

Livestock Development From an Non Government Organization Perspective

D.V. Rangnekar, M.S. Sharma and O.P. Gahlot¹

¹BAIF Development Research Foundation, P.B.No.2030, Asarwa, Ahmednagar 380016

ABSTRACT: Crop livestock mixed farming is traditional in India. Livestock are not only complimentary and supplementary to crops but are a means of risk coverage and strongly linked with culture. Livestock development is now a major component in rural development programme in India particularly in rainfed underdeveloped areas. The paper describes the approach, perceptions and programmes of the BAIF, a non government organization (NGO), involved in rural development since the last 25 years. The BAIF programmes involve more than half a million farmers from five states. The involvement is mostly in rainfed, underdeveloped areas. Livestock development has served very useful purpose as point of entry in rural areas and for initiation of development activities. The paper discusses experiences in Rajasthan, one

of the states in which BAIF is involved since long. Participatory approach in livestock development necessitated modifications in training and extension programmes. The staff had also to be oriented for taking a systems approach and in gender sensitivity, since women involvement is critical for livestock production. The need to critically study traditional systems, farmer perceptions, indigenous knowledge and farmer wisdom are some of the other aspects discussed and emphasised in the paper. The livestock development centres enabled undertaking total farming systems study of the area and in planning future development activities in a participatory manner. A few examples of studies on some of the aspects referred above are cited and discussed.

Key Words : Livestock Development, Non Government Organization, Human Dimension, Rural Development Approach

Introduction

The BAIF Development Research Foundation (BAIF) is a non Government Organization registered as a Trust in 1965. It has mission of to "create opportunities of gainful self employment, ensure sustainable livelihood, enriched environment, improved quality of life and good human values".

The BAIF's rural development activities started with a small project in the state of Maharashtra in 1969 and it now extends to five states in the country. Livestock development has been the point of start in most areas and is a major development activity for the BAIF. More than half a million farmers are involved in its programmes and more than a million livestock are covered, through network of centres in the five states.

The activities of the BAIF have three way integration.

1. In each area whole farm approach is taken, even though livestock development is point of start and thus an integrated programme of crop-livestock

development, human health, sericulture, horticulture, soil water conservation is developed according to the situation.

2. Within each field like livestock development an integrated programme covering breeding, feeding, health control, farmer training, extension are developed.
3. Each field of activity has integration of development, extension and applied research.

Being a non-government organization, with a Gandhian background, special emphasis is given to aspects like extending benefits to underprivileged, including women, taking participatory approach from planning stage, ensuring that activity/programmes are sustainable, developing village based groups - institutions and empowering them (through orientation, training) so that they can look after their affairs. Sustainability aspects in relation to livestock production from socio-economic and natural resource management have been stressed by the FAO (FAO, 1989 and 1992)

The paper makes an attempt to describe and discuss approach, perception, results/achievements

of livestock development, from NGO view point, by describing case study of programmes in Rajasthan State. As an NGO it is essential for us to understand various dimensions of rural society, their activities and commodities. Mixed farming has become traditional and its appropriateness is being appreciated more and more, with critical studies of multidisciplinary nature being taken up in countries like India. It is now well accepted that agricultural production systems in rainfed, ecologically fragile areas are more complex, need indepth study and different approach.

Role of Livestock in Rural Areas of India

For rural families, in a country like India, livestock have multi-dimensional role, extending from economic to cultural aspect (De Boer, 1982). Mixed farming is practised by most of farmers and livestock have complimentary as well as supplementary role in agricultural production. They are an important means of risk coverage and of recycling the biomass. Thus livestock production integrates well with various cropping systems. Rangnekar (1993) has described integration of milk and sugar production.

Livestock are important source of energy and fertilizer for crop production and transport (Ramaswamy, 1988) from women view point the livestock are an important and cheap source of high quality food (Rangnekar, 1992a).

Since last two decades the potentiality of livestock as an important resource for generating employment and income in rural areas is being increasingly recognised. Livestock development has become a major component in rural development programme and that is how BAIF was invited to be involved in different states. Livestock are owned by almost all the farmers, even landless, irrespective of socio-economic status and their distribution is less skewed compared to land (Gupta studies in Rajasthan by Rangnekar et al. (1992) have shown that the number of goat possessed by the rural family is inversely proportional to their socio-economic status. This is indicative of importance of livestock for poorer and underprivileged section of society. Reports of Ahuja and Rathor (1987) and Vaidyanathan (1989) indicate that contribution of livestock in family's income in under developed area is substantial.

Livestock in ecologically fragile areas, like Rajasthan, are important for maintaining families

under distress conditions. Studies also show that livestock production does not reduce as much as crop production due to rain failure (Patel, 1991).

In Rajasthan a lot of money is spent on ceremonies on occasions like marriages and deaths as traditional practice - livestock are handy as easily encashable asset. Goat and poultry used for sacrifice and preparing special dishes.

The Human Dimension of Livestock (Keeping Development and Production)

Clear understanding of human dimension of agriculture production (both crop and livestock) in developing countries, particularly tradition bound societies, is essential for effective research and development effort. Many development analysts have pointed out the need to pay attention to social cultural aspects in livestock development (De Boer, 1982; McCorkle, 1992). There are several facets related to human dimension which have bearing on any development activity - more so the livestock development. From an NGO view point human dimension is vital and crucial for the success and particularly sustainability of livestock development and an attempt would be made to highlight some major aspects, in this paper.

Anthropology as well as history indicates that since ancient times importance of livestock was realised. This is evident from official seals of Harappan civilization (3 to 4000 BC) paintings 300 BC to 1100 A.D. (Rangnekar 1992 b). In India various ancient epics like Ramayana, Mahabharat have due reference to importance of livestock. In Hindu religion cattle and many other animals (also plants) have place of importance.

There are special festivals based on livestock in which the animals are decorated, worshipped, taken out in procession. There are several poems on livestock. Vedas, the epics dated several thousand years B.C. and considered repository of knowledge and philosophy, have a special volume on livestock. Emperor Ashoka - famous for spreading Budhista religion in Asia, is also famous for promoting livestock breeding and treatment, a few centuries B.C.

It is important to appreciate that value systems in tradition bound society differ. Livestock and particularly cattle, have a place of importance - beyond their economic value. These is also prestige attached to owning cattle and other livestock, farmer with bigger herds has a higher social ranking. The

economists have also started recognising these factors and giving them due value. However, with changing living conditions, economic and environmental conditions the value systems and traditions also change. We need to appreciate that traditions are not static, they got built slowly and change slowly. Researchers engaged in short term research may not appreciate this factor. McCorkle (1992) has rightly emphasized need to develop bio-social modal in livestock development projects.

Rajasthan can be divided into clear social and livestock zones. The south and south eastern parts of Rajasthan has large tribal population while the western and northern part has large pastoralist population. The prevailing type of livestock in these areas also differs. Tribals mostly own cattle or goat of non descript type = low milk or meat producing. Majority of good cattle, sheep and goat are owned by pastoralists. The cattle-sheep or goat are usually dual type, developed through centuries of selective breeding, to meet the demand and for survival. The north west Rajasthan is arid with a large area being desert. Nagaur is a famous drought breed of Rajasthan and Rathi and Tharparkar cattle are good milk producers. The central and north eastern part of Rajasthan is dominated by farming community and there are many buffalo in this region.

Study of pastoralist community indicates that keeping livestock is a way of life for them (Rangnekar, 1992 a). During migration close interaction between pastoralists and farmers is observed which is mutually beneficial the women say that so long they have cattle herds they would not starve (Rangnekar, 1992 b) The pastoralist men and women are very knowledgeable about various aspects of livestock production. They are slow to change and rightly so, but are aware of changing economic - environmental conditions, decreasing demand for drought animals. Many families have adopted farming.

No animal is unproductive for rural families and large animal population may not be as serious a burden as felt by some technical persons. Sensitively to human dimension and value systems is needed to appreciate that all animals are productive. Many times we judge most livestock on basis of milk or meat or fine wool production and animals producing below a certain level are classified unproductive. We fail to appreciate the objectives behind keeping these animals - or ignore the fact that the objectives are multiple. The livestock are a part of total farming system and provide food, drought power, manure,

fuel, asset, prestige etc. The relative importance of products - uses change with conditions. Importance and contribution of dung from cows - buffalo or excreta of sheep-goat is sometimes not well appreciated. In many cases milk is a by-product and bullock the main objective. Majority of these animals subsist on very coarse feeds - straw, poor grass or weeds and are not a big burden to the owner - faster growth rate or high level of milk production may not be very profitable - sometimes risky. Small farmers and poorer section of society, from ecologically fragile areas, prefer assured subsistence to risky high productivity.

Participatory approach and empowering people to manage their own affairs is basic in the working pattern of NGO Adoption of participatory approach and aiming at full involvement of farmer families has been attempted in the livestock project in Rajasthan from the beginning. For encouraging involvement and getting full participation it is necessary to establish credibility with farmers and develop good rapport. The ability to solve problems, provide effective services and well meant intentions enables earning farmers confidence. Taking learner approach, having frequent informal meetings, person to person discussions and participatory exercises enable understand farmer perception and priorities and involve them in planning and implementation.

Participatory approach has to be developed both in farmers and the extension workers and needs time and persistent effort. FAO (1992) has also described need for alternate approach to extension and training in livestock programmes

In some areas there was preference for buffalo over cattle. While amongst cattle preference for cross breeding and indigenous breeding varied from area to area. The goat owners indicated health aspects as high priority, followed by availability of breeding bucks. As the project developed there was demand to develop feed resource and market links. For fodder production there was clear choice for winter crops, that too of legume (Lucerne). Farmers think of fodder production only for winter season and due very logical reason. In the goat development in Rajasthan the goat keepers suggested silvipasture development on village commons and tree plantation on private lands. They chose the plots, tree species, undertake plantation and protect the area. They have also planned ways of utilising the resource and its management.

With more interaction extension and training approaches were changed. Recognizing farmer as

resource person and encouraging farmer to participate in problem solving and modifying technology was adopted farmers have experience, good knowledge of local feed resource, animal behaviour, local conditions and can provide good suggestions. There is much to learn from them - but they do not know everything. Combination of their experience and knowledge and the advances in science and technology can produce very good results. Training programmes were made practical and subjects are decided according to the priority of the group. Training is carried out on farmer fields and not at any centre. Farmer men and women are also now participating as trainers and are very effective. They serve as very good link in extension and farmer believe them more easily. These persons have to be carefully chosen and trained. Recommendation and messages are jointly developed after pretesting, taking a farmer friendly approach. The technology or recommendation has not only to be technically sound, economically profitable, but also socially acceptable.

Women Involvement. In countries like India much of work related to livestock productions by women and their role is now getting recognized (FAO, 1990 and Rangnekar, 1992 c). However much needs to be done with regard to recognising women as resource of knowledge and experience in livestock production, consider their priorities and perceptions in development and research (Rangnekar et al, 1994) while this aspect would be dealt in detail in the paper by Sangeeta it would suffice to say that as NGO we are cognizant of the fact that desired results from livestock or other rural development programmes can be achieved only through improving skills, increasing involvement and reducing drudgery of women.

Empowering local people to manage their own affairs including inputs, services and marketing. We consider this aspect vital for sustainability of development intervention and unless the local institutions are strengthened or built (wherever they do not exist) development effort is incomplete. Extension programme is aimed at making farmer capable of making their decisions, choose technology, recommendations. In Rajasthan the BAIF has close collaboration with dairy farmers cooperatives. However, as there was no such organization for goat owners, their societies are being developed to enable them to organize input supply and marketing.

Applied research is undertaken in all the fields of involvement, soon after the establishment of development programme. The main areas are farming systems studies, indigenous knowledge, traditional practices, local resources and farmer perception and priorities.

The study of farming systems enable understanding clear picture of crop livestock production, the ecological aspects and helped in identifying the constraints. However, as an NGO somewhat different approach is adopted (Rangnekar 1993) Farming systems studies are continuous, adopted as part of working system and many a times interventions have to be introduced simultaneously, without waiting for all the steps. Bowden (1992) has clearly discussed the need for flexibility in approach and stressed on need for developing systems thinking. Methodology developed for studies is a combination compiling secondary information, in depth survey field recording, frequent discussions in small group and participatory exercises.

Rajasthan is in North West of India while most of the state falls in agro-climatic zone 14 and 8 it is further subdivided into 9 sub-zones. Than desert covers about 60% of the state and rainfall ranges from 100 mm to 1000 mm, increasing from northwest to south east of the state. Pearl Millet is the most common food crop followed by wheat, sorghum, and maize, rice is cultivated in southern districts. Other important crops are gram, mustard and groundnut. Livestock contribute about 20% of the domestic income. The livestock population is about 50 million of which 56% are small ruminants, which have shown rapid increase, while large ruminant population has remained static. The pastoralist specialise in livestock breeding. The tribals form 10% of the states population and have small land holding and herd size, mostly non descript. Tribals migrate in search of work and pastoralists migrate for market and feed for livestock.

Grazing is common way of feeding, supplemented by cereal straws, tree leaves, bushes and weeds. Producing or working animals are offered concentrates. Dairy farmers cooperatives are developed in many districts for organising milk marketing and providing services to farmers. The state govt has special intensive cattle development and fodder development and tree plantation programmes besides usual services through net work of dispensaries and A.I. centres.

The BAIF in Rajasthan

The BAIF's involvement in Rajasthan started in 1983 in three districts and now extends to 10 districts of southern Rajasthan through a net work of 104 centres. Each centre covers an area of about 10 km radius and on an average 20 villages. These centres are chosen by the state govt wherever development activities are to be initiated. The livestock in all these districts is non-descript and low producing. Five of the ten districts have predominantly tribal population. The programmes are implemented by agriculture extension officers who are placed at these centres after 6 months training and orientation. The work is monitored and coordinated by a group of experienced senior officers placed as district and regional officers.

The livestock programme has involved more than 90,000 families of which 60% are small farmers and 40% from tribal society. More than 75,000 improved cattle and buffalo have been produced with these families through cross-breeding and grading up. Monitoring through field recording indicates that the milk yield of the local non descript cattle ranges 600 to 800 litres in a lactation while cross-breeds are producing between 2000 to 2300 litres. In goat development project mortality has been substantially reduced, kidding and no of kids barn improved. However the major impact is in improved awareness and change in feeding and management practices.

Monitoring of results indicates that there are several villages where almost 80% of families are involved in the development programme and it takes about 10 years for such involvement. The income increased three times with livestock accounting for half the income (direct). During low rainfall years livestock account for 75% of income. There is considerable improvement in awareness about various aspects of livestock and crop production management additional is used for aquairing land, animal, irrigation facility and also on ceremonies and children.

Study on indigenous knowledge revealed that farmer men and women have considerable knowledge about animal behaviour, likings, production characteristics and local feed resources. They choose fodder and prepare feed mixes according to animals liking and production characteristics. For example cotton seed and cotton seed cake, leaves of *Alangium slavifolium* are fed to buffalo, who produce high fat milk the energy rich

flowers of *Madhuka indica* are offered to working bullocks wet/soaked feed or dry feed is offered according to liking. Pods of *prosopi juliflora* are offered usually to buffalo or goat and rarely to cattle. With a view to develop farmer friendly recommendations these practices are used as base and requirements for supplementation, to meet needs of higher producing animals, are worked out (Rangnekar).

On farm trials are conducted before any technology or recommendation is propagated on a large scale. Thus a series of trials were conducted on Urea treatment of cereal straws, ensiling grasses. Important aspects of on farm trials are to understand farmer perception and evaluation of technology and modify to suit them. The farmers also suggest modifications in technology to suit adoption and their conditions. The farmers evolved convenient ways of measuring straw, water, urea and simple method of uniform spraying. Similarly convenient ways of ensiling are being evolved for conserving forest grass, in collaboration with farmers.

Acknowledgement

The author is thankful to BAIF for permitting visit and to the FAO for permission and funding support for participation.

Literature Cited

- Ahuja, K. and Rathore M.A. 1987. Goats and Goat Keepers - A socio-economic study. Pub - Print well publishers, Jaipur, India.
- Bowden, R. 1992. Of systemics and farming systems research. A critique on farming systems research in India. Ed. Raman KV and T. Balaguru Pub National Agri Res. Management, ICAR Hyderabad, India pp 115-125.
- De Boer, J. 1982. Livestock in Asia - Issues and policies. Ed. Fine J.C. and R.G. Lattimore. Pub - Winrock International.
- FAO. 1989. The State of food and agriculture. Part III Ssustainable development and natural resource management, Rome.
- FAO. 1990. Women and the livestock production in Asia and South Pacific RAPA, FAO Bangkok.
- FAO. 1992. Strategies for sustainable animal agriculture in developing countries FAO animal production health paper 107b, Rome.
- Gupta, A. 1993. Integration of livestock with agriculture zone base land use planning. Unpublished draft report. Indian Institute of Management, Ahmedabad, India.
- McCorkle, C. M. 1992. Applying a model of bio social groups to livestock production and gender paper presented at 9 1st annual meeting of Americas Anthropolical Assoc. San Francisco, 2-6 Dec. 1992.

- Patel, R.K. 1991. Role of Livestock production in rainfed agriculture - a comparative study in technologies for minimising risk in rainfed agriculture. Ed. Singh S.P. and C. Prasad. Pub Indian Soc of Extension Education FAO and ICAR, New Delhi pp 394.
- Ramaswamy, M.S. 1988. Management of draught buffalo system. Pro. India World Buffalo Congress, Delhi. Vol II pp 499.
- Rangnekar, D.V. 1992a. Study of traditional production systems of the pastoralist and their perceptions about production system an attitude to change. Proc of workshop on transhumant pastoralism in Gujerat held at Inst. of Rural Management, Arand India 24 July 1992.
- Rangnekar, S.D. 1992b. Studies on indigenous knowledge, work sharing and perceptions of livestock production by women from pastoralist families. Proc. of workshop on transhumant pastoralism in Gujrat held at Inst of Rural Management, Anand, Gujerat, 24th July 1992.
- Rangnekar, S.D. 1992c. Women in livestock production in rural India. Proc. 6th AAAP Animal Science Congress 23-28 Nov. 1992, Bangkok.
- Rangnekar, D.V., Jain, S.K., Gahlot, D.P. and Sharma, M.S. 1992. Goat Production Systems in some rural areas of Rajasthan and Gujerat. Proc. Vth International Conference on Goats held at Delhi, March 1992.
- Rangnekar D.V. 1993. Research methodology for corp animal systems in semi arid regions in India. Paper presented in crop-animal interaction workshop, organized by International Rice Research Institute, Manila - at Khon Kaen University, Thailand, September 27 to October 3, 1993.
- Rangnekar, S.L., Vasiani and D.V. Rangnekar. 1994. -A study on women in dairy production. World Animal Review 79: 51.
- Vaidyanathan, A. 1989. Livestock economy of India. Indian Soc. of Agri-Economies. Pub. Oxford and IBH, Publication, Bombay.