

# *Introduction*

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In India, about 63 percent of the human population depends directly or indirectly on agriculture and animal production for their livelihood. We have huge livestock population which has unique position in our national economy. The dairy animals play a pivotal role in agricultural production which is the part of our national heritage. According to latest information, the gross value of the output from livestock sector was Rs. 799 million during 1996-1997, which is equivalent to contribution of 8 percent of the national economy (Kurien, 1999).

Although, at present India is on the top in total milk production in the world. The ideal situation for dairy animals to yield maximum production will be a stress free living. But today, world is plagued with many adverse circumstances, such a situation cannot even be imagined. However, the productivity of our cattle and buffaloes is quite low due to many reasons like environmental stress, physiological stress, managerial stress, clinical-pathological stress or nutritional stress.

Environmental stress today probably is the biggest threat to the well being of humans as well as livestock. These stresses are of two types viz., natural and man made. We cannot do much to prevent natural stresses which include cyclone, draught, flood, earthquake, etc. These result mild to severe losses to livestock themselves as well as their productivity. Man made environmental

stress like indiscriminate modernization by way of industrialization, mechanization deforestation etc., which are directly and indirectly causing environmental stress, are resulting in decrease of O<sub>2</sub> and increase of other toxic gases in the atmosphere. Most Important stress is nutritional stress which is due to inadequate availability of feed resources.

Underfeeding is the most serious and important form of stress with ever rapidly increasing human population and limited land for agriculture, feed availability is on the decline. Besides, quantitative shortage at feeds and fodders, imbalance of nutrients cause stress to the livestock in such situation even potentially available nutrients cannot be utilized to their full potential. Efforts to combat such shortage many times become responsible for causing more stress. To mitigate the gap between demand and supply of livestock feeds and fodders newer and unconventional feed resources are being worked upon. The very fact that the animals did not consume these under natural conditions, indicate their unsuitability for livestock consumption probably due to presence of some or more antinutritional/toxic factors. The various new technologies have been developed in agriculture sector from time to time to increase production. The technologies related to crop science have been transferred to the end users and some of these are currently utilized by the farmer to better extent. However, technologies developed in livestock sector could not reach upto farmer/milk producer to desirable extent. This may be due to lack of proper extension.

Animal science has been left to veterinary doctors, whose primary concern is to eradicate infectious diseases taking a heavy tool, year after year and to prevent some other diseases besides doing the work of artificial insemination. Artificial insemination which is also not being successfully adopted at farm level perhaps due to doubt of success of artificial insemination. However, some other technologies related to animal production viz., urea supplementation, urea molasses mineral block, ammonia treatment of crop residues etc. are concerned with improved feeding of dairy animals which could not be adopted by the farmers properly because of lack of sufficient efforts on the parts of extension agencies, cash expenditure involved in the procurement of urea or urea molasses mineral blocks, low productivity of dairy animals and not so remunerative milk prices paid to producers. These reasons coupled with preference, perceptions and other compulsions of the farmers also become the limitations.

Often, it is argued that the traditional agricultural research is conducted under relatively defined, controlled and stable managerial conditions, without proper understanding of the farm, farmers and farm environment holistically i.e. as a complex system of interdependent parts where such technologies are to be ultimately utilized. This leads to large number of technologies so developed remaining failure. The realization that only the farmers' experiences can reveal to the researchers what farmer need, lead to practical extension to agricultural research called 'on farm research'. In the 'on farm research' a subsystem of

whole farm is isolated and studied in just sufficient depth to gain the prospective and new technologies are designed and later at the farm level with the farmer's collaboration.

Later on, it was realized that development of new technologies to be successful should be developed keeping in mind the necessity and resources based in terms of capital, labour and education background of the end users. Therefore, there is an urgent need to study and identify the resource base and needs of the targeted farmers so that the available technologies are modified to suit their conditions and new technologies developed keeping in view the problems at farm level. Identification of the problems involves the characterization of the components of the farming system, finding out the linkages, interdependence among various components including the availability of feeds and fodders. Animal science extension is somewhat difficult as farmer are conservative and do not come forward easily for evaluation of new technologies perhaps because of reduction in animal production due to evil eye or the risk of loosing his animal. Livestock production is complementary components of the farm and relies more on cropping system of the farm and household assets (Anshu, 1998).

**Van der Veen (1986)** defined family system as a unique and reasonably stable arrangement of farming enterprises that a household manages according to a well defined practices in response to physical, biological and socio-economic

factors and in accordance with the household goals, preference and resources. Therefore, to achieve the goals and preference of a family, holistic view of the households, resource availability and their appropriate arrangement are needed to make the system stable.

Feeding of the animals under village conditions is generally done by the men/women who dose not know regarding quality and quantity of feeds to be fed to animals of various categories. Adequate knowledge or understanding of the new technologies by the farmers is necessary for the adoption. Feeding and management of dairy animals under village conditions, involves various activities many of which are performed by family women. Therefore, the application of technologies related to dairy animal feeding largely depends upon the knowledge and the understanding of the persons involved in feeding and management of these animals.

**Rangnekur *et al.* (1983)** studied role of women in backward area of Baroda and Udaipur districts and reported that in 90% of the families, the indoor jobs like milking, feeding, cleaning etc. are done by women. **Dhaka *et al.* (1993)** studied the role of women in dairy farming subsystem in rural area of Karnal district and reported that the female workers contributed 49% of the total labour required in dairy farming. Women, due to their tender behaviour can look after the females and young stock better than their male counterparts.

The present investigation was therefore, planned with the following main objectives:

1. To study the farming system prevalent in Jaunpur district of Varanasi Division.
2. To study the role of education.
3. To study composition of farm bovine and their distribution in Jaunpur district.
4. To study the existing feeding and management pattern of dairy animals in terms of –
  - a) Feeding systems of animals.
  - b) Deficiency / excess of nutrients fed to various categories animals.
  - c) The role of women in feeding and management of dairy animals.
5. To study the contribution of livestock and crops in income and employment of rural youth.
6. To study relationship in crop and livestock.
7. To develop further strategies for improvement in bovine production keeping in view the feasibility of application of new technologies.