

Constraints in Adoption of Extension Approaches by the Animal Husbandry Department as perceived by Veterinary Officers in Four Indian States

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Abstract

India is blessed with vast livestock resources in the form of varieties of livestock breeds. According to the Livestock Census (2012), India's total livestock population was 512 million and poultry population was 729 million. The country ranks 1st in buffalo, 2nd in cattle & goats, 3rd in sheep and 5th in poultry population in the world. Over the last two decades, the livestock sector has grown significantly. Presently the country stands 1st in milk production, 2nd in Chevon (Goat meat), 5th in meat and 9th in poultry meat production in the world. However, the productivity and production remained untapped in the livestock sector due to several reasons. The average milk yield of Indigenous cattle is only 03.41 kg/day/animal, that of crossbred cattle is 07.33 kg/day/animal and of Buffalo 04.80 kg/day/animal. One of the major reasons is ineffective extension services by the animal husbandry extension personnel as well as other stakeholders. As per NSSO-2005 survey, only 5.1 per cent of livestock farmers are getting any kind of information as compared to 40 per cent farmers getting information on crop production. The present study was undertaken by MANAGE to explore the reasons for ineffective extension services in animal husbandry sector and to suggest appropriate policy measures.

Keywords: livestock sector, extension approaches, extension management, extension personnel, constraints.

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Introduction

Livestock sector is an important sub-sector of agriculture in the Indian economy. According to the estimates of Central Statistics Office (CSO), the value of output of livestock sector at current prices during 2015-16 was about 28.6 per cent of the value of output from agricultural and allied sector. It contributes around Rs. 7.7 lakh crores per year to the GDP which is around 4.2 per cent of National GDP (Annual Report- DAC & FW 2016-17). It has emerged as a primary source of income for about 7 crore rural households- most of them are either landless, small or marginal farmers. In view of this background, the Government of India, has recently in 2019 created a separate Ministry for Animal Husbandry, Dairying and Fisheries, to ensure proper focus and right budget and resource allocation to this sector.

Although, it seems possible now that the budgetary allocation to the extension machinery of the state animal husbandry department would be given focus by this recent move, still the right orientation of the department is required so as to diversify the focus of the Veterinary officers from clinical health and reproductive management aspects to extension and advisory services.

In practice, extension organizations everywhere pursue the overall goals of technology transfer and human resource development, though within each organization there is a mix of objectives and within each country there is a mix of organizational patterns (Nagel, 1997).

An approach refers to a specific and chosen way of advancing or proceeding action. For research to be effective there must be an efficient mechanism whereby its result can be used by the end users. The process of making available the fruits of research to the stakeholders is the function of extension. Extension services frequently have many other tasks to perform, e.g. advising farmers on scientific and economically viable management practices, ensuring input availability, etc.

There are many models and types of extension activities around the world. Over the years, India has experimented with a number of extension approaches and agricultural programmes with a strong extension component. A well-recognized categorization of extension approaches is the one by Axinn (1988). His book *Guide on Alternative Extension* examines eight approaches to extension. These include:

1. *The General Extension Approach:* In contrast to several other approaches, this approach assumes that technology and knowledge that are appropriate for local people exist but are not being used by them. The approach is usually fairly centralized and government-controlled. Success is measured in the adoption rate of recommendations and increase in national production.
2. *The Commodity Specialized Approach:* The key characteristic of this approach groups all the functions for increased production - extension, research, input supply, marketing and prices - under one administration. Extension is fairly centralized and is oriented towards one commodity or crop and the agent has many functions.
3. *The Training and Visit Approach:* This fairly centralized approach is based on a rigorously planned schedule of visits to farmers and training of agents and subject matter specialists. Close links are maintained between research and extension. Agents are only involved in technology transfer. Success is related to increase in the production of particular crops or commodities.
4. *The Agricultural Extension Participatory Approach:* This approach often focuses on the expressed needs of farmers' groups and its goal is increased production and an improved quality of rural life. Implementation is often decentralized and flexible. Success is measured by the numbers of farmers actively participating and the sustainability of local extension organizations.
5. *The Project Approach:* This approach concentrates efforts on a particular location, for a specific time period, often with outside resources. Part of its purpose is often to demonstrate techniques and methods that could be extended and sustained after the project period. Change in the short term is often a measure of success.
6. *The Farming Systems Development Approach:* A key characteristic of this type of extension is its systems or holistic approach at the local level. Close ties with research are required and technology for local needs is developed locally through an iterative process involving local people. Success is measured by the extent to which local people adopt and continue to use technologies developed by the programme.

7. *The Cost-Sharing Approach:* This approach assumes that cost-sharing with local people (who do not have the means to pay the full cost) will promote a programme that is more likely to meet local situations and where extension agents are more accountable to local interests. Its purpose is to provide advice and information to facilitate farmers' self-improvement. Success is often measured by the willingness to pay.
8. *The Educational Institution Approach:* This approach uses educational institutions which have technical knowledge and some research ability to provide extension services for rural people. Implementation and planning are often controlled by those who determine school curricula. The emphasis is often on the transfer of technical knowledge Axinn, (1988).

Of late, due to the intervention of the Ministry of Agriculture and Farmers Welfare, Govt. of India, the National Institute of Agricultural Extension Management (MANAGE) came out with the Agricultural Technology Management Agency (ATMA) model of the extension system under the Innovations in Technology Dissemination (ITD) component of the National Agricultural Technology Project (NATP). The focus of the ATMA model of the extension system is mainly to shift away from transferring technologies for major crops to diversifying output in allied sectors (Gupta and Shinde, 2013). The key reforms promoted under ATMA model are broad based extension system, convergence of line departments on gap filling mode, group contact, use of ICT, gender main streaming etc. This leads to changing public extension services from narrow focus on technology transfer towards a wider focus on human and social capital formation (Leeuwis, 2003; Swanson, 2008).

The contribution of agriculture and allied sectors to the national GDP is declining year after year since independence. This may be due to inadequate attention given to allied sector activities like Animal husbandry, Horticulture, Fisheries, Sericulture etc. Due to stagnancy in agricultural production, in recent years there is more recognition given to these allied sectors to promote diversification of land use and improvement in farmer's economic status, through focused allied extension services to change knowledge, skills and attitude of the farmers.

In these respects, the present study was undertaken to understand the constraints by the officers of agri-allied sector departments i.e. Animal Husbandry, Fishery, Sericulture and Horticulture in four Indian states namely Uttar Pradesh, Odisha, Maharashtra and Karnataka in adoption of extension approaches. The total sample size for the study was 480 respondents (240 Officers and 240 Farmers). However, the present paper is focused on the constraints perceived by officers of the State Department of Animal Husbandry (SDAH) of four states in adoption of extension approaches and the total sample size was 80 officers of SDAH.

Methodology

Locale of Study

The study was conducted in 2016-17 in four Indian states and the states were selected purposively as all the four agri-allied departments i.e. Animal Husbandry, Fishery, Sericulture and Horticulture had separate organizational setup and were functioning independently in these states.

1. Northern Region : Uttar Pradesh
2. Eastern region : Odisha
3. Western Region : Maharashtra
4. Southern Region : Karnataka

Research Design

The present study was conducted using an ex-post facto research design.

Sampling Procedure

Purposive sampling technique was used to select respondents. From each state two districts were selected and from each district 10 Animal Husbandry Officers/Veterinary Officers were interviewed. Thus the sample size of each state was 20 and the total sample size from all the four states was 80 Animal Husbandry Officers/Veterinary Officers.

Data Collection

The data was collected through a pre-tested interview schedule by visiting the SDAH officers personally at their working place.

Table 1. Sampling Procedure

State		Uttar Pradesh		Odisha		Maharashtra		Karnataka	
District		Basti	Faizabad	Sonepur	Bargarh	Ahmednagar	Aurangabad	Kolar	Chikkaballapu
Respondents									
Department	Animal Husbandry	10	10	10	10	10	10	10	10
Total						80			

Results and Discussion

Constraints in Adoption of Extension Approaches

Table 2. Constraints in Adopting Extension Approaches by SDAH Officers

Sr. No	State Department of Animal Husbandry Constraints	Maharashtra (n=20)		Odisha (n=20)		Karnataka (n=20)		Uttar Pradesh (n=20)	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1.	Lack of technical staff at the village level	4.65	1	4.9	1	4.75	1	4.35	1
2.	Recruitment of officers is not regular	4.25	3	4.9	1	4.55	3	4.2	2
3.	Inadequate knowledge and poor Communication skills of the extension personnel	1.35	18	1.5	22	1.05	25	1.25	17
4.	Communication from the field staff upwards is often defective	1.35	18	1.6	21	1.15	23	1.15	19
5.	Stress is on downward, rather than upward communication	1.2	19	1.25	24	1.1	24	1.1	20
6.	Officer with limited qualification and expertise is not able to communicate and convince the farmers	1.4	17	1.65	20	1.05	25	1.2	18

Sr. No	State Department of Animal Husbandry Constraints	Maharashtra (n=20)		Odisha (n=20)		Karnataka (n=20)		Uttar Pradesh (n=20)	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
7.	Officer is not enthused to upgrade his knowledge because of limited opportunities for career advancement	1.8	14	2.35	18	1.25	22	2.2	14
8.	Officers are technically not competent enough to solve all the problems of farmers	2.3	12	3.0	14	1.75	19	2.2	14
9.	Non-availability of funds for extension services	3.9	5	4.3	4	3.3	14	3.35	8
10.	Mobility of technical staff to the field is limited	3.2	10	3.45	11	2.4	16	3.2	10
11.	The officers are more involved in distribution of the subsidiary inputs rather than educating the farmers	1.65	15	3.55	10	2.3	17	1.2	18
12.	Estimating the input requirements and arranging for supply through proper agencies in time is more focused rather than farmer oriented activities	1.45	16	2.4	17	1.65	20	1.0	21
13.	Officers are more involved in maintaining various records, technical reports and registers rather than the extension services	4.15	4	2.95	15	3.75	9	3.05	12
14.	Extension services are sporadic, casual, occasional and highly unorganized and therefore do not effectively meet the requirements of a vast majority of farmers	3.8	7	3.95	8	3.55	12	3.25	9
15.	Extension service never got the attention it deserves and this has been one of the reasons for low productivity	3.75	8	4.1	6	3.55	12	3.8	7
16.	Breed improvement and improving the health of the fish/animals is given utmost importance and inadequate attention is given to extension services to develop knowledge and skills of farmers	4.15	4	4.5	2	4.15	5	4.15	3

Sr. No	State Department of Animal Husbandry Constraints	Maharashtra (n=20)		Odisha (n=20)		Karnataka (n=20)		Uttar Pradesh (n=20)	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
17.	Extension services to change the attitude of farmers towards newer technologies which leads to increase in production are lacking	3.85	6	3.75	9	3.4	13	3.95	4
18.	Extension services to provide information for better management in a cost effective manner is lacking	3.6	9	4.1	6	3.7	10	3.8	7
19.	Implementation of scheme or projects is the prime focus rather than developing the knowledge and skills of the farmers	4.3	2	4.25	5	4.6	2	4.2	2
20.	Under the ever changing social, economic, technological and market condition, Extension services for continuous update of knowledge and skills of farmers is lacking	3.9	5	4.35	3	3.3	14	3.35	8
21.	Irregular monitoring and field visits of the concerned authorities	2.2	13	2.95	15	2.2	18	1.6	16
22.	Preparing of training schedules for specific schemes is lacking	2.3	12	2.3	19	3.6	11	1.85	15
23.	Helping subordinates in their planning for demonstrations and other activities is lacking	1.45	16	1.45	23	1.35	21	1.25	17
24.	The trained officer's updated knowledge is not percolating down to the officers at the field	2.35	11	2.55	16	2.75	15	3.15	11
25.	The available staff is not trained in extension management	3.85	6	3.75	5	3.9	7	3.9	5
26.	Regular training of village youth to develop them as Para-vets is lacking	1.1	20	3.4	12	3.8	8	1.0	21
27.	The linkages of the extension services operating with other bodies involved in rural development have generally been poor	3.75	8	3.15	13	4.05	6	2.7	13
28.	Preparation of action plan for each village/Mandal is lacking	3.8	7	4.0	4	4.3	4	3.85	6

From Table 2 it is clear that, lack of technical staff, implementation of schemes being the major focus rather than developing the knowledge and skills of the livestock farmers; irregular recruitment, breed improvement and improving health of the animals given utmost importance rather than extension services, more time spent on paper work were the major constraints ranked in descending order respectively, by the animal husbandry officers of Maharashtra State. Benor and Harrison (1977) evaluated ministry-based extension systems and found that its poor performance was related to four leading causes. These causes included: inadequate internal organizational structures, inefficiency of extension personnel, inappropriateness or irrelevance of extension content and dilution of extension impact. Lack of regular training of village youth to develop them as Para-vets was the least ranked constraint identified by the animal husbandry officers.

Results from Table 2 reveal that in Odisha lack of technical staff and irregular recruitment, health and breed improvement of the animals was given utmost importance rather than extension services, extension services for continuous update of knowledge and skills of livestock farmers were lacking, non-availability of funds for extension services, implementation of schemes or projects being the prime focus rather than developing the knowledge and skills of the livestock farmers and inadequate attention given to the extension services were the major constraints faced by the animal husbandry officers. Communication, whether it was upward or downward was ranked as least by the animal husbandry officers. Bajwa (2004) argued that the public sector extension services do not reach the majority of small farmers due to various reasons such as inadequate funds and weak accountability system. Pratap et. al. (2012) in their study on animal health care system revealed that services provided by veterinary officers and private practitioners were demand-driven, at the same time milk cooperative doctors are relatively more proactive than other animal husbandry service providers. Gardharia (2006) reported that, majority (61%) of the Veterinary Officers had perceived heavy workload, 55.00 per cent of the Veterinary Officers had sufficient area of jurisdiction. A great majority (70%) of the Veterinary Officers had medium level of job satisfaction, (69%) had job stress, (62%) achievement motivation and (73%) job involvement.

Table 2 shows the constraints in Karnataka state where, lack of technical staff, implementation of scheme being the prime focus rather than developing the knowledge and skills of the livestock farmers, irregular recruitment of veterinary officers, lack of

preparation of action plan for each village, Breed improvement and improving health of the animals being given utmost importance and inadequate attention given to extension services, poor linkage of extension services, lack of staff training in extension management were the major constraints identified by the animal husbandry officers. Vinita A. and Vinod K. A. (2014) suggested that, the veterinary hospitals should be well equipped, furnished, updated and modernised according to field requirements and there should be proper promotional opportunities for veterinary officers.

In Uttar Pradesh it was found that, lack of technical staff, irregular recruitment of veterinary officers, implementation of scheme being the prime focus rather than developing the knowledge and skills of the livestock farmers, breed improvement and improving health of the animals being given utmost importance and inadequate attention given to extension services, lack of extension services to change the attitude of farmers towards newer technologies which leads to increase in production of livestock, available staff were not trained in extension management, lack of preparation of action plan for each village, were the major constraints identified by the animal husbandry officers.

Gardharia (2006) reported that, majority of the constraints faced by Veterinary Officers were: insufficient technical staff more reporting work, deteriorating quality of work due to excessive workload, lack of laboratory and laboratory equipment at VD centres, lack of latest instruments for diagnosis and treatment such as X-ray and sonography instruments, inadequate and non-availability of vehicle facility, insufficient supply of medicines, materials and other facilities, lack of supporting staff like peon, clerk and a dresser, lack of administrative staff, paucity of funds and excessive administrative work.

Conclusion

It is observed that, lack of technical staff at village level, irregular recruitment of officers, implementation of scheme or projects being the prime focus rather than developing the knowledge and skills of the farmers, focus on reproductive and health aspect rather than extension services to develop knowledge and skills of farmers and lack of up gradation of knowledge and skills of extension officers for effective extension services etc. are ranked most remarkable constraints faced by extension officers of SDAH. Apart from these, the lack of manpower, lack of preparation of action plan, lack of importance given to develop

the knowledge and skills of the allied sector farmers, lack of extension services to change the attitude of farmers towards newer technologies, lack of trained staff in extension management were the major constraints identified by the officers of State Department of Animal Husbandry.

It can be concluded from the above study that since the beginning the orientation of the SDAH remained confined towards giving healthcare and breeding service rather than production oriented focus. In most of the states the designation of veterinarians is Veterinary Officer (VO), Veterinary Assistant Surgeon (VAS) rather than Livestock Development Officer (LDO) which restricted their role on development aspects. Presently, on an average one veterinarian is looking after 18000 livestock population, which is nearly three times more than what is recommended under Veterinary Council of India Act 1984, i.e., one veterinarian for 5000 livestock population. The regular recruitment of officers and supporting staff along with necessary infrastructure is the prerequisite for improvement of production and productivity of livestock. The study has also revealed that, the available staff in SDAH is not trained particularly on extension management aspects. In such a situation, exploring the role of SDAH officers on development aspects, capacity building particularly on extension management through regular training programs become most important. It is a known fact that, most of SDAH do not have their own training centre for regular training of SDAH officers, particularly on extension management aspects. While the Veterinary Colleges under Veterinary/Agricultural universities and research institutes of veterinary science under Indian Council of Agricultural Research (ICAR) are mainly focusing on technical training programs, MANAGE, at the national level, Extension Education Institutes (EEI) at the regional level and State Agricultural Management and Extension Training Institute (SAMETI) at the state level are the training institutes, dedicated for capacity building of agri-allied sector officers on extension management aspect. However, it has been observed from past experiences that participation of SDAH officers in training programs of these institutes is very less. Therefore, it is recommended that, SDAH should focus on capacity building programs on extension management aspects along with other technical programs.

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