

**Cattle rearing patterns of farmers in northern karnataka**  
**Shivakumar K. Radder, S.K. Bhanj and P.N. Kaul**  
**Dept. of Veterinary & Animal Husbandry Extension,**  
**Veterinary College, KVAFSU, Nandinagar, Bidar – 585 401, Karnataka**

**Abstract**

Livestock keeping in India has multiple objectives and dimensions. Besides for material benefits, animals are assuming other roles in the lives of our country men as well like matter of prestige, religious attachment etc. Normally, crop residues like straw, husk and grass from grazing are the main source of nutrition to vast majority of the animals in our country. Only few farmers feed cultivated grasses and concentrates to their animals. If we want to develop animal husbandry sector, we need to take into consideration all these aspects. Hence, this study was undertaken to study nature of livestock farming in dryland areas. The study was conducted in six villages of Gadag district in Karnataka state. Data was collected from 180 respondents through a semi structured interview schedule. Parameters studied were cattle equivalents, milk production, milk productivity, type of farming, method of rearing animals and purpose of rearing the animals. The study showed that mixed farming was the predominantly followed system. Straw and grazing were main source of nutrition to the animals. Regarding purpose of rearing animals, though economic profitability was one of the dimensions, it was not the sole determining factor. Animal husbandry was found playing multidimensional role in the socio-economic spheres of the farmers. Tradition and milk production were playing predominant role. The study suggests for reorienting our developmental activities so as to be compatible with the existing farming systems of the farmers. Especially one should not neglect the traditional aspect of the farmers as superstitious or imbecile.

**Introduction;**

Livestock production is backbone of Indian Agriculture and source of employment in rural areas for centuries. Whole system of rural economy has revolved around livestock production. Livestock keeping in India and similar other countries has multiple

objectives and dimensions. They play multiple roles in rural social, economical and ecological systems. Besides for material benefits, animals are assuming other roles in the lives of our country men as well like matter of prestige, religious attachment etc. Cereal and legume crop straws have been traditional source of feed for Indian livestock. They comprise the main feed for livestock in arid and semi-arid environments of India. Concentrate feeding is restricted to lactating, high-yielding bovines and work animals. Normally, crop residues like straw and husk and grass from grazing are the main source of nutrition to vast majority of the animals in our country. Only few farmers feed cultivated grasses to their animals. If we want to develop animal husbandry sector, we need to take into consideration all the above aspects. Hence, this study was undertaken to study nature of livestock farming in dryland areas of Northern Karnataka.

**Methodology :**

The study was conducted in six villages of Gadag district in Karnataka state. From each village 30 farmers were selected through stratified random sampling. Among 30 farmers, ten each were from low producing category (producing less than 2 liters of milk per day), medium producing category (producing 2-5 liters) and high producing category (producing more than 5 liters). So, in all there were 180 respondents. Following parameters were selected for study.

- a) **Cattle equivalents;** - Measured according to the method described by Mishra and Sharma (1989).
- b) **Milk Production;** - It is the average amount of milk produced by a farmer per day. First, average milk production of individual milch animals was considered. Then sum of these was taken as the total milk production.
- i) **Purpose of rearing;** -

ii) **Type of farming**

iii) **Method of rearing animals**

The information was collected through semi-structured Interview schedule.

**Results and Discussion:**

The findings of the study are presented in table 1 and 2.

**Table 1.**

<b>Cattle Equivalents</b>	Low (<3) n=85	Medium(3-6) n=70	High(>6) n=25	
<b>Milch Cattle Equivalents</b>	Low(<2) n=78	Medium(2-4) n=70	High(>4) n=32	
<b>Productivity</b>	Low(<2 Lit.) n=7	Medium(2-4 Lit.) n=154	High(>4 Lit.) n=19	
<b>Type of farming</b>	Specialized n=11	Mixed n=165	Subsistence n=4	
<b>System of rearing</b>	Intensive n=3	Semi-intensive n=177	Extensive n=0	
<b>Feeding practices</b>	Straw n=30	Straw + Green fodder n=95	Straw + Conc. n=16	Straw + Green fodder + Conc. n=39

**Table 2. Purpose of rearing animals**

<b>Purpose</b>	<b>1</b>	<b>1+2</b>	<b>1+4</b>	<b>1+5</b>	<b>1+6</b>	<b>3+4</b>	<b>1+2+4</b>	<b>1+3+4</b>	<b>1+4+6</b>	<b>1+2+3+4</b>	<b>1+2+3+4+6</b>
<b>Total</b>	9	2	109	2	14	2	7	3	9	16	5

1-Milk production; 2-Draught power; 3-Manure; 4-Traditional; 5-Companionship; 6- Economic profit.

It was found that a vast majority of the people (more than 86% as in Table 1.) were having cattle equivalents of 6 or below. 47% were having less than 3 cattle equivalents. The findings are in close agreements with those of Saleth (1996) and Kurup (2001).

Hence, technologies developed or transferred should take into considerations about the needs and problems of such small livestock holders rather than basing them on large farms. Almost similar proportion was found in regard to milch cattle equivalents as well. How ever for sake of classification,

50% less livestock holding is taken to categorise farmers based on milch cattle equivalent. Still the proportionate distribution is similar to that of overall cattle equivalents. This indicates farmers rear milch animals in proportion to number of other livestock like bullocks. The reason could be that milch animals are not only reared for milk purpose. Many times, they are reared to utilize excess of agricultural by products. Many times it was observed in the study villages utilizing fodder left over by the bullocks was offered to milch animals i.e. cattle and buffaloes. Hence, milk production for a vast majority of

the farmers in the area is not a specialized farming. Rather, it is a mixed farming system.

When we see the productivity of milch cattle, majority (89%) of the farmers' animals produced milk on an average of less than 4 liters per day. Only 8 % of the farmers were getting more than 4 liters of milk per milch animal per day. This one combined with findings from Table 2. Strongly indicate that in this area dairy farming is still a component of the mixed farming system in crop dominated agricultural system. Dairying as a fully commercial and specialized enterprise doesn't seem to have taken off. Hence, the practices and technologies we recommend to the farmers should take into account these factors as well.

Over 92% of the farmers were having mixed farming system. But around 6 % of the farmers were observed to follow specialized farming of animals. In all these cases, it was dairy farming. So, this observation coupled with finding that 8 % of the farmers were getting more than 4 liters of milk per milch animal per day and 2% of the farmers following intensive dairy farming may state that dairy farming as a specialized and full time occupation, though had not taken off substantially in the villages, it was gaining momentum. Thus, while formulating developmental strategies for development of agriculture and animal husbandry in a mixed farming system, encouragement also can be given to intensive dairy farming.

98% of the farmers reared the animals under semi-intensive system of rearing. i.e. they use to take them for grazing during day time and offer feed at house other times in house. None of the farmers found following extensive system of rearing animals which indicated that nomadic or pastoral practices were days of the past.

When we look at the feeding patterns, it is evident from table 1. that all animals are reared on straw based diet. It has already been shown that over 98 % of the animals are taken for grazing. Hence, feeding straw and grazing formed basal diet for most animals. For animals with 17 % of the

farmers, this combination was the sole diet. 91 % of the farmers offered some green fodder along with this basal diet. Only 31 % of the farmers were found feeding concentrates to their animals. This is quite justified in the current status of animal husbandry, in the sense that bullocks are offered concentrates during work times and some farmers carrying out specialized farming appear to feed concentrate mixture. Other farmers for whom animal husbandry was predominantly a complementary activity to cropping might not have inclined to feed concentrates to animals. However, feeding concentrates can enhance productivity of animals. Hence, there is need to popularize the notion of balanced feed and preparing it using locally available agricultural by products. Because, in the present context, many farmers are carrying out animal husbandry to utilize agricultural by products like straw or husk. Feeding purchased concentrate mixture may not be compatible with their farming system. Under similar mixed farming systems in Bangladesh, Alam et.al. (2000), recommended innovation of simple and sustainable technologies and their promotional services at the farmers level to improve rearing systems effectively and profitably. One way in this direction would be utilizing the same byproducts with little or no additional inputs. If they are educated to prepare their own concentrate mixture, it will not appear as an extra burden for them and this practice augur well with their prevailing farming systems.

Farmers in the study area were not rearing animals only for economic profitability. This is evident from the fact that none of the farmers expressed their rearing of animals only for economic purpose. Though 16 % of the farmers expressed this intent, this was only one of the associated dimensions of animal husbandry. 8 % of the farmers had economic intent along with milk production presumably for family consumption. 5 % had economic intent but it was also associated with milk production and traditional dimension. Remaining 3 % had other intentions of Milk production, Draught power, Manure, traditional dimensions for animal husbandry along with economic profit.

On the contrast, we see a vast majority of the farmers (61%) rearing animals had combination of milk production and traditional dimensions. Traditional dimension means, these farmers were rearing animals since many generations. It had become part of their culture. When we take all figures for traditional dimension, it amounted to a total of 151 farmers (84%). This indicates the role of animals played in the socio-economic spheres of our people. This proposition gets support from statement of Ramkumar and Rao (2004), i.e. Possession of dairy animals means more than increased income for women: it means financial security, status, self-confidence and an opportunity to have some control over their lives. So, veterinary professionals and other persons involved in the development of animal husbandry should not neglect these dimensions, if their programmes are to be successful.

Another important finding emanating from the study is that all together only about 30 farmers (17%) were rearing animals for draught purpose. 176 farmers (98%) were rearing for milk production. This difference may be on account of many reasons. One reason might be impact of mechanization of cultivation through tractors where in role of draught animals is reduced. Second reason might be many small farmers and landless laborers who were not finding it possible to sustain rearing of working bullocks, found rearing one or two local cows or buffaloes which didn't demand much effort in maintaining and also contributed some income. Similar trend was observed by Ram et.al. (2009) where in they observed that animals / livestock were primarily kept to produce milk for family consumption. The findings are also in agreement with Annamalai (2005) who stated that small, marginal farmers and the landless labour wanted to keep cows in lieu of bullocks.

For 26 farmers (14%), manure was one of the dimensions to animal rearing. As mentioned earlier, in many instances, animal husbandry was a complementary component of crop dominated agriculture. Even in the post green revolution era when chemical fertilizers are sweeping Indian agriculture, many farmers still realize the

importance of farmyard manure. Hence, they rear animals for dung production as manure to their fields. A minority of farmers (2), viewed their animals as companions. They were reared for extraeconomic benefit.

When we look at combinations of purposes of rearing animals, we find that combination of milk production and traditional dimensions form majority of the farmers i.e.109 (61%). It is followed by the combination of milk production, tradition, draught power, and manure dimensions i.e. 16 farmers constituting 9 % of the population. Third popular combination was combination of milk production and economic profitability dimensions i.e. 14 farmers (8 %). Other relatively minor combinations of dimensions also existed as mentioned in Table. 2. The farmers always take holistic view and are good example of systems manager who has to make decision on variety of factors (Kumar et al., 2000).

So, animal husbandry is playing multidimensional role in the socio-economic spheres of our farmers. Traditional aspect and milk production were playing predominant role. Though economic profitability is one of the dimensions, it was not the sole determining factor. What implication we can have here is notion that - an innovation (a technology or improved animal husbandry practice) should be adopted by the farmers if it is profitable in economic terms – may not make much sense. Rather, in terms of Rogers (2003), it should be compatible with the existing farming systems of the farmers. Especially one should not neglect the traditional aspect of the farmers as superstitious or imbecile. Similar views are expressed by Rogers (2003).

#### REFERENCES:

- Alam, M. R., Sarker, R. I., Hossain, M. D. and Islam, M. S. (2000) ; Contribution of Livestock to Small Farms in Bangladesh, Asian-Australian Journal of Animal Sciences, 13 Supplement, 339-342
- Annamalai, S.J.K. (2005) ; Long-term Strategies and Programmes for Mechanization of Agriculture in Agro Climatic Zone-X : Southern Plateau and Hills region. In report of the project. "Study relating to Formulating Long-term Mechanization Strategy for each Agro

Climatic Zone/State" Indian Agricultural Statistics Research Institute, New Delhi, 201

Kumar, S., Chander, M. and Harbola, P.C. (2000); Livestock based farming system – A case study of Kumaon hills, Himalayan Ecology & Development Vol. 8, (2)

Kurup M P G., (2001) ; Crossbreeding of Indigenous Indian Cattle with Exotic Breeds to Increase Milk Production: A Critical Analysis. In Proceedings of the Workshop on Documentation, Adoption, and Impact of Livestock Technologies in India, ICRIAT-Patancheru, India, 18–19 January 2001, NCAP, New Delhi, 54

Maria, S.R. (1996) ; Diversification as a strategy for small farm development : some evidence from tamil nadu. In NCAP Workshop Proceedings No.1, NCAP, New Delhi

Mishra, S.N and R.K.Sharma, (1989); Livestock Development in India : An Appraisal, Vikas Publishing House Pvt. Ltd. Delhi

Ram, S., Tripathi, A. and Shankar, R.(2009) ; Investment pattern in crop – livestock production system in Gonda district of Uttar Pradesh, Agricultural Science Digest, 29 (1)

Ramkumar, S. and Rao, S.V.N. (2004); Dairy Cattle Rearing by Landless Rural Women in Pondicherry: A Path to Empowerment, Indian Journal of Gender Studies, 11 (2), 205-222

Rogers, E.M. (2003); Diffusion of Innovations, 5th Edition, Free Press, New York