009 and became operational from November 2009; the relocation of the sheep and goat market from Eidgah (in Old Delhi) to Ghazipur was mired in controversy, some of which is still brewing. The Supreme Court in 2005 had directed the MCD to move the Eidgah slaughterhouse to Ghazipur. The sheep and goat market is part of an Integrated Freight Complex-cum-Wholesale Market in Ghazipur, which also includes a fish market, a market for eggs and poultry, a cattle market, and various other markets.¹¹

¹¹Integrated Freight Complexes were planned by DDA at Ghazipur in East Delhi, Madanpur Khadar in South, Dwarka in South-West and Narela in North-West Delhi. It was envisaged that these market complexes would discharge functions at the regional and metropolitan levels, and prevent the unnecessary entry of vehicles into the heart of the city. However, whereas 131 ha of land had been earmarked at Ghazipur, 158 ha in Madanpur Khadar, 164 ha in Narela and 125 ha in Dwarka under the Plan, only the Ghazipur land was actually with DDA, a part of which was the MCD sanitary landfill, to be converted into a green area as per a Supreme Court directive; about 32.54 ha is currently being used as a sanitary landfill site. “The Delhi Development Authority (DDA) allotted 80 acres to MCD, but only 20 acres had been utilized to construct a modern abattoir, while the rest 60 acres is being used as sanitary landfill site where almost 4.5 million tonne garbage mass with dead animals is lying on the ground till date. The slaughterhouse is blatantly unhygienic and compromising on the health of millions of Delhites,” said



Sanitary landfill site adjacent to the Ghazipur Mandi

At barely 100 m distance from this market is the MCD sanitary landfill (solid waste dumping ground), 90ft high and with 4.5 million tonnes of garbage mass. The site receives 2,000–2,500 MT of garbage every day.

The livestock market is an integrated part of the slaughterhouse, located about 1.5 km away from the market. The market's catchment area comprises the states of Rajasthan, Gujarat, Uttar Pradesh, Haryana and Punjab. Buyers at the market comprise retailers from the Delhi/NCR region, and traders from Jammu and Kashmir (the largest buyers are from here, supplying to the army in Jammu and Kashmir), and Himachal Pradesh.

The operation and maintenance functions of the *mandi*, along with the associated slaughterhouse, have been leased out to Frigo Rifico Allana Sons (referred to as Allana henceforth) for a period of 10 years. As part of the agreement between MCD and Allana, the latter is allowed use of the slaughterhouse for its own commercial purposes for one whole shift, out of three in a day. Reportedly, the company is paying Rs 62 million annually to the MCD.

The slaughterhouse at Ghazipur (Delhi) has three sections, the details of which are as mentioned in the following table.¹² It was reported that the facility is operating at two-thirds its capacity at present.

Section	Type of Animal Slaughtered	Capacity (Number of Animals Per Shift)	Number of Animals/Day
<i>Halal</i>	Culled buffaloes—male and female	500	1,500
<i>Halal</i>	Sheep and goats—male and female	3,000	9,000
<i>Jhatka</i>	Sheep and goats—male and female	1,500	4,500
Total (all animals)		5,000	15,000

If the capacity utilization of the slaughterhouse is 66%, as reported by the Manager, MCD, posted at the abattoir, the number of sheep and goats slaughtered every day is approximately 8,900. Of these, about 60% are sheep (5,350) and 40% goats (3,550).

Market Infrastructure

Within the market yard, there are 96 concrete hutments, each one measuring 60 sq ft approximately. As the number of license holders (commission agents) using the premises is 168, the facilities are clearly inadequate; many agents have erected temporary sheds at their own cost within the premises. Pending the official allotment of the hutments by the MCD, the agents have staked claim over whichever site they could get hold of on a first-come first-serve basis. In a writ petition filed before the Supreme Court (in February 2010), the Sheep and Goats Brokers Association, has alleged that the MCD has not created adequate facilities for livestock traders despite the apex court's earlier direction of 2004/2005.¹³ It is unclear whether the necessary environmental clearances for the abattoir have been obtained from the CPCB.¹⁴

Sirajuddin Qureshi, president of the All India Jamiatul Quresh (October 2009). A 1983 DDA document on the IFC makes no reference to any plan to house the livestock market within the Ghazipur complex although eggs, poultry and fish markets are clearly mentioned.

¹² This information was provided by the Manager, MCD, stationed at the slaughterhouse. This needs to be verified as other (newspaper) reports indicate that the total capacity of the slaughterhouse is 5,000 animals/day.

¹³ A bench headed by Justice S B Sinha, however, asked the petitioners to file an intervening application on the matter because the court is already monitoring the slaughterhouse issue on the original writ petition filed by the Buffalo Traders Association.

¹⁴ The Central Pollution Control Board slapped charges against the MCD for not obtaining appropriate clearances under the environment laws; however, the MCD's contention is that the central body has nothing to do with the project, which had got all clearances under environmental law from the Delhi Pollution Control Committee (DPCC).

Agents' Network

It was understood that 249 commission agent licenses have been issued by the MCD but only 168 are active. They are members of the Delhi Sheep and Goat Brokers' Association, entry to which is probably restricted (new members are brothers/sons of existing agents); the agents are largely from in and around the capital city. The Association is registered and holds elections every three years. The next elections were due at the time of the visit (February 2011), and a 9-member working committee had been appointed in the meantime. The annual membership fee of the Association is Rs 10,000 and monthly fee is Rs 1,000.

Slaughterhouse

The construction of the much-delayed, high-tech state-of-the-art abattoir was completed by Food Processing Equipment Co. Pvt. Ltd. (FPEC) in 2008, following extended financial negotiations between the contractor and the MCD, including judicial intervention from the apex court. The construction had got mired in controversy between MCD and the contractor from 2004 when MCD abruptly decided to increase the animal-handling capacity from 2,500 per day to 5,000 per day, without an upward revision in costs. The construction of the abattoir was finally completed under direction of the Supreme Court. The slaughterhouse has been constructed at an estimated cost of Rs 1.3 billion.



Ghazipur - way to the abattoir for sheep and goats

Initially, no one was willing to undertake the operation of the slaughterhouse; therefore, the MCD approached the building contractor of FPEC. The company reluctantly agreed to start operations, and was to be paid Rs 3.5 million per month by the MCD. However, the arrangement ran into a stalemate soon after, and FPEC withdrew from the deal, citing financial losses; in 2009, the MCD renegotiated an O&M deal for the slaughterhouse and entered into a 10-year lease with Allana.

A slaughtering fee of Rs 45 per sheep/goat is charged from retailers, who have to often wait their turn for long hours in a queue.

Mumbai

Deonar Slaughterhouse and Livestock Market, sprawling over 64 acres of land is located at Deonar in suburban Mumbai.

Livestock market (sheep and goat)

The livestock market is held bi-weekly, that is, on Tuesdays and Saturdays. Approximately, between 15,000 and 20,000 animals are slaughtered every Tuesday, and the number goes up to between 25,000 and 30,000 on Saturdays (Saturday and Sunday being meat eating days for most consumers).

All trade at the market takes place only through BMC-licensed commission agents. Negotiations between the buyer and seller are effected through these commission agents, who act as the link and the guarantor between the two. The agent plays a major role in fixing prices; other than the buyer and the agent, others are unable to decipher the offer being made, which is done in a code known only to the regular players in the market. One of the characteristics of the Deonar *mandi* is that the price offer is made on the basis of a 20-animal unit, which may include different age groups and both sexes, even though the number within a lot may actually be less than 20. Further, a 5% '*kasar*' (discount) on the offer price is given to the buyer, the logic being that this is a 'wholesale market'. The agent pays 100% cash to the seller on the same day/the following day, after deducting the *kasar*, even though he may receive payment from the buyer two weeks later (usually within 2–3 weeks, and this also influences the price negotiation and the role played by the agent). Unconfirmed reports suggest that a commission of Rs 48.5 per animal is currently being charged from the *seller*, but this is a closely guarded 'secret'.

The purchased animals are kept in stables/temporary lairs around the market campus before being sent to the slaughterhouse, which operates all days of the week. Usually, animals are rested for at least 12 hours before slaughter (the following day). Currently, there are 13 temporary sheds for lairing the animals

(sheep and goats). After the slaughterhouse was established in 1971, nine sheds were constructed for small ruminants and cattle in 2000. In 2006–07, the old sheds were demolished and two new ones were constructed for cattle. Whereas administrative sanction has been obtained for the construction of new sheds for sheep and goats as well, the BMC is yet to provide (sanction) funds for the same.

As of 2009–10, a total of 1,668,973 animal carcasses were produced at this slaughterhouse, of which 67% were sheep carcasses meant for the export market. For the domestic market, 554,105 animals were slaughtered (mostly goats). In addition to the animals slaughtered legally, it is estimated that another 300,000 animals (small ruminants) would have been traded at the market over the year, but which were slaughtered at other locations in the city and its suburbs.

The BMC owns and manages the operations at the slaughterhouse. It also issues licenses, of which there are 12 different types, for the different kinds of tasks required to be undertaken on the market campus from the time that the animals arrive until they are sent to the slaughterhouse or as carcasses are loaded on to trucks after slaughter.

There is a semi-mechanized slaughterhouse, which is used mainly for carcasses meant for the export market. A manual slaughterhouse is in operation during night hours (started since 1994) for supply to the local market. The fee for manual slaughter is Rs 20–25 per animal (Rs 25 if slaughtered by a BMC worker, Rs 20 if the agent engages a worker independently), and in the semi-mechanized set-up, it costs Rs 64 (Rs 50 is paid to BMC for facilities and Rs 14 to the slaughter-contractor). *Halal* is the method employed at both the semi-mechanized and manual slaughter sections. The price of meat (sheep and goat) in the Mumbai market ranges from Rs 280 to 300 per kg.

Hyderabad

In Hyderabad, there are six major slaughterhouses, of which the one at Jiyaguda (which is unauthorized) is the oldest and the largest; the one at Chengicherla is registered and mechanized. The slaughterhouses in the city are:

- | | |
|----------------------------|--|
| • Jiyaguda | For sheep and goat only |
| • Gawlipura | For sheep and goat only |
| • Bollaram (military area) | For sheep and goat only |
| • Chengicherla | For cattle, sheep and goat (separate sections) |
| • Amberpet/Kanchiguda | For cattle, sheep and goat (separate sections) |
| • Ramanasthpura | For cattle only |



Livestock market in Hyderabad



Following the closure of five unauthorized slaughterhouses in the city some years ago, there was a steep rise in the number of illegal slaughter shops; there followed a crackdown on them in 2006, and permissions were obtained for modernization of the slaughterhouses at Bhoiguda/Bollaram in Secunderabad, Amberpet and Gawlipura. However, it is estimated that more than 60% of the meat consumed in the city continues to be sourced from unauthorized slaughterhouses, operating near the premises of the shut units.¹⁵ Approximately, 8,000 sheep and goats are slaughtered in the city daily; the number goes up about 30–40% on weekends and nearly doubles on festivals (Holi, Bakr Id, Dussehra, and Bonalu). The numbers of goats/sheep sold per day in Hyderabad city is provided in the table below.¹⁶

¹⁵ The matter is under litigation, and it is understood that permission has been received from the High Court to operate as an ‘emergency slaughterhouse’, pending modernization of these abattoirs.

¹⁶ There are no official estimates available; these figures are based on information obtained from experienced individuals in the sector involved in the procurement of sheep and goat skin from various slaughterhouses in the city. As the trade in goat and sheepskin is concentrated at Musheerabad (an area within the city of Hyderabad), where skins from all the slaughterhouses converge, it is possible that these figures would approximate reality.

Slaughterhouse (For Sheep and Goat)	Numbers of Sheep and Goats Sold Per Day
Jiyaguda	~ 4,000
Chengicherla (registered)	1,500–2,000
Amberpet	800–1,000
Gawlipura	200– 300
Bollaram	500–600
Other (assorted butcher shops)	500–1,000

Supplies at this livestock market/slaughterhouse come in predominantly from Madhya Pradesh, Maharashtra, Gujarat, Rajasthan and Uttar Pradesh. A small percentage of the supplies are local and the most preferred; local supplies of sheep, particularly from the Telangana belt, command a 10% price premium; there appears to be no preference for goat breeds as far as meat is concerned. There is a seasonal variation in the supply of animals from different regions, as indicated below:

- December–January From Uttar Pradesh and the Malwa region of Madhya Pradesh
- March–April From Rajasthan
- April–June From Maharashtra (Latur, Udgir, Ahmednagar, Jalgaon and Dhulia)
- July–August From the Telangana region of Andhra Pradesh
- September–November From coastal Andhra and the Rayalaseema regions of the state

The Commission Agents' Association estimated that 95% of the sellers are traders by profession, who buy stock from rearers in villages and transport it to urban markets where it fetches a better price. Buyers at the market include institutional buyers (hotels/restaurants, processing units) and individuals from the city and nearby areas, Bangalore and Chennai.

Observed¹⁷ Sale Price of Animals Sold at the Jiyaguda Market in Hyderabad

Type of Animal	Description	Transaction Amount (Rs)	Rate Per Animal (Rs)
Goat	Seven males, adult, black, from Nalgonda (approximately 16 kg meat weight each)	28,000	4,000
Goat	One adult male	6,000	6,000
Goat	Three adult males (4 years), black	23,000	7,667
Goat	One adult male (2.5 years), white (30 kg meat weight estimated)	7,000	7,000
Goat	One adult male (1.5 years), black, from Telangana (17 kg meat weight estimated)	5,000	5,000
Sheep	One adult male, white, from Rajasthan (40 kg live weight, 20 kg meat)	5,200	5,200

7. City retail outlet

One of the findings of the study has been that whereas there is a marked preference for chevon (goat meat) in northern and eastern India, resulting in slightly higher prices of goat meat, southern India shows a greater preference for sheep and lamb meat.

Bakr Id Market and Rasgan

Rasgan, in Alwar district, Rajasthan, is a village located in the foothills of the Aravalis; it has, over the years, captured a niche market in the rearing and sale of bucks for the Bakr Id (Eid-ul-Zuha) market. For a majority of households in this village, rearing bucks for Bakr Id is a priority economic activity in which all members of the family are involved. It is a significant source of their income. In 2010, 25 trucks left for Mumbai from the village, each carrying 85–90 adult bucks/goats (approximately 2,100 bucks); in addition, about 300 bucks were sold at the Bakr Id market (near Jama Masjid) in Delhi. Assuming an average sale price of Rs 15,000 per animal, the total revenue from the trade would be Rs 35 million approximately.¹⁸

¹⁷ The sale price is not fixed. It is negotiated for every transaction depending upon size/sex of the animal.

¹⁸ These are conservative estimates because many bucks fetch upwards of Rs 30,000 and yet others sell in excess of Rs 50,000 each.

Whereas Rasgan is the most reputed village in the area in this trade, a number of other villages in and around Nawgaon in Rajgarh *Tehsil*, Alwar district, have been following its example. Close to 20 villages are now engaged in the business of raising bucks for the Mumbai/Delhi Bakr Id market. At the same time, most households rear goats for the regular meat market as well (referred to as *kattumaal*), which are sold at the local weekly markets, viz., Firozpur Jhirka (on Thursdays) and Balaheri (on Sundays).

Strategy

Rasgan follows a strategy of purchasing and fattening goat kids over a period of 8–12 months, targeting the lucrative Bakr Id market, and selling these directly to buyers in Deonar (Mumbai) and Delhi. The ideal time for purchasing kids is the month of *Baisakh* (spring time, post-harvest of mustard), and the best time for sale is prior to Bakr Id in October/November each year. Whereas many of the bucks are about 1–1½ years old at the time of sale, some are up to 2–3 years of age.¹⁹

Procurement of goat kids

Goat kids at the age of 3–4 months are purchased from the Balaheri market (in Dausa district of Rajasthan), situated at a distance of 104 km from Rasgan; depending on the family's economic condition, the number of kids purchased at a time ranges from 2 to 5; most families purchase 4–5 kids at a time. On a smaller scale, goat kids are also purchased from the weekly goat and sheep market, at Firozpur Jhirka (in Haryana), about 20 km from Rasgan. In general, the number of Totapari and Nagphani goats/bucks owned and managed intensively by a family is in the range of 10–20. In addition, they may also have other local breeds that are raised for the meat market and are not stall-fed.



Totapari Female



Totapari Male

The average price of a 3–4 month old goat kid of the Totapari breed is Rs 3,000. For families that can afford it, buying continues until the time of Id, even while on the truck and leaving for Mumbai, “चलती गाड़ी में भी खरीद लेवे हैं!” (entrepreneurs continue to buy bucks even when the vehicle leaving for Mumbai has already started on its journey)!

The preferred breeds are Totapari and Nagphani. However, there are quite a few households that prefer the native, non-descript breeds because they are hardier and less prone to disease. The Totapari is not a recognized breed as such, and is believed to be a hybrid of the Jamnapari, Sirohi and Alwari breeds, giving it its characteristic looks, colour and vigour.

Feed and care

The most important part of raising the bucks for the Id market is feeding them the right diet, which results in quick weight gain. The daily diet (between 2 and 5 kg per buck per day, depending on age and ability of the rearer) comprises cereals (wheat, maize, barley or pearl millet), dry green fodder (leaves of the *khejdi* tree (*Prosopis cineraria*) and pulses (Bengal gram). Whereas wheat and maize are fed during winter, barley is fed in the summer (for 3 months). The proportion of cereal to green fodder is 1:1 (by weight). The average cost of feeding per buck is said to be in the range of Rs 5,000–6,000 over the season (8–10 months).

Green fodder (loppings of trees such as *pipal* and *neem*) is fed when available. Depending on the family's ability, bucks may also be occasionally fed ground nuts, oil, jaggery, milk and other rich foods to hasten weight gain. These bucks are not grazed in the open but are allowed to roam freely around the house and are well looked after; there is usually a separate room in the house for the animals; they are vaccinated against diseases, undergo veterinary checks, are kept scrupulously clean and given oil massages.

¹⁹ Young bucks (generally, less than a year old) are not allowed for sacrificial slaughter, nor should they be 'incomplete' or damaged in any respect, that is, the horns, legs, tail, ears, teeth... no part of the body should have been removed or show any injury. Some Muslim sects are particular even about not purchasing castrated bucks for sacrifice.

Whereas the aim of feeding is to fatten the bucks, rearers have also to watch out against over-feeding because it results in the health of the animal deteriorating such as a weakening of legs, the stopping of urination and/or sudden death.

A box containing vials of injections for vaccines and ailments is available in every house. For minor ailments, they self-administer drugs to their flock; women as well as children were quite adept at injecting animals. The cost of preventive medicines per buck is estimated to be in the range of Rs 300–500 on average.

Animal health camps are organized in the village in the months of February–March, and veterinarians are brought in, usually by the animal husbandry department or by pharmaceutical companies.

Pre-sale logistics

The accumulation of stock begins a couple of months before Eid. Most households prefer to sell their bucks to large entrepreneurs within the village, who travel to Deonar with truckloads of bucks. Prices are offered, based on visual inspection, taking into account the height, weight, health and look of the bucks, and agreed upon through mutual negotiation without any third party intervention.

Special double-partition (double-decker) trucks are brought in from Modasa (in Gujarat) or Jaipur for transporting the bucks. Often, these trucks are arranged by the commission agents in Mumbai when they visit the village to peruse the stocks for sale; they also advance money to the selling parties (approximately Rs 100,000–150,000 per truck load) nearly a month before Eid.

Between 8–12 men travel with each truck, taking along their sparse personal belongings and ration for approximately one month, which includes travel for a week, stay in Mumbai for two weeks and the return journey (one week).

Financing

Most of the households, other than that of Prem Singh and Mohd Haneef (the two with the largest herds), raise bucks on borrowed money (@ 3–5% per month). Around 10 village households raise bucks on an ‘*aadha-banta* (shared)’ basis, in which the initial costs (of purchase) are borne by the partner, the operational costs including cost of feed and medications are shared equally between the rearer and the owner, and both partners have an equal share in the revenue earned through sale. The investors are mainly from Gujarat (Modasa area, from where the trucks for transportation are sourced).

Sales

There appear to be no set standards for fixing the prices of bucks for the Eid market. Sellers will quote a price depending on their reading of the buyers’ interest and the appearance of the animal. The purchases are for *qurbani* (sacrificial offering on the occasion of Eid); therefore, buyers tend to loosen their purse strings and usually do not negotiate too hard. Buyers in Mumbai bid on the basis of height and have a preference for lighter coloured bucks (white with beige markings); on the other hand, the preference in Delhi is for black/brown/red colour, and preference is given to both beauty and age of the buck²⁰ (in Mumbai age is not a criteria).

This year, the prices in Deonar varied from Rs 10,000 (lowest) to Rs 20,000 in general, but a few bucks fetched Rs 50,000 or more, based on their looks and the preferences of buyers. The prices this year were slightly depressed because of various factors even though the demand for bucks is seldom met in this market. The market in Delhi is smaller in size. Between the two cities, sellers prefer Mumbai because “दिल्ली में कोई ठिकाणा ना है!” (There is no saying about what could happen in Delhi...it is unreliable). Whereas sales in Mumbai take place only at the *mandi* in Deonar, in Delhi (the sellers reported) market venues are numerous, there is harassment by police and instances of theft and looting are many. In fact,



Special double-partition (double-decker) trucks



²⁰ Age is determined by dental condition (number of teeth)

when the trade started several years ago, bucks and goats used to be sold in Delhi until the visit of a commission agent from Mumbai 6 years ago, after which the latter became the preferred market place.

Sellers who went to Delhi this year (2010) obtained higher returns than those who went to Mumbai as demand far outstripped supply in the city. Apparently, the best rates are obtained in Kolkata, but the journey to Kolkata involves travel through Bihar where theft and dacoits are seen as a major issue. Additionally, communication barriers are faced by sellers in Kolkata because they neither speak nor follow Bangla. In addition to the income from the sale of the animal, rearers also gain from the sale of goat manure, which is an excellent fertilizer and usually purchased by onion cultivators. Each trolley of manure (20 quintals) fetches Rs 2,000–3,000 for the rearer.

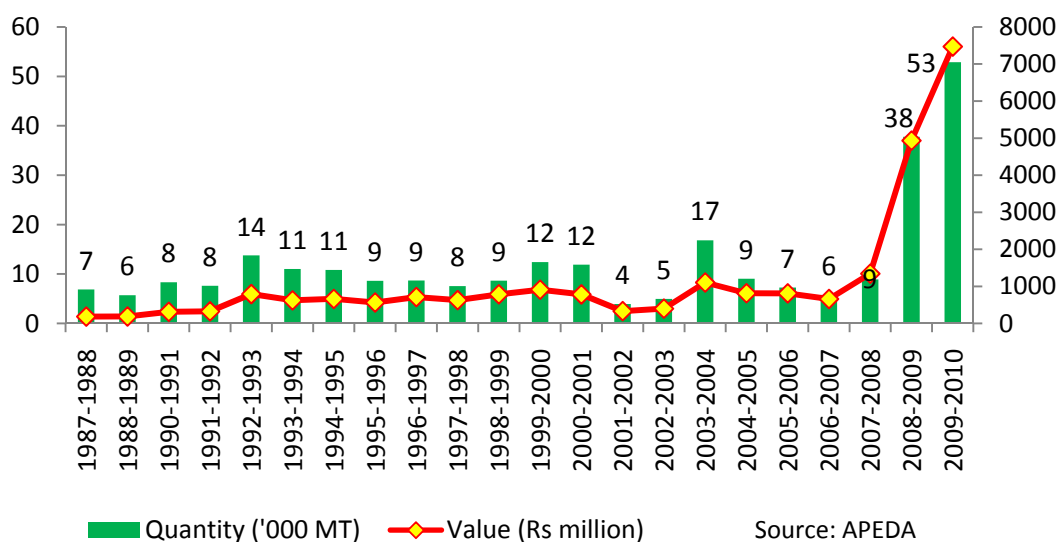
For a herd size of 10 bucks, the profit ranges from Rs 25,000–35,000 over a 10 month period (this excludes the cost of labour).

Exports

The export of meat from India commenced in 1969 and has seen a steady rise since then, with buffalo meat constituting the major share of meat exports. Goat and sheep meat exports account for 3% of the total meat exported from the country (by value). In 2009, 66,729 MT of meat (sheep and goats—fresh, chilled or frozen) was exported from India; the main importing countries were Saudi Arabia, Egypt, Iraq, Kuwait and Malaysia. This constitutes a miniscule (6%) of the total world exports of goat and sheep meat (by weight) and an even smaller 3.7% in terms of value. According to APEDA, the export of sheep and goat meat from India was valued at Rs 7,472 million (excluding processed meat and animal casings²¹) in 2009–10.

The Government of India (GoI) had imposed a ban on the export of carcasses in August 2006, citing rising prices and unmet domestic demand, which severely impacted exports; the ban was lifted in February 2007, following which there has been a substantial leap in the quantity and value of goat and sheep meat exports from the country (see Graph 6 for the trend).

Graph 6: Sheep and Goat Meat Exports from India (1987–88 to 2009–10)



Export data for Deonar, Mumbai

The number of carcasses exported from Deonar (only sheep because goat meat is not exported) is detailed below. The minimum expected carcass weight in the international market is 7–8 kg.

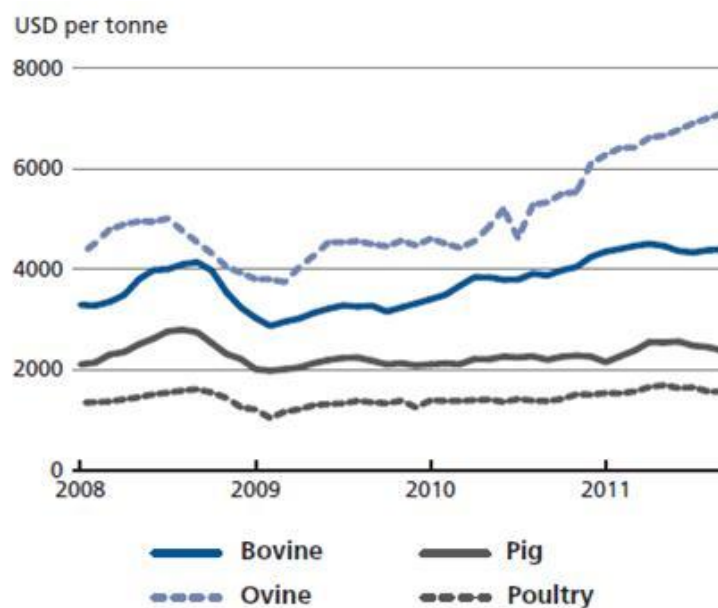
²¹The membranous case made of animal intestine and used to manufacture sausages or other processed meat.

Year	Number of Carcasses (Sheep) Exported	Remarks, If Any
2005–06	760,744	
2006–07	473,057	For 6 months, between 22 August 2006 and 22 February 2007, the central government had issued an order banning the export of meat with bones. This had an adverse impact on the export trade.
2007–08	812,034	
2008–09	1,016,706	
2009–10	1,114,267	
2010–11	851,371	On account of BMC rules that put a ceiling on the number of carcasses per day (<2500), the growth of the export market has been curbed.

A majority of the exports are to countries in the Middle East. Apart from India, the international market is also supplied by Somalia, Ethiopia and China (another source also mentioned Sudan and Australia). Apparently, as per information gleaned from exporters at the Deonar *mandi*, the Indian quality is superior compared to that from African countries (which has an unappetizing odour) and China (which has the consistency of rubber); however, these observations are based only on hearsay.

Of the four different types of meat traded in the international market, ovine meat is the most highly priced (Graph 7).

Graph 7: Trade-weighted International Prices of Meat



Export certification of meat is mandatory in India. The quality standards for exports are controlled by the Export Inspection Council (EIC) of India, the official certification body. Under the EIC, there are five inspection and certification facilities that carry out inspection and certification activities, with an additional 41 sub offices and laboratories to provide the back-up.

- The main system of export inspection and certification being followed in the Indian food sector is the Food Safety Management Systems certification (FSMSC), which is founded on international standards of CODEX²² laid down by FAO and WHO, Good Management Practices (GMP), and Good Hygiene Practices (GHP).

²²The Codex Alimentarius Commission, established by FAO and WHO in 1963 develops harmonised international food standards, guidelines and codes of practice to protect the health of consumers and ensure fair trade practices in food trade. The Commission also promotes coordination of all food standards work undertaken by international government and non-government organizations.

- All units approved by EIC necessarily have to implement these certifications at all stages of food production, in addition to meeting end-product requirements.
- India has been increasing its participation in several CODEX committees, to ensure that domestic production reflects international requirements, thereby, facilitating the acceptance of Indian food products in global markets.
- Additionally, to facilitate a quick turnaround for exports, India is seeking agreements with the health authorities of major trading partners. In such agreements, the EIC in India is designated by the partner country to undertake the inspection and certification of products in India itself, before they are exported.

Cost of exports

The cost of dressing per animal is between Rs 130 and 200. Among the overheads and other hidden expenses borne by exporters are the expenses incurred on timely receipt of necessary fitness certificates and sanctions from the BMC. At the port of entry into the importing country, two certificates are mandatory: (i) a health certificate issued by authorized BMC veterinarians, and (ii) a *halal* certificate²³ issued by a local religious body appointed by religious organizations in the Middle East; in this case, it is the Jamiatul Muslemin Al-Maharashtra.

The air freight is in the range of Rs 50–60 per kg of carcass weight and the price received by the exporter is USD 7,000–7,300 per tonne. The minimum consignment size is one container (1,400 kg); in any case; even for quantities lower than this, the minimum charges paid are for 1,400 kg. Carcasses declared unfit for the purpose of export are disposed of locally at selling prices varying from Rs 180–200 per kg of meat weight. However, instances of rejection are few and far between because there is a filtration/selection process whereby unfit/smaller/inferior animals get separated and sold in the local market before they are included in the consignment for export slaughter.

The export of meat and meat products is handled by 25 export-oriented modern combined slaughterhouses and meat processing plants registered with the APEDA, Ministry of Commerce; of these, two units (at Deonar, Mumbai, and Gurgaon, Haryana) exclusively handle sheep meat, one unit (at Gautam Budh Nagar, UP) is for sheep as well as goat, and 10 units process sheep and goat meat along with buffalo meat (see Annexure 2 for list of abattoirs-cum-meat processing plants registered with APEDA). Additionally, there are 35 meat processing and packaging units (of which 22 are registered with APEDA), which source dressed carcasses from government-approved municipal slaughterhouses for export.

Depending on the source of meat, the manufacturers are licensed under category A, B or C.²⁴ At present, 279 units are licensed under MFPO (as on 1 April 2009). The region-wise details are given here.

Region	Category A	Category B	Category C	Total
Western region	11	32	43	86
Southern region	12	37	35	84
Northern region	9	33	39	81
Eastern region	7	6	15	28
Total	39	108	132	279

<http://www.codexalimentarius.org/>

²³ The *halal* certificate is issued by the religious body, following random checks for verification of the method of slaughter being followed.

²⁴Category 'A': Manufacturer who makes meat food products exclusively from meat of animal(s) slaughtered and dressed in his factory; Category 'B': Manufacturer who makes meat food products exclusively from meat of animal(s) slaughtered and dressed in a recognized slaughterhouse and whose factory is situated in close proximity to such a slaughterhouse; Category 'C': Manufacturer who makes meat food products exclusively from poultry and/or pig meat at places where authorized slaughterhouses do not exist and the total quantity manufactured is less than 30 tonnes per annum.

Meat market value chain

Market Node/ Agent in Value Chain	Product Sold	Place of Sale/Service	Initial Investment (Rs)	Recurring Costs (Rs Per Annum)	Other Costs Incurred (Rs)	Time Period	Sale Price	Profit Margin Per Unit (Rs)
Goat breeder	Goat kid (male)	Village or local market	NA	Labour only	(variable, not known)	3–4 months	600	variable
Goat rearer (local/non- descript breed)	Goat	Village or local market	5,000 (5 goats + 1 buck)	Labour only	100/ goat (agent's fee)	6 years	2,000/ goat	
	Buck		3,000 (5 bucks)	Labour only (6,000 estimated)	600 (for 5 bucks)	1 year	15,000 (5 bucks)	1,080/buck
Local butcher	Meat and other parts	Meat shop in small town	10,000 (capital cost)	6,000 p.a.	12,000 p.a.	--	--	160/buck
			2,700 (per buck)		30 (per buck)	Daily	Rs 220/kg (Rs 2,640 from meat + Rs 300 for offals/ skin)	
Agent at local market	--	Local market		None				4–7% of sale price
Trader in local market	Goats and bucks	Urban livestock market	400,000 (80 goats @ 2,000/goat and 80 bucks @ 3,000/buck)		77,840 per trip (expenses incurred during the purchase of animals from local <i>mandis</i> , bribes paid at check posts)	5 days		Rs 113.5/animal (Rs 150–160 estimated in Hyderabad)
Agent at urban market	--			None				1–1.5% of SP (Delhi) 4% of SP (Hyderabad)
Urban retailer	Meat	Retail shop in Delhi	61,000 (capital cost)	144,000 p.a.	5,000 p.a.	Annual	Rs 260/kg Rs 2,830/animal	2,420/day Rs 201/animal
			30,000 (12 goats and bucks/day)		Rs 540 (cost of slaughter) + Rs 500 (cost of transport)	Daily	Rs 33,960/ day [28,080 (meat) + 4,800 (offals) + 1,080 (skins)]	

Case study: Dhanas Ram

Dhanas Ram is a livestock trader from Seoni district in southern Madhya Pradesh. He has been trading goats at the Jiyaguda market (Hyderabad) for many years. He purchases goats from rearers at weekly markets in Seoni and Narsimhapur districts and transports them with four helpers to the Jiyaguda market in Hyderabad, carrying between 220 and 250 animals per trip. The number of trips varies from 4 to 10 in a month, depending on the season and the availability. The following is a cost-benefit analysis of one trip that Dhanas Ram made recently when selling at the agent Ashok Kumar's yard (in Jiyaguda).

Number of goats/trip	240
Average purchase price/goat	Rs 2,000
Average sale price/goat	Rs 2,500
Costs	
Cost of goats purchased	Rs 4,80,000
Costs incurred in purchase	Rs 6,000
Transport cost (truck)	Rs 25,000
Other costs during transportation	Rs 10,000
Cost of four helpers @ Rs 2,500 each	Rs 10,000
Other miscellaneous expenses	Rs 7,000
Commission agent's fees @ 4%	Rs 24,000
<i>Total cost</i>	Rs 562,000
Revenue	
Sale of goats	Rs 600,000
<i>Net profit from the trip</i>	Rs 38,000
<i>(Assuming that none of the animals die along the journey/before sale)</i>	

Particulars	Amt/ goat (Rs)
Selling price of goat for rearer	2,000
Costs incurred in purchase by trader	25
Cost of transportation	104
Other costs	113
Commission agent's fee	100
Selling price of goat for trader	2,500
<i>Trader's profit margin/goat</i>	158

Policy and Law

Establishment of slaughterhouse and transportation of animals: Permission from civic bodies/the state government (Department of Animal Husbandry) is required before setting up a meat processing unit with a slaughterhouse. The GoI regulates compliance with animal welfare and animal transport rules through the Prevention of Cruelty to Animals (PCA) Act, 1960.²⁵ The Ministry of Environment and Forests has brought out a draft law, which is expected to replace the PCA Act, which has become ineffective because there is no administrative mechanism to implement the Act and on account of the meagre penalties. The MoEF has suggested that the Animal Welfare Board at the national level provide

²⁵<http://envfor.nic.in/legis/awbi/awbi01.pdf>

Case study: Kalavakruti

A woman in the livestock market is a rare sight even though women usually tend to animals and rear them in the countryside. Kalavakruti from Mahbubnagar district of Andhra Pradesh is a frequent visitor to the Jiyaguda market, making 2–3 trips every week with 2–3 other women traders (these women are the only women traders in the market). Kalavakruti usually brings four bucks in each trip from villages in Mahbubnagar, earning between Rs 500 and 800 per trip, depending on the market demand and the selling price of bucks.

Number of bucks	4
Average purchase price/buck	Rs 2,400
Average sale price/buck	Rs 2,700
Costs	
Cost of bucks purchased	Rs 9,600
Costs incurred in purchase	Rs 100
Transportation costs	Rs 200
Other costs during transportation	Rs 200
Miscellaneous costs	Rs 100
<i>Total cost</i>	Rs 10,200
Revenue	
Sale of bucks	Rs 10,800
<i>Net profit from the trip</i>	Rs 600
<i>Profit margin/buck</i>	Rs 150



Kalavakruti at the Jiyaguda livestock market in Hyderabad

broad policy directions and state Animal Welfare Boards implement the provisions of the proposed law. Under the new law, every slaughterhouse will have to be registered with the state board.

Meat Processing and production of meat products: The Meat Food Products Order (MFPO) 1973²⁶, under the Essential Commodities Act 1954, regulates the manufacture, quality and sale of all meat products. A license is required under this order to set up a factory for producing/processing meat products (Refer to Annexure 3). Until 2004, the Directorate of Marketing and Inspection, Faridabad, under the Department of Agriculture and Cooperation, Ministry of Agriculture, was responsible for implementing the order, after which it was transferred to the Ministry of Food Processing Industries (w.e.f. 19 March 2004). Subsequent policy developments during the Eleventh Plan period have resulted in the transfer of the regulatory functions to the newly formed Food Safety and Standards Authority of India (FSSAI), which was established under the Ministry of Health and Family Welfare (MoHFW) in December 2008.

The MFPO contains standards for the licensing of meat processors and regulates standards for domestic production and sale of meat products. It also enforces sanitary maintenance and strict controls at all stages of the production of meat (including fish and poultry) products. Its main objectives are to regulate the production and the sale of meat food products through licensing of manufacturers; enforce sanitary and hygienic conditions prescribed for the production of wholesome meat food products; and exercise strict quality control at all stages of production of meat food products. Under the provision of the MFPO, all manufacturers of meat food products engaged in the business of manufacturing, packing, repacking and re-labelling of meat food products meant for sale require a license but those who manufacture such products for consumption on the spot such as in a restaurant, hotel, boarding house, snack bar, eating house or any other similar establishment are excluded.

Import and export of meat products: The MoHFW also regulates both domestic production and import of meat and meat products through the standards laid out in the Prevention of Food Adulteration Act and Rules.²⁷ The export of raw meat (frozen or chilled) is regulated by the Export of Raw Meat (Quality Control and Inspection) Rules 1992.

The export of meat is subject to pre-shipment inspection, and a certificate is required from the state Animal Husbandry Department/Directorate of Marketing and Inspection that the meat was obtained from healthy animals, slaughtered in a licensed slaughterhouse, and is fit for human consumption. In addition, a certificate specifying that the meat has been tested for specific micro-organisms such as E. coli, salmonella, etc., is required. The export of canned and other value-added meat products requires, additionally, a certificate of tests performed as per the standards specified under the MFPO.

Institutions

In 2009, the GoI finalized the formation of the National Meat and Poultry Processing Board (NMPPB), with its headquarters in New Delhi. This is a not-for-profit company under the Companies Act 1956. The board will initially be funded by the government for the first two years, and later it is expected to be managed by the industry. Its objective is to regulate and promote the meat industry.

It is said that NMPPB will address issues related to the production of hygienic, safe and wholesome meat and meat products, resulting in higher value addition, harmonization of domestic standards and capacity building for the sector, to address human resource development issues. NMPPB is expected to develop uniform and effective meat quality testing systems in the country, address environmental pollution issues arising out of the present conditions in the meat industry and provide a thrust on research and development for production and marketing of innovative and new value-added meat products for domestic and international markets. It will also serve as a single window service for producers, manufacturers and exporters of meat and meat products, promote and regulate the meat industry for increasing exports, and help the industry in establishing self-sustainable and viable projects.

The notification further said that NMPPB will also help the industry utilize slaughterhouse waste material, set up quality control laboratories for meat and meat products, encourage meat manufacturers to

²⁶ http://www.fssai.gov.in/MFPO%201973-Amended%20_English_.pdf, <http://www.fssai.gov.in/mfpoamend.pdf>

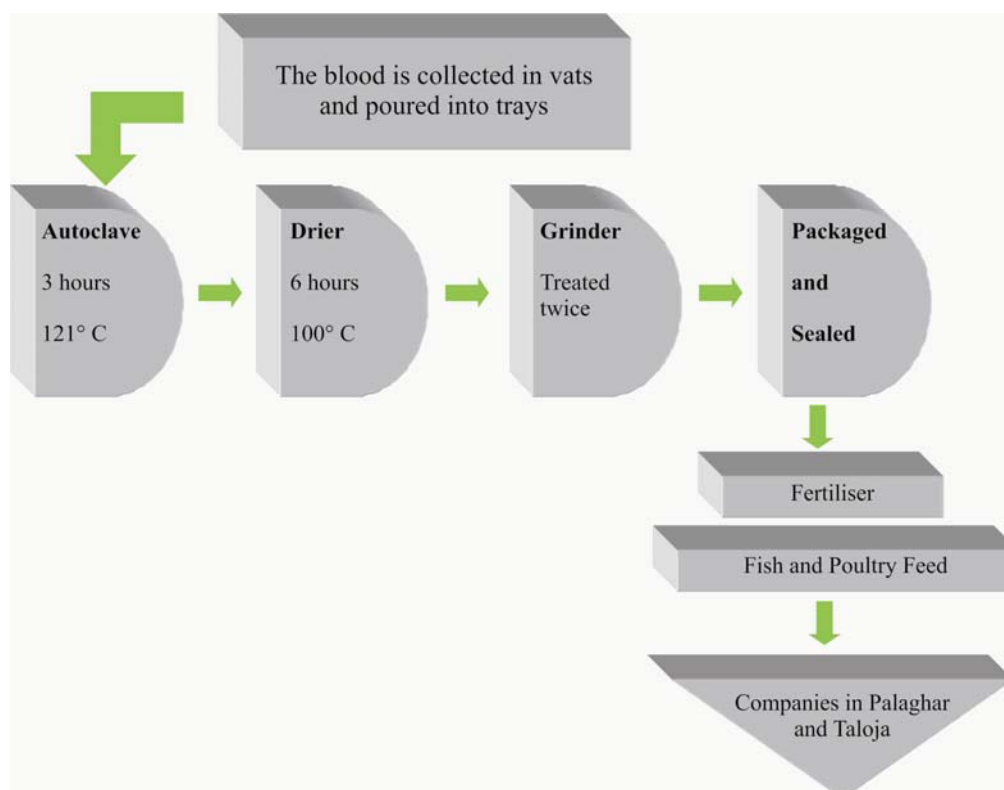
²⁷ <http://mohfw.nic.in/pfa%20acts%20and%20rules.pdf>

adopt GMP²⁸, HACCP²⁹, ISO-9001³⁰ standards, help the industry create data and disseminate it, train workers and technicians in the meat processing industry, and work as a central and national hub, to address meat-related issues.

Utilization of Slaughterhouse Waste Blood: Case Study of SETU Charitable Trust, Mumbai

Blood meal is derived by processing the blood collected during the slaughter of livestock and is used as a supplement in fish and poultry feed. Utilization of blood, an important by-product of the slaughter process, could be one of the ways to enhance the income of livestock owners, assuming that the market would adjust the prices of livestock in accordance with the benefits accruing from available by-products. Sir Dorabji Tata Trust has funded the SETU Charitable Trust to establish a pilot project at Deonar for the processing of blood, including the training of 10 youth in the process. With permission from the BMC, the project is currently being implemented at Deonar.

Blood meal sells at Rs 50 per kg and fetches a profit of Rs 10 per kg, thereby reducing the volume of waste and enhancing income. It is supplied as fish and poultry feed through the Bombay Veterinary College and is also supplied as a fertilizer to companies in Palghar and Taloja (Maharashtra). Eighty kilograms of blood yield ~15 kg of blood meal. At present, 400 kg of blood meal is being produced per month. The graphic below depicts the process-and-supply chain of blood meal.



²⁸ GMP (Good Manufacturing Practice): These are practices and systems required to be adopted in pharmaceutical manufacturing, and also quality control and quality systems, covering the manufacture of food and some other products.

²⁹ HACCP (Hazard Analysis and Critical Control Points) is a systematic preventive approach to food safety. It is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product.

³⁰ ISO-9001 is an international quality management system; the certificate is issued by the International Organisation for Standardisation; ISO 9001 certification by an accredited certification body shows commitment to quality, customers and a willingness to work at improving efficiency.

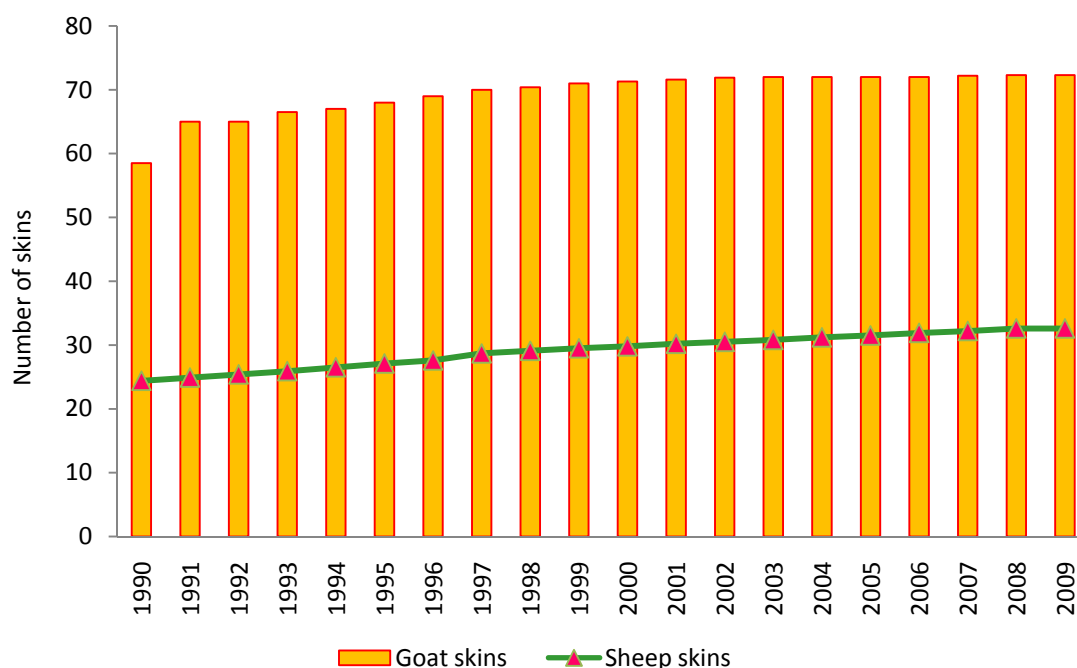
The Leather Industry



The leather industry plays a significant role in the Indian economy because of its immense scope for providing employment, and its potential for growth and exports. It employs about 2.5 million people, of which nearly 25% are women. Over the last few years, there has been an increasing emphasis on its planned development, aimed at the optimum utilization of raw material for maximizing returns, particularly from exports.

According to FAO, India produced 72 million pieces of goat skin and 33 million pieces of sheep skin in 2009 (the year-wise production of goat and sheep skins is shown in Graph 8).

**Graph 8: Production of Goat and Sheep Skins in India
(In Millions)**



The main production centres for leather and leather products are:

- Tamil Nadu—Chennai, Ambur, Ranipet, Vaniyambadi, Tiruchirapalli and Dindigul
- Puducherry
- West Bengal—Kolkata
- Uttar Pradesh—Kanpur, Unnao, Banther, Agra and Noida
- Punjab—Jalandhar

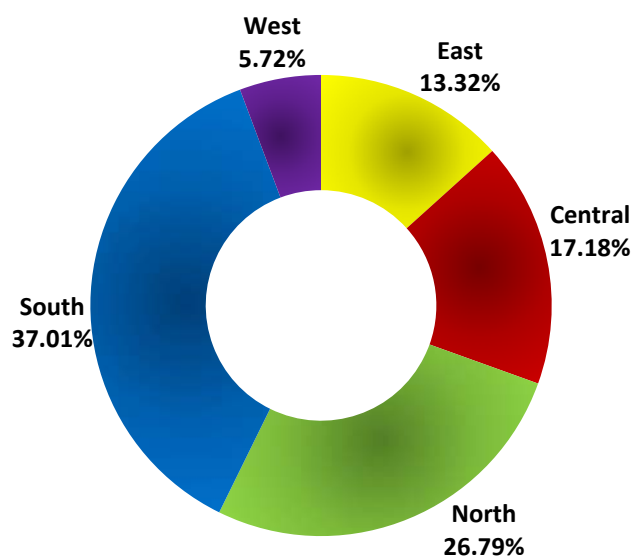
Tamil Nadu accounts for about 40% of India's exports and has about 70% of the country's tanning capacity. As far as goat and sheep leather are concerned, the largest markets are found in Chennai and Kanpur. According to a publication of CLRI (2010), the potential availability of goat skin in India is 92.3 million pieces, of which 10.4 million are non-recovered skins,³¹ 1.9 million are net fallen skins (from dead animals), and 80 million are slaughtered skins. Likewise, the total potential availability of sheep skin in the country is 34 million pieces, which includes 4.3 million non-recovered and 0.3 million net fallen skins.³² West Bengal with 12.7 million skins and Uttar Pradesh with 9.8 million skins occupied the

³¹The skin of dead animals that are not flayed or lost on account of putrefaction, as a result of delay in flaying

³² Figures are based on 2003 livestock statistics.

first two positions in the production of goat skins through slaughter. Maharashtra, in the third place, produced 9.4 million pieces of goat skin. The states that produced the maximum slaughtered sheep skins were Maharashtra (7.1 million), Andhra Pradesh (4.8 million), Tamil Nadu (2.6 million) and Uttar Pradesh (2.3 million), with the first two accounting for 40% of the total production. Due to non-recovery of carcasses, an estimated 15 million ovine skins were wasted in 2003; the estimated loss on account of this is Rs 730 million (CLRI, 2010).

Graph 9: Region-wise Percentage Share in the Total Export of Leather and Leather Products (2009–10)



Use of goat and sheep skin

Goat and sheep skin leather is used for the following purposes.

Goat Skin Leather	Sheep Skin Leather
Shoe uppers	Shoe lining
Shoe lining	Garments
Glazed kid leather	Bags, hand bags, purses
Glazed coat	Hats
Glove leather—both utility and fashion purposes	Wallets, etc.
Bags	
Wallets	
Travel goods where weight bearing is not required	
Chamois leather manufacture ¹	
Garments, though less preferred	
Goat skin is also used in the making of suede leather, using the flesh side; goat suede finds use in the garments industry	

¹Chamois is a specialty leather made from split goat skin, with the flesh side being used for making chamois, and the grain side (a by-product of chamois manufacturing) being used for making leather that finds application in book covers and book binding.

The leather value chain

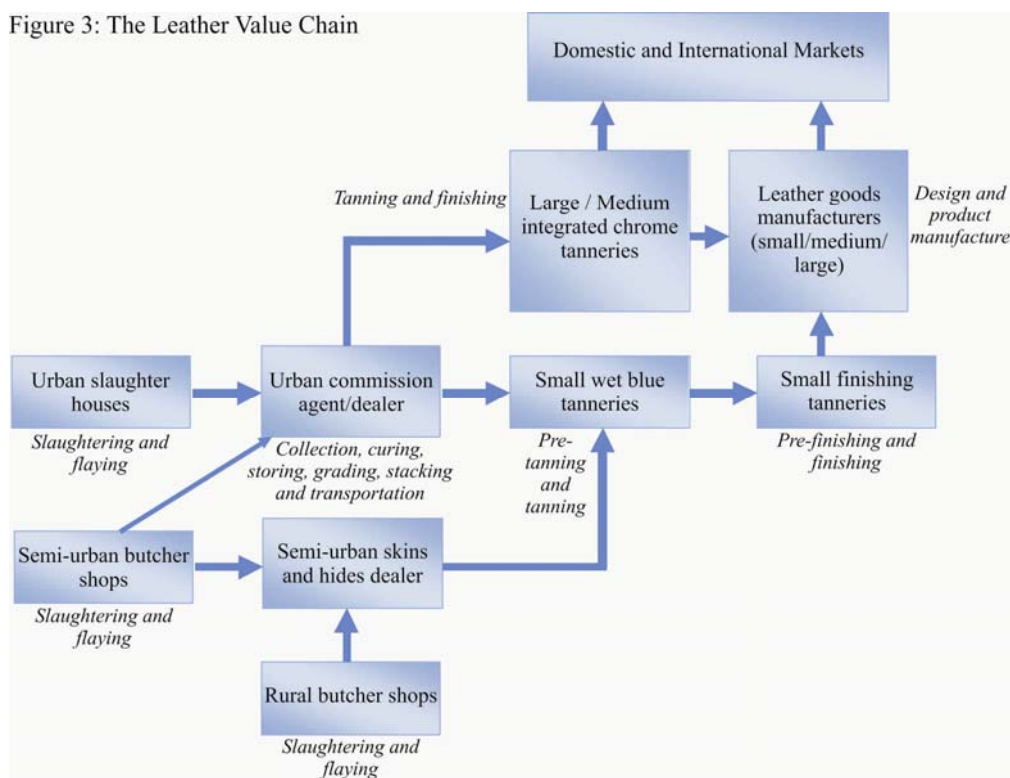
The leather sector comprises the following:

- Flaying and/or collection of hides and skins from dispersed rural and urban centres
- Tanneries (where raw hides and skins are converted into leather)
- Industrial units transforming leather into a variety of consumer products such as footwear, garments and outerwear, and assorted leather goods such as wallets, passport cases, key chains, handbags and briefcases

The first of these three activities is carried out in the unorganized sector and is of utmost importance to the industry, to ensure the supply of quality raw material in adequate volumes; however, this segment of

the value chain has almost always been overlooked, especially in policy making and programme formulation aimed at development of the leather industry. In meetings with manufacturing units across the country, it was consistently reported that raw material availability and quality were the main constraints that the sector faced.

An important link in the chain between the flayer and the tanner is the raw material dealer, who organizes the collection, curing, storing, grading, packing and ultimately the transportation of raw hides and skins to urban centres. These dealers lend cash advances to the primary producers (who may be flayers, butchers or retailers in small towns, depending on the place of slaughter/sale of meat) and, at the same time, deliver the raw material on credit to tanners, or sell skins in batches through commission agents. They thus maintain strong backward and forward linkages in the process of raw material management and many of the large groups that operate in the industry today come from the families of raw material dealers, who have grown due to their control over this crucial segment of the production chain. There is a large network of raw material dealers operating at different scales and at different points in the value chain. Whereas the small-scale dealers operate in semi-urban centres within a limited area of operation, the big dealers operate mainly in urban centres with a very wide network of collection systems. The small dealers deal directly with tanners or supply to the large dealers. Between the dealers and the primary producers, large numbers of middlemen are involved in the collection, preservation and trade of raw hides and skins. According to CLRI (1987), “The organizational set up of raw material marketing looks like a pyramid with a large number of collectors/small dealers spread at the base and gradually narrowing down by the time it reaches the terminal markets.”



The mode of payment to flayers/collectors is usually through a system of advances normally offered against a guarantee of supply and on various terms and conditions such as a fixed rate of interest, fixed price, free of interest and discounted price as compensation for advance paid. The actual contracts are strongly influenced in most areas by the fact that the flayers/collectors belong to low castes and the prices received are meagre. It has been noted that raw material dealers exercise a great deal of control over the primary producers and the system has generally worked to the disadvantage of the small flayer/collector (Damodaran and Mansingh, 2008).

Apart from the quality of raw material, the process of its conversion into leather and, later, the design, product development and process of manufacture of products play a key role in adding value to the raw material, viz., raw hides and skins.

1. Collection of hides and skins

The available livestock are scattered and diffused throughout the country and the practices for collection and recovery of their skins vary by region. Carcass collection, as an activity, is strongly linked to traditional caste structures and most of it is done by people belonging to the Scheduled Castes in rural areas, as part of the caste-determined occupational structures in villages.

2. Temporary curing and storage

Skins are collected from meat retailers by commission agents, salted and stacked in warehouses (see pictures below), most of which are located in urban areas or in their periphery.



1. Arrival of raw skins at Musheerabad (in Hyderabad) from Vizianagram



2. Exposing the flesh side of the skin and its subsequent salting



3. and 4. Salt application and stacking of dried skins in the warehouse

The raw hides and skins that are flayed³³ undergo preliminary processing or curing such as salting, to preserve them, and are mostly transported to raw hide and skin markets all over the country. Immediately after flaying, the hides and skins are required to be salted, to reduce the moisture content from ~65% to between 35 and 40%; this process is called temporary curing and is meant to preserve the skins for at least up to one month thereafter. Losses are particularly high during the summer and the monsoon seasons because of putrefaction and moisture absorption, respectively. Ideally, flayed skins should be salted within a day to prevent damage from putrefaction. Whereas many agents put only one application of salt, the ideal is to allow the skin to dry in the shade (for 24–40 hours) after the first application, and then do a second application of salt. Each application requires 1 kg of salt for a relatively large-sized skin.

In Musheerabad *mandi* (Hyderabad), labourers are employed by traders and commission agents for salting the skins procured in bulk from slaughterhouses and collected from butchers across the city.

³³ Flaying is the process of removing the skin from the body of a dead animal.

Cost Head	Amount Per Piece (Rs)	Other Costs	Amount Per Month (Rs)
Application of salt (labour cost)	0.5 to 0.6	Warehouse rent (split between two agents)	8,000–10,000
Transportation (within city) <i>Transportation from distant places is Rs 1.0–1.5 per piece</i>	0.4 to 0.5	Electricity and water charges	400–500
Loading and unloading	0.2	Labour/Supervision	2,000–5,000
Selector's fee for grading of skins	0.5	Manager (for accounting)	3,000
Total cost per piece	1.6 to 1.8	Total cost per month	13,400–18,500

Assuming a profit of Rs 2 per piece for the business to break even, a merchant would have to trade between 17,000 to 47,000 skin pieces per month (considering the wide range of costs), for all locally procured skins. In case the skins are procured from out of station, the costs and hence the volume of trade would need to be higher for the business to be profitable.

3. Grading and pricing of skins

The purchase price of skins (different for goats and sheep) is determined by grade, source or place of origin (grain and skin quality varies by region and breed) and season, with prices dipping significantly during the summer months. Reportedly, the price of raw skins in the market has remained stagnant for as long as 20–30 years, even though the prices of all other commodities and of goods manufactured from these skins has risen dramatically. The operational standards for different grades of skins vary by market and region; for example, the standards used in Kolkata or Jalandhar are at variance with those being used in Hyderabad.

In Kolkata, the rate for goat skin ranged from Rs 70 to Rs 130 per piece, depending on size and quality. In general, larger-sized animal skins command a higher price, all other factors being equal, except in the case of the skins of specific breeds such as the Black Bengal goat and the Garole sheep that command a higher price. Quality parameters are not well-defined, and a lot of subjectivity is exercised by selectors in the purchase of skins; some of the criteria that were understood to play an important role include the quality of grain pattern, the presence/absence of scars and other marks on the skin caused by injury, the presence/absence of flay cuts, the presence/absence of skin disease and the thickness of the skin.

In the case of the skin of the Black Bengal goat, however, the rate was Rs 155 per piece. The skin of the Black Bengal goat, although small in size, is prized for its softness, superior texture and grain quality.

The following table provides information about the grades commonly used in Kolkata.

Description	Size (Sq Ft)	Remarks, if any*
Kid size	< 2	Kid skin
Light	2.0–3.0	
Medium	3.0–4.5	
Heavy	4.5–5.5	Heavy and extra heavy tend to be clubbed together in the >5 sqft category
Extra heavy	5.5–8.0	

* The rates by grade could not be ascertained; although these grades are believed to be in use, sales are usually conducted in batches comprising a mix of different grades and sizes, in keeping with the buyers' requirements

In Jalandhar, grading criteria includes the size, grain defects and thickness of skin. There are four grade categories that are commonly used in this market: first grade, one-and-a-half grade, second grade and third grade.

In Musheerabad, commission agents charge a 1% commission from both buyers and sellers of skins. Until very recently, most of the skin trade in bulk used to take place at the pre-tanning stage, in which the role of the selector was critical because the value derived from a batch of skins purchased by a tanner or an agent depended on the conversion of raw skin into good quality leather. In the pre-tanned stage, it takes a trained eye and a lot of skill to assess the quality of the skin (unlike after tanning, at the wet blue stage when the grain and skin texture are clearly visible); the role of the selector is to separate the skins by different grades, based on size as well as quality. A more detailed and systematic method of price

estimation was specified by such a selector in Musheerabad. The details of grades and prevailing rates (January 2011) are provided in the following table.

Goat Skin Grades and Rates (Rs Per Piece)		Sheep Skin Grades and Rates (Rs Per Piece)		
Grade Description	Male and Female Undifferentiated	Grade Description	Males (Rams)	Females (Ewes)
First (34–50 inches; width ranges from 22 to 26 inches)	Rs 120–125	Grade I (34–50 inches)	Rs 170–180	Rs 100–110
Second (< 34 inches)	Rs 50–60	Grade II (30–33 inches)	Rs 125–130	Rs 80–90
Third (20–22 inches)	Rs 25	Grade III (28–30 inches)	Rs 45–50	Rs 40–45
--	--	Grade IV (22–24 inches)	Rs 20–25 (Lamb—male and female)	

The cost of procurement of skins, salting and storage of cured skins is estimated to be between Rs 3 and 8 per piece, depending on the market location (which would have a bearing on the cost of transportation) and cost of labour. The average profit margins at different levels in the value chain cannot be estimated with the current data set. As far as earnings of the goat/sheep rearer go, they do not receive any returns for the skin because the animal is sold purely on the basis of visual estimation of its weight, with no consideration for the potential returns from the sale of skin. Butchers in Dausa claimed to earn as low as Rs 50 per skin during summer months and up to Rs 120 per skin during winter months (in the absence of salting, putrefaction sets in quickly during summer and monsoon). At this level, the price of the skin is arbitrarily negotiated, with no reference to the grading system, which is in operation at higher levels along the value chain.

4. Leather processing

Tanning comprises operations in four stages: those that are done in the beam house³⁴ (or pre-tanning operations), in the tan yard, post-tanning and finishing operations. The division into these broad sets of operations exists for both vegetable³⁵ as well as chemical (or chrome)³⁶ tanning.

The process of tanning begins with the re-hydration of cured skins; the first step is called pre-tanning and involves the operations of re-hydration, de-hairing, de-liming, de-greasing and opening up of the skin structure. All hair and any flesh adhering to the skin are removed in the process.

Pre-tanning is followed by tanning, which involves the formation of cross-linkages between the protein molecules; this stabilizes the protein matrix and makes it resistant to attack by micro-organisms. Tanning may be an organic or an inorganic process. The organic process involves use of vegetable products such as Harra (*Terminalia chebula*), Babul bark (*Acacia*), and certain woods (polyphenolics); these tend to lend more filling material and are often used for making heavy leathers such as for soles, harness and belting. Inorganic tanning involves the use of chemicals and heavy metals, the primary cause for the environmental pollution associated with the leather industry. The commonest methods involve a

³⁴A place where the initial wet operations of tanning, involving soaking in water and solutions of alkali, are carried out.

³⁵Vegetable tanning is the traditional tanning method. This involves two types of tanning—bag tanning and pit tanning. In bag tanning, the carcass is sewn together into a bag and then tanned with *amla* or *babool* or myrobalan bark. This is done by filling the bag with the tannin solution and hanging it up for several days so that the solution gets absorbed. In the second method, pit tanning, the open hide instead of being sewn into bags, is soaked in pits and tanned with the same vegetable substance. Traditional vegetable tanning is highly labour intensive and involves hard manual work in extremely difficult working conditions. The tanned leather made through either bag tanning or pit tanning processes is tough, reddish in colour and used for special products such as saddles and harnesses for horses, sports goods and shoe soles.

³⁶Chrome tanning is the more modern process of tanning, using powdered chrome as the tanning substance. There are two major stages to the chrome tanning process: production of semi-finished leather through wet blue tanning and crust formation, and leather finishing. Both these stages can be done in the same tannery (which have been referred to as integrated tanneries here) or can be divided between different tanneries. A combination of manual and mechanized operations is possible.

combination of organic and inorganic tanning. Chromium tanning is the process that results in the characteristic blue colour of tanned leather, giving it the popular label of 'wet blue'.

The last stage, called post-tanning, involves wet finishing and finishing. Wet finishing involves fringe tanning for obtaining the desired leather characteristics, dyeing (for colour), lubricating with oils and fat liquoring to soften the product. This is then dried, and the unfinished sheets are sent for final finishing. Depending on the appearance and special effects desired, finishing is done for colour, etc., and may involve spraying or pad-brush application, embossing and so on. At this point, the finished leather is sold to leather products manufacturing units. The time required for processing cured skin to finished leather sheets is between 12 and 14 days.

A majority of the agents, who procure sheep and goat skins, process it up to the wet blue stage only, after which it is sold in lots to industrial units located mostly in Chennai and other towns of Tamil Nadu,³⁷ where it is further processed.

A number of small and large tanneries undertake job-work for others because their equipment is not utilized to full capacity with their own supply of raw material. The facilities are frequently used by traders of skins and hides, who process the skins up to the wet blue stage, which is the form that is preferred by the leather industry; this is because after de-hairing and partial tanning (when the leather appears wet blue), the grain pattern and defects are clearly visible, thus reducing the risk of selecting improper or defective skins. On an average, the cost of wet blue tanning of sheep and goat skins is in the range of Rs 15–20 per piece (from raw to wet blue).

Buyers who procure semi-finished or finished leather for manufacture of finished products usually specify their requirement, which includes both small and large sized skins, or skins within a certain size range/grade. In normal practice, the minimum and maximum acceptable size is also specified.

In Kolkata, the units undertake the whole process from the raw to the finishing stage whereas, in Chennai, the production process begins only at the wet blue stage and ends with finished leather. This is because the Chromepet-Pallavaram tanners (in Chennai) are not permitted to undertake the highly polluting stages of tanning up to the wet blue (or the wet processes as they are referred to).

Institutions

The industry has a very strong institutional set-up. The promotional structure for the development of the leather industry is quite vast, with institutions set up for basic research on materials and processes (the CLRI in Chennai), for building a pool of technical manpower (colleges of leather technology in different parts of the country), for training workers through training institutes (Footwear Design and Development Institute), national-level programmes such as the UNDP-assisted National Leather Development Programme and the Leather Technology Mission, various state-level leather boards and other such initiatives. There are also a large number of business associations, formed by entrepreneurs in different segments of the industry, and an extremely active Council for Leather Exports (CLE) under the aegis of the Ministry of Commerce. The following are the major institutions that cater to the leather industry in India.

- Council for Leather Exports (Under the Ministry of Industries and Commerce)
- Central Leather Research Institute (Under the Department of Scientific and Industrial Research, Ministry of Science and Technology)
- All India Skin Hide Tanners Merchants Association (AISHTMA)
- Indian Shoe Federation (ISF)
- Indian Finished Leather Manufacturers and Exporters Association (IFLMEA)
- Central Footwear Training Institute (CFTI)
- Indian Leather Industry Foundation (ILIFO)
- Regional Tanners Associations, for example, the Kolkata Leather Complex Tanners Association (CLCTA)
- Common Effluent Treatment Plants for leather complexes such as the one in Jalandhar

³⁷Chennai, Ambur, Ranipet, Vaniyambadi, Tiruchirapalli and Dindigul in Tamil Nadu are the major production centres. Tamil Nadu is the biggest leather exporter (40%) of the country and its share in India's output of leather products is 70%. (www.tidco.com)

- Special Purpose Vehicles (such as the BDS Cluster Development Scheme in Kanpur), promoted to implement certain infrastructure projects
- Indian Institute of Leather Products (IILP), Chennai
- Uttar Pradesh Leather Industries Association (UPLIA)
- Agra Footwear Manufacturers and Exporters Chamber (AFMEC)

The GoI had identified the leather sector as a Focus Sector in its Foreign Trade Policy 2004–09, in view of its immense potential for export growth and employment generation. Accordingly, the government is also implementing various Special Focus Initiatives under the Foreign Trade Policy for the growth of the leather sector.

Government policies in support of the industry

- The entire leather sector is now de-licensed and de-reserved, paving the way for expansion on modern lines with state-of-the art machinery and equipment.
- 100% Foreign Direct Investment and Joint Ventures are permitted through the automatic route.³⁸
- A 100% repatriation of profit and dividends is permitted if investments are made in convertible foreign currency. A declaration to this effect to the Reserve Bank of India (RBI) is required.
- Promotion of industrial parks (a leather park in Andhra Pradesh, a leather goods park in West Bengal, a footwear park in Tamil Nadu and a footwear components park in Chennai)
- Funding support for modernizing manufacturing facilities
- Funding support for establishing design studios
- Duty free import of raw material (namely, raw skins, hides, semi-finished leather and finished leather) and of embellishments and components under specific schemes
- Concessional duty on the import of specified machinery for use in the leather sector
- Duty neutralization/Remission scheme³⁹

Exports

About 46% of the leather production is exported and leather ranks eighth in the list of India's top export earning industries and contributes roughly Rs 100 billion per annum, that is, about 4%, to export earnings (ibid., 2008).

The Indian leather sector meets 10% of the global finished leather requirement. After China and Italy, India ranks third among the leather producing and exporting countries of the world. With over US\$ 4 billion of output, the value of India's leather exports is estimated at over US\$ 2.4 billion⁴⁰. India's export of leather has increased in value from Rs 280 million in 1960–61 to Rs 159,310 million in 2008–09 (DGCI&S, 2010). Although India's exports of leather and leather products have been growing steadily, the export of goat and sheep skin has been on the decline during the last five years, probably because of unmet local demand for these skins.

Despite the large investments made by the government and the private sector in the promotion and development of the leather industry, the largest segment employed in the industry has been deprived of the benefits accruing from these developments. In the industry, there is debate over whether leather should be a by-product or a co-product in the process of meat production. Despite the importance of the product, the goat rearer and shepherd (primary producers), whose labour determines the quality of the skin, are denied benefits from the price of skin obtained.

³⁸ All joint ventures in India require government approvals, if a foreign partner or a non-resident Indian or Person of Indian Origin partner is involved. The approval can be obtained either from the RBI or Foreign Investment Promotion Board (FIPB). In case a joint venture is covered under the automatic route, then the approval of RBI is required. In other cases, not covered under the automatic route, a special approval of the FIPB is required.

³⁹ A scheme for neutralization of the incidence of customs duty on the import content of the exported product; the neutralization is provided through grant of duty credit against the exported product. A Duty Remission Scheme enables post export replenishment/remission of duty on inputs used in the export product.

⁴⁰ Website of Kanpur BDS: <http://kanpurbds.fibre2fashion.com/indian-leather-ind.asp>; Infrastructure Leasing and Financial Services Ltd (IL&FS) Cluster Development Initiative Limited, supported by GtZ, KfW and DFID

The Wool Industry

Sheep rearing and wool production

The salient characteristics of sheep rearing in India are a dependence on self and family surplus labour, zero input sheep farming, an extensive range management system⁴¹ and sustainable output management.⁴² Over the last two decades, the sector is witnessing increasing commercialization and government agencies are promoting crossbred varieties that yield better quality and higher quantities of wool. However, experts in this sector opine that because farmer production and management systems are differently geared, crossbred sheep are unable to withstand climatic and nutritional stress in the field; this affects their health and makes flock management requirements more expensive and intensive. Recent efforts at breed improvement have focused on indigenous breeds of sheep. For example, at the Garsa Regional Centre of CSWRI in Himachal Pradesh, the thrust of current activities is on improvement of the local Gaddi breed of sheep.

India ranks 6th in the world sheep population and 7th in wool production. The total production of wool in India was approximately 45 million kg per annum in 2005–06 and has ‘plateaued’ since then (Department of Animal Husbandry, Ministry of Agriculture), having declined by about 10% over the last decade. The main wool producing states of India are Rajasthan, Punjab, Jammu and Kashmir, Karnataka, Gujarat, Uttar Pradesh, Uttarakhand, Andhra Pradesh, Maharashtra, and Haryana. Given the increasing demand for wool and woollen fabrics, and the non-availability of superior quality wool from indigenous breeds, India’s imports of wool are substantially high. In 2007–08, India imported approximately 96 million kg of wool and 94 million kg of rags (woollen and synthetic), the latter going into the production of shoddy woollen yarn.⁴³

Productivity of wool is relatively very low in the country, as compared with the world average; as against about 3.5 kg/sheep/year in the world, the average for India is only 0.8 kg/sheep/year. Different agencies and authors have estimated that the sheep and goat population in the country is 5–50 times its carrying capacity.

Wool quality and its usage in India

Based on its suitability for final use, wool is broadly classified into two types: (i) carpet grade and (ii) apparel grade. Carpet grade wool is coarse and long, with the ability to withstand abrasion loss and rough usage, whereas apparel grade wool is fine (less than 30 microns in diameter), and with a staple length of more than 6 cm. The bulk of the wool that is produced in India is of coarse quality and used mainly in the manufacture of hand-knitted carpets. The rest is being used for the manufacture of apparel, blankets, finished textiles, garments, knitwear, etc. Of the total production of raw wool in the country, it is estimated that 5% is apparel grade, 85% carpet grade, and 10% coarse grade.

The wool produced by most breeds of South India, barring a few exceptions (such as the Nilgiri and Bellary breeds), is extremely coarse and does not lend itself well to the production of even carpet grade wool. As a result, the high and increasing numbers of sheep in these regions do not contribute substantially to the production of economically important wool produced from India. This does not in any way imply that there is no potential for economic application of the wool (more appropriately called hair) from sheep in South India, viz., from the Deccani breed; given the current situation and R&D focus of the wool industry and prevailing government policies, the production of wool from southern India is not economically valued.

⁴¹ Extensive range management system refers to the practice of free grazing over vast tracts of land, usually without the use of any supplemental feed.

⁴² Sustainable output management refers to the system of maintaining an optimal flock size over the years, through retention of female lambs born of ewes in the flock, and sale of male lambs for cash returns.

⁴³ Imports are facilitated also on account of favourable government policies in this regard. Although these policy changes enhanced the economic buoyancy of the domestic woollen industry, the benefits of this could not percolate to the farmer level due to various impediments in the value chain (Suresh et al, 2010).

Breeds of Sheep in Rajasthan and Quality of Wool Produced

Sheep Breed	Quality (microns)	Colour
Chokla	28–32	White/Yellow
Magra Chokla(Bikaneri)	32–36	White/Yellow
Magra	32–36	White/Yellow
Nali	32–36	White/Yellow
Jaisalmeri	32–36	White/Yellow
Marwari (Washed)	36–40	White/Yellow
Marwari (Greasy)	36–40	White/Yellow
Malpura	36–40	White/Yellow

Categories of Wool, Technical Specifications and the Breeds of Sheep that Produce Them

Category	Micron Structure (Average Diameter)	Sheep Breeds (where this quality of wool is found)
Fine wool	Below 28 microns	Hissardale crossbred , Kashmir Valley, Kashmir Valley-Russian Merino crossbred
Medium wool	Between 28 and 34 microns	Chokla, Rampur Bushair, Gaddi
Coarse medium wool	Between 34 and 40 microns	Marwari, Jaisalmeri, Magra, Pugal
Coarse wool	Between 40 and 50 microns	Malpura, Sonadi, Nali, Patanwadi, Hassan
Very coarse wool	Between 50 and 80 microns	Mirzapur, Jalauni, Shahabadi, Deccani
Hairy types	80 microns and above	Nellore, Ramnad

Deccani wool

Certain southern states of the country such as Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra produce wool that is coarse and brittle in nature. This type of wool is generally black in colour and has an average thickness of 32 microns. This wool has limited usage, and is used in the production of coarse blankets.

Speciality fibres

There are certain finer varieties of speciality fibre that are produced in small quantities in the country. This type of fibre is apparel grade and has a specification of 28 microns or below. These include the fibre obtained from the Angora and the Pashmina goats (Chegu and the Changra largely found in Ladakh in Jammu and Kashmir and the Lahaul-Spiti region of Himachal Pradesh). Pashmina production is about 32 metric tonnes from the traditional areas and about 5 metric tonnes from some pockets of non-traditional areas. The fineness of the Cashmere/Pashmina fibre ranges from 15–17 microns with 32 to 50 mm length. The average fibre diameter of Pashmina fibre from the Changra goat is 13–16 microns, and that of the Malra is below 15 microns. Approximately 30,000 kg of speciality fibre is produced annually from the Angora goat. Kid-mohair⁴⁴ fibre is fine with a micron range of 10–40 microns and the fibre length is 100 to 150 mm.

Wool industry

Small and scattered, the Indian wool industry accounts for about 1.8% of the total world production of wool. The total number of persons employed in the wool industry and sheep rearing in the rural sector of the country is estimated at 2.7 million approximately, with 1.2 million being associated with sheep rearing activities, the large majority of them being from the marginalized sections of the society (Ministry of Textiles, Annual Report 2009–10).

The wool industry in India broadly falls under two sectors, each comprising a variety of different industrial units.

⁴⁴Mohair is fine quality hair produced by the Angora goat (the word originates from the Arabic word *mukhayyar* meaning best fleece).

Organized Sector

- Composite mills
- Combing units
- Worsted and non-worsted spinning units
- Knitwear and woven garments units
- Machine-made carpet manufacturing units

Decentralized Sector

- Hosiery and knitting
- Power looms
- Hand-knotted carpets, druggets and namdahs
- Independent dyeing process houses

There are 958 woollen units in the country, the majority of which are in the small-scale sector. Most industrial units are located in Punjab, Haryana, Rajasthan, Uttar Pradesh, Maharashtra and Gujarat. In terms of their numbers, 40% of the woollen units are located in Punjab, 27% in Haryana, 10% in Rajasthan whereas the rest of the states account for the remaining 23% of the units. Ludhiana alone accounts for 225–240 units in the decentralized hosiery and shawl sector. However, almost all of these units exclusively use either synthetic yarn and/or imported wool; a few units that were using indigenous wool until a couple of years ago have also stopped because of lack of demand and/or quality constraints. A few of the larger units are located in Maharashtra, Punjab, Uttar Pradesh, Gujarat and West Bengal (ibid., 2009–10). The installed capacity of the industry is about 0.604 million worsted⁴⁵ spindles, and 0.437 million non-worsted⁴⁶ spindles. Wool combing capacity is around 30 million kg whereas the synthetic fibre combing capacity is 3.57 million kg. There are approximately 7,228 power looms in this industry.

Sheep rearing for wool

Rajasthan

In the western part of Rajasthan, preference is for sheep over goats. Some of the reasons given by shepherds for this preference are:

- (i) In addition to income from the sale of lambs, what is valued is the income obtained from the sale of wool, three times in a year, perceived as significant by the shepherds
- (ii) In areas with nutrition stress, goats are unable to produce (more) meat/gain substantial weight.

All shepherds, who can migrate in the region, do so for 8 months in a year and reside for 4 months in the village, with Punjab and Haryana being the usual migration destinations. For a flock of 100 sheep, two labourers are engaged during the migration season. Each one is paid Rs 5,000 (cash), in addition to food (at least Rs 100 per day), clothes including shoes, and other sundry expenses, viz., for *bidi* and telephone calls home.

To overcome nutritional stress and feed deficiencies, guar⁴⁷ plant/empty pods, purchased at Rs 400/quintal are given as supplemental feed to lambs (1kg/day) and adult sheep (2kg/day). From a flock size of 50 sheep and 2 rams, approximately 40 lambs will be born; of these, 30 lambs will survive in a year [half of them male (*ghetiya*) and half female (*ghetado*)]; the 15 surviving females are retained for inclusion in the flock and they mature at 12 months' age. For the 15 male lambs that survive, the preferred option is to sell them off as they attain one year; however, cash requirements of the shepherd family often dictate the decision, and male lambs are sold off any time between 4 months and 12 months of age. For the first 3–4 months, the lambs require/are provided no supplemental nutrition other than the ewes' milk.

⁴⁵ Worsted: Firm-textured, compactly twisted woollen yarn made from long-staple fibres and the fabric made from such yarn. The essential feature of worsted yarn is the straightness of fibre, in that the fibres lie parallel to each other; traditionally, long, fine staple wool was spun to create worsted yarn. Worsteds differ from woollens, in that the natural crimp of the wool fibre is removed in the process of spinning the yarn (source: Wikipedia).

⁴⁶ Non-worsted: yarn which has not been straightened

⁴⁷ Guar: cluster beans

Traditionally, the shearing of wool is done thrice a year, and the wool produced/sold is popularly known by the season/month of its production; thus, the three varieties of wool found in the markets in this region include *Siyadu* (winter wool), *Ashadhu* (monsoon wool) and *Chaitu* (summer wool). The first two types have a yellowish/saffron tinge to them, and hence are also known as the *Chandaniya* variety (from *chandan*, meaning sandalwood coloured). *Ashadhu* wool is softer than *Siyadu*, probably because of higher moisture content, and it fetches a 5–10% higher rate than *Siyadu*. *Chaitu* is the most preferred variety because of its white colour and lesser presence of external organic/inorganic matter, viz., thorns and dust; it also fetches the highest price.

In many areas of Western Rajasthan, shepherds have now resorted to only two shearings in a year, on account of higher shearing costs. Wool obtained during summer is superior in quality (the *Chaitu* quality referred to earlier), and is known as ‘Tilaani’; it makes finer yarn and fetches a higher price. The winter shearing, called ‘Dulaani’, is yellowish in colour, lumpier, with more thorns and a longer length; it produces a thicker yarn as compared to Tilaani. Similarly, in the southern states, sheep are now sheared only once in a year instead of the traditional practice of twice yearly.

Shepherds said that they received no returns from farmers for penning their sheep in farms; this is because the terrain is dry and the manure tends to cause crop burn in the absence of sufficient water/moisture. However, collected manure may be sold at Rs 10/kg.

Wool processing and value addition (Rajasthan)

Historically, wool production and processing were traditional enterprises in India, practised in certain parts and by specific tribes and communities for whom sheep rearing and weaving were traditional occupations.

The demand for Indian wool today is a derived demand, arising from the demand for carpets, both in domestic and international markets, the role of the latter being more pronounced. On the other hand, the supply of wool depends on domestic production as well as import of wool from other countries. A close observation will show that these forces have acted in such a way as to suppress the price of wool in the domestic market for all grades of wool. Such a decline is widespread and can be noticed on all grades, not only in real, but also in nominal terms. The inclusion of wool under the Open General License (OGL) and the import of rags used by the shoddy sector⁴⁸ on OGL were reported to be the main reasons for the decline in wool prices (Champawat, 1993, cited in Suresh et al, 2010). Another major factor was the reduction of duty for wool greater than 32 microns (non-apparel grade), which led to the import of large quantities of wool in India, even from traditionally non-exporting countries. Further, the stock and sale facility under the liberal import rule⁴⁹ also affected wool prices adversely (Suresh et al, 2010).

The following paragraphs on wool value-addition and marketing are with reference to Rajasthan only, where a significant market for indigenous wool still exists. Information and issues concerning wool production, use and sales in the southern states of Andhra Pradesh and Karnataka, as well as from the northern state of Himachal Pradesh, are discussed separately.

Village sales

In a village in Bikaner district of Rajasthan, where Magra is the commonly owned breed of sheep, each shearing yields 500–1,000 gm of wool per animal, and costs approximately Rs 5 per shearing. Shepherds do not differentiate between lamb and sheep wool, and although the former is softer (and would fetch a higher price), all qualities are mixed at the time of shearing; shepherds said that since lamb wool was available only in small quantities, it probably would not make a significant difference to the total (at the same time, they are also unaware of the price difference between the two qualities). Contamination of white wool with other colours results in a drop in prices offered by buyers, so the coloured parts are often separated from the lot, sometimes by the shepherds but more often by the traders.

⁴⁸ The shoddy industry contributes nearly 30% to the wool industry’s turnover. Shoddy refers to the reclaimed textile fibre from used garments, which is spun on the woollen system to make yarns suitable for making blankets, sweaters, blazer fabrics and heavy woollen jacket material. There are about 500 units in the country engaged in the production of shoddy woollen products by way of spinning, weaving or processing.

⁴⁹ Under the OGL, imports may be of two types: (i) subject to certain conditions, and (ii) stock and sale; the latter implies that items can be imported by any importer whether for his own use or for resale, that is, the importer need not necessarily be a user of the goods imported.



Wool Markets in Bikaner and Lunkaransar

visited (Musalki village in Bikaner district of Rajasthan), all shepherds were indebted to agents, with loan amounts in the range of Rs 20,000 to 30,000 per head.

Lunkaransar, a small trading town in the district of Bikaner, has a wool market with some 20–25 wool commission agents. Lunkaransar houses one of the major wool markets in the state, the others being Beawar, Kekri and Bikaner. Most of the agents from Lunkaransar and elsewhere sell directly to the mills in and around Bikaner, which has 145 woollen mills, of which 30–40% undertake hand spinning. The total volume of wool traded in this *mandi* is in the range of 0.6–0.7 million kg per annum.

Prices also vary by the source/origin of wool. In the Bikaner *mandi*, there are at least four different recognized varieties (rates cited below are for the Chaitu variety):

- Uttarda belt—the most superior wool sold at Rs 150–180 per kg
- Chokla belt—the second best quality wool sold at Rs 140–160 per kg
- Magra belt—good quality wool, but lesser than the first two, sold at Rs 120–140 per kg
- Jaisalmer patta—the least preferred variety of wool sold at Rs 90–110 per kg

The price difference between washed and unwashed wool was found to be in the range of 6–25%, depending on the degree of impurities contained in the wool. However, shepherds tend to bring unwashed wool because of factors such as low availability of water and higher cost of labour vis-à-vis the benefits that would potentially accrue from the sale of washed wool.

Bikaner wool market

Bikaner is the largest wool market in Asia and, in 2007–08, it recorded wool trade worth Rs 2,080 million, down from Rs 4,060 million in 2003–04. Trade in indigenous wool is estimated to have reduced by up to 80% in this market. The market is governed under the APMC Act of 1961, and has separate sections for grains, fruit and vegetables and wool.

At the time of this research study, 132 commission agent licenses had been issued by the market committee, of which 96 were in operation. There are four categories of licenses issued for this market.

- (i) Commission Agent's License: The license-holder can act only as an intermediary between the buyer and the seller, and charges a fee (commission) as a percentage of the sale price from the seller.
- (ii) Commission Agent-cum-Trader's License: The license holder, in addition to being an intermediary between the buyer and seller, can also sell wool directly to buyers, having purchased the same from other sellers.
- (iii) Trader's License: For engaging in trade (buying and selling) in the market—this category is issued to mill owners.
- (iv) B-class Broker's License: Issued to individuals who operate in the market in the name of the commission agent.

For issuance of a commission agent's license, an individual has to make an application in the prescribed form (58/1), provide a blueprint of his shop, and furnish a bank guarantee of Rs 10,000 or pledge an NSC (National Savings Certificate) of the said amount.

Sales are effected through an open auction, with buyers calling out their offers for the entire lot on a *maund* (40 kg) basis. A 2% commission is charged from the sellers. A 1.6% fee is also charged from the buyer—this goes towards the payment of the *mandi* fee (there is no profit on this).

Yarn-making and further sales

Many mills in Bikaner town offer to undertake job-work for yarn-making, and charge Rs 25 per kg for use of their equipment and facilities. The wool-to-yarn conversion ratio is between 65 and 90%, depending on the quality of raw material. The value added at this stage is difficult to estimate on account of the multitude of possible permutations and combinations in the usage of raw material, since all or most of the yarn being manufactured is of the blended variety, with varying proportions of imported and indigenous wool.

For sale of the yarn, samples of 0.5 kg are sent to commission agents, mostly located in the national capital (New Delhi) or in carpet-producing towns and cities, for example, Panipat (Haryana) and Bhadohi (Uttar Pradesh). A 2% commission is paid to the agent for all sales transacted through them.

A majority of wool yarn manufactured in the country is a blend of wool of different grades and qualities, as well as synthetic fibre; the proportions of which vary from one industrial unit to another, and between different batches. The value added is, therefore, a function of the proportions of different grades of wool and synthetic fibres that go into the manufacture of the yarn, as well as its processing.

Wool production and use in the southern states

This section discusses the common practices and uses of wool observed in the southern states of Andhra Pradesh and Karnataka; more specifically, the findings are based on field visits made to district Medak (Andhra Pradesh), and Belgaum and Tumkur (Karnataka).

Andhra Pradesh

Sheep rearing

Sheep rearing is a traditional occupation of the Kurmas, a community of pastoralists, who are more or less completely dependent on sheep rearing as a means of livelihood. The sheep they rear is the black Deccan breed, and some of its coloured variants (brown, beige and so on). Shepherds migrate during August to February the following year, up to distances of 40–50 km from the village. In Saipet village (Medak district), 10 of 25 shepherds were migrating at the time of the visit (in mid-January). The primary reason for migration is the search for fodder and to keep the sheep in good health because sufficient green fodder is not available locally during this period.

The first shearing is usually performed at one year of age, and subsequently every 6 months. On an average, the shepherds estimated that the cost incurred per sheep is between Rs 100–150 per year (de-worming, vaccinations and medicines).

Deccani wool for gongadi

The wool of the Deccani sheep was previously valued for weaving the *gongadi*,⁵⁰ but this practice has been on the decline because of changing market structures and preferences. Until about 10 years ago, there was a significant demand from the government for locally woven *gongadi*, for use by the Indian Army. However, international trade regimes and markets have brought about a change in this aspect, and the demand has switched from purchase of *gongadi* to blankets manufactured from cheap and imported shoddy wool, which has a finer grain and texture, although a shorter life-span. The collapse in the local market for the *gongadi* has meant that the co-operatives that purchased and sold *gongadis* in the market have also subsided into oblivion on account of the adverse market conditions.

Each *gongadi* requires at least 3 kg of wool,⁵¹ and 3 weeks of labour for weaving (this is perhaps the total time required from shearing to carding/combing, spinning and weaving). For the enterprise to continue to remain profitable, a *gongadi* would have to sell at between Rs 2,000–5,000, depending on the quantity and quality of wool that goes into the blanket.

⁵⁰ A multi-purpose, locally woven blanket with coarse texture, made from Deccani sheep wool; it is used as a blanket, as protection from rain, for holding and temporary storage of grain and for seating on the floor.

⁵¹ As an estimate, 10 sheep produce 3 kg of wool, twice a year.

Wool prices realized by shepherds

Wool is usually sold to traders in the village or agents of traders, who visit the village from Warangal and Nalgonda districts. Apparently, these agents supply wool in bulk to merchants, who use it for the production of (machine-made) rugs⁵². Black wool fetches the highest price, selling at Rs 10 per kg; all others, white and brown included, are sold at Rs 6 per kg.

Karnataka

In Karnataka, livestock rearing is still an integral part of the farming ecosystem, and a large part of the shepherds' income comes from penning their herds on farms along the migratory route. Apparently, this income is received round the year, except during the monsoons when the rains are intense. Traditionally, the families engaged in shepherding belonged to the Kuruba community⁵³, but some others have taken to it for its economic returns.

Much like in Andhra, the tradition of weaving is being eroded under the onslaught of commerce and market forces. The wool of the Deccani and Bellary sheep, which was formerly used for weaving *kambali* (similar to the *gongadi* in Andhra Pradesh), has lost its market for much the same reasons as cited above. The number of *kambali* weavers has drastically reduced, and some have diversified to production of bags, rugs and felt sheets.

Wool is sorted by colour (the Deccani sheep produces seven natural shades of wool) and by age (lamb wool is priced higher than wool from adult sheep). The following table provides wool prices as informed by the agency Shramik Kala, which is engaged in the production of value-added wool products in Belgaum.

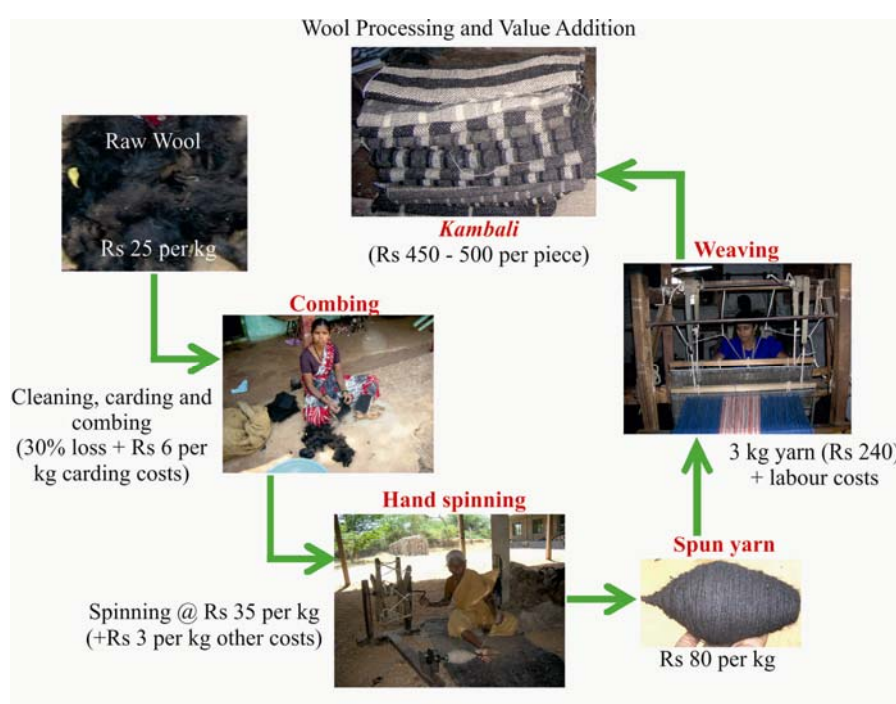
Prices of wool as reported by Shramik Kala (Rs/kg)⁵⁴

Colour →	Black	Mixed Colours	Colours (sorted)
Lamb wool	25–30	20	20
Wool from adult sheep	20–25	10	20–25

The wool of the Deccani sheep is very coarse and has a short staple length. Scientists at CSWRI in Avikanagar do not classify it as wool but as hair fibre.

Local value-addition

A *kambali* of size 60 x 90" requires about 600 gm of wool and sells for Rs 500 in the local market. When made from lamb wool, which is of finer quality, nearly 800 gm of wool is used, and the price it fetches in the market is Rs 2,000. The latter is, however, used only for special occasions and rituals. It takes between 3 and 5 days to weave a *kambali*.



⁵² Names of companies—Bongir in Nalgonda and Gajvel in Medak districts

⁵³ The *Kurubas* of Karnataka are known by different names in other states—*Kuruma* in Andhra Pradesh, *Golla* in southern Karnataka, *Dhangar* in Maharashtra, *Pal* in Rajasthan and *Maldhari/Gadariya* in Gujarat. All of these communities are traditional sheep rearers.

⁵⁴ Although I provide this table here, it must be mentioned that this information was not corroborated by findings in the field, where shepherds reported that they are unable to sell their wool, and the maximum price that it fetches is Rs 10 per kg (for black wool, the most highly priced).

Economics of Woollen Durrly Making (size 2 x 3')

Raw material	Cost (Rs)
Local sheep wool (1.3 kg @ Rs 90/kg)	117
Cotton (for <i>taana</i>)	5
Total raw material cost	122
Labour	
Weaving	50
Finishing (washing, pressing, etc.)	17
Hand stitching	19
Total labour cost	86
Total cost (raw material + labour)	208
Selling price (Rs) – 100% mark up:	416
Profit (Rs):	208 per durrly



Wool processing and value addition in Himachal Pradesh

A visit to the Kullu district confirmed that the entire Kullu shawl industry is based on the use of imported Australian merino wool. There is a thriving market for locally produced Angora (from the Angora rabbit) and Pashmina (from the hair of goats).

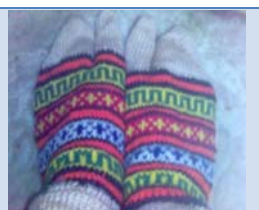
Shepherds carry out either two or three shearings in a year. Average wool production per sheep is in the range of 1.5–2.0 kg, and it fetches between Rs 80 and 90 per kg, depending on quality (staple length) and the degree of impurity/organic matter in the wool.

Locally produced wool from sheep in the Kullu-Kangra belt is procured by middlemen or by the Himachal Pradesh Wool Marketing Federation, for further supply to hosiery and woollen units in Ludhiana (Punjab) and Bikaner (Rajasthan), respectively. Hand spinning and hand looms are a dying art, with locally woven blankets being replaced with imported Korean ones. Use of Pattus (the woollen dress worn by Himachali girls and women) is also on the decline, and whatever little is required is usually made by the family for its own use.

The only widespread use of local wool is in the manufacture of 'Kullu socks', which use a yarn that is a blend of Angora and local sheep wool. Carding facilities for locally produced wool are provided at a carding unit in Kullu, for which a fee of Rs 15 per kg is charged. Approximately 8,000 shepherds use the facility at Shivani Carding Unit, which has a catchment that spreads out to the entire Kullu, Lahaul, Spiti and Mandi. Less than 2% of those using the facility are into the commercial use of wool and production of articles for the market; a majority use it for themselves and their families, there being a tradition of gifting woollen articles to the bride and groom at the time of their wedding.

Economics of Socks Making (Kullu Socks)

Raw material	Cost (Rs)
Local sheep wool (70 gm)	35
Cashmilon (50 gm)	10
Total raw material cost	45
Selling price (Rs)	110
Profit (Rs)	65 per pair



At the Paprola wool market in Palampur district, it was learnt that the last stocks of the largest trader were sold over a year and a half ago, and the last purchases were made about 3–4 years before. This trader is no longer in the business. Contractors from Srinagar used to be the major buyers earlier, but they stopped coming to this market about four years back. All procurement in the region is apparently being done by the HP Wool Marketing Federation, located at Banuri, about 5 km from Palampur. Agents and traders in the wool business claim that the quality of wool has deteriorated since the government started procuring wool because they offer the same price for all grades of wool. A couple of traders continue to operate in the market, buying wool only during the season, and only in response to advance demand orders placed with them by buyers (traders, not mill owners) from Bikaner and Panipat. Between 30–40 tonnes of wool are estimated to be sold from the market at the end of each shearing season. In a year, the total wool disposed of from the Paprola market is approximately 70 tonnes.

Wool imports

India imported raw wool to the tune of around 65.7 million kg (2008–09), its value estimated at Rs 10.32 billion (or USD 225 million); this is a very significant rise (33 times in volume and 1,000 times in value) since 1960–61, when the total volume of raw wool imported was only 1.9 million kg, valued at Rs 10 million (USD 2 million). The changing trend in raw wool imports is shown in the following table.

Raw Wool Imports Trends—Volume and Value					
Year	Volume (’000 Tonnes)	Value (Rs in Crores)	Year	Volume (’000 Tonnes)	Value (Rs in Crores)
1960–61	1.9	1	2003–04	84.6	871
1970–71	19	20	2004–05	84.7	867
1980–81	18.8	55	2005–06	90.2	903
1990–91	29.4	102	2006–07	99.6	1,078
2000–01	53.7	200	2007–08	93	1,088
2002–03	73.6	802	2008–09	65.6	1,032

Source: DGCI&S, Kolkata
1 crore = 10 million

In recent years, there has been a shift from imports of only fine quality to low quality wool. This is on account of consumer preference for hand-tufted carpets in the US and other western markets, produced and supplied by India. Cheap wool imports from the Middle East are constantly growing and mainly go into the manufacture of hand-tufted carpets mixed with indigenous wool.

Import of Wool from Different Countries (Kg)								
Countries	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	Share %
Australia	20,937	16,141	16,790	19,007	20,937	18,621	17,908	27.3
New Zealand	11,169	7,893	9,652	10,535	12,907	12,179	8,712	13.3
Pakistan	1,094	2,459	1,270	2,721	4,716	6,061	4,045	6.2
Italy	5,949	6,891	5,491	5,625	6,337	5,422	3,579	5.5
Syria	1,770	1,567	1,236	1,595	3,313	4,440	3,103	4.7
World	73,659	84,612	84,753	90,185	99,617	92,904	65,653	

Source: DGCI&S

Wool exports

Overall exports of wool and wool-blended products are estimated to have declined by 8.4% to around Rs 50.64 billion during 2008–09. This largely reflects the 23.2% drop in the exports of carpets, rugs and druggets. The following table provides export figures for the last few years.

Wool Exports (Rs in Crores)			
Products	2006–07	2007–08*	2008–09*
Fabrics	433.23	368.24	442
Yarn woollen/worsted/shoddy	474	426	512
Blankets	77.76	58.32	70
Wool tops	154.08	154.08	185
Shawls/scarves/stoles and mufflers	578.88	619.4	681
Hair belting ⁵⁵	12.24	10.4	12.48
Carpets, rugs, druggets including namdhas	3,674.86	3,524.73	2,708.73
Knitwear	345.18	363.57	451.68
Machine-made carpets	1.44	1.44	1.44
Total	5,751.67	5,526.78	5,064.30

1 crore = 10 million

*Estimated; Source: Industry

⁵⁵ Hair belting is used as the medium for transmission of power, that is, it transmits power to move or drive machines. Hair belting is made of wool and nylon (tyre cord) in the warp and selected cotton yarn in the weft. After being woven on a loom, it is then treated with bitumen-based compounds.

Policy Issues and Recommendations

Any discussion on the constraints to developing the small ruminants' products sector will have to be placed within the context of small ruminant rearing in rural India. Livestock rearing in the country has been primarily for livelihood security and not for commercial purposes, with ownership being more evenly distributed vis-à-vis land and other resources; animals are a hedge and insurance against natural calamities, droughts, etc., and animal husbandry is frequently one of the many occupations in a household's livelihood strategy. However, the commercialization of livestock is on the rise as a result of market developments and fiscal incentives, and an increasing demand for animal protein in the consumer market. A gradual shift towards intensively managed ram lamb/sheep units is observed, particularly in the southern Indian states of Karnataka and Andhra Pradesh, which is being led and/or facilitated by animal health professionals, state veterinary departments and financial institutions.

In the macro policy landscape, the single-minded pursuit of agriculture enhancement at all costs has claimed a victim out of animal husbandry; government planned and sponsored schemes for agriculture intensification through land development and irrigation have completely side-stepped the necessity for preservation of a balance in ecosystem functions, including maintenance of the synergistic relationship between agriculture and animal husbandry. There has been a rapid loss of available lands for grazing sheep and goats, primarily on account of changing land use and property rights regimes. These changes in the elements of the farming ecosystem manifest in declining land and soil productivity, greater reliance on chemical fertilizers and higher cost of agriculture inputs. The loss of lands for grazing has resulted in decreased flock sizes and reduced number of shepherds. As an estimate, the average flock size in the 'shepherd belt' of Rajasthan has declined from 200–300 to 60–70 sheep over a period of 10 years. In all the locations visited, one came across traditional shepherds and goat rearers, who had now become daily wage labourers, a clear sign of regression into a poorer and disempowered state.

Morbidity and mortality among sheep and goat flocks continue to be very high and are a major cause of loss of income to rearers/shepherds. State veterinary health services and facilities are inadequate, and unable to meet the huge demand from local and migrant graziers, breeders, rearers and shepherds.

Meat value chain

➤ **Meat trade is highly unorganized and largely unregulated**

There are an estimated 25,000 unauthorized slaughter locations and 4,000 registered slaughterhouses in the country (Planning Commission, GoI, 2006). A large segment of the meat production sector is unorganized, and had remained a low priority sector until the Eleventh Five Year Plan (2007–12) when incentives were provided to industries to boost investment for modernization, value addition and infrastructure development; the Eleventh Five Year Plan not only established production targets for the sector (10% each for meat and poultry), but also allocated financial resources, including for the modernization of abattoirs, cold chains and other schemes for promoting the meat processing industry.

There is a multiplicity of entities for licensing, regulation and quality control in the meat processing and exports sector, including in the establishment and management of facilities such as slaughterhouses; experts and policy makers in the sector opine that the mechanisms for regulation are however ineffectual and the institutions are largely under-resourced—the same was borne out by observations made during the course of this study.

The recently constituted FSSAI, which has been established under the MoHFW, is yet to assume the full range of responsibilities and tasks that have been assigned to it.

Despite the meat market being a predominantly wet market, there is complete lack of knowledge of and adherence to food safety standards and regulations, which could prove to be a major cause for concern in the event of any disease outbreak.

➤ **An intermediaries' market (neither buyers' nor sellers')**

Livestock markets are structured in favour of the intermediaries, to the *disadvantage of the consumer, rearer and the by-products markets*. The market is structured in a manner that clearly puts the rearer at a

disadvantage; however, it is not even a buyers' market. It will not be inappropriate to label the meat market as being a brokers' or commission agents' market.

A large part of the consumer's costs are on account of inefficient systems, costs of transportation and inefficient handling of operations related to goat/sheep slaughter, resulting in losses and inefficient utilization of the industry by-products. The operational focus on meat to the exclusion of all other by-products obtained from small ruminants manifests in poor price realization for the rearer.

There are invisible barriers to the entry of new players in the market, with the existence of robust agents' networks and strong resistance to government attempts to introduce change, viz., modernization or relocation of abattoirs, as was observed in the case of Delhi (relocation from Eidgah to Ghazipur) and in Hyderabad (ongoing legal battle over the relocation of the Jiyaguda livestock market and slaughterhouse).

➤ **Poor value addition along the value chain**

As mentioned earlier, *transactions in the livestock trade are non-standardized* and one comes across numerous unfair trade practices because of the ad-hoc nature of the market, which is almost completely unregulated by any policy or agency of the government, especially in areas closer to the field (the production base). Animals are sold purely on the basis of a visual estimation of their weight, age and appearance. Females for the meat sector are sold at prices lower than males although no such distinction is made in the final price of meat sold in the market through retail outlets. At the same time, whereas sheep fetch a lower price than goats, the meat of sheep is frequently passed off as goat meat in New Delhi.

There is virtually no value addition that takes place along the chain from producer to consumer although the price of the commodity keeps rising at every level. In the meat industry, *intermediaries' gains are on account of economies of scale and market location*. It is only at the point of sale that the animal is slaughtered, converted to meat and the meat sold by weight. Very little, if any, processing takes place in meat although some inroads are being made by companies such as Allana and Venky's. The meat market is predominantly a wet market, given the preference of the Indian consumer for fresh instead of frozen/processed meat.

➤ **By-product utilization**

Except where the operations have been modernized and mechanized (for example, in Chengicherla, Hyderabad and Ghazipur, New Delhi), there is a lot of wastage, inefficient by-product collection and sub-optimal utilization of 'waste'. Whereas blood, head, legs and offals are often sold outside/nearby slaughterhouses in terminal markets and at local butchers' shops in villages and districts, the full potential of the by-products industry is not realized in the country. There are significant value addition prospects and potential in the by-products industry (skin, casings, bones, blood and other waste), which could indirectly enhance returns to primary producers in the livestock sector. Some of the slaughterhouse waste does get collected and used for the manufacture of protein supplements for use in the poultry feed and fish feed industries but this constitutes a small and insignificant percentage of the total waste that is generated. Some companies have ventured into the manufacture of pet food products, using slaughterhouse waste and by-products.

One example of by-product utilization was observed within the slaughterhouse premises at Deonar in Mumbai, where blood meal is manufactured from blood collected at the slaughterhouse. This was a pilot intervention being conducted by a group of trained youth from an NGO (SETU), with financial assistance from the Sir Dorabji Tata Trust, and technical assistance from veterinary science colleges and BMC. A case study on the processing and utilization aspects is provided on page 34 of this report.

➤ **Slaughterhouses at the district level**

By bringing the market closer to the production base, it would be possible to address a number of issues and problems that seem to plague efficient operations in the meat industry. The terminal markets in all cities are constrained on account of space, and municipal requirements of waste disposal. Both these issues could be addressed at the district level through appropriate site selection, long-term planning, and establishment of effluent treatment plants.

Long distances between the production base and end consumer also mean that producers have to engage with intermediaries at multiple levels along the channel, which often results in their harassment, exploitation and/or poor returns. If livestock trade centres could be developed at the district level, they would become more accessible to the producers. The cost of transportation of live animals would also fall because of the shorter distances.

One could argue that this arrangement would not work because of the consumer preference for fresh meat. One possibility is to supply chilled instead of frozen, which has a shorter shelf life than frozen, but does not alter the taste and other characteristics. The concerned Ministry and institutions may take up research in this area and explore consumer preferences before launching the initiative large scale. On the matter of consumer preferences, it may be added that there is a gradual shift among the urban elite towards frozen and packaged foods, and it is only a matter of time before a larger section of the population could be swayed that way. The cost of transporting in temperature-regulated vehicles would be offset by the savings on transportation of live animals, as well as the possibility of carrying more quantities in packaged form. Linked with this are the often miserable conditions in which animals are transported live across considerable distance, and the very poor conditions for lairng at terminal markets. Mortality en route is high, and the poor conditions prior to slaughtering adversely affect the quality of meat. Moving processing and slaughtering facilities closer to the production base would do away with this.

Leather industry

A majority of the industry's units are Small and Medium Enterprises (SMEs); 60–65% of the production comes from small/cottage sectors. The industrial structure, which has been predominantly unorganized and decentralized, is gearing up remarkably in response to international market demand and a changing policy environment.

For the finished goods production units, fluctuations in the cost of raw material (semi-processed leather) are very high, depending on market demand and fashion forecasts in the international market. However, for the merchants dealing in raw skin trade, the prices are stagnant, and have also reportedly shown a decline in real terms. The gains that the industry has made over the years, on account of favourable government policies and growth in international markets, have not trickled down to the players operating at lower levels in the leather value chain. At the same time, the developments seen in the processing and manufacturing sectors are not accompanied with corresponding developments in the raw material production and collection methods, which continue to be highly scattered and unorganized.

➤ **Raw material supply issues**

In meetings with agents and owners of manufacturing units across the country, it was consistently reported that raw material availability and quality were the main constraints that the sector faced. Commission agents of skins and hides in Musheerabad said that the scale of business had reduced to 25% of what it was some 20 years ago because many parties (sellers of skins) are now dealing directly with tanneries; so, raw material is no longer traded through commission agents. The major sources of supply in this market are the city slaughterhouses and traders from Vizianagram (Andhra Pradesh), Raichur (Karnataka) and Jalna, Bid, Osmanabad, Latur, Dhulia and Malegaon (Maharashtra).

Many of the problems that affect raw material availability and have serious implications for export performance and quality in the sector are linked to the methods of procurement of raw hides and skins, their flaying and curing.

Losses from putrefaction and quality issues in the supply of raw material could possibly be addressed through workers' collectives, established close to the source of production. Of prime importance in meeting this objective would be a reduction in the time lag between removal of skin and its (temporary) curing for preservation. Apart from the cost of inputs for treatment (salt) and storage (a warehouse facility), the only other costs would be those of labour and the initial investment in organizing and establishing the collective. This small intervention in the leather value chain could go a long way in resolving higher end problems, as well as serve to provide employment to a large number of workers from the deprived classes.

➤ **Labour- and skill-intensive operations**

Operations in leather processing and finishing are very labour intensive except in the initial stages when raw skin is converted to wet blue; the cost of labour inputs rises as the product moves forward in the value chain. The leather industry has occupied a place of prominence in government policies on account of two of its characteristics: (i) its high potential for employment generation, and (ii) the involvement of so-called lower or Scheduled Castes in industry operations. Thus, whereas there have been many initiatives and attempts at promoting the industry, the focus has almost entirely been on the manufacturing and finished goods sector, to the exclusion of all other aspects, viz., procurement of hides and skins, and/or improved slaughterhouse practices that could add significantly to the raw material quality and availability. The following table shows that of the total employment provided by different segments of the industry, the share of ‘flaying, curing and carcass recovery’ alone is 45%; however, this segment continues to remain neglected in the policy domain.

Estimated Employment in Different Segments of the Leather Industry (Figures in Lakhs)			
Sector	Total Employment	Employment of Women	Per Cent Share of Women (%)
Flaying, curing and carcass recovery	8.00	0.35	4
Tanning and finishing	1.25	0.25	20
Full shoe	1.75	0.55	31
Shoe uppers	0.75	0.63	84
Chappals and sandals	4.50	1.50	33
Leather goods and garments	1.50	1.23	82
All	17.75	4.51	25.4
1 lakh = 0.1 million			

Source: Council for Leather Exports, cited in Damodaran and Mansingh, 2008

Whereas, on the one hand, there have been many attempts to promote the industry and equip the sector with qualified personnel, on the other hand, experts in the leather business (in Jalandhar,⁵⁶ in particular) opined that trained human resources continue to be in short supply in the industry because of the tendency among skilled workers to emigrate after gaining experience and obtaining training certificates to the international leather market that has been expanding consistently and, therefore, has a constant demand for skilled human resources.

Wool industry

➤ **Loss of grazing lands and reduced flock sizes**

The entire production system that supports the indigenous wool industry is crippled on account of loss of grazing lands and decreased flock sizes.

In Himachal Pradesh, graziers have traditionally (since the British times) been issued permits for grazing their herds, with migratory routes and numbers specified in the permit issued by the Forest Department. A specified fee per animal is charged per season. Over the years, there has been a restriction on the issuance of new permits, and the common practice now is for herds to be taken for migration by (existing) permit-holders on a contractual basis⁵⁷. Grazing grounds/pastures have also shrunk and degraded with the spread of weeds such as *Lantana* (Panchphuli), *Ageratum* (Neelaphulnu), *Chromolaena* (Kali Basuti), *Parthenium* (Congress grass) and *Bidens* (Laamb). These weeds have not only reduced grazing areas but are also a cause of high mortality, particularly in younger livestock. Loss of livestock on account of predation by wild animals such as leopards and bears is also leading to increased mortality rates in the state. Of late, loss on account of thefts, particularly during migration in the Mandi and Kullu valleys, has also been a cause of harassment and loss to sheep breeders/rearers.

The loss of grazing lands is of concern not only in HP but also in other states, particularly Andhra Pradesh and Rajasthan.

⁵⁶Residents of this region have a particularly high propensity to emigration.

⁵⁷ The issue could not be explored in depth because shepherds were migrating at the time of the visit and the forest department personnel were unavailable for comments/meeting.

➤ **Rising costs and shrinking markets**

Since the changes in import policies and licenses took effect, the markets have been flooded with products made of imported wool, both shoddy and superior. Costs incurred by shepherds in sheep rearing and shearing of wool have steadily been rising; however, this is not matched by a corresponding rise in returns from wool, making sheep rearing for wool production a less preferred option. At the same time, there have been institutionalized attempts in the southern states for the promotion of meat-producing sheep instead of the traditional wool-producing variety that is native to the area. Loss of markets for traditionally valued products such as the *gongadi* and *kambali* have meant a loss in demand for local wool; with the result, shepherds are often compelled to dispose of the sheared wool as trash or reduce the number of shearings to save on the additional costs incurred in the process.

In Himachal Pradesh, as a result of poor market rates of wool and high inflation, traditional shearers are charging exorbitant rates from sheep rearers instead of the earlier practice of barter, in which shearers received a share of the wool in return for the services provided in shearing and washing.

Wool procurement prices have remained either static or declined over the past two decades, primarily on account of the opening up of markets and low import duties/tariffs. Khadi institutions and cooperatives, which used to be the major buyers of indigenous wool, have not been able to absorb the output on account of their weak financial position and lack of adequate support from the state. A revival of the local wool markets is possible only through revival of these institutions, as well as significant and sustained investments in R&D of products made out of local wool.

Only a small proportion of sheep (10–15%) have been crossbred; the wool obtained from sheep that have been crossbred (in Himachal) is neither suitable for carpet manufacture nor does it command a higher price because it does not qualify for use in the garment industry. Further, the procurement agency (HP Wool Marketing Federation) does not offer differential prices for different grades of wool. The only alternative then is to sell the wool at the price of coarse grade, and use it subsequently in the making of blended yarns. A quality linked procurement system (QLPS) needs to be introduced in the state for shepherds to earn better returns. The slightly higher costs entailed in the implementation of such a system would be offset by the increase in profit margins that the Federation would gain through batch-wise sale of wool procured.

A Grant-in-Aid mechanism is proposed to bring the system under routine functioning of the Federation. The disposal/sale of the wool can be made through a joint mechanism of the sponsoring agency and the implementing agency. The scheme should be carried forward for at least a span of two plan periods so that the market for this improved wool is well established. The brief summary of the QLPS proposal for one clip, that is, September/October Clip, in the context of Himachal Pradesh, is as follows.

	Particulars of Wool	Micronage	Length	Yield	QLPS Rates
1 st step-up	Crossbred Wool	23–24 microns	60–70 mm	70–75%	20% higher than conventional rates
2 nd step-up	Pure bred wool	20–22.9 microns	60–70 mm	70–75%	20% higher than crossbred rates

Every step-up refers to an increment in the purchase price, linked with the quality or grade of wool procured. The Federation is suggesting a QLPS with three grades.

With the proposed hike in rates, not only is the procurement bound to increase by approximately 50 to 60% by the end of the Plan period but there will also be considerable improvement in the quality and quantity of raw wool (source: HP Wool Marketing Federation)

➤ **‘Breed improvement’ initiatives**

State-led initiatives for breed improvement have focused on the production of finer quality wool, as observed both in Rajasthan and Himachal Pradesh (it was learnt that this is also the case in Jammu and Kashmir). This has been through crossing of indigenous breeds with imported breeds such as the Merino and Rambouillet. However, the crossbreeding programmes are constrained on two accounts: (i) crossbred sheep are unable to withstand the nutritional stress and difficult terrain/conditions, resulting in higher mortality; and (ii) the extent of crossbreeding that has been supported has stopped short of a cross-over to

the production of higher-quality and superior wools in significant quantities. As a result, the expected benefits from crossbreeding initiatives have not materialized.

Scientists at CSWRI and at the HP Wool Marketing Federation opined that there is a lack of quality germ-plasm available for improving wool quality and yield. The need of the hour is to change/improve the stocks that are raised and held at research stations and institutions such as the CSWRI.

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Structure for the documentation of pro-poor interventions and approaches for small ruminant rearing (goats and sheep)

Section 1: Overview and Current Status

Chapter 1 - Current status of small ruminants in India, contribution to rural livelihoods and incomes, mapping of existing policies that impact and policies that support small ruminant rearing, contribution of small ruminants to GDP vis-à-vis their resource use

Chapter 2 – Detailing of the economics of goat and sheep rearing at the household level in select regions of the country, and detailing of division of labour (who does what).

Chapter 3 – India’s indigenous breeds, characteristics, location, existing status. Extent of genetic diversity and scope for selection.

Section 2: Breed conservation and improvement interventions

Chapter 1 – Interventions, approaches and policies that have facilitated breed conservation

Chapter 2 – Breed (and other genetic) improvement interventions that have positively impacted the livelihoods of the rural poor

Chapter 3 – Conservation and promotion of indigenous breeds versus promotion of non-descript or cross breeds adapted to specific area/ climate and existing resource base

Chapter 4 – Traditional systems for sharing small ruminant assets in rural areas and interventions that have built on these traditions

Chapter 5 – Emerging lessons and policy issues

Section 3: Feed, fodder and access to grazing lands

Chapter 1 – Existing policy framework regarding common lands (revenue wastelands, *gauchar*, village commons) and emerging opportunities for livestock rearers in the management and sustainable use of common lands.

Chapter 2 – Study and assessment of traditional thinking that small ruminant rearing is detrimental to the environment, including a review of secondary data and available literature, including studies related to this. Assessment and documentation of whether such thinking is linked to and based on the carrying capacity of the commons.

Chapter 3 – Traditional grazing systems and management of common lands by livestock rearers.

Chapter 4 – Interventions contributing to an increase in fodder availability/ new sources of nutritious and palatable fodder. Assess the extent and contribution of goat rearing to methane levels through review and study of available literature and research.

Chapter 5 – Emerging lessons and policy issues

Section 4: Approaches related to improving the community knowledge base on rearing and health practices, and existing systems for health care for small ruminant rearers

Chapter 1 – Interventions on community training and capacity building

Chapter 2 – Ethno veterinary practices

Chapter 3 – Development of a cadre of village level animal health workers

Chapter 4 – Institutional frameworks and collaborative programmes that have positively impacted small ruminant rearing and the livelihoods of small ruminant rearers.

Chapter 5 – Emerging lessons and policy issues

Section 5: Market opportunities, value addition and facilitating access to remunerative markets

Chapter 1 – The expanding goat meat market, including a detailing of the value chain, existing institutional systems in both the informal and formal sectors.

Detailing of food safety regulations that the sector is required to adhere to, status of implementation of these regulations, and awareness among both small ruminant rearers and traders regarding these.

Identification and detailing of levels at which intervention is required to facilitate an improvement in the livelihoods of small ruminant rearers.

Chapter 2 – Detailing of the value chain, main markets and institutional systems for goat and sheep skin and other by-products. Are there possibilities of intervention in the value chain to improve livelihoods of small ruminant rearers?

Chapter 3 – Value chain mapping and analysis of sheep wool, and resultant impact on the livelihoods of sheep rearers.

Chapter 4 – Emerging lessons and policy issues

Section 6: Conclusions and specifically what needs to be done to secure and sustainably expand small ruminant rearing as a viable livelihood opportunity for the rural poor

Call for Good Practices on Small Ruminant Rearing: Details of Submitted Approaches for the section on Market Opportunities, Value Addition and Facilitating Access to Remunerative Markets

GP No	Title	State/ Region	Relevant chapter in Section 5
SR 2	Community initiative for goat fattening for the meat market	Rasgan, District Alwar, Dausa and Ajmer districts of Rajasthan	Chapter 1 <i>(The expanding goat meat market)</i>
SR 5	Value addition to sheep wool (Shramik Kala)	District Belgaum, Karnataka	Chapter 3 <i>(Value addition to sheep wool and goat hair)</i>
SR 9	Sheep and Wool Improvement Scheme, Mahila Mandal, Barmer, Agor (MMBA) sponsored by the Central Wool Development Board	District Barmer, Rajasthan	Chapter 3 <i>(Value addition to sheep wool and goat hair)</i>
SR 15	Lamb rearing for commercial mutton production, Central Sheep and Wool Research Institute, Avikanagar, Rajasthan	Avikanagar, Malpura, District Tonk, Rajasthan	Chapter 1 <i>(The expanding goat meat market)</i>
SR 18	Traders Haat for Goat Meat – Khatik Community Association of Balaheri, District Dausa, Rajasthan	District Dausa, Rajasthan	Chapter 1 <i>(The expanding goat meat market)</i>
SR 28	Innovative ways of linking goat farmers with the market	Rajasthan, Uttar Pradesh, Bihar and West Bengal (submitted by CRIDA, Hyderabad)	Chapter 1 <i>(The expanding goat meat market)</i>
SR 31	Design of a de-hairing machine for <i>pashmina wool</i>	Leh, Ladakh, Jammu and Kashmir	Chapter 3 <i>(Value addition to sheep wool and goat hair)</i>

APPROVED INDIAN ABATTOIRS-CUM-MEAT PROCESSING PLANTS

File No.	Name of the Exporter and Contact Person	Unit(s) approved by APEDA	Registration No.	Products permitted for export	Certificate issued on	Certificate Validity up to
1.	Cdr. Satish Subberwal M/s. Al Kabeer Exports (P) Ltd. 91, Jolly Maker Chamber No. 2, Nariman Point, Mumbai-400021 Tel: 022-22025768 Fax: 022-22028475 E-mail: alkabeer@bom3.vsnl.net.in ; alkabeermumbai@gmail.com	M/s Al-Kabeer Exports (P) Ltd. Village Rudaram Patancheru Mandal Dist. Medak Andhra Pradesh	16	Buffalo/ Sheep and Goat meat	10.5.2010	31.5.2011
2.	Mr. Irfan Allana M/s. Allana Sons Ltd. Allana Centre, 113/115, M.G. Road, Fort, Mumbai - 400001 Tel : 022-56569000, 22628000, 56569056 Fax 022-22641133, 22691133 E-mail: irfanallana@allana.com ;	a. M/s Frigorifico Allana Ltd., P.O. Box -14, Paithan Road, Gevrai Aurangabad-431002 (Plant – I)	20	Buffalo/ Sheep and Goat meat	2/12/2010	30/11/2011
3.	Mr. Irfan Allana M/s. Allana Sons Ltd. Allana Centre, 113/115, M.G. Road, Fort, Mumbai - 400001 Tel : 022-56569000, 22628000, 56569056 Fax 022-22641133, 22691133 E-mail: irfanallana@allana.com ;	M/s Frigerio Conserva Allana Ltd. Algole Road, IDA Zaheerabad-520220 Dist. Medak Andhra Pradesh	21	Buffalo/ Sheep and Goat meat	8/11/2010	30/11/2011
4.	Mr. Irfan Allana M/s. Allana Sons Ltd. Allana Centre, 113/115, M.G. Road, Fort, Mumbai - 400001 Tel : 022-56569000, 22628000, 56569056 Fax 022-22641133, 22691133 E-mail: irfanallana@allana.com ;	b. M/s Frigorifico Allana Ltd., P.O. Box 564, Paithan Road, Gevrai Aurangabad-431002 (Plant – II)	23	Buffalo/ Sheep and Goat meat	2/12/2010	30/11/2011
5.	Mr. Sirajuddin Qureshi M/s. Hind Agro Industries Ltd. Plot No.A-1, Phase-1 Okhla Industrial Area New Delhi - 110020 Tel: 011- 26372786 - 92 Fax : 011-26817941, 26817942 E-mail: info@hind.in ; sk_ranjhan@yahoo.com ;	M/s Hind Agro Industries Ltd., CDF Complex, Aupshahr Road, Aligarh-202122	24	Buffalo /Sheep and Goat Meat	1..2..2010	28.2.2011
6.	Dr. A.S. Bindra Managing Director PML Industries Ltd. SCO 62-63, (Ist Floor) F Sector 34-A, Chandigarh 160 022 Tel: 0172 2645978 / 5074620/21 Fax: 0172 2647940 E-mail: Pmlindustries34@gmail.com ;	M/s PML Industries Ltd. Viil. Behra Barawala Road, Derabassi, Patiala, (Punjab)	28	Buffalo meat	1/12/2010	31/12/2011

7.	Mr. Irfan Allana M/s. Allana Sons Ltd. Allana Centre, 113/115, M.G. Road, Fort, Mumbai - 400001 Tel : 022-56569000, 22628000, 56569056 Fax 022-22641133, 22691133 E-mail: irfanallana@allana.com ;	M/s Indagro Foods Ltd., Plot No.B-1-5, U.P.S.ID.C., Industrial Area, Site-2, Unnao (U.P.)	36	Buffalo and sheep and goat meat	18/11/2010	30/11/2011
8.	Mr. Mujeeb Malik M/s. ALM Industries Ltd. 460, Harora Ahtmal, Dehradun Road, Saharanpur – 247 001 (U.P.) Tel: 0132-2785532, 2785283 Tlx: 0132-2785046 E-mail; mmalik131@rediffmail.com ; mmalik131@gmail.com ;	M/s. ALM Industries Ltd., Kh.No.460, Vill. Harora, Ahtmal, Dehradun Rd Saharanpur (U.P.)	38	Buffalo meat	7/12/2010	30/11/2011
9.	Mr. V.I. Saleem M/s Amroon Foods Pvt. Ltd. Plot No. 20/1, Site IV Industrial Area Sahibabad, Ghaziabad (U.P.) Tel: 0120 2771126/27/2773734 Fax: 0120-2771125 E-mail : amroonfoods@amroonfoods.in gafoor@amroonfoods.in ;	M/s. Amroon Foods Pvt. Ltd. 1310/6,7,9,11 Kursi-Agrase Road, Kursi, Dist Barabanki (U.P.)	42	Buffalo/ Sheep and goat meat	18.11.2010	30.11.2011
10.	Mr. Madan Abbott M/s. Abbott Cold Storages Pvt. Ltd. 80 M.M, Janpath New Delhi-110001 Tel: 011-23329491, 23328474 Fax: 011-23357554 E-mail: mkrabot@nda.vsnl.net.in ;	M/s. Abbott Cold Storages Pvt. Ltd. Vill. Samgauli Hadbast No. 196 The. Derabassi Dist. Mohali , Punjab	47	Buffalo meat	5/7/2010	31/7/2011
11.	Mr. Mohammad Atif M/s. Al- Nafees Frozen Food Exports Pvt. Ltd. 6, Central Lane, Bengali Market, New Delhi - 110001 Tel: 011-23318801, 8804, 8806, 8808 Fax 011-23318815, 19 E.mail : alnafees@ndb.vsnl.net.in ; alnafees_mohdatif@yahoo.in	M/s Al Nafees Proteins (P) Ltd. Village, Satakpuri, Tehsil Punhana, Distt. Gurgaon (Haryana)	48	Sheep meat	21.7.2010	31.7.2011
12.	Hazi Mr. Shahid Akhlaq Al – Saqib Exports (P) Ltd., 1 & 3, South Avenue, New Delhi – 110011 Tel: +91-11-23795050 Fax: +91-11-23015677 alsaqib_exports@rediffmail.com ;	M/s Al Saqib Exports Pvt. Ltd. 11 KM Stone, G/Hapur Road, Village Alipur Jajwana, Distt Meerut, U.P.	49	Buffalo meat	23.3.2010	31.3.2011
13.	Mr. Rashid Kadimi President All India Meat and Livestock Exporters Association (AIMLEA) 3rd Floor, Sidhwa House Sidhwa Estate , Nr. Colaba Fire Brigade, Colaba, Mumbai 400 005 Tel.: 022 22020836 Fax: 022 22020835 E.mail : aimlea@india.com ; rkadimi@allana.com ;	M/s Deonar Abattoir Deonar Govandi, Mumbai	50	Sheep meat	21.7.2010	31.7.2011

14.	Mohd. Kamil Qureshi M/s. M.K. Overseas Pvt. Ltd. 14, Fire Brigade Lane, Near World Trade Centre, Connaught Place New Delhi – 110001 Tel: 011-23522165, 23635400, Fax: 23674988 E-Mail: mko@nda.vsnl.net.in ;	M/s M.K. Overseas (P) Ltd. 7th KM, Stone, Samgouli, Derabassi Link Road, Vill. Samgouli Derabassi, Patiala, Punjab	55	Buffalo/ Sheep and goat meat	5/7/2010	31/7/2011
15.	Mr. Sunil Sud M/s Al Noor Exports C-4/10, Safdarjung Development Area New Delhi 110016 Tel:011-26963473 Fax :011-26854934 E.mail : alnoor92@vsnl.net sunil@mikiexports.com	M/s Al Noor Exports Village Shernagar, 9th Km Jansath Road, Dist. Muzaffarnagar Uttar Pradesh	56	Buffalo meat	1.9.2010	30.9.2011
16.	Haji Mohd. Zaheer Managing Director Al Hamd Agro Food Products Pvt. Ltd. Sarai Miyan, Delhi Gate, Aligarh 202 001 (U.P) Mob.: 9837393960/9837055622 alhamd_2008@rediffmail.com ; info@alhamdagro.com	M/s Al-Hamd Agro Food Products (P) Ltd., Village Udla Llyaspur, Delhi Road, Aligarh	66	Buffalo meat	3.5.2010	31.5.2011
17.	Mr. M.R. Farrukh M/s J.S. International 16/80-1, Civil Lines Kanpur – 2088001 Tel: 0512-2305042, 2305073 Fax: 0512 2305031 E mail : info@jsgroupindia.com ; abu.zafar@jsgroupindia.com	M/s J.S International, B-32 to B-47, Leather Technology Park, Industrial Area Banthar, Unnao	67	Buffalo and sheep and goat meat	14.7.2010	31.7.2011
18.	Mr. Zafar Khan M/s GIEX Foods Pvt. Ltd. A 263, 2nd Floor, Defence Colony New Delhi – 110024. Tel: 246122555 Fax: 24623050 E mail : giexfoods@giexfoods.com ;	M/s Giex Food (P) Ltd, Vill Ahmednagar Pahari, Tehsil, Sadar Dist. Rampur	68	Buffalo meat	7.1.2010	31.1.2011
19.	Mr. Shakir Qureshi M/s Al-Quresh Exports Rizvi Chambers, A-Wing, 3rd Floor, R. NO. 310, Hill Road, Bandra (West), Mumbai – 400050 Tel. 022-26425930/26425934 Fax: 022-26425925 E mail: alquresh@vsnl.com ; alqureshexports@gmail.com	M/s Al-Quresh Exports Gate No. 67, Mule Gaon Tanda, N.H. No. 9, South Solapur	71	Buffalo meat	21.4.2010	30.4.2011
20.	Mr. Mohammad Atif Vice President M/s. Al- Nafees Frozen Food Exports Pvt. Ltd. 6, Central Lane, Bengali Market, New Delhi - 110001 Tel: 011-23318801, 8804, 8806, 8808 Fax 011-23318815, 19 E.mail : alnafees@ndb.vsnl.net.in ; vinay.jain@alnafeesgroup.in	M/s. Al- Nafees Frozen Food Exports Pvt. Ltd. Dasna Ghaziabad	72	Buffalo meat	2/12/2010	31/12/2011

21.	Mr. Philip A Mulakkal Managing Director M/s Varsha Fresh Meat Products Ltd. Ist Floor, Thatha Shopping Complex MG Road ,Thrissur – 660004, Kerala Tel: 0487-2384248 Fax: 2385126 E mail: mail@varshahygienix.com	M/s Varsha Fresh Meat Products Ltd. XI/957, Muthalamada P.O. Govindapuram, Palakkad, Kerala	78	Buffalo meat	7/10/2010	30/9/2011
22.	Mr. Irfan Allana M/s. Allana Sons Ltd. Allana Centre, 113/115, M.G. Road, Fort, Mumbai - 400001 Tel : 022-56569000, 22628000, Fax 022-22641133, 22691133 E-Mail: irfanallana@allana.com ;	M/s MCD Slaughter House Integrated Fright Complex Pocket B, Behind Poultry Market, Ghaziipur, Delhi 110092	81	Slaughter of Buffalo and Sheep & goat	30/9/2010	30/9/2011
23.	Haji Shahid Ali Qureshi M/s Eagle Continental Foods Pvt. Ltd. Purani Chungi, Bsr road Hapur 245101 (U.P.) Tel.: 0122 2313860, 2312113 Fax: 0122 2318500 Email: eaglefoods20@gmail.com ; eaglefoods20@rediffmail.com	M/s Eagle Continental Foods Pvt. Ltd. Khasra No. 1876, Post Office Hindon Nagar Dasna, Ghaziabad	83	Buffalo meat	21/9/2010	30/9/2011
24.	Mr. Mohd. Kamil Qureshi M/s. M.K. Exports. 14, Fire Brigade Lane, Near World Trade Centre, Connaught Place New Delhi – 110001 Tel: 011-23522165, 23635400, 23679674 Fax: 23674988 E-Mail: mko@nda.vsnl.net.in ; Vinod.duggal@gmail.com ;	M/s Chaudhary Skin Trading Company D-34, Site-B, Surajpur Industrial Area, Gautam Budh Nagar, U.P	109	Sheep and Goat	2/7/2010	31/7/2011
25.	Mr. Mohd. Imran /Mr. Mohd. Farooq Managing Director Al Faheem Meatex Pvt. Ltd. 1113, Sarai Behleem, Meerut City (U.P.) Tel.: 0121 2701127/2702769 Mob.: 9719103027 alfaaheem_meatex@yahoo.com caanupam7@gmail.com	M/s Al- Faheem Meatex (P) Ltd. Khasra No- 38, 39, 41,42,63 etc. Village Dhikli, Hapur Road Meerut - 250004 Unit -II	111	Buffalo Meat	6.7.2010	31/7/2011
26.	M/s H.M.A. Agro Industries Ltd., 2/220 2nd Floor Glory Plaza OPP. Soor Sadan Sanjay Place, M.G. Road Agar 282002 Ph no.:- 0562-4000188 Fax no.:- 0562-2523230 E mail: hmafrozen@rediffmail.com ;	M/s H.M.A. Agro Industries Ltd., 16/1, 15- 16,, Village – Talaspur, Tehsil Kaol Mathura Bye pass road, Aligarh	119	Buffalo Meat	22/10/2010	31/10/2011
27.	Mr. Irfan Allana M/s. Allana Sons Ltd. Allana Centre, 113/115, M.G. Road, Fort, Mumbai - 400001 Tel : 022-56569000, 22628000, 56569056 Fax 022-22641133, 22691133 E-Mail: irfanallana@allana.com ;	Frigrio Conserva Allana Ltd. Plot No 14/1, Vill. Talaspur Khur Tehsil Foil, Mathura By pass road, Aligarh	121	Buffalo meat	22/10/2010	30/11/2011

Documents required to be submitted for grant of license under the MFPO, 1973

1. Form-A duly completed and signed (in duplicate) by the proprietor/ partner or the authorised signatory. The source of meat at item 4 should be clearly spelt out indicating name and address of slaughter house (s) and shop (s) particularly for sub items 'B' and 'C'.
2. License fee as per clause 4(3) for five years through Demand Draft/ Pay Order in favour of the **Senior Accounts Officer**, Food Safety and Standards Authority of India, New Delhi.
3. Blueprint/ layout plan of the processing unit. The boundaries on all the sides should be spelt out clearly for easy identification.
4. Partnership Deed/Affidavit/Memorandum of Articles of Association towards the constitution of the firm.
5. List of Equipments/ Machinery – used for slaughter (if applicable), for storing, de-boning, mincing, processing of meat etc.
6. The NOC or a license from the local authority viz panchayat/ municipality/ corporation as the processing of meat may result in public nuisance.
7. List of Meat Food Products & specimen labels (in triplicate) for each meat food product desired to be manufactured
8. Authority letter with name and address of 2 responsible persons to be nominated by the manufacturer indicating the powers vested with them viz assisting the officers in inspections, collection of samples, packing & dispatch, corresponding with MFPO authorities, signing indemnity letters.
9. List of workers with their medical fitness certificate.
10. Water analysis report from a recognised/ public health laboratory where the water source is other than municipal water supply.
11. The applications for 'A' category licence to give an undertaking that which stipulates time to take up HACCP certification.
12. If any product is not being manufactured for a particular period (two years) the licence should be cancelled.
13. Undertaking from 'C' category licensees on how much time needed to upgrade to 'B' category.

Abbreviations

APEDA	Agricultural and Processed Food Products Export Development Authority
APMC Act	Agricultural Produce Marketing (Regulation) Act
BMC	Brihanmumbai Municipal Corporation
CAZRI	Central Arid Zone Research Institute
CKGB	Cauvery Kalpatharu Grameena Bank
CLRI	Central Leather Research Institute
CPCB	Central Pollution Control Board
CSWRI	Central Sheep and Wool Research Institute
DAHDF	Department of Animal Husbandry, Dairying and Fisheries
DDA	Delhi Development Authority
DFID	Department for International Development
DPCC	Delhi Pollution Control Committee
EIC	Export Inspection Council
FAO	Food and Agriculture Organisation of the United Nations
FPEC	Food Processing Equipment Co. Pvt. Ltd.
FSMSC	Food Safety Management Systems-based certification
FSSAI	Food Safety and Standards Authority of India
GHP	Good Hygiene Practices
GMP	Good Manufacturing Practice
GoI	Government of India
GtZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HACCP	Hazard Analysis and Critical Control Points
IBEF	India Brand Equity Foundation
ICMR	Indian Council of Medical Research
IFC	Integrated Freight Complexes
IL&FS	Infrastructure Leasing and Financial Services Ltd
ILTA	Indian Leather Technologists' Association
KfW	Kreditanstalt für Wiederaufbau
MCD	Municipal Corporation of Delhi
MFPO	Meat Food Products Order
MoEF	Ministry of Environment and Forests
MoFPI	Ministry of Food Processing Industries
MoHFW	Ministry of Health and Family Welfare
NABARD	National Bank for Agriculture and Rural Development
NCR	National Capital Region
NDDB	National Dairy Development Board
NGO	Non Government Organisation
NMPPB	National Meat and Poultry Processing Board
NRCM	National Research Centre on Meat
NSC	National Savings Certificate
NSS	National Sample Survey
OBC	Other Backward Classes
OGL	Open General License
PCA Act	Prevention of Cruelty to Animals Act 1960
QLPS	Quality linked procurement system
RBI	Reserve Bank of India
SA PPLPP	South Asia Pro Poor Livestock Policy Programme
SMEs	Small and Medium Enterprises
UN	United Nations
USD	United States Dollar
WHO	World Health Organisation



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SOUTH ASIA Pro Poor Livestock Policy Programme

A joint initiative of NDDB and FAO

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