



Livestock extension education activities of the State Departments of Animal Husbandry (SDAH) in India: A case of Tamil Nadu state*

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ABSTRACT

The State Departments of Animal Husbandry (SDAH) are the major stakeholder for the delivery of extension education services to the Livestock Owners (LOs) in India. However, the SDAH have to perform multitudes of other function with major emphasis on animal health. Thus, to test the hypothesis that the SDAH are not performing their role regarding delivery of extension services to the expected level, a survey of LOs, Veterinary Assistant Surgeons (VASs) and livestock inspectors (LIs) was undertaken in the state of Tamil Nadu. The SDAH, Tamil Nadu was primarily catering to animal health and breeding needs. There was no well defined institutional structure, catering specifically towards extension education activities oriented to livestock development. The grassroots level extension functionaries especially the veterinarians considered the extension activities as low profile job. Whereas, the LOs considered the SDAH as the major source of information relating to livestock health and production, but the functionaries of SDAH were not exposed to various extension-teaching methods for the want of budget, infrastructure and low priority attached to this role in preference to other activities. The economic importance of information was well recognized by the LOs, the Director of SDAH and extension functionaries within the SDAH, yet the institutional mechanism was not geared to this need of LOs. The budgetary provisions for extension education activities was limited to less than 1%, while 5% of the total budget was considered appropriate by the concerned officials. Therefore, a need was felt for a separate unit within the SDAH for effective delivery of extension services to the livestock farmers.

Key words: Animal Husbandry, Extension activities, livestock inspectors, Livestock owners

The Department of Animal Husbandry, Dairying and Fisheries (DAHDF) is apex body in India responsible to coordinate and advise various State Departments of Animal Husbandry (SDAH) in promoting livestock development (www.daahd.nic.in). The central agencies like DAHDF are mainly responsible for the policy formation and to ensure adequate guidelines for the state agencies. Whereas, agriculture including the animal husbandry is a state subject, thus, primary responsibility of agricultural development rests with the states. As such, two basic agencies that have clear role for developing agricultural activities within states include Department of Agriculture (for crop related activities) and SDAH (for livestock related activities).

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The SDAH in all the states in India is primarily involved in treatment of animals for which it has a clear mandate. Whereas, the demand for information on different aspects of livestock production is growing, as also the great number of livestock is now kept by people without traditional background causes distinct pressure on SDAH to inform, educate and train the livestock owners. Morton and Wilson (2000) documented that well-established state level extension services run by the Department of Agriculture (DoA) has never had a mandate to provide extension on livestock. Thus, livestock extension activities have to be undertaken by SDAH, since it is the only agency with the sole responsibility in providing optimum care for livestock development. The status of livestock extension and technology transfer service in India has been reviewed (Chander *et al.* 2010), with the conclusion that it need to be addressed suitably at different levels with particular attention on the role of SDAH in delivering extension education services. This study was designed so as to analyze the dynamics of the functioning of the SDAH in relation to the extension education activities performed by it, taking Tamil Nadu state as a case.

MATERIALS AND METHODS

The state of Tamil Nadu (8°5' and 13° 35' North latitudes and 76°15' and 80°20' East longitudes) was selected for study, since it had reasonable extension programmes on livestock development in comparison with many other states of India. The total livestock population of the state was 259.39 lakh accounting to 5.40% of the country and 0.60% of the world livestock population, signifying the importance of Animal Husbandry (AH). Of the India's total livestock population, the state accounts for 4.58% of cattle, 3.08% of buffaloes, 9.27% of sheep and 5.32% of goats. The State of Tamil Nadu comprises of 30 districts, of which 4 districts located at 4 different zones, viz. Tiruvannamalai (North), Cuddalore (East), Salem (West) and Dindigul (South) were selected randomly.

Four villages were selected from each of the 4 districts based on the presence of Veterinary Dispensary (VD), so as to make a sample size of 16 villages. In this study, 10 LOs were selected from each of the 16 villages by using proportionate random sampling method based on land holding, so as to make a total sample size of 160. Thus, the number of LOs selected in the six categories include 36 landless, 76 marginal, 20 small, 16 semi medium, 8 medium and 4 large LOs. A total of 10 Veterinary Assistant Surgeons (VASs) and 10 Livestock Inspectors (LIs) working in the Veterinary Institutions (VIs) were selected in each of the four districts, making a sample size of 40 VASs and 40 LIs. The study was based primarily on the data drawn from VASs, LIs and LOs, the published reports/documents, viz. annual reports of SDAH and various other occasional publications of SDAH and the responses to the mailed questionnaires sent to Director of SDAH, Tamil Nadu.

RESULTS AND DISCUSSION

It appeared that the SDAH, Tamil Nadu was more focused on diagnosis, treatment and offering advice on health issues, with less attention on extension education aspects. Veterinary staff was found giving some advice on matters like fodder production and feeding, but there was no allocation of funds and time to specifically do this. No evidence was found that veterinary officers go out of their way to investigate livestock owners' opinion or needs other than those specifically within

their own area of expertise. Similarly, there were inadequate arrangements to assess the spread of extension messages, or to feed back findings from the field to planners or researchers. For extension services, a meager sum (₹3.13 lakh) was allocated to the Animal Husbandry Department towards participation in fairs and exhibitions during the year 2009-10. Besides, a sum of ₹79, 860 was allocated to the department to take part in Republic Day Parade pageantry at Chennai (Policy note 2010-11, Animal husbandry department Demand no. 6.). Against the plan outlay of ₹14.66 crore, only ₹0.50 lakh were spent on extension and training during the ninth five year plan (1997-2002). As such, information requirements were largely based on the assessment of departmental officers, using their field experiences and aggregate targets for numbers of crossbreeds or inseminations and productive figures as also reported by Matthewman *et al.* (1997).

The state had long term policy initiatives for administration, providing Artificial Insemination services and Veterinary services. However, in case of fodder development and education to the LOs, there were only short term policy initiatives. The expenditure pattern for various activities for three years (2001-03) indicate that animal health coverage had taken more than 65% of the allocation. Whereas, the budgetary provision for extension education activities was limited to on an average 0.04% (Table 1), indicating morbid status of extension services though the concerned officials considered minimum of 5% to the total budget appropriate. According to Rivera (1989), in order to promote extension agency development, the system should ensure that programme operations amount to at least 15-20% of the budget. This clearly illustrates that transmitting information on livestock production was rarely been a priority in the present set up of SDAH. This was in agreement with the findings of Morton and Matthewman (1996). Moreover, the various extension programmes conducted by SDAH (Table 2) clearly indicate lack of regularity of these programmes.

Collaboration of SDAH with international agencies for providing extension service

The SDAH Tamil Nadu had associated with Royal Danish

Table 1. Expenditure incurred during 2001/02 -2003/04 (Indian rupees (INR) in lakh)

Activity	2001-02 (1)	2002-03 (2)	2003-04 (3)	Mean (1+2+3) /3
Administration	1562.45 (12.70)	1587.08 (13.00)	1667.36 (12.49)	1562.45 (12.70)
Animal health coverage	8316.28 (67.61)	8158.87 (66.84)	9476.12 (70.98)	8316.28 (67.61)
Cattle and buffalo development	2034.16 (16.54)	2103.46 (17.23)	1792.78 (13.43)	2034.16 (16.54)
Sheep and goat development	289.31 (2.35)	268.37 (2.20)	229.95 (1.72)	289.31 (2.35)
Piggery development	39.23 (0.32)	33.96 (0.27)	28.19 (2.11)	39.23 (0.32)
Fodder development	52.89 (0.43)	47.58 (0.39)	147.58 (1.11)	52.89 (0.43)
Education and training	5.98 (0.04)	6.46 (0.05)	7.94 (0.06)	5.98 (0.04)
Total	12,300.30	12,205.78	13,349.92	12,300.30

Figures in parenthesis are the percentages.

Table 2. Extension programmes conducted by SDAH

Activity	Year		
	2001	2002	2003
Exhibitions	43	62	-
Campaigns	4613	5044	-
Radio programmes	35	37	28
Television programmes	-	15	-
Training*	2	2	2

*Number of livestock owners participated in training programmes was 43,791 (2001) , 26,655 (2002) and 38,835 (2003)

Agency (DANIDA) for extending livestock production messages to livestock owners. The scheme was implemented from 1990–2004 and had trained 113 675 livestock owners. On an average, this project had trained 8119 LOs each year with total outlay of ₹ 275 million (DANIDA 2003) . During the 14 years of international collaboration with DANIDA, the state had spent exclusively 196.43 lakh on livestock extension activities. This investment was 29 times more than that the budget allocated by SDAH to extension efforts every year. With this mammoth investment, the state was in a position to train more than 8000 LOs every year. Immediately after the withdrawal of such international collaboration, SDAH was finding it difficult to maintain such huge infrastructure created during the project years. These events highlight that efforts made under such collaborations usually do not sustain beyond the project timing. The same case can be made in collaborations with various NGOs; these were scattered events, unless appropriate institutional mechanisms were maintained, the efforts made by such projects would soon become defunct.

Institutional mechanism/infrastructure facilities for extending livestock extension service (LES) : The infrastructure facilities like printing press, broadcast preparing unit, artists, information kiosks, mobile van for publicity and vehicles for transport for extension purpose are the major requirement for conducting any extension

programmes. The study revealed the existence of broadcast preparing unit and availability of two artists extending LES. Further the officials felt Veterinary Hospital (VH)/Veterinary Dispensary (VD) are not at all equipped for extension educational efforts like discussing with livestock owners. It was very common to notice that these SDAH did not have adequate infrastructure in terms of men and materials to conduct any of the extension education activities. This is in line with the findings of Morton and Matthewman (1996) who reported that working patterns of animal health staff tend not to be conducive to regular mass extension. As a result, the discussion activity with the LOs, which is crucial in the livestock development work, was being given very low preference.

Promotion of extension officials: At the field level, Veterinary Assistant Surgeon (VAS) and Livestock Inspectors (LIs) are recognized as extension officials. These grassroots level animal husbandry extension officials have to perform multitude of task. The study revealed that only 7.50% of the LIs and 13.50% of the VASs were trained exclusively in the area of extension education. Further, the findings also reveal that LIs and VASs were attaching more importance to AI/Breeding, treatment and vaccination (Tables 3, 4) . They had given least priority to education activity concerned with LOs. Thus, the general notion of considering and promoting LIs and VASs as grassroots level extension workers miserably failed under the present system. This was in agreement with the findings of Lehmann *et al.* (1994), which state that extension remains a sporadic activity.

Time utilization pattern by LIs and VASs: The LIs and VASs were asked to quantify the general allocation of time for performing various AH activities in a normal working day. The working hour as notified by the SDAH was from morning 8–12 PM and in the afternoon 3–5 PM, making a total of 6 h/day. It is clear from the findings that most of the LIs consider performing first aid and AI as their primary duty. The VASs were spending most of their time on treatment of animals followed by executing AI and record work. These

Table 3. Distribution of LIs according to importance attached to AH activities

AH activity	Rank							
	I	II	III	IV	V	VI	VII	VIII
Treatment	4 (10.00)	15 (37.50)	13 (32.50)	4 (10.00)	2 (5.00)	1 (2.50)	0 (0.00)	1 (2.50)
A.I./Breeding	30 (75.00)	6 (15.00)	2 (5.00)	0 (0.00)	1 (2.50)	1 (2.50)	0 (0.00)	0 (0.00)
Vaccination	3 (7.50)	12 (30.00)	19 (47.50)	5 (12.50)	0 (0.00)	0 (0.00)	1 (2.50)	0 (0.00)
Record work	0 (0.00)	2 (5.00)	4 (10.00)	11 (27.50)	7 (17.50)	4 (10.00)	4 (10.00)	7 (17.50)
Fertility camp	2 (5.00)	2 (5.00)	1 (2.50)	11 (27.50)	12 (30.00)	9 (22.50)	1 (2.50)	1 (2.50)
Fodder seed/Slip distribution	0 (0.00)	1 (2.50)	1 (2.50)	2 (5.00)	8 (20.00)	14 (35.00)	8 (20.00)	5 (12.50)
Staff meetings/Supervision	0 (0.00)	0 (0.00)	0 (0.00)	1 (2.50)	2 (5.00)	6 (15.00)	16 (40.00)	14 (35.00)
Education of LOs	1 (2.50)	2 (5.00)	0 (0.00)	5 (12.50)	7 (17.50)	4 (10.00)	9 (22.50)	11 (27.50)
Total	40 (100)	40 (100)	40 (100)	40* (100)	40* (100)	40* (100)	40* (100)	40* (100)

N, 40; Figures in parentheses indicate percentage;*One respondent ranked only three activities, viz. treatment, A.I./breeding and vaccination.

Table 4. Distribution of VASs according to importance attached to AH activities

AH activity	Rank							
	I	II	III	IV	V	VI	VII	VIII
Treatment	19 (47.50)	14 (35.00)	3 (7.50)	3 (7.50)	0 (0.00)	0 (0.00)	0 (0.00)	1 (2.50)
A.I./Breeding	13 (32.50)	15 (37.50)	10 (25.00)	1 (2.50)	1 (2.50)	0 (0.00)	0 (0.00)	0 (0.00)
Vaccination	5 (12.50)	5 (12.50)	18 (45.00)	10 (25.00)	1 (2.50)	1 (2.50)	0 (0.00)	0 (0.00)
Record work	0 (0.00)	0 (0.00)	3 (7.50)	7 (17.50)	10 (25.00)	4 (10.00)	11 (27.50)	5 (12.50)
Fertility camp	0 (0.00)	1 (2.50)	4 (10.00)	11 (27.50)	12 (30.00)	9 (22.50)	3 (7.50)	0 (0.00)
Fodder seed/Slip distribution	0 (0.00)	2 (5.00)	1 (2.50)	2 (5.00)	7 (17.50)	11 (27.50)	11 (27.50)	6 (15.00)
Staff meetings/Supervision	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	5 (12.50)	7 (17.50)	13 (32.50)	15 (37.50)
Education of LOs	3 (7.50)	3 (7.50)	1 (2.50)	6 (15.00)	4 (10.00)	8 (20.00)	2 (5.00)	13 (32.50)
Total	40 (100)	40 (100)	40 (100)	40 (100)	40 (100)	40 (100)	40 (100)	40 (100)

N, 40; Figures in parentheses indicate percentage

findings were in agreement with findings of Lehmann *et al.* (1994). It was clear that treatment and breeding activities were predominant entities in their day-to-day activities. The activities like supervision/staff meetings and laboratory work were not performed regularly. This definitely hampers the progress of coordinated works like conducting extension programmes to a greater extent. The findings that more than one fifth of the respondents never conducted any of the extension activities further strengthen this view. Extension agents divert time and energy to other activities, which earn them extra remuneration (Anderson and Feder 2004).

SDAH- Major source of information to LOs: About 39.38% of the LOs were frequently dependent on SDAH for availing information on livestock production and only 16.88% of the LOs were very frequently depended on SDAH. The LOs' important sources in descending order included SDAH, milk cooperatives, NGOs, private cooperatives and lastly DoA. Thus, it was clear that the first source of livestock information for a LO was the veterinary institutions.

Availability and level of satisfaction of LOs for Livestock extension services provided by SDAH: The services classified under extension educational efforts were, information on management of large ruminants, small ruminants, draught animals, campaign against livestock diseases, liaisons with livestock owners and market information. It was clearly reflected that except for campaign for livestock diseases (58.75%) and liaisons with livestock owners (53.13%), generally, for other extension educational activities, viz. information on management of large ruminants (43.13%), small ruminants (41.25%), draught animals (41.25%) and market information (45.63%), the availability fell short of majority. This indicates that not only the information regarding ovines was limited but for bovine population too it was insufficient.

The general level of satisfaction for the various extension efforts undertaken by SDAH included campaign against livestock diseases (43.75%), liaisons with livestock owners (38.13%), market information (34.38%), information on management of large ruminants (33.75%), draught animals

(32.50%) and small ruminants (31.25%). Further, the findings indicate that VASs were considered to be superior in providing livestock related information to LOs in comparison with LIs. As a whole, half of the respondents never contacted both the grassroots level extension functionaries for livestock related information.

In Tamil Nadu, there was one veterinary institution (The veterinary institutions comprises of 6 Polyclinics, 22 clinician centers, 139 veterinary hospital and 922 veterinary Dispensaries, (Tamil Nadu 2004), for every 1193.75 sq.km area and for every 10,824.43 bovines in 2004. This was at par with the recommendation of National Commission on Agriculture (NCA 1976), which recommended at least one veterinary institution for every 10,000 animals for providing health and breeding services. However, the total number of veterinarians serving in the SDAH was 1,328 in 2004 and each veterinarian was covering about 10,163 cattle units. NCA recommended one veterinarian for every 5,000 cattle units by the year 2000 to ensure proper health care. This may be the reason for the poor availability of various services extended by the SDAH to the LOs.

Exposure of LOs to various information sources: In case of individual contact methods, majority of the respondents never availed information through office call (53.13%) and Farm and Home visit (67.50%). In group contact methods, more than 96% of the LOs were never exposed to field demonstrations, film shows, farmers' tour/trip, farm talk and workshop. In case of mass contact methods, occasionally 25% of the LOs viewed posters and 21.88% of the LOs viewed campaigns, farmers' fair/livestock shows and radio as the source of information. The findings clearly indicate the poor patronage extended by AH officials in providing exposure to the LOs to various extension teaching methods. The LOs need to be exposed to various methods as their importance was adequately represented in the study conducted by Thammiraju *et al.* (1993).

Perception of LOs according to institutional infrastructure facilities: Majority of the LOs listed SDAH as fairly equipped for treatment (67.50%), record work (64.15%), fertility camp

Table 5. Perception of LOs according to institutional infrastructure facilities N = 160*

Activity	Well equipped	Fairly equipped	Not at all equipped	Total
Treatment	36 (22.50)	108 (67.50)	16 (10.00)	160 (100.00)
AI/Breeding	34 (21.38)	92 (57.50)	33 (20.63)	159 (100.00)
Vaccination ¹	42 (26.58)	86 (54.43)	30 (18.98)	158 (100.00)
Record work	35 (22.01)	102 (64.15)	22 (13.83)	159 (100.00)
Fertility camp	35 (22.01)	100 (62.89)	24 (15.09)	159 (100.00)
Fodder seed/slip distribution	29 (18.23)	81 (50.94)	49 (30.81)	159 (100.00)
Education of the LOs	38 (23.90)	63 (39.62)	58 (36.47)	159 (100.00)

Figures in parentheses indicate percentage; ¹One respondent never approached SDAH for vaccination; *1respondent availed only treatment from SDAH.

(62.89%) , AI/breeding (57.50%) , vaccination (54.43%) and fodder seed/slip distribution (50.94%). About 36.47% of the LOs reported that veterinary institutions were not at all equipped in dealing with the educational activity of the LOs, while 23.90% of the LOs accepted that veterinary institution were well equipped to deal with educational measures.

Need for information among LOs: The LOs were asked about any suffering they had undergone due to lack of adequate information. It was revealed that about 25% of the LOs had suffered due to lack of required messages. The foremost messages required among these LOs included disease outbreak and time of vaccination, optimum time of AI and market related information. Further, the information on deworming schedule, type of animal to be reared, prevention of bloat, time to dehorn the animals, mastitis outbreak and general first aid care in case of emergency, was also reported to be required.

Suggestion to improve the LES: The study has clearly identified that the SDAH is primarily catering to animal health and breeding needs. However, LOs consider SDAH as major source of information relating to livestock health and production. There is no clear institutional structure catering specifically towards extension education activities oriented to livestock development. Further the grassroots extension functionaries consider extension as low profile job, consequently, not exposing LOs to various extension teaching methods for want of infrastructure and low priority attached to this role in preference to other activities. Though policy makers recognize the need to provide operational budget, it was awfully inadequate for carrying out any extension activities. The Livestock owners were lacking in opportunities of advanced information and training programmes, since the officials were inadequate and not geared up towards promoting extension activities. This is primarily due to lack of long-term policy framework and appropriate well trained human resource to undertake extension education activities. Thus, a need was clearly felt for a separate unit within the SDAH for effective delivery of extension services to the livestock owners.

Present study was conducted to analyze the livestock extension education role of SDAH taking Tamil Nadu state

as a case. It was found that the SDAH was the major agency to cater the extension education needs of the LOs, to be met by the VASs and LIs. But the agency and the officials had multiple tasks to be performed with the least care for livestock extension education activities as also reflected by poor allocation and expenditure on extension education and training over the years. The concerned staff were mainly focused and preoccupied with animal health and breeding concerns, while they were not oriented, trained, appreciated and provided with funds and facilities to carry out extension education activities. The study concludes that the SDAH should pay adequate attention to its livestock extension education role by ensuring sufficient funds, infrastructure, and human resources development initiatives to train the manpower and deliver extension services to the LOs effectively.

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