# Rapporteur's Report on Trading in Livestock and Livestock Products

## Rapporteur : U.K. Pandey*

As livestock enterprise is interwoven with agriculture since ages, India possesses a great genetic reservoir of livestock species. Accordingly, livestock species are reared to meet the milk, meat, fibre and leather demands of both domestic and international markets. Since the inception of Indian Society of Agricultural Economics, the livestock economy/livestock enterprise together with dairy development and bovine economy were discussed at length in five Annual Conferences wherein with some exceptions only the production aspect could be covered. The economic incentives do not reach to the producers and consumers if the marketing system is inefficient, imperfect and lacks adequate environment. Like foodgrains marketing, the livestock and livestock products marketing also needs steps for orderly development, as the livestock development starts at the marketing end. Indeed, the marketing of livestock is mostly done through the seasonal cattle fairs and livestock products through unregulated markets and that too under non-systematic lines with the exception to milk and milk products marketing.

Keeping in view the issues raised in the theme outline, an overwhelming response of researchers/scholars was received on the subject. In all 43 papers have been accepted for discussion during the conference. The papers covering diverse aspects of trading livestock and livestock products have been grouped as under:

(i) Trading in livestock products,
(ii) Trading in meat, wool, hides and skins and their markets,
(iii) Trading in milk and milk products and their markets,
(iv) Trading in live animals and cattle fairs.

*(i) Trading in Livestock Products*

With the WTO agreement in the early 1990s, India entered into the global market. Since then trading of livestock products has progressed and it is imperative to analyse the trade performance in depth. There are 11 papers on this theme.

Anjani Kumar *et al.,* examined the spatio-temporal changes in the exports and imports of various livestock products, their growth trends, international competitiveness and the determinants of export of livestock products followed by the

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*Professor (Livestock Economics), Department of Veterinary and Animal Husbandry Extension, CCS Haryana Agricultural University, Hisar – 125 004 (Haryana).

food safety issues in the livestock trade. The livestock sector exports (particularly bovine meat, dairy products and eggs) with promising signs have registered a considerable rise and liberalisation policies too seem to have further augmented their growth. India has the potential to significantly increase and expand the export of livestock products for which domestic policy initiatives coupled with increased production and productivity are  important. To give a further boost for livestock sector exports it is necessary to ensure the international hygiene standards for harnessing the untapped export potential to developed countries like U.S.A., EU and Japan. Likewise, to reduce the negative externalities of international trade in livestock products, incentives and support services should be structured to allow the subsistence farmers and landless livestock keepers to participate in the livestock products trade.

D. Bardhan analyses the India's trade performance in livestock sector in the context of liberalisation and globalisation. The meat and meat preparation constituted the major contributor to export earnings from livestock (with the share of 72 per cent in 2002-04) but recently the share of milk products and eggs to  total value of livestock sector export have gone up considerably (5 to 14 per cent and 3 to 10 per cent between 1992-94 and 2002-04, respectively). Moderate diversity among exports of different livestock products was noticed in the last decade. Hairs and wool and hides and skins which constituted the major items of imports, their imports have increased during the last two decades or so.  At present India is a net exporter of all livestock products, except hairs and wool as well as hides and skins. Animal fats export has shown the highest variability while meat and meat preparations export the least in both pre- and post-WTO periods. Indeed, the exports of all livestock products exhibited higher growth rates in post-WTO as compared to pre-WTO period. Hides and skins, milk and milk products, eggs and meat as well as meat preparations exports increased significantly at their respective annual rates of 45, 31, 19 and 18 per cent respectively after the inception of WTO provisions. But WTO regime probably did not have favourable impact on the export of live animals as well as hairs and wool. India is not in a position to take advantage of the increase in world prices of chicken meat but the export of bovine meat, eggs and milk products has the potential.

T.R. Rajarajan *et al.,* examines the implications of trade liberalisation on the Indian dairy sector with the help of Nominal Protection Coefficient (NPC), Index  of Revealed Comparative Advantage together with other measures such as share of exports of Indian dairy products in the world exports, share of production of milk and milk products in world production and coefficient of variation in production and export of dairy products in India. The major dairy products in the export basket included butter, skimmed milk powder (SMP), whole milk powder (WMP), ghee and condensed Milk and accounted for more than 90 per cent of the total dairy exports in pre- and post-liberalisation periods. In comparison to world export, Indian exports of dairy products showed more positive growth trend in the post-liberalisation period

but higher degree of variability and instability was observed.  ASEAN and SAARC remained the leading destinations for Indian exports in both the periods. Majority of the Indian imports were from developed countries and the sources of imports were highly scattered. Moreover, India gained competitiveness in the trade of SMP, WMP and ghee in post-liberalisation period. India should also be able to improve its status as a producer of quality and safe dairy products and needs to reduce the huge variability by regular trade with major trading partners.

S.S. Raju finds a significant change in the export earnings of various livestock products but the growth in trade over a decade does not seem to be significant. In dollar terms, only leather and leather products, meat and meat products, dairy and dairy products, and Ready Made Garments (RMG) of wool have recorded significant increases. India possesses the competitive advantage in milk production but inefficiencies do exist in the processing of dairy products. India also possesses competitive advantage in the export of mutton and beef but chicken prices are significantly higher. Furthermore, domestic livestock industry has to improve efficiency, food safety and infrastructure bottlenecks.  Likewise S.S. Kalamkar observes that the export of dairy products is limited to butter and ghee together with negligible quantities of skimmed milk powder and whole milk powder. India possesses comparative advantages in dairy products due to higher quantum and lesser cost of production over New Zealand, Australia and U.S.A. Keeping in view the export subsidies and world prices, there is need to re-negotiate the duty rates  for most of the dairy products. Yet, thrust should be on the improvement of animal health and adoption of sanitary and phyto-sanitary specifications for dairy products besides projecting brand image in the international dairy trade fairs, where exports are being targeted.

P. Hazra *et al.,* reports that the major export destinations for Indian dairy products include the Indian sub-continent, Gulf region and South-East Asia. The top 12 customers accounted for about 95 per cent of the share in Asian markets and there are some fast emerging new markets. India has also diversified its export basket towards cheese, whey based and fermented products besides exporting SMP, WMP, milk food for babies, other milk powder, butter and ghee. India is a minor player in the Asian markets and exports are moderately to highly instable in most of the destinations. To capitalise on the trade prospects in Asia, a comprehensive strategy seems to be the increased production of quality dairy products. Moreover, Deepak Shah opines that India faces significant threat in the case of import trade of some of the dairy products like butter, ghee, cheese and curd, animal fats and some other livestock based products like hides and skins due to higher value associated with import as against export. Furthermore, the Indian dairy sector would be competitive only if the export subsidies on dairy products are abolished. Under relaxed market environment, the real challenge posed before the Indian livestock sector would be in terms of Sanitary and Phyto-Sanitary measures (SPS), Agreement on Technical Barriers to Trade (TBT) and animal welfare related issues. India is already price

competitive in the world market and when subsidies from competitive producers like U.S.A. and EU countries are removed, the situation will make India more price competitive. Likewise, N. Rangasamy and J.P. Dhaka conclude that value added dairy products like butter and ghee were more profitable (even less quantity of dairy products manufactured) than value added liquid milk varieties, viz., standardised milk, toned milk and full cream milk.  Flavoured milk and milk peda were earning negative margins due to lowest quality of products manufactured and sold. They suggest the co-operative dairy plant to utilise full plant capacity and improve the operational efficiency and reorient its product mix in line with changing market environment.

Pradeep Hadke and S.R. Jichkar observe that the demand-driven livestock sector has production systems based on low cost agro by-products using traditional technologies.  Supportive government schemes coupled with organised private sector initiatives has contributed to spectacular growth in this sector. With milk output touching around 100 million tonnes in 2006-07, India is expected to export 0.3 million tonnes of dairy products. The value of poultry and poultry products exports has increased from Rs. 11 crore in 1993-94 to Rs.326 crore in 2005-06. However, S.C. Srivastva *et al.,* opine that poultry enterprise possesses the potential for value added products and this strategy needs to be fully exploited. Moreover, Parminder Kaur *et al.,* report that livestock sector accounts for 24.91 per cent of agricultural gross domestic product (GDP) and 4.72 per cent of total GDP in 2005-2006, the share of dairying in livestock sector being about 65 per cent. India accounts for about 16 per cent to the world milk production but dairy export constitutes less than 1 per cent of the total livestock products exported. Amongst exported dairy products, skimmed and whole milk powders constituted about 85 per cent while butter and butter oils constituted about 8.44 per cent of India's total export. For skimmed milk powder the export destinations are East Africa, South Asia and China while for melted butter and ghee the destinations are UAE, Kuwait, Saudi Arabia and Bahrain. The chemical and micro biological quality of India's milk and milk products needs to meet the stipulated international standards.

## (ii) Trading in Meat, Wool, Hides and Skins and their Markets

India is the sixth largest meat producing country of the world by contributing 2.3 per cent of the global meat production after China (28.7 per cent), U.S.A. (14.9 per cent), Brazil (7.7 per cent), Germany (2.6 per cent) and France (2.4 per cent). The Indian economy is now poised for achieving the "Pink Revolution". Of the total meat production in the country bovine meat contributes the lion's share (about 60 per cent) followed by sheep and goat (15 per cent), poultry (12 per cent), pig (10 per cent) and others (3 per cent). Furthermore, India is the major buffalo meat producing country of the world contributing 48.6 per cent to global meat production. Wool and hair as well as raw hides and skins are the basic raw materials for the woollen garments and

leather industry, respectively. By and large, the markets for these livestock products are unorganised.  There are nine papers related to this theme.

S.P. Bhardwaj and S. Panwar conclude that India possesses the potential to achieve number one position in meat production and thereby "pink revolution" through buffalo is not far behind to the other revolutions such as green, white and blue which have already been achieved. With the exception of milk and egg markets, the other livestock products market are unorganised and need the attention of planners and policy makers. However, the importing countries for Indian buffalo meat are developing or less developed countries and Indian "pink food" failed to enter the developed world so far. Brahm Prakash *et al.,* report that India's total exports of meat and meat preparations have grown at the rate of 10.03 per cent and are exported to UAE, Malaysia, Philippines, Iran and Saudi Arabia. Its vast export potential could not be tapped due to foot and mouth diseases, small holding of animals, inadequate modern abattoirs facilities, lack of refrigerated trucks and cargo facility, difficulties in traceability and quality enforcement, negative propaganda, lack of pragmatic policy, low pace of modernisation and establishment of slaughter houses, lack of value added products and global competitiveness. However, Arjun Singh observed that meat and meat preparations exports have risen at the annual growth rate of 14.7 per cent during 1995-96 to 2005-06 and hopes for "pink revolution" through buffalo meat.

Babu Singh et al., examine the marketing efficiency of goats for meat in Uttar Pradesh and identify the producer–→retailer–→consumer marketing channel wherein producer's share in consumer's rupee was maximum (about 65 per cent). Furthermore, dressed meat, hides and skins was also more in distant market as compared to local market. But, the produce (meat, hides and skins) with long chain of middlemen reduces the producer's share in consumer's rupee. The constraints such as distantly located wholesale markets, lack of transport facilities, high marketing charges, producer's preferences to sell goats to village trader or retailer directly at low prices, possesses adverse effects on goat meat marketing efficiency. However, they suggested for the regulation of goat meat market.

R.C. Mondal identifies the producer →wholesaler/dealer → retailer → Consumer as important and operative broiler meat marketing channel with 89 per cent of the producer's share in consumer's rupee in West Bengal. Likewise, S. Saran and L.S. Gangwar examine the egg market performance through measurement of oneness of the egg market by applying 'Engle-Granger Co-integration Test'. They report that the market intelligence functions by the National Egg Co-ordination Committee (NECC) transmits price signals across length and width in the country due to which not only co-integrations exist in wholesale egg markets but these are competitive and efficient as well.

Subhasis Mandal *et al.,* conclude that the pork production system in India is though an under-unorganised sector and not having competitive advantage but possesses the advantage of low cost of production. Moreover, the Indian pork

producers have several factors of cost disadvantage such as poor infrastructure, irregular power supply, internal freight and high transportation cost. Yet, pork has the substantial potential to grow and contribute to increase the trade balance of meat which in turn may be helpful to increase the well being of the under privileged farmers.

J.P. Singh studied the structure, regulatory mechanism and constraints in skins and hides market of eastern Uttar Pradesh and observes that these markets are weekly held wherein butchers or small rural and urban traders carry raw produce and pay market charges at the rate of Rs.1/skin and Rs.5/ hide to the organisers. Middlemen are exclusively the local merchants, buyers and hoarders of raw skins and hides, treat them and finally disposes off to the tanner's agent/ tanner unit. The most important identified marketing channel of skins and hides was butcher/small rural/urban traders—→local merchant/ skin hoarder—→tanner's representative or tanner. The butcher's share in tanner's rupee for skins was 44 to 65 per cent and for hides 23 to 79 per cent. Most of the middlemen (local merchant hoarder of skins and hides) were operating without holding any license and enjoying major share from butchers/ small rural/urban traders and making frequent bargaining from the tanner's representative. The study suggests the need for village co-operative marketing societies of livestock breeders/butchers and making agreement with tanner units for regular supply of raw skins and hides.

M.N. Waghmare *et al.,* studied wool marketing in Dhule district of Maharashtra. They concluded that about 68 per cent of sample shepherds sold about 61 per cent of wool in village itself and the remaining in the nearby markets. One kilogram of wool has Rs. 3.4 marketing cost, of which labour charges accounted for about 91 per cent, followed by transportation cost (about 5 per cent), packing charges (about 3 per cent) and weighing and market fee (1 per cent). However, the marketing cost per kilogram of wool declined with the increase in size of flocks. They suggest the development of market infrastructure together with the establishment of regulated markets.

*(iii) Trading in Milk and Milk Products and their Markets*

Milk being precious but perishable commodity requires quick disposal so as to reach the ultimate consumer. Likewise, most of its products do perish quickly and require safe handling in order to reach the ultimate destination. Although milk marketing through co-operatives along with butter and ghee are, by and large organised their success and failure stories do exist across Indian states/regions. Furthermore, private traders do exist for milk, khowa, cheese, butter and ghee trade thereby charging higher prices from the consumers. To safeguard the interest of the producers and consumers these are to be organised and need the attention of the researcher. Milk and milk products marketing attracted the attention of 15 paper-writers.

Sukhpal Singh examined the profile of organised co-operative and private sector in liquid milk business, its growth, performance, business and marketing strategies and prospects, with special reference to Gujarat state and Ahmedabad milk market. Amul's strategy possesses two major dimensions, viz., market segmentation and quality availability of the product. The strategies of private brands included launch of full cream milk to cater to high quality high price milk, retailer push and trade penetration, varying credit facility to retailers and an effective replacement policy. In general, to build competitive advantage the private operators used a range of strategies like making timely cash payments to producers, linking milk supply with advances provided by big contractors to small ones who in turn have long term ties with milk producers, offering higher price than co-operatives in summer and lower in winter, operating an efficient and tight collection and transport system. Yet, the emerging competition in liquid milk, through new variants like flavoured milk and ultra high temperature milk are important entry points for MNCs like Britannia and Coca-Cola. At the same time MNCs are likely to have edge over local players, as branded markets require investments in marketing. Furthermore, the processing and marketing sectors in Indian dairying are the ones which suffer from high costs and lack of competitiveness, not the milk production sector with India's lowest milk yield in the world.

Harvinder Singh and A.K. Jha examined the spatial integration of the country's five major whole sale milk markets by applying Johansen's method of co-integration and observe that Delhi, Kanpur and Chennai wholesale milk markets to be more stable and less risky thereby providing cushion against external shocks and price volatility to the producers. Moreover, the Kolkata and Mumbai wholesale milk markets are critical to correct disequilibrium due to any exogenous shocks but show speedy adjustments and thereby long run equilibrium seems to be restored more quickly, provided appropriate correction measures are taken.

T.B. Deokate *et al.,* identified five major channels of milk marketing in Amravati district of Maharashtra. They observe that the producer-consumer channel to be most remunerative due to the highest producer's share in consumer's rupee and buffalo producers could get lower price to their fat rich buffalo milk from milk co-operative societies. Similarly, D.C. Pant *et al.* estimated the price spread in milk marketing and the marketing efficiency of different marketing channels in Udaipur district of Rajasthan. Of the four milk marketing channels identified in the study area, channel - II, viz., milk producer-milk vendor-consumer was the most important channel through which forty per cent of milk producers sold about 34 per cent of total milk. Moreover, the inter-channel comparison revealed that channel - I was found to be the most efficient channel wherein the producer's share in consumer's rupee was about 98 per cent. Price spread, both in absolute and percentage terms, was maximum in channel - IV where two middle men were involved in the marketing process of milk and minimum in channel wherein no middle men was involved. A.K. Gauraha also studied two major channels of milk marketing in Raipur district of Chhattisgarh and

reports that of the total milk produced about 96 per cent was marketed. Of the total milk marketed about 54 per cent was sold directly to the rural and urban consumers while private agencies accounted for the remaining quantity. Furthermore, the producer's share in consumer's rupee is inversely proportional to the length of distribution channel.

A.K. Singh and Seema Joshi in their study observed the maximum sale of milk in the months of September to January. The producer's share in consumer's rupee was higher in co-operative society and consumers have to also pay lower price for milk. Likewise, Sushila Kaul while analysing the performance of milk marketing through co-operatives in India reported that the western and northern regions milk co-operatives have well done and the eastern region lagged behind. Yet, the milk co-operatives emerged to be a better option for organised procurement of milk in the rural areas. Contrarily, J. Sadeesh *et al.* while analysing the milk marketing efficiency in Puducherry Region in Union territory of Puducherry observed that the co-operative societies though played a major role in milk procurement yet the marketing efficiency was the highest in channel consisting of producer-cycle milk vendors-consumers due to its short length.

C.L. Thakur and S.M. Yadav studied the marketing of milk and milk products of Jabalpur Sahkari Dugdh Sangh Maryadit (JSDSM) Jabalpur in Katni district of Madhya Pradesh and report that the quality conscious consumer prefer to buy quality milk and milk products from JSDSM. Among all the Sanchi products, Sanchi powder (toned milk), had market followed by Sanchi health (double toned milk), Sanchi Gold (whole milk) and Sanchi supreme (standard milk). Yet, the consumer's maximum preferences were recorded for Sanchi Urja (flavoured milk 24 per cent) followed by lassi (about 17 per cent) masala mattha (about 15 per cent) and ghee (about 13 per cent) in order. A.R. Verma analysed the price spread and marketing of buffalo milk in Indore district of Madhya Pradesh. Of the four milk marketing channels studied besides direct channel (producer- consumer), the second channel, viz., producer-milk vendor-urban consumer not only had higher producer's share in consumer's rupee (80 per cent) but the marketing efficiency as well. Remunerative price of milk was the top most marketing constraint followed by the delayed fractional payment for milk. Likewise, Vijay K. Choudhary estimated price spread for three milk marketing channels of semi-urban areas of Raipur district in Chhattisgarh and concluded that the producer's share in consumer's rupee is inversely proportional to the length of distribution channels. The study suggested for the direct sale of their produce to consumers through a private dairy milk counter in city areas.

Jitendra Singh *et al.,* studied the marketing system of private milk collection and distribution agencies in Lucknow city of Uttar Pradesh and reported that purchases of milk in the milk market of Lucknow city were done mainly by primary and secondary milk vendors, sweet makers and hotels, small dairymen, wholesalers, milk product makers. About 20 channels existed for prevailing milk supply in Lucknow city by the private agencies. Of the total milk produced about 43 per cent was sold directly to the

consumers at the dairy site itself. Most of the milk producers preferred to supply milk directly to consumers for regular ensured supply at higher prices for longer period. K.N.S. Banafar conducted the economic analysis of production and marketing of milk in Raipur district of Chhattisgarh and concludes that of the four prevailing marketing channels, the milk producers had the tendency to sell their milk through producer-co-operative-retailer-consumer channel even though the producer's share in consumer's rupee was the highest in direct channel.

C.P. Singh and J.D. Sharma observed that goat milk possesses marketing problem and as such it is a big constraint faced by the goat rearers in Rajasthan. Khem Chand *et al.* concludes that private dairies, milk vendors and dairy co-operatives are the major agencies involved in the procurement and sale of milk in Pali district of semi-arid Rajasthan. Of the total milk sold in the district, 32 per cent was procured through 450 primary village co-operatives. Furthermore, the milk collected at chilling centres was ultimately processed at Pali dairy plant and converted into different grades of milk and various milk products. There existed about 420 retail milk booths and 7 milk parlours in Pali district. Pali dairy assures better milk price to the producers and also run a number of welfare schemes to the members so as to enhance their living standards.

*(iv) Trading in Live Animals and Cattle Fairs*

Livestock development starts at the marketing end as it provides the necessary incentives to the producers to adopt scientific methods of animal husbandry. Marketing of livestock (such as milch cows and buffaloes, bullocks, he buffaloes, camels, horses, donkeys and mules, sheep and goats, pigs, yak, mithun, etc.) not only constituted a source of income to the farmers and animal dealers to supplement their household income but in some of the developed Indian states/regions it has even become a big business to the rearers/farmers/dealers. Yet, livestock trading is mostly done through cattle fairs on unscientific lines. There are eight papers in this theme.

S.S. Burark and R.L. Jogi studied the existing organisation and structure of animal fairs and exchange markets (AEM) developed under Agricultural Development Project (ADP) in Rajasthan. Of the 65 AEMs developed under ADP, 10 AEMs were selected for indepth study. About 260 animal fairs were held in the state, of which 10 were the state level fairs. Most of the markets operated only once in a year with duration in the selected markets ranging between one week to one month. The organisers provided the necessary facilities at the fair site and collected entry fee and revenue while buyers from outside of the state also paid sales tax. The present rate of sale tax is 5 per cent of the sale price of the animal subject to a minimum of Rs. 80 per animal. Yet, these charges vary from fair to fair. About 98 per cent draught animals (bullocks, camel and he buffaloes) were brought and about 47 per cent of the total assembled animals were sold. Transactions of milch animal and small ruminants were almost negligible. Sellers mostly belonged to local area while buyers mostly

belonged to out of the state in most of the markets. Local buyers carried purchased animal on foot and out of the state buyers carried on their trucks. Infrastructure created under AEMs included small office room, store, water trough and cattle loading platform but lack cattle sheds and farmer rest house. However, the constructed units are not only limited in number but small in size as well.

K.S. Suhag *et al.,* studied the periodicity of cattle fairs, cattle transactions, organisational structure, the conduct of cattle fairs and problems therein together with the trends in income earned, expenditure incurred and the total turnover from Hisar circle cattle fair. They conclude that the holding of cattle fairs in the State seems to be a sound proposition as it significantly contributed towards the state income but expenditure incurred by the Government in holding these fairs was not adequate. These cattle fairs were fixed as per "Vikrami Calender" months with a periodicity of 5 to 10 days. Normally, the cattle fair commencement date was announced and closing date depended upon the transactions. Ninety five per cent of the animals transacted in cattle fairs included bullocks, calves (young male stock of cows) and camel. Trading of buffaloes constituted only 1 per cent. Both buyers and sellers encountered several problems and market intelligence service was absent in cattle fairs but horizontal integration was observed. They suggest the development of "ideal cattle fair infrastructure" in the state just like foodgrains. Likewise, S.K. Chauhan and P.K. Dogra studied the rationale and marketing of equine in mountain areas of Himachal Pradesh and observe mule pair to be highly profitable for carriage activities as compared to horse and donkey. Among equines, only horses played a dominant role in tourism sector and their rearers earned about Rs. 13,000 per pair through tourism.

A.N. Shukla and Nasir Hussain studied the structure of cattle fairs, marketing agencies, arrivals and disposal of live animals (cows, buffaloes, bullocks, sheep and goats) in Western Uttar Pradesh. They observe seasonality in the holding of live animals cattle fairs. The month wise variations in sale of cows ranged between 23 per cent in March and 30 per cent in October, for buffaloes 20 per cent in May to 26 per cent in January, for bullocks 25 per cent in July to 41 per cent in November. Moreover, the percentage sale of total arrivals in small ruminants was higher as compared to cattle. Both buyers and sellers generally finalise the deal on mutual bargaining and once the deal is finalised the details are to be entered on white slip obtainable from Mela agent. For large animals the buyer has to pay Rs. 40 per animal and for small ruminants it is Rs. 10 per head/animal. Once the revenue is collected by the Mela Officer's Staff, the buyer is free to take out the animal out of fair site. They suggest the provision of necessary amenities in cattle fairs like permanent mela ground, pucca shed with boundary wall, publicity of cattle fairs, strict follow of rules and regulations, registration window easily accessible to buyers and sellers, etc. Likewise, R.B. Singh and S.K. Verma studied the structure of livestock markets in Bundelkhand region of Uttar Pradesh and observed the control of these markets by private sector unorganised machinery. The brokers follow malpractices which affects

both the buyers and sellers. Animal transacted included cow, goat, young cattle calf and bullocks, buffalo and these were grouped age wise and breed wise. Buyers and sellers were grouped into the number of animals transacted, caste and occupation wise. They suggest the regulation of livestock markets together with the development of proper market intelligence and market information system to acquaint about market arrivals, prevailing market prices and other market information including market fee. Archana Shukla studied the cattle fairs in Uttar Pradesh and reports that only 34 per cent of the animals assembled in cattle fairs were disposed off (ranging between 29 and 45 per cent in various markets). Hence, taking back of more than 59 per cent of the unsold animals assembled is merely futile expenditure being incurred on animal trade. Cattle, camel, goat and buffalo are the major livestock species transacted in these cattle fairs. Of the total 230 cattle fairs organised in the state, 21 per cent are organised at municipality level, 27 per cent at panchayat samiti level and the remaining 52 per cent at gram panchayat level. Sheep and goats are marketed in separate markets mostly by two communities engaged in trade, viz., khatika and Kasai. However, goat marketing is to be made more effective in view of its potential for milk and meat in the state.

B.B. Beohar *et al.* studied the marketing problems in Madhya Pradesh. Buyers, sellers and intermediaries are the key elements and their strength in a particular market determined the size of livestock markets. Ninety per cent of the buyers faced the problems of unauthorised involvement of intermediaries and controlling authority did not play their due role. Lack of funds, high marketing charges, high intermediaries commission, high price of animals ranged between 50 and 70 per cent. Lack of credit and insurance facilities, involvement of intermediaries together with unlicensed intermediaries, non-co-operative role of local bodies were the other constraints reported by the buyers. The sellers faced non-availability of bank facility and have to carry huge cash amount with them, as the transaction in cattle markets took place in late hours. Similarly, due to non-availability of cattleshed in the market area sellers faced the problem to keep their animal in safest place in rainy/summer days. B.C. Jain and M.A. Khan examined the structure and working of cattle markets and fairs in Chhattisgarh and observe quite poor marketing system in the state. These cattle fairs are organised during a particular season on some notified days at different places in the state and cattle are brought from different locations of both within and outside the states. Many times sellers have to cover a long distance on foot due to poor transportation facility and high cost involved in other means of transport. Despite several obstacles faced by the cattle sellers, a big amount of sold money is shared by middlemen due to unregulated system of marketing animals. Three-fourth of the buyers could not get the animal of their choice. However, the problem of drinking water and credit was also observed by the respondents.

RESEARCH GAP

Most of the papers have presented the trade performance of livestock products including milk marketing and only a few examined the live animals, wool, hides and skins trade. Although in some papers trade protection measures are dealt with but trade rejections of livestock products have not been studied at all. Except for spatial integration of wholesale milk and egg markets, the time series analysis of live animals and livestock products (such as milk, butter, ghee, meat, pork, etc.) prices have not been researched. Likewise, the qualitative and quantitative characters/factors which affect the market prices of milch animals, draught animals, small ruminants, etc., together with the premiums or discounts associated with the respective characters need to be analysed across regions/states. The performance of cattle fairs was examined only for Haryana, Rajasthan, Uttar Pradesh and Madhya Pradesh but aspects such as their structure, vertical and horizontal integration, market intelligence and information network, development of data network system and movements across regions/state were not covered. These aspects need further empirical in depth research.

ISSUES FOR DISCUSSION

Some of the issues that can be taken up for intensive discussion in the conference have been identified as under:

1. What are the trade protections and rejections in livestock products sector? How to promote the export trade of livestock products with international hygiene standards so as to harness the untapped potential in developed countries? Should India further diversify its export basket? What can be done to promote the negatively trade balanced livestock products? How can small scale farmers/subsistence farmers/landless livestock rearers be brought in trading of live animals/livestock products in domestic vis-a–vis international markets?

2. What are the success and failure stories and their implications for the co-operatives for liquid milk and milk products (such as butter, ghee, milk powder, etc) on the pattern of AMUL vis-a–vis private sector plant across states/regions? How the efficiencies in milk and milk products marketing can be achieved, keeping in view the fact that producer's share in consumer's rupee is inversely proportional to the length of distribution channel? Can we develop some "ideal and hygienic system of wholesale and retail markets and marketing system" for dairy products such as ghee, butter, curd, etc. across regions (say Nahan and Auraya markets of Himachal Pradesh and Uttar Pradesh etc.) to safeguard the interest of both producers and consumers? What are the experiences of MNCs like Britania and Coca-Cola in milk and milk products and the likely effects of Reliance entrance?

3.  How can meat, wool, hides and skins markets be organised to safeguard the interest of both producers and consumers?  Are there success and failure stories across Indian states/regions for these products of some voluntary organisations/ private and/or co-operatives? Can we develop some 'ideal wholesale and retail markets for meat, wool, hides and skins, bones, etc.' on pilot basis across regions/locations with hygienic standards?  What can be done to develop the market information and market intelligence network for these products markets as in those of developed countries?

4.  Can we regulate the cattle fairs just like foodgrain markets?  If so, should it be done by the State Department of Panchayat or State Livestock Development Board or co-operatives or some other Farmer's Voluntary Organisations? What could be the ideal organisational structure and market infrastructure including market information and market intelligence network? Can it be done on pilot basis through developed states of the country?  Else, we proceed with genetic origin of livestock species (say Meham and Bahadurgarh market in Haryana for "Murrah buffalo and Hariana bullocks", Camel and small ruminants in Rajasthan, Itawah market for goats in U.P. and Pig markets in North-East Regions, etc)? What can be done to procure the data on livestock trade through cattle fairs?  What could be the efficient mode of transporting the live animals and their efficient trade channel? Is there vertical and horizontal integration in live animals trade? How to promote the progressive livestock rearers to enter in export trade of live animals?