

Dairy Sector: An integral part of nutrition and food security of rural households.

Dr. Dharmendra Singh

Associate professor

*Department of Animal Husbandry and Dairying
S.M.M.Town P.G.College, Ballia-277001 (U.P.)*

Abstract

Livestock sector is an important sub-sector of the agriculture of Indian economy. It forms an important livelihood activity for most of the farmers, supporting agriculture in the form of critical inputs, contributing to the health and nutrition of the household, supplementing incomes, offering employment opportunities, and finally being a dependable “mobile bank ” in times of need. Besides in income generation and rural development, milk and milk products have a vital role in nutrition and food security in India. Dairying play a critical role in socio - economic growth, empowering rural women and environmental sustainability of rural people.

Key words: *dairy, milk, energy, productivity, income, bovine etc.*

I. Introduction

Man needs food to survive. But it is nutrition that forms the foundation for health, strength and intellectual vitality in all human beings. All people have physical, social and economical access to sufficient, safe and nutritious food. This foundation has yet to be laid in our country. The disease like small pox and malaria once known for causing great sufferings and miseries have almost been eradicated but malnutrition which is responsible for greater nuisance and sorrows still remains. Our constitution and government proclaim a socialist character based on equality of opportunity. But malnutrition, especially the prevailing insufficiency of protein intake can permanently impair the physical and mental growth in the crucial formative years of life. Thus, it denies both “equality” and “opportunity”, saps the energy and breeds inefficiency. Besides, it also decreased the resistance of the body to diseases and infections.

The dietary benefit of milk and milk products will provide a boost for dairy industry. Higher quality of protein and essential nutrients in milk and milk products are of increasing value for food and nutritional security. According to the FAO 2018 report, more than 500 million impoverished people depend mainly upon livestock and many of them are small and marginal farmers.

Present dairy scenario

Dairy production system and agriculture are linked together, each being dependent on the other, and both crucial for overall food security. livestock acts as a supplementary and complementary enterprise. According to NSSO 66th Round Survey (July 2009 – June 2010) on Employment and Unemployment, 15.60 million workers as per usual status (Principal status plus subsidiaries status) were engaged in farming of animals, mixed farming and fishing. Whereas as per estimate of NSS 68th Round (July 2011-June 2012) survey on Employment and Unemployment, 16.44 million workers as per usual status (Principal status plus subsidiaries status) were engaged in the activities of farming of animals, mixed farming and fishing. The value of output from livestock sector was about Rs. 10,43,656 crore at current prices during 2017-18 which is about 33.25% of the value of output from agricultural and allied sector. At constant prices the value of output from livestock was about 31.81% of total agriculture and allied sector. (Source: DAHD, GOI)

Increasing per capita consumption of milk and milk products, changing dietary preferences due to rising urbanisation, and continued government support to the dairy industry will drive demand.

India has been a top ranked producer and consumer of milk and milk products in the world since 1998. Indian agriculture is an economic symbiosis of crop and milk production historically, the role of livestock has been complementary to crop production. Dairying and agriculture are bound together by a set of mutual input-output relationships. Dairying is not an adjunct to the crop-mix of Indian farms but is an integral part of the total farming system. Hence, treating dairy cattle as the backbone of the livestock wealth of our country would not be an exaggeration.

Milk production in country has grown at an annual growth rate of about 6.2 per cent to reach 209 million tonnes in 2014-15. Department of Animal Husbandry and Dairying, Government of India announced \$ 2.1 Bn for infrastructure development fund to investment by private sector and MSME in dairy sector.

The livestock sector contributes significant to the economy of the country. Its contribution is estimated to be about 8 per cent in the GDP and about 26 per cent to agriculture economy. The country has a large livestock wealth both in terms of number as well as diversity. India has about 19 per cent of the total cattle and buffalo and 20 per cent of goat population of the world besides large proportion of sheep, poultry etc. The sector has done well since early seventies. The production of milk has shown a consistent growth rate of about 5 per cent the production reaching a level of 65 million tonnes in 1994-95 and expected to reach the level of 78 million tonnes in 1998 (Sharma and Singh 1996, Dairy India year book, 1997). The animal husbandry and dairying programme, thus, assumes significance for uplifting the rural poor. Milk production activity alone contributes more than 75 per cent to the total gross value of animal husbandry and dairy output (Anonymous, 1991). This emphasizes the importance of milk production in the Indian agriculture system. Though India possesses a cattle population of 195 million of which 62 million were have double cows including 5 million crossbred cows. The buffalo population was 76 million comprising 39 million breedable buffaloes, according to 1987 census (Bhasin, 1997). Still milk production in the country is a secondary occupation incidental to agriculture. Barring a few commercial dairy enterprises in urban areas, milk production is in the hands of millions of small producers in rural areas. These producers largely consist of the rural poor, with an annual income less than Rs. 3800 per family (Chatterjee and Acharya, 1987). Milk provides both nutrition and supplementary income to this weaker section of the society.

The country possesses the best trends of buffaloes in the world. It is because of this reason that inspite of smaller breedable buffalo population compared to cattle, Its contribution to the total milk production in the country works out to 52 per cent (Sharma and Singh, 1996). In addition to low genetic potentiality, the situation is further accentuated with poor nutritional availability and inadequate health cover. In order to bridge the gap between production and economic demand for milk, It is, therefore, necessary that the productivity of Indian breeds of cattle and buffalo is to be increased substantially. Increase in the productivity through selective breeding, though safe and straight forward, is painfully slow. Crossbreeding of indigenous milch stock with exotic breeds of cattle the Holstein-Friesian, Brown Swiss, Jersey etc. from temperate countries would offer a much quicken process of increasing productivity and total milk production in a short period of time. Since, India possess the best breeds of buffaloes in the world, upgrading of the non-descript buffaloes. Would enhance the productivity of non-descript buffaloes. Recognizing its importance in increasing the productivity and, thereby, total production, the National Breeding Policy envisages crossbreeding of local females with exotic breeds of cattle, such as simultaneous selective breeding of murrah buffaloes. The improvement in milk productions is much faster through selection of bulls. A high producing female can only produce limited number of off- spring and, thus, it can contribute very little to the enhancement of milk yield.

Scarcity in land of plenty

Animal husbandry in India is closely interwoven with agriculture and plays an important role in the rural economy. One of the major constraints in dairy production in India is lack of fodder and lack of land. Land degradation and climate change are major challenges to Indian economy. According to All India Debt and Investment Survey (1981) over 73 per cent of India's rural households' own livestock and derive supplementary income and employment. The production of livestock is undertaken mostly through crop residues which do not enter directly in the human consumption basket. Therefore, the relationship between human and livestock population has become symbiosis than of competition.

Livestock resources

India possesses the largest cattle and buffalo population in the world. According to 1987 and 1992 livestock census. India possesses an enormous cattle (204.53 million) and buffalo (83.50 million) population accounting one fifth and more than half of the world and Asian bovine population, respectively, which play a vital role in improving the socio-economic conditions of the rural masses. The total livestock population is 535.78 million in the country showing an increase of 4.6 per cent over livestock census 2012. Total number of cattle in country is 192.49 million in 2019.

There is a decline of 6 % in the total indigenous and non-indigenous cattle population over the previous year (2012-19). However, it is about 9 per cent, which is much lesser than as compared to 2007-12. (Source: DAHD, GoI)

Energy and protein intake for more milk

The two nutritional factors that are most commonly associated with limited milk production are energy and protein. To ensure maximum intake of food offer calving to attain the highest milk production. The ratio

should be high in energy but must contain adequate fibres to assure proper rumens function. Roughages in the right quantity by and physical form is also necessary to maintain milk fat percentage. A minimum of 17 per cent crude fibres in the ration has been suggested to maintain proper rumen functions. In general the milking females will consumed the most of energy when the ratio consists of with dry matter 40-45 per cent by good quality forage and 55 -60 per cent concentrate (Douglas, 1989). The risk of cows going off feed or having reduced milk but percentage is increased as concentrate levels approach or exceed 60 per cent. Further more, if the ratio is having over 45-50 per cent moisture, dry mater intake will decline thereby limiting the proper nutrients intake level. Inadequate protein intake can limit milk yield and feed utilization. The amount and quality of ration, energy and proteins is distinctly different for high producer than for low producing cows.

Dairy farming and income generation

Dairy farming, besides, being an important and cheaper source of protein-rich food is the most effective instrument for generating income and rural employment with minimum investment (Manik and Patil, 1983). According to prof. Raj Krishna – a noted economist, in an investment of just one million rupees dairying can create an employment potential for 290 person years as against 120-200 person years for crop production (Ganguli, 1980). Dairy industry, besides, providing additional employment, reduces the burden of population on agriculture.

According to a review prepared by the Animal Husbandry ministry, the industry can generate careful employment particularly for small and marginal farmers and landless agricultures labours. Rural employment in the sector grew at 4.15% per annum during 1972-82. Animal Husbandry and Dairying Industry have potential to create more than 4.2 crore jobs a year. (Anonymus, 1997).

It is therefore, obvious that consumption of milk is a composite function of price, disposable income, to overcome protein malnutrition, and food security of millions of rural households.

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