



## ROLE OF LIVESTOCK IN DEVELOPING COUNTRIES AS INDIA IN PERSPECTIVE OF INDIAN ECONOMY—A REVIEW

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### ABSTRACT

Livestock play a significant role in rural livelihoods and the economies of developing countries. They are providers of income and employment for producers and others working in, sometimes complex, value chains. They are a crucial asset and safety net for the poor, especially for women and pastoralist groups, and they provide an important source of nourishment for billions of rural and urban households. These socio-economic roles and others are increasing in importance as the sector grows because of increasing human populations, incomes and urbanization rates. To provide these benefits, the sector uses a significant amount of land, water, biomass and other resources and emits a considerable quantity of greenhouse gases. There is concern on how to manage the sector's growth, so that these benefits can be attained at a lower environmental cost. Livestock and environment interactions in developing countries can be both positive and negative. On the one hand, manures from ruminant systems can be a valuable source of nutrients for smallholder crops, whereas in more industrial systems, or where there are large concentrations of animals, they can pollute water sources. New diversification options and improved safety nets will also be essential when intensification is not the primary avenue for developing the livestock sector. The roles of livestock in the developing country are many, spanning from the social to the economic, to the environmental. At the same time, they can be positive (i.e., income) or negative (i.e., Pollution). These roles can shift depending on location. This paper reviews the positive and negative roles of livestock in the developing country. It also discusses key factors that are likely to determine the future contribution of the sector to food security, environmental protection and economic growth. This paper assesses the role and contribution of livestock sector in Indian economy.

**Key word :** Livestock, developing country, poverty reduction, food security, livelihoods.

Livestock are an indispensable segment of agriculture in India and make multifaceted commitments to the development and advancement of the farming area which incorporates animal cultivation, dairy and fisheries areas which plays a great role in the public economy and in the financial improvement of the nation. Livestock help improve food and nourishing security by giving nutrient-rich food items, generate income and employment and act as a buffer against crop failure, provide draught power and manure inputs to the crop subsector, and contribute to foreign exchange through exports. Moreover, livestock make considerable contributions to environmental conservation, providing draught power and manure for fertilizer and domestic fuel that save money on the utilization of petroproducts. For example, livestock can be polluters in one place, whereas in another they provide vital nutrients for supporting crop production. whether for its positive or negative roles, livestock are in the spotlight. It is essential to dissect the discussion on the roles of livestock, as the economic development

of different countries, their structure of production, the demand for livestock products, the competition with other sectors and others shape these roles, making broad generalisations about the livestock sector useless (and dangerous) for informing the current global debates on food security and the environment. It is essential to deliver nuanced, scienti?cally informed messages about livestock's roles in relation to food systems, livelihoods and their economic and environmental performance. Animal Husbandry sector provides enormous self-employment opportunities about 70 million rural family primarily; small and marginal farmers and landless laborers in the country are getting employment and playing very important role in the rural economy. Presuming that one family member is employed in looking after the livestock, 25 million people are estimated to be employed with the livestock rearing activity. Dairying and poultry have become an important secondary source of income for millions of rural families. Aside from food security it has provides work to about 1.5 million people. Livestock

Sector not only provides nutritious human diet through milk, eggs, meat etc. but additionally utilizes of non-edible agricultural by-products such hides and skins, blood, bone, fat etc. and provides subsidiary occupation to a large section of the public especially living in the drought prone, hilly, and tribal and other remote regions. About 20.5 million people rely upon livestock for their livelihood which contributed 16% to the income of small farm households as against an average of 14% for all rural households. Livestock provides employment to about 8.8 % of the population in India. India has vast livestock resources which contributes 4.11% GDP and 25.6% of total Agriculture GDP. On the other hand, ruminant systems in developing countries can be considered relatively resource-use inefficient. Because of the high yield gaps in most of these production systems, increasing the efficiency of the livestock sector through sustainable intensification practices presents a real opportunity where research and development can contribute to provide more sustainable solutions. In order to achieve this, it is necessary that production systems become market-orientated, better regulated in cases, and socially acceptable so that the right mix of incentives exists for the systems to intensify. Managing the required intensification and the shifts to new value chains is also essential to avoid a potential increase in zoonotic, food-borne and other diseases. Since India's independence, it has experienced extensive economic growth and development accelerated by its structural reforms which began in 1991 and major changes in the production of the Indian livestock sector.

### Standings of India in the World

Ranking	Sector
1 <sup>st</sup>	Total Livestock Population, Milk Production, Cattle Population, Buffalo Population, Carabef Production, Goat Milk Production, Total Bovine Population
2 <sup>nd</sup>	Goat Population, Bristle Production (a pig industry by-product), Fish Production
3 <sup>rd</sup>	Sheep Production, Egg Production
4 <sup>th</sup>	Chicken Production
5 <sup>th</sup>	Poultry Meat Production, Poultry Production, Meat production
8 <sup>th</sup>	Duck Production
9 <sup>th</sup>	Camel Population, Wool Production

**Population of Livestock and its Contribution to People :** According to 12<sup>th</sup> census total livestock, population is 512.05 million. And it is expanding day by day due to its importance as an alternative source of income as well as food. an important source of income for the farmers and rural poor people's which contributed to poverty alleviation, approx about 70% of

livestock market in India is owned by 67% of small and marginal farmers and by the land less and also share in export of Indian international trade. According Central Statistical Organization (CSO), the livestock sector contributed over 5.26 per cent to the total GDP during 2006-07 and during 2007-08 was about 31.6 per cent from agriculture & allied Sector. In 2007-08 India's total import of livestock and livestock products of Rs. 90.24 billion and export is of Rs. 377.76 billion. The usual diet of an average Indian is cereal-based and lacks nutrients in their foods, to overcome this problem diet should be incorporate with pulses, fruits, vegetables, and animal products. Diversification of diet towards animal products can help to improve nutrition which also augmented swift and sustained economic growth. The livestock provides food and non-food items to the people are: -

### Food

**The livestock provides food items such as Milk, Meat and Eggs :** Milk India keeps on being the largest producer about 20.17 percent of the total milk production and has achieved the first rank in milk production in the world. It is producing about 112.2 million tons and 121.8 million metric tons in 2008-09 and 2009 -10 respectively. At present the first five countries producing maximum milk in the world are India, USA, Russia, Germany and France. In 1950-51 India milk production was only 17 million tons now it is increased to 108.5 million tons in 2008-09. Milk products such as skimmed milk continues to be the largest item of export, which together accounts for nearly 78% of net milk and milk product exports during 2007-08.

### Milk production and per capita availability of milk in India

Year	Milk production	Per capita availability of milk
2007-08	107.9	260
2008-09	112.2	266
2009-10	116.4	273

### Global trade in livestock products

Product	World exports		Share of total production (%)	
	1980	2006	1980	2006
Meat	9.6	32.1	7.0	11.7
Pig	2.6	10.4	4.9	9.8
Poultry	1.5	11.1	5.9	13.0
Bovine	4.3	9.2	9.1	14.2
Ovine	0.8	1.1	10.6	7.7
Dairy	42.8	90.2	8.7	12.7
Eggs	0.8	1.5	3.1	2.2

Source : FAO (2009).

**Poultry and Egg :** Poultry is one of the fastest growing segments of the agricultural sector in India and their growth rate has been rising at 8 to 10 percent per annum with 5.65 percent of the global egg production. The organized sector contributing nearly 70% and the rest 30% from unorganized) which make it stands world's fifth largest egg producer and the eighteenth largest producer of broilers. In 2009 total poultry in the country is 651.81 million which increased by 14.8% over previous census. Andhra Pradesh, Tamil Nadu and Maharashtra producing nearly 70% of the country's egg production. Presently production of eggs is estimated to number about 37 billion, that of broilers 895 million, and that of poultry meat 735,000 tons. Egg production has increased from 21 billion in 1990-91 to 51 billion numbers in 2006-07 and 53.5 billion numbers in 2008. India ranks fifth in the world with annual egg production of 1.61 million tones and in 2007-08 about 85.22 billion of eggs. Indian poultry meat products have good markets in Japan, Malaysia, Maldives, Oman, Indonesia and Singapore.

**Meat and Meat Products :** The meat products industry in India shares 3 percent of total meat production with rapid urbanization, higher income levels and changes in lifestyle, Indian market produces scientifically and hygienically packed meat and meat products which increasing demands in domestic and foreign market, especially to the Gulf and West Asia and neighboring countries. The production of meat has increased 1.9 million tons to 23 million tons from 2001 to 2007. During 2008-09 is about 28.15% of the value of output from agricultural and allied sector. In India poultry meat is the fastest growing sector in meat and meat processing which estimated about 6.5 million tons production during 2007-08 and Per capita consumption increased from 870 grams to 2kg in from 2000 to 2009. According to APEDA, the export of buffalo meat was increased from 343817.08 tons (value Rs 1536.77crore) in 2003-04, to 483478 tons (Rs.3549.70 crore) in 2007-08.

**Fish Production :** India has an around 8041 km of coastline, and about 5.70 million ha of fresh water zone which are suitable for fisheries production. Fishing, aquaculture and allied activities are accounted to have given livelihood to over 14 million persons in 2006-07. In 2001 overall fish production was 5666 thousand tons which continuously increasing. According to the data provided by ministry of agriculture and commerce of India, in 1991 India has exported 140 thousand tons of fish and fish products but till it reached to 541 thousand tons its money value is Rs. 7621 crores in 2008.

**Fibre and Skins :** The livestock also contributes in the

production of wool, hair, hides and pelts in which Leather is the main item with a very high export potential. During 2007-08 India production of wool was about 37.5 million Kg per annum.

**Draft :** Bullocks are the back bone of Indian agriculture and still use as mechanical power in Indian agricultural operations especially in rural areas in spite of lots of advancements in machine and tools because bullocks save lot of expenditure of fuel for mechanical power like tractors, combine harvesters etc. Pack animals like camels, horses, donkeys, ponies, mules etc. are broadly used to transport goods from one place to other. In hilly and terrains areas mules and ponies serve the best alternative for transportation. Dung and other Animal Waste Materials Dung and other animal wastes serves as very useful good manure which worth approx crores of rupees. And it also used as fuel (bio gas, dung cakes), and for construction as poor man's cement (dung). Secondary Agriculture: Perspectives and Approaches

**Storage :** Livestock are considered as 'moving banks' because of their potentiality to dispose of during emergencies. They serve as capital and in cases of landless agricultural labourers many times it is the only capital resource they possess and in emergencies serve as guarantee for availing loans from the local sources such as money lenders in the villages.

**Cultural, Sports and Recreation :** Livestock offer security to the owners and animals like cocks, rams, bulls etc. are uses as sports player for competition like cock fights, ram fights and bull fights (Jallikattu) despite of ban on these animal competitions but still are quite common during festive seasons in some places.

**Role of Livestock in Farmers' Economy :** The livestock plays an important role in the economy of farmers. The farmers in India maintain mixed farming system i.e., a combination of crop and livestock where the output of one enterprise becomes the input of another enterprise thereby realize the resource efficiency. The livestock serve the farmers in different ways.

**Income :** Livestock is a source of subsidiary income for many families in India especially the resource poor who maintain few heads of animals. Cows and buffaloes if in milk will provide regular income to the livestock farmers through sale of milk. Animals like sheep and goat serve as sources of income during emergencies to meet exigencies like marriages, treatment of sick persons, children education, repair of houses etc.

**Employment :** A large number of people in India being less literate and unskilled depend upon agriculture for

their livelihoods. The landless and less land people depend upon livestock for utilizing their labour during lean agricultural season.

**Food :** The livestock products such as milk, meat and eggs are an important source of animal protein to the members of the livestock owners.

**Social Security :** The families especially the landless which own animals are better placed than those who do not. Gifting of animals during marriages is a very common in different parts of the country. Animals are used for various socio religious functions like cows and bulls are worshipped during various religious functions and rams, bucks, chicken for sacrifice during festive seasons. Indian livestock industry involves in significant amount of world's livestock resources and both the national economy and the socio-economic growth of the country are relying upon the livestock sector. Besides, offering great potential and outstanding contribution in the agricultural sector over the past years also performing well in production, value addition and export of dairy, fishery, wool, poultry and other products.

## CONCLUSIONS

Livestock play a significant role in rural livelihoods and the economies of developing countries. They are providers of income and employment for producers and others working in, sometimes complex, value chains. They are a crucial asset and safety net for the poor, especially for women and pastoralist groups, and they provide an important source of nourishment for billions of rural and urban households. These socio-economic roles and others are increasing in importance as the sector grows because of increasing human populations, incomes and urbanization rates. The analyses presented here have demonstrated the complex balancing act of weighing the roles that livestock play in the developing country. On the one hand, we acknowledge that livestock is an important contributor to the economies of developing nations, to

the incomes and livelihoods of millions of poor and vulnerable producers and consumers, and it is an important source of nourishment.

## REFERENCES

1. Allen LH 2002. Iron supplements: scientific issues concerning efficacy and implications for research and programs. *Journal of Nutrition* 132, 813S–819S.
2. Aklilu HA, Almekinders CJM, Udo HMJ and Van der Zijpp AJ 2008. Village poultry consumption and marketing in relation to gender, religious festivals and market access. *Tropical Animal Health and Production* 39, 165–177.
3. Bernues A and Herrero M 2008. Farm intensification and drivers of technology adoption in mixed crop-dairy systems in Santa Cruz, Bolivia. *Spanish Journal of Agricultural Research* 6, 279–293.
4. Budaka DB, Darca N and Kantar M 2005. Women farmers and extension services in small ruminant production in mountain areas of Turkey. *Journal of Arid Environments* 62, 507–515.
5. FAO 2007. State of Food and Agriculture Report: paying farmers for environmental services. Food Agricultural Organisation, United Nations. <http://www.fao.org/docrep/010/a1200e/a1200e00.htm>
6. FAO (Food and Agriculture Organization) 2009. The State of Food and Agriculture. Livestock in the balance. *Food and Agriculture Organization of the United Nations*, Rome, Italy.
7. Gourley CJP, Aarons SR and Powell JM 2011. Nitrogen use efficiency and manure management practices in contrasting dairy production systems. *Agriculture, Ecosystems and Environment*, doi:10.1016/j.agee.2011.05.011.
8. Grace D 2007. Women's reliance on livestock in developing-country cities. ILRI Working Paper. International Livestock Research Institute, Nairobi, Kenya.
9. Herath S 2007. Women in livestock development in Asia. *Journal of Commonwealth Veterinary Association* 24, 29–37.
10. World Health Organization (WHO) 2008. The World Health Report 2008 –primary health care: now more than ever.