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Need of sound veterinary extension system for improving the livestock production

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Abstract

In an agrarian country like India majority of the population lives in rural areas and depends on agriculture and livestock for their livelihood. Livestock sector plays a great role in food and nutritional security of the country. This sector is facing many challenges in terms of less outreach to farmers, less allocation of funds and neglect from policy makers and livestock related diseases being the major challenge among all. Consistent presence of the disease in livestock is a big hindrance towards sustainable livestock production. India despite being the largest livestock holders in world the production level is very less. There is a large knowledge gap in livestock farmers as only 5% of farm households have access to information on livestock and 40.4% in crop sector. There is need is to give due attention towards livestock sector in order to develop such an extension system that can reach the livestock farmers, address their problems etc. The extension agents and the SMS's (Subject Matter Specialists) in KVK's (Krishi Vigyan Kendra) need to be well trained to reach to livestock farmers along with crop farmers. Attention from policy makers towards livestock sector is need of the hour. More allocation of funds need to be given to the animal husbandry departments and better utilization of those funds is to be done for upliftment of livestock farmers and to increase the livestock production.

Keywords: Veterinary extension, livestock sector, need, challenges, policies

1. Introduction

India is mainly an agricultural country where majority of the population depends on the agriculture for their livelihood and employment. Among the agricultural sector the livestock plays an important role in Indian economy contributing about 29.2% in GDP from the agricultural sector [14]. Livestock sector is a main contributor in providing the rich and nutritious food products. India has a rich diversity of the livestock and farmers are doing every possible act to earn a healthy livelihood from their animals. But the condition of livestock farmers in developing countries like India is degrading continuously, they are not able to keep pace with changing trends, and a large section of farmers are leaving the livestock farming sector and adopting other areas for earning livelihood to meet their daily needs. Inspire of giving much care and attention towards the animal rearing the poor livestock farmers are left disappointed by the earnings from the farming. No doubt the large and the contract farmer community living in advanced areas are well aware about the recent trends and technologies. But the large section of the farmer community of India are poor from far flung areas who lack the opportunity to stand in the race and fail to take full advantage of the new and improved technologies of farming. With decreasing income generation from the livestock sector the farmers get drowned in the well of poverty day by day. Expansion of farm incomes is still the most potent weapon for reducing poverty so there is immediate need to take positive steps in this matter. The need of hour is to boom livestock farmers and help them to come out of the crises faced by them due to knowledge and technology gape and lack of effective linkages. The main role in this case is to be played by the veterinary extension departments by creating a good and healthy linkages between scientists, new technologies, and the farmers.

2. Need to strengthen the livestock sector

In developing countries the most area of concern remains the agricultural sector and more time is invested in this field while as livestock production has rarely been a priority for centralized extension services. All the extension services are designed around the improvement in agricultural sector. There is a lot of potential to increase the livestock production by giving

our good concern to livestock sector^[12]. In spite of the large number and diversity, livestock are not utilized to their full potential due to constraints faced by farmers in terms of feeding, breeding, health and management^[14]. The best insurance against idiosyncrasy of the nature like drought, famine and other natural calamities remains the livestock because due to these calamities the worst affected are the crops and saving source remains the livestock. Livestock sector is considered to emerge as an engine of the agricultural growth in the coming years by increasing the demand of the livestock products especially the food products^[1]. The population of the world is growing at an alarming rate, more population will mean the higher demand of food. In the coming years the urban population will overgrow the rural population that depicts that the less people has to produce for a larger number of consumers. As the developing countries are in a continuous growing phase and are expected to attain a growing prosperity, with increasing prosperity there will be increasing demand for animal protein. According to World Farmers Organization (WFO)^[11]. By 2020 the world demand for animal protein is expected to rise by 50%. This growing demand will come due to increase in the world's population and the millions of poor households in developing countries joining the middle classes. On one hand there is the continuous increasing demand for animal proteins and on the other hand livestock farming is under pressure and facing lot of global challenges. These challenges has to be addressed so as to make the animal production sustainable for the future^[11]. The developments in livestock sector can help in changing the face of rural India as it is demand driven, inclusive and pro-poor. It is also seen the states with more livestock farming share are facing less poverty^[14].

Need of extension services and attention towards livestock sector

Veterinary extension is an important tool in achieving changes in animal production, which has been created and recreated, adopted and developed over the centuries and for the dissemination and application of research results in order to improve animal production and health, including food safety^[9]. The overall growth rate in livestock sector is steady despite the fact that the investment in this sector is not substantial^[4]. Livestock sector is growing faster than crop sector^[15]. Moving towards the ground realities India's huge livestock resources are poorest in the world when it comes to productivity. The average yield of milk and meat in animals is 20-60% lower than the global average^[14]. The reason for decreased productivity is that this sector has remained under-invested and neglected by the financial and extension institutions^[7].

In comparison to the agricultural sector the allocation of funds to the department of Animal Husbandry, Dairying and Fisheries (DAHDF) has been very meager in spite of raising contributions from the livestock sector^[1]. And it is argued that the DAHDF and state animal husbandry departments don't have absorption capacity that has led to disastrous level of negligence towards this sector. But this factor should not prevent livestock sector from getting higher fund allocations. According to planning commission^[14]. The livestock sector receives only about 12% of total public expenditure on agriculture and allied sectors thus remains grossly neglected. The extension format, methodology and setup established for agriculture had failed to serve the needs of livestock sector. Only 5% of farm households in India have access to information on livestock against 40.4% for crop farming^[14].

This shows the pathetic out reach of financial and information delivery system in livestock sector. A detailed institutional analysis is the need of the hour.

Extension education performed by state departments of animal husbandry need to be analyzed so as to ascertain a paradigm for livestock extension services^[7]. At state level Animal Husbandry department (AHD) is the major stakeholder as far as livestock sector is concerned. The primary function of AHD is the treatment and handling of sick animals. The prevalence of the various production, infectious and zoonotic disease has severely affected the production, farmers and economy of the country. Although there has been good work in eliminating some of the disease that severely affected livestock like Rinderpest & New Castle Disease. The treatment for many disease conditions is easily accessible, farmers are also well confident about control of large number of diseases that has motivated them to shift their attention from health aspect towards the animal production^[12]. Still there are meager facilities for disease diagnosis, reporting, epidemiology, surveillance and forecasting. In spite of the fact that animal health extension gets more preference than the production extension there is limited diagnostic available in India and where available they are not of a desired quality^{[14][19]}. Livestock diseases are a potentially catastrophic type of agricultural risk. In 2006 there were 2223 outbreaks in India among then 1623 were in cattle, 5 in buffalo, 3 in pigs, 15 in sheep and goats^[5]. The disease situation is complicated by several factors like large population of susceptible animals (527 million), no systematic vaccination (only 250-300 million doses) and unrestricted movement of animals within the country^[5]. To tackle with these situations Government must be battle ready in planning, training, surveillance, monitoring and diagnostic system. This may be achieved through communicating with public for which a sound extension system is the requirement. There should be availability of stockpiles of medications & equipment, preparation of national health care systems and facilities and by implementation of control measures (culling, vaccination, quarantines etc.)

There is already an increasing demand for the food items and relatively slower supply response in many commodities has resulted in frequent spikes in food inflation^[6]. There are many new challenges faced by Indian farmers as they are forced to compete on quality and prices on several products not only in the export market but also in domestic markets^[19]. Due to many trade barriers and quality control problems the farmers are not able to withstand these challenges as they are having very little knowledge regarding sanitary conditions and quality control. Livestock extension has to play an important role to reach the farmers, increase their awareness, knowledge, and explain the preventive measures to be adapted at the primary level and to give awareness regarding importance of sanitary conditions. There is an urgent need of a system through which necessary information can be delivered to the farmers. But at ground levels there is lack of an organized system to provide livestock extension messages to farmers and update their knowledge timely.

The livestock extension education related activities don't meet the needs and requirements of the vast majority of farmers^[10]. To add to this problem there is the huge neglect of the policy makers and the researchers towards the livestock extension^[12, 16]. Extension in today's Indian context includes the agencies in private, public NGO's and community based initiatives that provide range of Agricultural activities. But

there is hardly any private sector investment in Animal Husbandry, except in the dairy sector that has attracted considerable private investment [14].

3. Government policies and the livestock extension

Many programmes were introduced by the government from time to time so as to reach the farmers, provide them the new knowledge and cater the problems faced by them. Training and visit (T &V) was the one of the important programme and it became a strong method to restructure the extension system. But it was realized that this T & V did not go well with the livestock extension responsibilities. As the village extension workers and staff were mainly trained in agriculture and regarding the services of livestock they missed the mark. They were not able to provide the knowledge that livestock was in need of [13, 15]. Due to lack of proper training and advices many people already present and the ones who are entering the livestock farming are adding to more hurdles for themselves and for the economy also. During Ninth Five - Year Plan DAHDF which is the apex body for livestock production and development in India has invested only 10.41 crore against the allocation of 20 crore under the Animal Husbandry Extension Programme started in 1992-93. Under this scheme, financial assistance is provided to State Governments, Agricultural and Veterinary Universities and Veterinary Colleges for establishment and development of an information network to promote and propagate latest animal husbandry practices among farmers [1]. For the Tenth Five - Year Plan (2002-2007) report of the Working Group on Animal Husbandry and Dairying for the first time treated livestock extension differently from crop related extension education activities and a separate sub- group was created to address the issues concerning livestock extension activities. It betoken that livestock extension education will mainly concern with the transfer of technology rather than transfer of knowledge [4]. The report of the Working Group on Animal Husbandry and Dairying for the 12th Five-Year Plan (2012-2017) also reported that only 5.1% of the farmer households in India are able to access any information on animal husbandry as against 40.4% on crop farming. This plan also documented for growth of agriculture and rural development there is an urgent need to give an extra effort towards the livestock extension education.

In order to address the different needs of the livestock farmers a major step towards implementing the livestock extension services is needed. KVK's (Krishi Vigyan Kendra) were also established to furnish the need based and vocational training to the farmers since the establishment of first KVK in Puducherry in 1974 they have grown to about 630 moving towards the goal of at least one KVK in each district of the country [1]. Now even 2 KVKs have been envisaged in larger districts. The annual reports of these KVKs clearly reveal a crop bias, with very little contribution towards livestock extension education activities. The KVKs including the KVK's under the animal sciences institutes of the ICAR, veterinary universities and NGOs have largely ignored animal husbandry component as these have taken up only a bit of care for livestock. Livestock extension education is poorly represented in KVK set up [18]. Directorate of Extension is a very important extension agency under Ministry of Agriculture that is responsible for organizing extension education activities. A cursory look at the proceedings of the 21st National workshop on Planning and Management of Agriculture Extension training [2]. Revealed that there is a

little scope on livestock extension under the Directorate of Extension, GOI. Only 2 courses that are Transfer of technology in clean milk production, and extension strategies for animal health and production from the total of 63 national training courses on extension sponsored by the directorate during 2001 -02, were approved in animal husbandry by the Directorate of Extension [7]. Due to different requirements of the highly specialized livestock extension education system it has distinct features from crop extension education due to longer time-scale of animal production, slower speed of technology development, wide variation in production status among different animals, difficulty in demonstrating merits because of their poor observability, frequently dispersed and non-uniform needs of livestock owners [13, 15]. A proof in this regard, is that India government initiated various livestock programmes like Key Village Scheme (1952), Intensive Cattle Development Project (1964-65), Operation Flood (1970-71) etc., which could not improve the productivity of milch animals substantially for want of a specialized extension education system for livestock farmers [15]. Many of the animal husbandry practices followed by farmers are still not in tune with the scientific rearing practices. Misconceptions and ignorance coupled with poor extension interventions are some of the reasons for such state of affairs in respect of the poor popularization status of improved animal husbandry practices [17]. There is an extremely low investment of the GOI including share of states in animal husbandry and dairying sector that varies between 0.4% and 1.0%. During the 9th Plan the investment in animal husbandry and dairying as percentage to total investment of GOI was 0.4% only [3]. This is more compounded by the investment of National Department of Animal Husbandry, Dairying and Fisheries, i.e. DAHDF, which commits less than 10% of its budget to information delivery [8]. The DAHDF pays inadequate attention towards livestock extension education activities that is obvious from its spending on extension and training activities. This low investment by the DAHD in information delivery low livestock extension education activities is also likely to be followed by state departments which often face budgetary constraints. This calls for a thorough review of the situation with respect to provision of livestock extension education system especially by the SDAH.

An insight into these issues is essential towards augmenting the efficient use of livestock extension. Other than SDAH need is to look into various extension systems, their role in extension education at critical level. During 11th plan only a sum of Rs 15 crore was allocated for livestock extension component against the proposal of Rs 150 crores for livestock extension activities. Further, out of this allocation major share was utilized for establishment of private veterinary clinics which is not a typical livestock extension education activity. By the end of 2009 only Rs 1 lakh was utilized under the head livestock extension. This tells about the status of livestock extension especially under the centrally sponsored schemes [18].

4. Ways out

4.1. In order to address the various technical, advisory and financial needs of different livestock production systems and species an entirely differentiated approach of providing extension education and input services is the need of the hour.

4.2. Need is to build up an exclusive army of extension workers with appropriate skills and knowledge. To establish special KVKs with emphasis on various livestock extension

education activities with the help of NGO's, para-vets and other organizations would be a positive step towards this goal.

4.3. ATMA (Agricultural Technology Management Agency) should also focus towards the animal husbandry extension activities and training that has kept main focus only towards improvement of the crop sector.

4.4. The DAHDF should take positive steps towards improving the livestock extension services, to conduct timely extension activities.

4.5. Shortage of the manpower should be taken seriously in this sector, to train the extension agents especially with the livestock related activities, to make new technologies accessible to the farmers in order to improve their condition and the economy as a whole.

4.6. The research institutes under ICAR in animal sciences like IVRI (Indian Veterinary Research Institute), NDRI (National Dairy Research Institute) and other veterinary colleges have separate well established divisions of veterinary extension but the researchers there mainly remain confined towards the research and the teaching. No doubt many activities like farmer fairs, animal health camps, farmer's visits, demonstrations, door to door extension, exhibitions etc. are organized by these units but their area of coverage and influence remains jurisdiction of the institute leading to very meager extension efforts by these institutions. These institutes should broaden their scope in order to reach the far flung areas.

5. Conclusion

Although many departments are performing livestock extension education activities one way or other at different levels but there is absence of a specialized livestock extension agency. The states should be supported to strengthening the infrastructure and man power for better performance. There is need of launching projects by government with Animal Husbandry departments to reach the livestock farmers. Funds and means are needed to be provided to the veterinary institutes to increase their extension services, to reach the livestock farmers and help them in every possible aspect. For better services in livestock curative and preventive sectors there is need to have more liaisons and tie ups of veterinary institutes with line departments of Animal Husbandry and Sheep through regular trainings and other programmes of field importance. Strengthening of the extension and research activities are mostly needed at institutional level. The linkage mechanism (farmer-extension-scientist) needs to be geared up in all institutions. The problem of low production and productivity of livestock is associated with genetic makeup and nutritional status and disease condition of animals and all this needs to be addressed accordingly with proper back up from veterinary universities for their remedies. There is need to prepare packages of practices for farmers dealing with livestock. Establishment of better projects along with identification of suitable funding agency is needed. In this era of technology and digitalization ICT tools like Information Kiosks, voice call websites etc. are to be created for people of different regions in their local languages. The farmers are to be prepared, trained and encouraged to use these ICTs.

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