

Contribution of Animal husbandry to Indian Economy, its characteristics and future: A review

ABSTRACT

Livestock have played an indispensable role in the Indian economy. Animal husbandry is culturally and economically integrated into the society. They are a source of draught power, protein and source of livelihood. Indigenous stock have higher resistant to diseases and can better adapt to climate change. They act as buffer to crop failure and sudden monetary losses. Diverse enterprises like Apiculture, Sericulture and Pisciculture have been reared traditionally for many years. Rearing of a wide variety of animals like yaks, camels and Mithun apart from cattle, sheep and goat are unique characteristics of animal husbandry in India. Technological backwardness, financial constraints and inadequate veterinary services are few issues that hinder the progress in the sector.

Key words: Animal husbandry, Indian economy, Poultry, livestock.

INTRODUCTION

India is an agrarian economy and farmers are known as the backbone of the economy. Animal husbandry is the backbone to these farmers by being an additional steady income. Indian livestock sector is one of the largest in the world with a holding of 11.6% of world according to livestock population 19th Livestock census, 2012. Growth rate of livestock sector has been steady and is around 4-5% despite receiving less investment compared to manufacturing and service sectors. There is significant inverse relationship between poverty and value of livestock output. The states with higher livestock share have low level of poverty and vice versa (Ali, 2007). India stands first in the world and contributes 16% to the world milk production with an annual milk production of 132.4 million. Livestock act as a storehouse of capital and an insurance against crop production risks, a coping mechanism against livelihood shocks as well as a vital source of dietary protein (Rao and Hall, 2003). Protein malnutrition in children has reduced in India with the increasing availability of egg and milk. Traditionally tribes or societies have developed with animals as their livelihood for example, Raikas and camels, Gujjar and sheep, Brokpa and Yak.

29 Changes in livelihood pattern of young Brokpa if not taken seriously then the conservation of
30 yak related biocultural diversity is at stake (Singh, 2018). Livestock is considered a sign of wealth as
31 the farmers who own livestock are found to be better economically than farmers without livestock.
32 Animal husbandry was found to be the most attractive and remunerative activity for Antodaya
33 beneficiaries. Livestock provides livelihood to million with little access to land (Kumar, 2008). Few of
34 the many ways in which animal husbandry contributes to Indian economy are discussed in following
35 passages.

36 **Poverty alleviation and Employment generation**

37 Livestock provides livelihood to landless labourers and marginal farmers which own bulk of livestock.
38 Around 70 % of the population living in rural areas depend on agriculture and allied activities for
39 livelihood hence there is a need for subsidiary occupation like poultry keeping and sheep and goat
40 rearing (Kaware, 2011). Farmers suicides is a worrisome social issue for India today and largely
41 blamed on drought. If the household owns bullocks then the odds that it is a household with a suicide
42 victim decreases by 79 per cent (Mishra, 2008).

43 Therefore, minimum availability of land for feed and fodder is an important determinant of size
44 of livestock holding. But, given the resources with the land scarce households, the utility of livestock
45 as provider of livelihood opportunities is far greater for them (Birthal and Ali, 2005). Goat and sheep
46 are known as the poor man's cow or bank on hooves which survive with least resources. Even in the
47 21st century draught power provided by oxen, male buffaloes, ponies or mules are cheap modes of
48 transport for the poor farmers. Livestock help improve food and nutritional security by providing
49 nutrient-rich food products, generate income and employment and act as a cushion against crop
50 failure, provide draught power and manure inputs to the crop subsector, and contribute to foreign
51 exchange through exports (Birthal and Rao, 2002).

52 **Women empowerment**

53 When the women are empowered the society is empowered and the financial independence is very
54 important for empowerment. The rural women play a significant role in rearing of livestock and are
55 responsible for most of the operations relating to feeding, breeding, management and health-care of
56 the livestock. The major share of the credit for India's position as largest milk producing country in the
57 world and the significant increase in the per capita availability of milk in the country has to go to the
58 largely illiterate rural women dairy farmers (Patel, 1998).

59 **Integrated farming.**

60 Generally a form of integrated farming and mixed farming which is livestock rearing alongside crop
61 cultivation and small herd of goat or sheep is carried out in India. . Most of the goat keepers are either
62 landless labourers or small and marginal farmers. Thus, the goat is definitely the animal of the
63 “poorest rural poor” and it is usually looked after by the woman of the house (Nimbkar, 1993). They
64 provide food and nutritional security to the millions of marginal and small farmers and agricultural
65 labourers. However, the productivity of goats under the prevailing traditional production system is very
66 low (Singh and Kumar, 2007). The recycling of animal dung/wastes in fish ponds for natural fish
67 production is important to sustainable aquaculture and to reduce expenditure on costly feeds and
68 fertilizers which form more than 50% of the total input cost (Dhawan and Kaur, 2002). Burning of
69 paddy stubs or crop residues has been identified as a source of pollution. Traditionally goat and
70 sheep or livestock have been allowed to graze to consume the crop residue on the farm while their
71 dropping and urine on the farm prove to be a fertilizer for the next crop.

72 **Diverse Enterprises**

73 Backyard poultry known as the zero input enterprise provides income by sale of eggs or meat. Swine
74 rearing is common in certain parts of our nation and its export potential should be tapped. In high
75 altitude regions yaks provide milk, meat, fur and transport. In hilly areas rabbit farming is a profitable
76 venture. Apiculture and sericulture are restricted to certain areas. Indian honey offers tremendous
77 export potential. For tapping its potential, there is need to chalk out suitable export strategy (Agarwal,
78 2014). Rabbits need less space and are reared in cages like poultry. The marked rise in rabbit project
79 development activities in developing countries, observed over the past ten years, may be attributable
80 to the increased awareness of subsistence rural and peri-urban inhabitants to the potential of small-
81 scale rabbit production. (Lukefahr and Cheeke, 1991). Poultry occupies a crucial place in India and
82 chicken is the most widely accepted meat in India, free from religious taboos. Many Indian families in
83 urban areas have begun to accept eggs as a regular supplementary part of their vegetarian diet
84 (Hellin *et al.*, 2015).

85 **Source of Energy and Manure**

86 India is keen on exploring clean energy production avenues attention should be paid on the
87 abundance of dung that is produced as a result of having one of the largest cattle population. Biogas
88 technology provides an excellent opportunity for mitigation of GHG and reducing global warming

(Pathak *et al.*, 2009). The work of transforming cow-dung into economically valued products has not been treated as a matter of significant interest by economists and analysts of the Indian rural scene (Jeffery *et al.*, 1989). Almost 50% of the dung produced is converted to dung cakes (IPCC, 2006). Traditionally dung are used as fuel as well as upla for cooking and manure. But this dried dung cake is polluting and the same dung if used to make methane will become cleaner fuel. Huge amount of waste generated from poultry and livestock farms and their disposal is becoming an issue. Success of schemes like GOBAR- DHAN yojana will help in utilization of dung and farm waste. Following reforms can help increase remuneration from animal husbandry.

Critical reforms needed for growth in the future.

Promotion of Marketing and Processing

80% of the milk produced is handled by unorganised sector and 20% by cooperative and private sectors (GOI, 2009). The rapidly increasing demand for livestock products creates opportunities for empowerment of women (Taneja, 2013). Women are the ones who make traditional milk product of ghee and curd. Women can be trained on simple milk product processing like cheese making, yoghurt or ice-cream which today find a ready market and sell on higher cost can be carried out. Export earnings from livestock products rose from Rs.1500.93 crores in 2001-02 to 2253.33 crores during 2004-05. Meat and poultry products accounted for 83 percent of total export earnings (Report of working group, 2007-12). Indian meat and milk products can be made suitable for international market. Food processing with milk and meat companies should be made attractive investment destinations for Make in India initiative and draw FDI. Government schemes like SAMPADA encourage this sector. Food processing has been brought under priority sector lending and can also avail benefits of MSME enterprises. The global demand for meat is predicted to rise by more than 55% between 1997 and 2020, with meat production reaching 455 million tons by 2050 (Alexandratos and Bruinsma, 2012). Women and farmers in livestock sector have to be educated on utilizing the government initiative of Start up and Stand up India to avail finances for livestock based enterprises. Focus on livestock products and their inclusion in manufacturing sector can improve the economy which is already agro and livestock based.

Conservation of indigenous breeds

Global warming and climate change are the burning topics and concern for the world. Ambient temperature of the earth is said to rise by 1.5- 2° C and extreme climatic conditions are experienced

as a result of climate change. Frequency of occurrence of floods and drought has increased. The indigenous or native stock have a poor performance relative to highly selected commercial lines but they have the ability to survive in challenging environments. (Crawford and Christman, 1992). Promotion of Indigeneous high yieldig cattle that are known for maintaning performance at higher ambient temperatures. Reasearch have proved that Indigeneous breed like Tharparkar , Gir , Sindhi, etc the favored A2 variant of β - caesin (Mishra *et al.*, 2009). Populations, which consume milk containing high levels of β -casein A2 variant, were found to have lower incidence of cardiovascular disease and type-1 diabetes (Sodhi *et al.*, 2012). Milk with A2 protein is are sold at a premium price due to their health benefits. Goverment schemes like Kamdhenu yojana will help in revival of indigeous germplasm

Improvement in health care system

Landless and marginal farmers have the majority of livestock holdings and are a vital source of income for them. When the animals fall sick they become unproductive and their care becomes a large expense. Veterinary Health Care is to be accessible and door step treatment should be available since farmers find it difficult and expensive to transport large animals. Animal health services are important in reducing losses due to animal disease. Technologies for disease control and cure and known but delivery problems arise (Upton, 2004). Certain state governments in India are pursuing a cost recovery approach and are encouraging private practitioners to cope with the financial constraints and to deliver broad and effective animal health and breeding services (Sen and Chander, 2003). The productive potential of animals depends crucially on the quality of nutrition, genetic material and the animal health system, and on all these counts, India has a poor record. The public sector continues to be the primary provider of veterinary services, and the deteriorating fiscal situation of most state governments is making it extremely difficult to either expand the reach of these services or improve the quality of service delivery (Ahuja *et al.*, 2003).

Digitalization

“Pashu Poshan” app was launched by a state government. Hortinet app and livestock disease forewarning app have been developed to increase digitalization. Any ICT intervention that improves the livelihoods of poor rural families is likely to have significant impacts (direct and indirect) on enhancing production, marketing and post-harvest activities – which, in turn, can contribute further to poverty reduction (Consultative expert report, 2006). Computer based information system called

149 “Animal Health Information System” (AHIS) used by dairy owners provides scientific information on
150 animal health management particularly diseases in the form of text in local language. 85.00%
151 respondents perceived AHIS as very useful, and 15.00% told it is useful to them for decision making.
152 No one felt it as useless (Phand, *et al.*, 2013). Such efforts and technologies should be communicated
153 to even the remote corners of India.

154 **Conclusion**

155 Agriculture and animal husbandry have been a part of Indian economy for any years. An agrarian
156 based economy and real development can be realised only by developing farmers whose shoulder of
157 support has been livestock. En number of poverty alleviation programmes of the government won't be
158 successful until and unless focus of investment of the governmental policies is Agriculture and animal
159 husbandry. India's real development will be realised only when agro- livestock sector receives highest
160 investment with latest technologies and revival of traditional knowledge. The jobless growth of the
161 nation cannot be corrected unless the largest employer that is agriculture gets the kind of investment
162 attributed to industrialisation. Till then the economic disparity will only widen. The rich are growing
163 richer as our famers grow poorer.

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