

### LIVESTOCK EXTENSION - NEED FOR A PARADIGM CHANGE



*While basics of extension remain the same, livestock extension needs different treatment. It is time to relook at livestock extension and bring about a paradigm change, argues Dr D V Rangnekar.*

#### CONTEXT

India has the largest number of families depending on livestock for livelihood and majority of these are small holder-resource poor families. Livestock rearing supplements family income and generates gainful employment in rural areas, particularly among the landless labourers and, small & marginal farmers. Research showed that livestock rearing has positive impact on equity in terms of income, employment and poverty reduction in rural areas (Singh and Hazell, 1993; Thornton *et. al* 2002 and Birtal and Ali 2005).



Livestock perform multiple functions in the livelihood of rural families. It is common to recognize the economic benefits of livestock but the livestock serve different purposes to their owners. Dairy cow for example is perceived as a milking machine and all the efforts of the researchers and policy makers are geared to increase its milk production but for dairy farmers the cow serves different purposes (asset for a landless agricultural labour, source of “milk money” for milk producers, dung for agricultural land owners, source of daily income for resource poor families and in addition to serving a variety of social purposes). Women play much larger role in livestock production compared to other sub-sectors of

agriculture. Research evidence indicated that women spend about 3 to 5 hours on livestock rearing activities.

There is an ever-increasing demand for livestock products in the country and livestock development can be an effective pathway for poverty alleviation. Livestock offers wide scope as the demand for livestock and livestock products is increasing over the last decade and is expected to double over the next two decades (Delgado et al, 1999, Dastagiri, 2004). This increase is attributed to increase in per capita income, urbanization, change in tastes and preferences and increased awareness about food nutrition. Livestock sector is likely to emerge as an engine for agricultural growth in the coming decades. It is also considered as a potential sector for export earnings. How to convert this increase in demand to benefit the poor livestock owners is a challenge that needs to be addressed?

### Livestock Development Approaches: Key Issues



Livestock development and extension programmes in developing countries were reviewed way back in 1989 by Rollings, later by Mathewman *et al* in 1996 and they pointed out several limitations in these programmes. Bhattacharya and Jhansi Rani (1995) in a working paper on Bovine Extension in Andhra Pradesh analysed planning and implementation of extension programme as practiced in the state and strongly recommended paradigm shift. The situation is similar in most other states as can be seen from reports of Chander *et al* (2010) and Ravikumar and Chander (2011) who studied livestock extension activities of departments of Animal husbandry of some states. Rangnekar (2014) stressed the need for realizing potential of livestock development for sustainable livelihood development and extending benefit to the underprivileged families. He stressed the need for a paradigm shift in livestock extension for utilization of this potential. Major drawbacks identified in these reviews and through my own personal experience and observations in rural areas are summarized below:

- **Wrong plug – commodity approach is adopted in livestock development, extension and research while livestock keeping is part of a complex livelihood system of the rural families and livestock play multiple roles.** Though the farming systems approach (in contrast to commodity approach) has been found beneficial to the farmers, Indian researchers are still following the commodity approach. It is high time to recognize that livestock production is an integral and often essential part of several mixed farming systems in the country. We need to concentrate on increasing the effective use of different sub systems by adopting a farming systems research approach which recognizes that the household, crop and animal subsystems are closely integrated and interdependent.

- **Equity syndrome – most research outputs are high input oriented while ‘low external input production systems’ prevail in the country.** Researchers evolved several crossbreds to increase the production of milk, meat and eggs. But all these crossbreds whether it is a crossbred cow, goat or poultry require high inputs to get the expected results. This is one of the reasons why these high input- high output technologies did not find favour with the resource poor families. On the other hand these crossbreds proved their worth in “high input and high output “situations.



- **Lack of fit and functional gap - research is mostly laboratory based and there is virtual absence of ‘adaptive research’ before propagating technologies and recommendations (where extension can play a role).** Conducting on farm trials by the researchers and extension personnel jointly on the farmers’ fields help in fine tuning the technologies to suit to the needs of farmers. Unfortunately, very rarely on-farm trials to test the livestock development technologies are conducted. The KVKs claim on conducting on-farm trials is mainly confined to crop production technologies.



- **Weak linkages between research/ extension and development due to virtual absence of planned and systematic interaction between these systems.** There are no two opinions that the researchers and extension personnel work in isolation though they claim that they are working

for the benefit of the farmers. Although, achieving better coordination between the researchers (universities/colleges/institutions) and development departments (agriculture or animal husbandry) is a “win-win” situation for all the stakeholders, hardly there is any coordination between these institutions leading to inefficient use of the scanty resources. Though organizations such as the Rajiv Gandhi Institute of Veterinary Education and Research, Puducherry (RIVER) tried to bridge the gap between academic institutions and development departments in the livestock sector in southern states through organizing regional workshops, the success has been limited.

## Livestock Extension: Current Status

A critical look at Livestock extension as commonly practiced, show that:

- **Transfer of technologies (off the shelf) is considered goal/objective of livestock extension and is implemented as a targeted programme with little consideration for variation in situations.**

Urea treatment of crop residues is a good example in this context. Demonstrations of this technology were arranged all over the country (as a targeted programme). The technology was adopted by farmers as long as subsidy was provided and given up after it was withdrawn. Vaishali, in Bihar, is one of the very pockets where a good number of farmers adopted this technology. Roy and Rangnekar (2005) studied reasons for adoption in Vaishali area and reported that the main reason was that the process of urea treatment of straw fitted with the straw handling and storage system of that area and helped in storage of straw. However the impact of this practice on dairy animals was marginal. Similar conclusions were drawn in the e-conference, organized by the FAO in 2013 on adoption of feed technologies.



- **Livestock services, input supply and technology transfer are the main activities taken up in livestock extension programmes** and education/improving knowledge, awareness to help animal owners make better decisions/choices are neglected (Chander et al 2013) It is unfortunate that the emphasis is on delivery of inputs rather than “educating the farmers” which is the essential element of extension. Research has shown that investments in exchange of knowledge, rather than one way transfer are much more effective than programmes aimed at input supply alone.



- **Messages/recommendations are centrally generated and propagated without considering variations in agro-ecological and socio-economic aspects and hence the acceptance is poor.** Top down approach prevails as evident from poor participation of livestock owners, neglect of traditional knowledge and experience of livestock owners. Some of the NGOs (like BAIF and

PRADAN), involved in livestock development, have adapted the approach of preparing extension material in a decentralized manner and involving the community in the process.

- **Most of the recommendations and technologies are high input oriented**, although it is known that majority of livestock owners are resource poor. The need for adoption of a Pro-poor approach and need for *an intermediate step to 'Pre-test'* recommendations and technologies for appropriateness before propagating these on a wider scale has been stressed by Rangnekar (2006 and 2014). *Pre-testing has to be with participatory approach* as it is crucial to get views of livestock owners about appropriateness of recommendations or technologies.
- **Focus is mainly on large animals (bovines)** while small animals are neglected and hence the resource poor are deprived of benefits they can get from keeping small stock (sheep/goat/pigs).



- **Livestock extension policy with a sound plan of implementation does not exist.** While many states have framed livestock policies and it recommends need to strengthen livestock extension but *planning and approach of livestock extension follows that for crops*. While basics of extension would remain the same, livestock extension needs to be planned somewhat differently in view of some characteristics of livestock production that are distinctly different from crops, as indicated below.
  - Livestock perform 'multiple functions (economic, input, output, risk coverage and socio-cultural)' in the livelihood of rural families.
  - Livestock have stronger linkage with the socio-cultural aspects of rural society.
  - Impact of intervention takes longer time with livestock.
  - Resource poor families own majority of the livestock and make major contribution to livestock produce and hence recommendations and technologies have to be carefully selected before propagation.
  - Women play a major role in livestock production.

Based on studies of extension activities of Animal Husbandry Departments, Chander (2013) and Chander et al (2013) made similar recommendations.

- **New challenges and demands for Livestock extension.** Rangnekar (2006 and 2014) pointed out the need for livestock extension to adopt a 'pro-poor approach' and take cognizance of newly emerging development issues. The major emerging development issues are summarized below:
  - *Information about market changes and facilitating market links.*
  - *Promoting social mobilization and formation of interest groups for providing organizational back up and reducing dependence on other organizations.*
  - *The need for making livestock production environment friendly and to mitigate or cope with impact of climate change.*
  - *Production of clean and safe livestock products.*
  - *Promote sustainability based on principle of 3 Ps (People, Planet and Profit).*
  - *Pay due attention to ensure 'Welfare of Animals'.*

## Ways Forward

The role of extension has currently broadened from an intermediary between science and practice to include a wide range of roles, such as mediation, knowledge brokering, facilitation, demand articulation, organizing producers etc (Sulaiman and Davis, 2012). There is a need to use this knowledge while developing relevant extension models to address the emerging challenges in different livestock production systems. Unfortunately, these issues do not get the needed attention from the policy makers although they recognize the importance of livestock extension in the XII plan as well as the heavily funded National Dairy Plan.



The Working Group on Agricultural Extension for Agriculture and Allied Sectors for the 12th Five Year Plan (2012-17) observed that “*Extension support is weak or non-existent in the case of animal husbandry*”

*and fisheries. As separate extension machinery for animal husbandry and fisheries are not going to be feasible in many states, this has to be integrated with ATMA. In districts where livestock and fisheries play a major role, staffing structure within ATMA and KVKs should be modified to include more staff with specialization in these sectors”*

[http://planningcommission.nic.in/aboutus/committee/wrkgrp12/agri/wg\\_agriextn.pdf](http://planningcommission.nic.in/aboutus/committee/wrkgrp12/agri/wg_agriextn.pdf)

A paradigm change in livestock extension requires the following:

- **Situation analysis** of the prevailing livestock production systems in each region has to be undertaken with the participation of key livestock producer’s (to understand their needs and perceptions and knowledge) while planning extension strategy and implementing it. There needs to be shift in emphasis from “high input and high output” solutions to “low input and low output, if not low input and high output” solutions to help the resource poor livestock owners.
- **‘Pre-testing of technological recommendations** to confirm their appropriateness for livestock owners of different socio-economic strata, before wider application. There is a need to shift from “researcher managed tests” to “farmer managed tests” of the technologies.
- **Decentralized production of extension material/tools** (except recommendations for vaccination and other such measures to be uniformly followed.) with pre-testing the messages with women/men livestock owners. Messages should be in easily understandable language (using local language and not literal translation) and well illustrated with minimum text. This approach has been effectively adopted in livestock development programmes implemented by NGOs like the BAIF and PRADAN in the states of Jharkhand, Odisha and West Bengal.
- **Extension meetings/ training programmes for women should be planned at their convenience**, should be of short duration, deal with subjects of current importance and should be practical oriented (with very few lectures).
- **Training and orientation of staff** involved in planning and implementation of livestock extension should be undertaken – periodically and is crucial for success of livestock extension. The Indian Veterinary Extension Forum (IVEF) can play a key role in this process. Initiatives by Animal Husbandry departments of Odisha and Tamil Nadu and NGOs like BAIF and PRADAN of training/orienting their staff in extension and communication, besides training in technical subjects, are noteworthy.

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