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RAPPORTEURS' REPORTS

Livestock Marketing and Supply Chain Management of Livestock Products

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India witnessed an impressive demand-led growth of over 4 per cent in its livestock sector in the past four decades. This cushioned agricultural growth, helped reduce poverty and improve food and nutritional security. And, for the past two decades or so, India has retained its distinction of being the largest producer of milk in the world, and lately it has emerged as the largest exporter of bovine meat, mainly buffalo meat. Milk is now the largest agricultural commodity in both physical and value terms.

Rising incomes, fast growing urban population, and globalisation of agri-food markets are opening up new opportunities for faster growth of livestock sector. Nonetheless, these are being accompanied by a complex set of challenges including producers' access to technologies, markets - financial and non-financial services. Markets for live animals and their products have remained unorganised and fragmented even after decades of economic development. The small-scale producers who contribute around 70 per cent to total livestock production are constrained to establish market linkages with processors/marketing firms. For example, about 60 per cent of the milk produced in the country is marketed, of which only 25 per cent is procured by co-operatives and private processors, and the rest reaches the consumers through various informal channels. Livestock products are perishable and need to be transported immediately to the consumption centres or converted into less perishable forms, but the processing, storage and refrigerated transport is underdeveloped. It is therefore essential to develop value chains for livestock products.

The choice of 'Livestock Marketing and Supply Chain Management of Livestock Products' as one of the themes for the discussion in the 74th Annual Conference of the Indian Society of Agricultural Economics is intentional as not much research has been undertaken in India to understand the markets and supply chains of animals and animal products, in terms of chain activities and actors, governance structures, performance and inclusiveness.

In all, the Society received 22 research articles that attempted at addressing various issues related to marketing and supply chains of livestock and livestock products. For the sake of brevity, the salient findings reported in these pieces of research have been organised and presented under the following sub-themes: (i)

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consumption and demand for livestock products, (ii) marketing of live animals (iii) marketing and supply chains of livestock products, and (iv) issues and challenges in developing efficient supply chains of livestock and livestock products.

CONSUMPTION AND DEMAND

Income growth and fast-growing urban population have been causing significant changes in the food basket of Indian consumers – in favour of high-value food products including animal products. And the factors underlying these changes have been quite robust in the recent past and are unlikely to subside in the near future, implying a faster growth in demand for livestock products in the years ahead. In their paper Shiv Mangal Yadav *et al.* using data from the 50th Round survey of NSSO on consumer expenditure have analysed the consumption levels of different livestock products for rural and urban consumers and also attempted their demand projections to 2021 and 2030. On an average the rural population consumes less of livestock products than does the urban population. But, income elasticity of demand for livestock products is larger for the rural consumers suggesting a faster growth in rural consumption. It is conjectured that faster economic growth will further diversify the dietary pattern in favour of livestock products, and if the economy continues to grow at an annual rate of 6 per cent by 2030 the demand for milk will rise to 165 million tonnes and that for meat and eggs to 15 million tonnes. Though these projections are based on the consumption expenditure survey conducted about two decades ago, more recent evidence lends support to faster growth in demand for livestock products (Joshi and Kumar, 2012). The authors argue for strengthening of supply chains of livestock products would enable small-scale producers to capture the emerging opportunities in the domestic market.

The growth in demand has been met from domestic production. With this in view, Arimardan Singh *et al.* argue that India possesses considerable potential for enhancing production and export of livestock products, such as bovine meat. India has a miniscule share in the global trade in livestock products though there has been considerable rise in India's exports of livestock products post-liberalisation. For example, India has emerged as the largest exporter of bovine meat, mainly buffalo meat in the recent years, and still there is enormous potential to produce and export buffalo meat.

MARKETING OF LIVE ANIMALS

We do not know much about the structure, conduct and performance of livestock markets. Some paper-writers have attempted on the description of the performance of organised and unorganised markets for live animals. Goutam Das *et al.*, in their paper have evaluated the performance of state-level animal fairs in Rajasthan being organised by the state department of animal husbandry at different locations. The duration of a fair generally does not exceed a week. Farmers bring all types of

animals for sale in these fairs, but it is primarily the cattle and horses that dominate the transactions. The authors have used some indicators such as the number of animals arrived and transacted in the fairs, and the expenditure incurred and revenue generated to study the performance of these fairs. Based on trend analysis of the number of animals arrived and transacted they conclude that animal fairs are losing their lustre. Farmers now bring fewer animals for transaction than they used to do earlier. A probable reason for decline in the arrivals is the ban on sale of male cattle of less than 3 years of age to the buyers not belonging to Rajasthan. About half of the animals brought to these fairs are transacted. The authors also bring forth various constraints such as inadequate infrastructure for housing men and animals, poor transportation, higher marketing costs and poor availability of feed and fodder that buyers and sellers face in these fairs. The income accruing from organisation of the fairs had grown over time and even faster than the expenditure incurred. The authors suggest for utilisation of surplus income towards development of fairs as to attract more buyers and sellers.

In his paper Bhag Chandra Jain studied the functioning of cattle markets in Raipur and Mahasamund districts of Chhattisgarh. Sellers bring cattle from distant places such as Haryana, Madhya Pradesh, Maharashtra and Andhra Pradesh. The findings indicate that middlemen are an important functionary in these markets. They facilitate transaction against a commission of 1.5 to 2.0 per cent on sale value of the animals, which is chargeable to the sellers. Buyers perceive that cattle brought for transaction in these markets are not of good quality. Poor infrastructure, lack of transportation facilities and poor infrastructure for housing men and animals are important constraints. Ashwani K. Sharma *et al.*, find that in Uttar Pradesh marketing system for animals is not orderly developed, resulting into dominance of informal trade in live animals. He suggests a need for developing organised markets and appropriate legislations for improving marketing efficiency.

Small ruminants are often reared by the poor landless and marginal farm households and comprise an important source of livelihood for them, argue Rakesh Kumar *et al.* They examined the dynamics of sheep production and marketing systems for small ruminants in Rajasthan, and reported that markets for small ruminants are imperfect. Often there is cartelisation of traders and commission agents and price determination is not transparent. There are barriers to entry of new commission agents in the markets. Based on these observations they conclude that 'what farmers gain through adoption of better technologies and management practices gets drained in the market'. Babu Singh *et al.*, also analysed the marketing of goats in Uttar Pradesh, and conclude that longer the supply chains, lower is the share of sellers in final market price.

Buyers face asymmetry in information on animal characteristics in livestock markets report Rakesh Singh *et al.*, in their study on buyers' perceptions on disclosure of information on the quality attributes of animals in three privately organised markets in Pratapgarh district of Uttar Pradesh. Voluntary disclosure has

been reported to exist for quite long in the traditional marketing systems often based on mutual trust, but it is restricted to the information on search and experience attributes of animals, and also lacks transparency. The findings of this study clearly indicate that the livestock markets may work well to induce self or voluntary disclosure of information on search and experience attributes, while mandatory disclosure is important for the credence attributes. This will help improve the functioning of the markets. The study suggests strengthening of legislation and infrastructure to bringing in transparency in price determination and improving marketing efficiency.

Marketing and Supply Chains of Livestock Products

Markets for livestock products are imperfect as is indicated by various studies from different parts of the country. In their paper S.A. Wani *et al.*, examined the growth and structural changes in livestock population, production, marketing systems, processing, and demand-supply gaps in milk, meat, and wool and pashmina fibre in Jammu and Kashmir. They find milk markets dominated by vendors. Vendors often pay prices lower than those offered by the dairy co-operatives. But, unfortunately the co-operative system in the state is thinly spread. The state of Jammu and Kashmir is deficit in milk and mutton and imports almost half of their demand from neighbouring states. Most of the wool produced in the state is exported. Pashmina fibre is a niche product of Kashmir but its marketing is mostly informal and dominated by butchers and traders. Besides, the state has the distinction of manufacturing traditional niche dairy and meat products, which have high export demand. The study suggests for developing and strengthening integrated value chains for livestock products with a focus on enhancing producers' access to markets and financial and non-financial services.

M.N. Waghmare and P.N. Shendage discuss the marketing system for wool in Ahmednagar district of Maharashtra. About 60 per cent of the wool is sold to merchants and the rest to weavers. Most small producers prefer selling their produce in the village itself. Village sales, however, decline with scale. Weavers offer higher price than local merchants. Selling in markets fetches higher prices than offered by weavers and local merchants but incremental returns are eaten away by marketing or transportation costs.

Poultry is one of the fastest growing enterprises in India growing at an annual rate of 6-8 per cent. Sharad Chandra Srivastava from a survey of layer and broiler farms in Gwalior district of Madhya Pradesh reports a lower share of producer in the consumer's rupee when the supply chain is longer. He also indicates higher start-up capital and diseases as the major problems in poultry production. Gangadhar Banerjee also reports similar findings from Andhra Pradesh.

Equine services are in great demand in hill tourism and provide an important source of livelihood for the service providers. S.K. Chauhan and H.R. Sharma have

examined the importance of equine services at tourist spots in Himachal Pradesh and reported that the gross earnings from provision of equine services range from Rs. 200 to Rs. 600 per day per equine during the lean tourist inflow. But the earnings may go up to Rs. 1,000 per day per equine during the peak tourist season.

Dairying is one of the most important economic activities in rural India, and has been transforming from subsistence to a profitable commercial activity, is argued by Shirish Sharma and I.P. Singh in their study of commercial dairying in Rajasthan. They find buffalo-based dairies more profitable and more on smaller farms. Given such as scenario, Shiv Raj Singh *et al.* and Deepak Shah have looked into the opportunities and challenges in smallholder dairy production and marketing. Based on a review of literature they identify the strengths and weaknesses of modern dairy value chains vis-à-vis traditional supply chains and suggest institutional and policy options to scale-up supply chains. Important suggestions include strengthening of infrastructure for collecting, processing, and marketing of milk as to reduce post-harvest losses and build up efficient and inclusive value chains.

R.N. Barman and Jonali Sarma have analysed the disposal pattern, marketing costs, marketing margins, price spread, and marketing efficiency using data collected from the non-members and members of dairy co-operative societies in Assam. Their findings suggest a higher share for producers in the consumer's rupee for the members of co-operatives. The authors also find higher milk consumption for the members of co-operative society implying that commercialisation of dairying is unlikely to affect household milk consumption. For an orderly development of the dairying in the state they suggest the need for scientific rearing of dairy animals, training of dairy farmers, establishment of feed manufacturing facility and financing of the dairy value chain. This is also evidence from a study by Jai Prakash *et al.*, in few villages in Jharkhand. They have shown that farmers' exposure to improved technologies, better feeding and health management contribute towards improving productivity of dairy animals, and linking dairy farmers with markets helps them realise better prices. Likewise, Narendra Kumar Illuru and Suneetha Kondati also suggest provision of technical services and inputs to dairy farmers for improving productivity and marketable surplus. They have also brought out the need for financing of the dairy value chains. Satish Chandra Verma *et al.* have assessed the role of self-help groups in dairying and report that such institutional arrangements do contribute towards empowerment of farmers in dairy management and thereby higher milk yields.

Dairying is gender-sensitive; almost three-fourths of labour requirement of dairying is met by women. Towards this, Sharad Kumar assessed the role of women in dairying in Varanasi district of Uttar Pradesh and conclude that although most dairy related activities are performed by males, females do not lag behind. The author suggests formation of self-help groups to encourage women to participate more in dairying. Samir R. Samantara has studied the impact of cow distribution scheme in Chhattisgarh on tribal farmers, in terms of employment and income generation and

changes in their livelihood pattern. According to him dairying can be a sustainable source of livelihood for the poor farmers. In terms of livelihood changes, the author finds an increase in milk consumption, and decline in alcohol consumption on being engaged in dairying.

ISSUES FOR DISCUSSION

The following issues merit further discussion.

- How important are informal value chains for livestock products in India? Can these withstand the competition from modern value chains?
- What are the costs and benefits associated with modern value chains?
- Can the marginalised groups, especially smallholders and women benefit from modern value chains? What kind of innovations will be required to ensure inclusiveness of value chains?
- What is the potential of modern value chains in ensuring safe and quality food to consumers?
- What are the challenges in developing efficient and inclusive value chains? What kind of policies will be required to provide a level playing field to different stakeholders on the value chain?
- How different models of supply chain can be scaled up? Is there a role for information and communication technologies in scaling-up of modern value chains? How value chains can be integrated with financial systems?
- What are the important livestock products in which India has a competitive advantage in international market? What are the barriers to enhance exports? And, what kind of policies and institutions are required for developing export-oriented value chains?
- How women will be influenced by development of modern supply chains?
- What kind of policies and institutional arrangements will be needed to comply with food and safety standards which are becoming stringent in the international market?

REFERENCE

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