Small ruminant value chain in India: opportunities and constraints

Manab Chakraborty¹, Deepa Gupta*²

¹Researcher, Indian Institute of Management, Kashipur, Uttarakhand, 244713, India
²Independent Development Consultant, T-9/803, RPS Savana, Sector 88, Faridabad, 121002, India
manabc@gmail.com¹, deepagupta03@gmail.com²

Abstract

Background/Objectives: To assess the importance of livestock (small ruminant) sector in employment generation and the role of markets in improving livestock value chain.

Methods/Statistical analysis: The study is based on secondary data analysis. A need for a strong institutional mechanism to support small ruminant keepers and to improvise various activities in livestock value chain such as in Input, Production, Processing, and Distribution have been analysed.

Findings: The small ruminant sector makes an important contribution to Indian economy, provides sustenance to rural population, and leads to poverty alleviation. Apart from having healthy breed of livestock and marketing, processing is also an important step in enhancing value chain in livestock sector. The state with highest production of meat is Uttar Pradesh (19.1 per cent) followed by Andhra Pradesh (15.2 per cent) and West Bengal (10.9 per cent). Revenue of minimum ₹. 11,350 crores will be lost in the state of UP, due to ban on meat exports. For clean meat production and environment protection it is imperative that all slaughter houses of the country are registered. Assistance is required to make the sector organised and increase accessibility to necessary inputs, services and finance.

Improvements/Applications: Sensitisation of farmers on market demand of livestock is imperative to help realise better price in domestic market and will produce healthy pure breed goats for export. Linkages need to be created between goat farmers, processors, and exporters.

Keywords: Livestock, value chain, abattoir, goat, export.

1. Introduction

The livestock wealth of India can be realised from its livestock population. It stands first in the world in buffalo population, cattle and goats stands second, sheep stands third and chicken population stands fifth (FAO, 2014) [1]. There are around 200.23 MN small ruminants (135.17MN goats and 65.06MN sheep) mostly for production of meat [2]. Further, milk, fibre, and manure from them contribute to the economic value. They also play a significant role in the livelihood of small, marginal farmers and landless rural people. They add around ₹. 24, 000MN every year to the rural economy. At all India level, small ruminants contribute 14 per cent of meat production, 4 per cent of milk production, and 15 per cent of skins and hide production. Surprisingly, it receives only 2.5 per cent of the Central government’s budgetary allocation on livestock sector [3]. In meat production, India stands fifth in the world and contributes for 3 per cent of the total world meat production of 220 MN tons. Around 6.3 MN tons is the estimated meat production [4].

Despite being a strong contributor to the income and livelihoods of the poorest segments of the society, the sector has remained largely underinvested and neglected on the institutional front. The goat sector is constrained by various challenges such as poor breeds and poor management practices leading to low productivity, limited or no access to veterinary care leading to high mortality and issues related to marketing.
Objectives of study are as follows:
1. To enhance livelihood generation in livestock sector with emphasis on small ruminants.
2. Strengthening institutional mechanisms for improving value chain of livestock sector.
3. Propose strategies to organize the processing (abattoir/slaughter house) activities.

2. Method

The study is based on secondary data analysis. The importance of goat sector has been indicated with reference to enabling environment required for small goatkeeper to access market and increase bargaining power. Further, the status of abattoirs or slaughter houses has been discussed. The importance of value chain in livestock sector has been highlighted with recommendations to streamline the livestock sector based on institutional grounds.

1. Small ruminant (Goat) sector and employment generation

Goats provide livelihood support to landless, marginal, and small farm households. Because of low investment costs, high fecundity, easy marketing, and social acceptance of goat meat, goat farming is an ideal livelihood option for the underprivileged rural households. Women play major role in management of small ruminants, particularly goats. They get an opportunity to assimilate some income that leads to savings. The benefits of rearing small ruminants are its low initial capital investment, low operational cost, immediate returns because of short gestation period and high level of prolificacy.

2. Constraints faced by goat farmers

In the initial phase of goat-farming commercial goat farmers face various constraints. The commercial goat farming is not encouraged and there is dearth of required infrastructure. Various constraints faced by goat farmers are as follows:

1. Absence or Weak Livestock keeper Organisations: The development of small ruminant keepers is barred due to absence of or weak social organisation. They are unable to express their demands and requirements because the sector is not organised.
2. Transportation: Major constraint faced by commercial goat farmers is the lack of proper transportation guidelines for live goats. While transporting breeding stock from long distances farmers are charged lump sum by police in the name of well-being of animals. Considerable amount of illegal payments e.g. Rs. 2000-Rs. 3000 per truck from Rajasthan to Maharashtra, ₹ 500-₹ 700 from Uttar Pradesh to Delhi, need to be made to the concerned officials and police during the transit of the animals [5].
3. Disease: Mortality rate of goats are high and growth in kids is also poor. High mortality is due to diseases like PPR, diarrhoea, pneumonia, Tetanus, etc. There is dearth of knowledge of better methods of goat farming, low level of prophylaxis, lack of vaccines and lower accessibility to veterinary doctors. Furthermore, the funds allocated for veterinary services for small ruminant sector are less. Majorly small ruminants are located in remote areas and are migratory in nature; therefore the services available mostly do not reach them.
4. Breeding stock and its breeding: Farmers are unable to identify pure breed animals because of lack of knowledge. They also face difficulty in accessing good quality breeding animals. Finest breeds (mostly males) are usually sold to slaughterers, hence leading to shortage of better quality breeds.
5. Availability of inputs and services: There is unavailability of vaccines especially PPR and cost effective tagging materials.
6. Marketing: Goat farmers receive very low price for their animals since body weight is not considered in livestock markets. In addition, the availability of institutional credit is difficult for small scale entrepreneurs (50-100 goats project) and possesses limited capital for collateral security.
7. Reduced access to credit and insurance: Low income farmers have meagre capital assets to finance their livestock enterprises for activities such as acquiring finest breeds, health care, feeding and management practices, etc. Furthermore, insurance support to livestock, particularly small ruminants has largely been neglected by insurance providers and banks.
8. **Poor synergy between departments**: There is a lack of convergence between policies/programmes of different departments in small ruminant development. In addition, no consultation is done while formulating policies/programmes with community, elected village council and related government departments such as animal husbandry, forest and agriculture. Due to lack of inter-state coordination, migratory men and women farmers face constraints during their transit to nearby states in search of grazing resources.

3. **Processing constraints: abattoirs or slaughter houses**

Abattoirs are facilities proposed for animal meat processing which includes slaughtering, chilling, packaging for exporting meat, and cooking into different dishes. There are 72 government-approved abattoirs across the country, 53 per cent of which are located in Uttar Pradesh (UP). UP accounts for 19.1 per cent of the meat production in the country and around 50 per cent of India’s total meat exports. Till the recent crackdown in May 2017, the State also has 140 illegal slaughter houses and over 50,000 illegal meat shops [6].

All major Indian cities have central abattoirs, which are 50-70 years old and lack proper flooring, ventilation, and water supply. As a result, they have poor hygiene standards, posing threats to public health and environment. The waste from slaughterhouse is also not disposed as per guidelines. In 2012, the Supreme Court ordered all state governments to establish committees for monitoring, modernisation, and relocation of slaughterhouses in every city and provide appropriate measures to cater with their solid waste and pollution. According to Uttar Pradesh Municipal Corporation Act, 1959, the local municipal bodies are authorised to make sure that fresh and hygienic meat is supplied to people while keeping a check on operation of slaughterhouse within city limits. The Act also states regulations for operations of slaughter houses, sale of animals and control of private slaughter houses. As per Ups animal husbandry department, meat exports account for ₹ 26,685 crore annually. Ban on meat exports would cause a loss of minimum ₹ 11,350 crores of revenue for the state (All India Meat and Livestock Exporters Association) [6].

2.2. **Livestock value chain**

*Figure 1. Various steps, actions and stakeholders in goat value chain*

‘Value chain’ is described as value-adding activities mandated to bring a product or service through different phases of production, including acquisition of raw materials and other inputs, assembly, physical conversion, cooling, transporting and ultimately to consumers. A value system contains value chain actors, value chain service providers and the institutional framework. Value chain actors exercise ownership of the product or its value addition, thus bearing the risk in handling a commodity. Value chain service providers provide service to value chain actors, either at cost or free. The service providers are found in both formal and informal institutional settings [7]. Various activities which comprises of livestock value chain are Input, Production, Processing, Distribution, and Consumption (Figure 1).
3. Conclusion

Small ruminants provide subsistence to rural population, leads to poverty reduction and contributes to Indian economy. The sector till now has been neglected and unorganised. Streamlining the sector and addressing issues related to small ruminant sector development is the need of the hour. It is necessary to strengthen research, educate farmers, transfer technology, and improve goat health for making the commercial goat production economically viable and sustainable. All slaughter houses of the country should to be registered. For increasing sale and export of raw and processed meat, quality check of the product and regulatory compliance of slaughterhouses is crucial.

A successful livestock value chain (VC) support is imperative to not only help meet growing demands and standards of meat and dairy products but also leads to poverty reduction, especially for small-scale livestock keepers. Assistance to livestock VC will also flourish other agricultural VCs. Support is required in making the sector organised and increase accessibility to necessary inputs, services and finance.

4. Recommendations

Recommendations are divided into following three headings:

4.2. Nature of action
1. An inter-departmental committee should be formed to explore possibilities of convergence in policies/programmes. Animal Husbandry Department with the help of pastoral NGOs and livestock keepers should coordinate with concerned department in the neighbouring states for fixing migratory routes, standard of care and hygiene during migration, and other related issues faced by the transporters.
2. Under Department of Animal Husbandry “Small Ruminant Policy” at national and state level should be formed in consultation with stakeholders including livestock keeper organisations. A State level “Small Ruminant Cell” could coordinate the implementation of the “Small Ruminant Policy” with neighbouring states and all major stakeholders.
3. Animal Husbandry Department should undertake the function of enhancing infrastructure facilities required (for small ruminants). Many functions such as input, distribution, and marketing could be organised through public private partnership (PPP).
4. Investment linked tax impetus and enticing credit facility should be provided by both central and state government to private investors for livestock development and meat production. Incentives should be provided for establishing new urban or rural abattoirs and for upgrading existing ones. Financial scheme for supporting goat enterprises should be formulated by Central and State government. Bank loans should be made easily available for goat farming.
5. In order to meet domestic and global meat requirements Government should adopt quality control and safety protocols. Advanced research tools should be developed to address meat adulteration, chemical residues, traceability, halal authentication, etc. Food testing laboratories should be established duly accredited by FSSAI to check adulteration.
6. Farmers should engage in better management and technological interventions for further improving the body weight of their animals. Farmers should maintain different types of farm records for smooth management of the goat farm. The various records include birth, health, medical, mortality, weighing, vaccination, etc.

4.3. Administrative reform
1. “Women Livestock Producer Associations” should be formed for training and empowering women in livestock development. They should be able to take advantage of credit, insurance, inputs, and marketing services from such association. They should be empowered to take decisions on small ruminant issues at household and organisation level.
2. A knowledge sharing platform should be formed at centre and state level comprising of representatives from Animal Husbandry Department, Watershed, Research Institutes, Veterinary Colleges, Rural
Development Department, Forest Department, Panchayati Raj Institutions, NGOs, and private actors linked to small ruminant production.

4.4. **Community awareness & capacity building**

1. Linkages need to be created between goat farmers, processors, and exporters. Farmers should not sell their livestock when need arises, instead they should be sensitised on market demand to help realise better price in domestic market and produce healthy pure breed goats for export. If livestock keeper organisations already exist, they should be strengthened. NGOs can play an active role in awareness generation, capacity building, advocacy, building networks, bringing synergies and empowering the livestock keepers through producer groups, Self-help groups, networks, etc.

5. **Acknowledgement**

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