

Chapter 1: Livestock in Indian Economy

1.1 India's livestock sector is one of the largest in the world. It has 56.7% of world's buffaloes, 12.5% cattle, 20.4% small ruminants, 2.4% camel, 1.4% equine, 1.5% pigs and 3.1% poultry. In 2010-11 livestock generated outputs worth Rs 2075 billion (at 2004-05 prices) which comprised 4% of the GDP and 26% of the agricultural GDP. The total output worth was higher than the value of food grains.

1.2 Animal husbandry is an integral component of Indian agriculture supporting livelihood of more than two-thirds of the rural population. Animals provide nutrient-rich food products, draught power, dung as organic manure and domestic fuel, hides & skin, and are a regular source of cash income for rural households. They are a natural capital, which can be easily reproduced to act as a living bank with offspring as interest, and an insurance against income shocks of crop failure and natural calamities.

1.3 Driven by the structural changes in agriculture and food consumption patterns, the utility of livestock has been undergoing a steady transformation. The non-food functions of livestock are becoming weaker. Importance of livestock as source of 'draught power' has declined considerably due to mechanization of agricultural operations and declining farm size. Use of dung manure is increasingly being replaced by chemical fertilizers. On the other hand, their importance as a source of quality food has increased. Sustained income and economic growth, a fast-growing urban population, burgeoning middle-income class, changing lifestyles, increasing proportion of women in workforce, improvements in transportation and storage practices and rise of supermarkets especially in cities and towns are fuelling rapid increases in consumption of animal food products. Between 1983 and 2004, the share of animal products in the total food expenditure increased from 21.8% to 25.0% in urban areas and from 16.1% to 21.4% in rural areas.

1.4 Despite significant increases in livestock production, per capita consumption of milk (69 kg) and meat (3.7 kg) in 2007 has been much lower against corresponding world averages of 85 and 40 kg².

1.5 Demand for animal food products is responsive to income changes, and is expected to increase in future. Between 1991-92 and 2008-09, India's per capita income grew at an annual rate of 4.8% and urban population at a rate of 2.5%. These trends are likely to continue. By the end of 12th Plan demand, for milk is expected to increase to 141 million tons and for meat, eggs and fish together to 15.8 million tons. Global market for animal products is expanding fast, and is an opportunity for India to improve its participation in global market.

1.6 Livestock sector grew at an annual rate of 5.3% during 1980s, 3.9% during 1990s and 3.6% during 2000s. Despite deceleration, growth in livestock sector remained about 1.5 times larger than in the crop sector which implies its critical role in cushioning agricultural growth.

1.7 Distribution of livestock is more equitable than that of land. In 2003 marginal farm households (≤ 1.0 h hectare of land) who comprised 48% of the rural households controlled more than half of country's cattle and buffalo and two-thirds of small animals and poultry as against 24% of land. Between 1991-92 and 2002-03 their share in land area increased by 9 percentage points and in different livestock species by 10-25 percentage points.

1.8 Livestock has been an important source of livelihood for small farmers. They contributed about 16% to their income, more so in states like Gujarat (24.4%), Haryana (24.2%), Punjab (20.2%) and Bihar (18.7%).

²FAOSTAT. www.fao.org³Birthal (2008). Livestock sector of India: An overview. Report submitted to the World Bank.

1.9 The agricultural sector engages about 57% of the total working population and about 73% of the rural labour force³. Livestock employed 8.8% of the agricultural work force albeit it varied widely from 3% in North-Eastern states to 40-48% in Punjab and Haryana. Animal husbandry promotes gender equity. More than three-fourth of the labour demand in livestock production is met by women. The share of women employment in livestock sector is around 90% in Punjab and Haryana where dairying is a prominent activity and animals are stall-fed.

1.10 The distribution patterns of income and employment show that small farm households hold more opportunities in livestock production. The growth in livestock sector is demand-driven, inclusive and pro-poor. Incidence of rural poverty is less in states like Punjab, Haryana, Jammu & Kashmir, Himachal Pradesh, Kerala, Gujarat, and Rajasthan where livestock accounts for a sizeable share of agricultural income as well as employment. Empirical evidence from India as well as from many other developing countries suggests that livestock development has been an important route for the poor households to escape poverty.

1.11 Nonetheless, there are number of socio-economic and environmental challenges that need to be overcome through appropriate policies, technologies and strategies in order to harness the pro-poor potential of livestock.

1.12 Improving productivity in a huge population of low-producing animals is one of the major challenges. The average annual milk yield of Indian cattle is 1172 kg which is only about 50% of the global average⁴, and much less than in New Zealand (3343 kg), Australia (5600 kg), UK (7101 kg), US (9332 kg) and Israel (10214 kg). Likewise the meat yield of most species is 20-60% lower than the world average.

³Birthal (2008). Livestock sector of India: An overview. Report submitted to the World Bank.

⁴FAOSTAT

1.13 The growth in milk production decelerated from 4.4% during 1990s to 3.9% during 2000s. There remains a huge gap between the potential and the realized yields in Indian livestock. Only 27-75% of the dairy animal potential yield is realized in different regions of the country⁵ because of constraints related to feeding, breeding, health and management. Output worth Rs 283 billion (at 2003 prices), which was equivalent to 25% of the value of milk produced in 2002, was lost due to these constraints. Feed and fodder scarcity is identified as the most limiting constraint accounting for half of the total loss, followed by problems in breeding and reproduction (21%) and in health (18%).

1.14 Crossbreeding of indigenous species with exotic stocks to enhance genetic potential of different species has been successful only to a limited extent. Limited AI services owing to deficiency in quality germ plasm, infrastructure and technical manpower coupled with poor conception rate following artificial insemination have been the major impediments. After more than three decades of crossbreeding, the crossbred population is only 16.6% in cattle, 21.5% in pigs and 5.2% in sheep.

1.15 Livestock derive major part of their energy requirement from agricultural byproducts and residues. Hardly 5% of the cropped area is utilized to grow fodder. India is deficit in dry fodder by 11%, green fodder by 35% and concentrates feed by 28%. The common grazing lands too have been deteriorating quantitatively and qualitatively.

1.16 Frequent outbreaks of diseases like FMD, BQ, PPR, Influenza etc. continue to affect livestock health and productivity. India has about 55000 veterinary institutions including poly clinics, hospitals, dispensaries and stockman

⁵Birthal, P.S., and A.K. Jha. 2005. Economic losses due to various constraints in dairy production in India. Indian Journal of Animal Sciences 75(12): 1470-1475.

centers. Veterinary and animal health services are largely in the public sector domain and remain poor.

1.17 India's huge population of ruminants remains a major source of greenhouse gases adding to global warming. Reducing greenhouse gases through mitigation and adaptation strategies will be a major challenge.

1.18 The sector will also come under significant adjustment pressure to the emerging market forces. Though globalization will create avenues for increased participation in international trade, stringent food safety and quality norms would be required.

1.19 Livestock sector did not receive the policy and financial attention it deserved. The sector received only about 12% of the total public expenditure on agriculture and allied sectors, which is disproportionately lesser than its contribution to agricultural GDP. The sector too has been neglected by the financial institutions. The share of livestock in the total agricultural credit has hardly ever exceeded 4% in the total (short-term, medium-term and long-term). The institutional mechanisms to protect animals against risk are not strong enough. Currently, only 6% of the animal heads (excluding poultry) are provided insurance cover. Livestock extension has remained grossly neglected in the past. Only about 5% of the farm households in India access information on livestock technology. These indicate an apathetic outreach of the financial and information delivery systems.

1.20 Access to markets is critical to speed up commercialization of livestock production. Lack of access to markets may act as a disincentive to farmers to adopt improved technologies and quality inputs. Except for poultry products and to some extent for milk, markets for livestock and livestock products are underdeveloped, irregular, uncertain and lack transparency. Further these are often dominated by informal market intermediaries who exploit the producers.

Likewise, slaughtering facilities are too inadequate. About half of the total meat production comes from un-registered, make-shift slaughter houses. Marketing and transaction costs of livestock products are high taking 15-20% of the sale price⁶.

1.21 The extent to which the pro-poor potential of livestock can be harnessed would depend on how technology, institutions, policies and financial support address the constraints of the sector. The number-driven growth in livestock production may not sustain in the long run due to its increasing stress on the limited natural resources. The future growth has to come from improvements in technology and service delivery systems leading to accelerated productivity, processing and marketing.

⁶Birthal, P.S. 2008. Linking smallholder livestock producers to markets: Issues and approaches. Indian Journal of Agricultural Economics 63(1):19-37.