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Investment in livestock extension activities by State Departments of Animal Husbandry (SDAH) in India: An appraisal

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ABSTRACT

The investment in terms of budget allocation, expenditure and performance of the SDAH with respect to livestock extension activities across various states was analyzed, using the information available from the annual reports, websites and occasional publications of the SDAH, reports of Planning Commission and other agencies. We found that livestock extension was the activity paid least attention by majority of the states in terms of programmes, infrastructure, budgetary allocations and deployment of staff. Only few states had exclusive wing for extension activities even at the state headquarters which poorly indicated their programmes and budget for livestock extension. In some states, there is a publicity and extension wing at state headquarters, often with few extension officers, negligible equipments and very small budget for extension (0.03% to 9% of total budget of department), which is responsible for publication of literatures in local languages, conducting training programme, organizing demonstrations, health camps/ *melas*/ fairs, exhibitions and training. It is recommended that each SDAH should create an extension and training wing at state headquarters with regional/local wings, staffed and equipped with trained livestock extension specialists, audio-visual (AV) equipments and mobile publicity vans along with budgetary allocations of at least 10% of the departmental budget for extension activities.

Key words: Extension, Investment, Livestock Development, Productivity, State Departments of Animal Husbandry

The economic studies from developing and developed countries indicating high monetary returns to extension activity (Gill 1991, Chand *et al.* 2011) provide solid evidence for the value of extension activities as investment with high returns. Though, FAO Global Consultation on Agricultural Extension (1990) recommends a guideline of not less than 1– 2% of the GDP (depending on the size of each country and factor costs) for extension, which should be considered the minimum level of financial investment, many countries including India are yet to attain this level of investment in agricultural extension services. In recent years, the GOI has spent only about 0.14% of Agricultural Gross Domestic Product (GDP) on extension services (Chand *et al*. 2011). The investments of Government of India (GOI) including share of states in animal husbandry and dairying sector is extremely low and was 0.4% only in 9th Plan (Bhat 2003).

Within the inadequately funded livestock sector, animal husbandry extension is one among the most poorly funded components, since the Department of Animal Husbandry, Dairying and Fisheries (DAHDF) in India commits less than 10% of its budget to information delivery (Chipeta 2002). In 11th plan, a paltry sum of₹ 250 crore (0.66% of total allocation to animal husbandry and dairying) was proposed to be spent on animal husbandry extension under central sector schemes sponsored by DAHDF. This poor funding pattern at national level in livestock extension activities is also generally followed by state departments, which often face budgetary constraints. For example, in Tamil Nadu, 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 (Ravikumar and Chander 2011). Therefore, the functioning of various SDAH in relation to the extension education activities performed by them along with investments in terms of infrastructure, personnel, budget and expenditure of SDAH was analyzed to further ascertain a paradigm for livestock extension service suitable to India for increasing the livestock productivity. Moreover, this information can be used to negotiate higher level of funding for extension activities.

MATERIALS AND METHODS

The investment in terms of budget allocation, expenditure and performance of the SDAH with respect to livestock

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extension activities was analyzed across various states, using the information available from the annual reports, websites and occasional publications of the SDAH, appraisal reports of Planning Commission and other agencies. Depending on the available information of SDAH, various extension activities or programmes were used as indicators to compare the role of SDAH across India in organizing extension activities from 2004–05 to 2008–09. The following indicators were considered for critical analysis and appraisal of budget and extension programmes of SDAH:

- Budget allocation for various extension activities
- Presence of separate extension wing in SDAH
- Clean milk production training
- Livestock *mela* /fair/exhibition
- Health/ Sterility/ Fertility/ vaccination Camps
- Frontline demonstrations
- Community based training programmes

RESULTS AND DISCUSSION

Budget allocation for various extension activities: Disease diagnosis, treatment and offering advice on health issues received more attention in budget allocation and expenditure by SDAH in India, while less attention was paid to extension education aspects. The SDAH did not have specific policy for its extension role, nor any guidelines available for budgetary allocations due to varying policies and activities recommended by individual state departments. Similarly, there were inadequate arrangements to assess the spread of extension messages, or to feedback findings from the field to planners or researchers. In majority of the states, extension services are a weak link and very meager budget is allocated by animal husbandry departments towards various extension and training activities. The information about allocation for extension programmes by SDAH for last five years (2004–05 to 2008–09) was available for only 7 states, viz. Goa, Karnataka, Maharashtra, Meghalaya, Mizoram, Sikkim and Puducherry. The SDAH, Meghalaya allotted an average of about 10.964% of its departmental budget for extension activities during these 5 years while Puducherry and Mizoram allotted 3.247 and 2.953%, respectively (Table 1).

In majority of the states, budget allocation for extension was not uniform and the allocation pattern was in a haphazard manner. A few SDAH even failed to display budget allocation for extension component in their annual reports or publications. While some states had incomplete information reflecting that extension was not given much emphasis during the process of budget allocation and majority of the other states might have almost neglected extension component in budgeting process. The budget allocation for extension activities per 1000 livestock was studied for 2003 livestock population of each state (Table 2). It was revealed that SDAH, Sikkim allotted a total of 70.588 lakh for 1000 livestock units towards extension activities during five years (2004–05 to 2008–09). It was very pathetic to note that majority of the states allocated less than 1 lakh rupees per 1000 livestock units for extension activities and the allocated amount for extension varied to the greater extent without any standard criteria. One can assume if livestock extension is sidelined while allocating annual budgets or not reflected in the departmental documents, it would have negative implications for livestock productivity in the concerned states.

Presence of separate extension wing and human resource development initiatives: Investment in Human Resource Development (HRD) acts as the key for laying the foundation of a sustained developmental process in livestock extension. Therefore, presence of an exclusive wing for extension in

Table 1. Budget allocation for extension activities (in lakh) (2004–05 to 2008–09)

Year	States	Goa	Karnataka	Maharashtra	Meghalaya	Mizoram	Sikkim	Puducherry
2004–05	Total	1145.25	4108.86	230.06	65.27	1769.00	59000.0	1442.0
	Ext	4.466	32.46	0.83	6.181	49.00	135.00	48.79
	%	0.39	0.79	0.36	9.47	2.769	0.23	3.38
2005–06	Total	1264.70	5756.73	1673.94	91.36	1652.00	61600.0	1512.00
	Ext	6.702	59.87	18.00	11.054	42.00	1270.00	48.49
	%	0.53	1.04	1.06	12.1	2.542	2.06	3.2
2006–07	Total	1313.20	16087.5	5497.74	102.39	1524.00	64500.0	1497.16
	Ext	7.485	64.35	40.00	13.095	29.00	1250.0	49.81
	%	0.57	0.40	0.73	12.79	1.9028	1.94	3.32
2007–08	Total	1382.00	18161.53	2740.02	124.41	1789.00	91000.0	1350.98
	Ext	14.511	94.44	106.95	14.730	65.09	1750.00	43.73
	%	1.05	0.52	3.90	11.84	3.638	1.92	3.23
2008–09	Total	1589.54	29104.65	1239.62	147.06	2045.00	115500.0	1729.14
	Ext	8.424	125.15	50.96	13.103	74.20	3100.0	53.76
	%	0.53	0.43	4.11	8.91	3.628	2.68	3.11
Total	Total	6694.69	73219.27	11381.38	530.49	8779.00	391600	7531.28
	Ext	41.588	376.27	216.74	58.163	259.29	7505	244.58
	Average%	0.621	0.513	1.904	10.964	2.953	1.91	3.247

Table 2. Extension budget allocation per 1000 livestock units for five years (2004–05 to 2008–09)

State/ U T	States	Goa	Karnataka	Maharashtra	Meghalaya	Mizoram	Sikkim	Puducherry
2004–05	E.budget	4.466	32.46	0.83	6.181	49.00	135.00	48.79
	LU	80660	8271330	13109280	541010	79650	106320	49740
	Per 1000	0.055	0.003	0.00006	0.011	0.615	1.269	0.980
2005–06	E.budget	6.702	59.87	18.00	11.054	42.00	1270.0	48.49
	LU	80660	8271330	13109280	541010	79650	106320	49740
	Per 1000	0.083	0.0072	0.0013	0.020	0.527	11.945	0.974
2006–07	E.budget	7.485	64.35	40.00	13.095	29.00	1250.0	49.81
	LU	80660	8271330	13109280	541010	79650	106320	49740
	Per 1000	0.092	0.0077	0.003	0.024	0.364	11.756	1.001
2007–08	E.budget	14.511	94.44	106.95	14.730	65.09	1750.0	43.73
	LU	80660	8271330	13109280	541010	79650	106320	49740
	Per 1000	0.179	0.011	0.008	0.027	0.817	16.459	0.879
2008–09	E.budget	8.424	125.15	50.96	13.103	74.20	3100.0	53.76
	LU	80660	8271330	13109280	541010	79650	106320	49740
	Per 1000	0.104	0.015	0.003	0.024	0.931	29.157	1.080
Total (5 Yrs)	E.budget	41.588	376.27	216.74	58.163	259.29	7505	244.58
	LU	80660	8271330	13109280	541010	79650	106320	49740
	Per 1000	0.515	0.045	0.016	0.1075	3.255	70.588	4.917

E. budget- Extension budget in lakh; LU, livestock unit (conversion factors as per FAO, 2005 for Livestock Census, 2003); Per 1000,expenditure on extension activities per 1000 livestock units.

SDAH to organize various extension activities including training is considered essential for the growth of livestock sector. Accordingly, in 10th as well as 11th Five Year Plan, creation of an extension wing was recommended both at central level and state levels with suitable staff deployed for the purpose. Moreover, this need for a separate unit within the SDAH for effective delivery of extension services to the livestock farmers was also clearly felt in Tamil Nadu state (Ravikumar and Chander 2011). Yet, barring a few, still many states do not have a wing to coordinate extension activities at the headquarters, nor even have the extension staff which leads to poor extension activities and negligible budget allocation. The Table 3 depicts the presence or absence of an exclusive extension wing in SDAH along with the state wise deployment of human resource for extension activities at various levels.

The available information revealed that Andhra Pradesh, Bihar, Goa, Gujarat, Karnataka, Madhya Pradesh, Sikkim and A & N Islands have an exclusive wing for extension activities, indicating thereby that these states have emphasized on the role of extension activities for increasing the livestock productivity in the state. Though, few states did not have exclusive livestock extension wing, they have extension officers at the state headquarters to look after and plan the extension activities. The human resource if suitably deployed at various levels in organizational setup of SDAH might positively impact the livestock development in the concerned state.

Clean milk production training: Training is an essential element of extension programmes, so the SDAH or other

Table 3. Exclusive extension wing and human resources in various SDAH

State	Separate ext. wing	Human resource (extension officers)	
Andhra Pradesh	Yes	HQ–4	Dist–3
Arunachal Pradesh	No	Total–48	Dist-3
Asom	No		Dist–136
Bihar	Yes	HQ-2	
Chhattisgarh	No	HQ-146 (VEO)	Dist & Block-63
Goa	Yes	HQ-1	Dist-12
Gujarat	Yes		
Himachal Pradesh	No	HQ-1	Dist-11
Karnataka	Yes	HQ-3	Block-176
Madhya Pradesh	Yes	HQ-263	Dist-50
Maharashtra	No	Block-291	HQ-1 Asst Commissioner
Manipur	No	Sub Dir.Office-8	AEO-27
Meghalaya	No	Block-39	
Punjab	No	JD (AH)-5	DD-25
Rajasthan	No	HQ-3 DD	
Sikkim	Yes	HQ-3 North-8 East-10 West-5 South-5	
Tamil Nadu	No	Field Staff-300	
Tripura	No	District-34	
Uttarakhand	No	HQ-1	Dist-882
West Bengal	No	HQ-15	Dist-950
Andaman & N	Yes	HQ-1	
Chandigarh	No	HQ-5	
Dadra & N H	No	HQ-1	

HQ: State Headquarters.

livestock and dairy development departments do organize various trainings time to time on different aspects. For instance, clean milk production training is organized by various agencies like SDAH, State Dairy Federations, Agriculture and Veterinary Universities and NGO's. In spite of being the major stakeholder for organizing extension activities in the states, the SDAH from only 8 states regularly reported the information on clean milk production training (Fig.1), during five years (2004–05 to 2008–09), though it was considered as an important activity. The available information revealed that SDAH, Tamil Nadu conducted highest number of clean milk production trainings (1100), followed by Sikkim (137) and Andhra Pradesh (84) states.

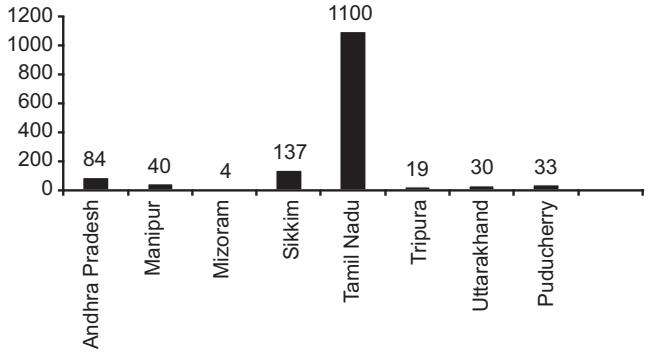

Fig 1. State wise clean milk production training for reported five years (2004–05 to 2008–09).

Livestock fair/ mela/ exhibition: The SDAH organize livestock fair/mela/exhibitions at various places during local festivals and other occasions to educate the public on latest developments in animal husbandry sector. This event acts as an ideal platform for livestock farmers to have interaction with scientists or experts and other progressive farmers and private stakeholders. From the data available for 10 states (Fig.2), SDAH, Gujarat conducted highest number (1239) of livestock *mela*/fair/ exhibition followed by Karnataka (634) and Puducherry (85). It was interesting to note that Gujarat and Andhra Pradesh states regularly displayed the information about livestock *mela*/fair in the website of the respective SDAH.

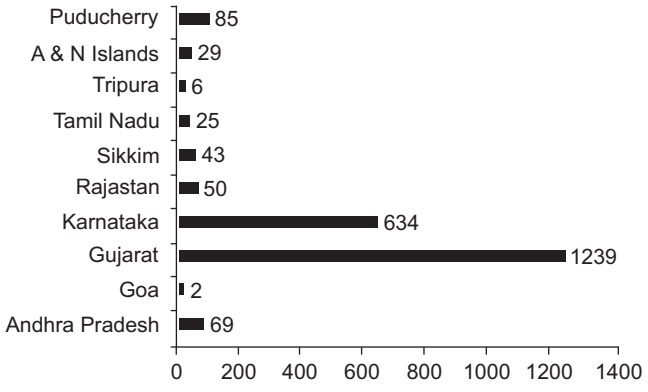

Fig 2. State wise mela/ fair/ exhibition for reported five years (2004–05 to 2008–09)

Health/sterility/ fertility/ vaccination camps: Organization of camps like general health camp, fertility camp and vaccination camps to treat the animals at the doorstep of the farmers is the major activity of SDAH. The camps are conducted for both small and large animals. The camps for sheep and goat aim at reducing parasitic infestation and enhance productivity. Regular vaccination and deworming of livestock and poultry reduces the spread of diseases and help in breaking the life cycle of parasites. The information about health/ fertility camps organized during last 5 years was available for 18 states, out of which 6 states, viz. Goa, Karnataka, Punjab, Rajasthan, Sikkim, Tripura and A & N Islands displayed the information regularly (Fig. 3). In these 5 years, Rajasthan conducted highest number (168 478) of camps followed by Andhra Pradesh (48 475) and Punjab (15 672). Also, it was found that states like Bihar, Gujarat, West Bengal and Puducherry published the information regularly about camps on the websites of respective SDAH. Besides, the SDAH, Rajasthan and SDAH, Punjab displayed the information about progressive breeders and progressive farmers (possessing high yielding animals) in their website, which might play motivational role for other farmers.

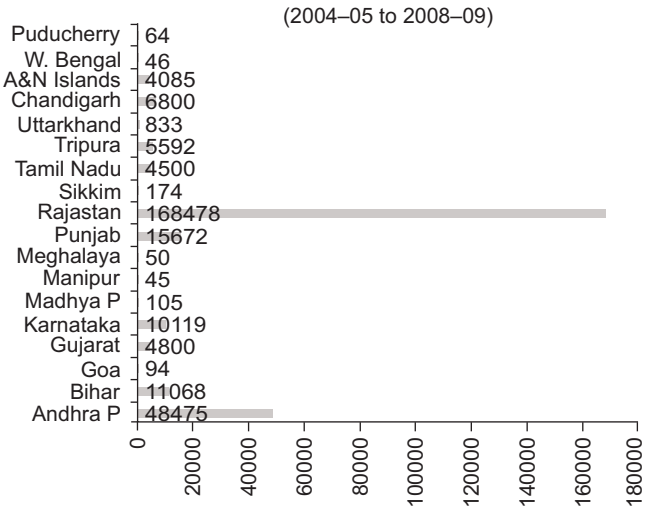

Fig 3. State wise health/sterility/ fertility/ vaccination camps for reported five years (2004–05 to 2008–09).

Front line demonstrations: Front line demonstrations (FLDs) are conducted to demonstrate the production potential of newly released technologies on the farmers' fields in a given farming system for dissemination of technologies. The main idea of FLD is to increase the productivity by implementing improved crop or fodder production technologies. The data on FLDs for reported 5 years was available for 12 states, out of which. Himachal Pradesh, Karnataka, Punjab, Sikkim and A & N Islands displayed the information regularly on annual basis for reported 5 years (Fig. 4). In these 5 years, Punjab conducted highest number

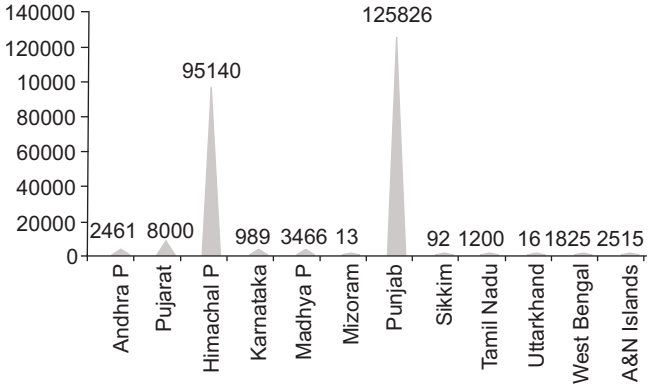

Fig 4. State wise front line demonstrations for last five years (2004–05 to 2008–09)

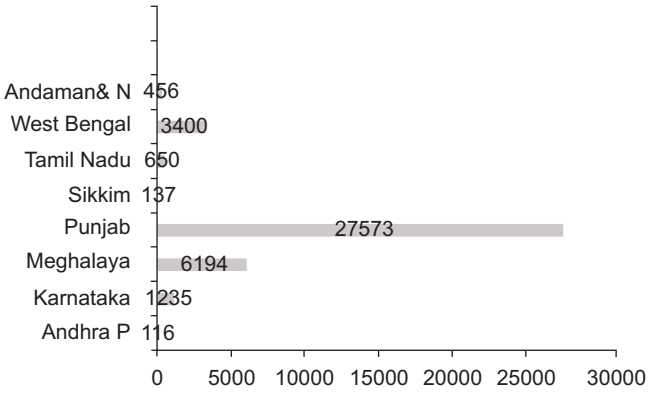

Fig. 5. State wise Community based training programmes organized during reported five years (2004–05 to 2008–09)

(125 826) of FLDs followed by Himachal Pradesh (95 140) and Gujarat (8 000). These FLDs might have led to improved state of dairy farming in these states.

Community based training programmes: Community based training programmes are conducted by SDAH either at village or block levels for improving the knowledge of the livestock farmers with regard to scientific management of animals. Such training programmes are expected to infuse skill and efficiency among the farmers. The information on organization of community based training was available only for 8 states (Fig 5), among which 5 states viz. Karnataka, Meghalaya, Punjab, Sikkim and A& N Islands published regular information for 5 years (2004–05 to 2008–09). It was revealed that the SDAH, Punjab conducted highest number (27 573) of community based training programmes followed by Meghalaya (6 194) and West Bengal (3 400).

The investment in terms of budget allocated as well as the expenditure incurred on livestock extension activities by most of the SDAH in general was very low. Only SDAH, Meghalaya had allocated over 10% of the departmental budget for extension activities, which is considered as optimum % of budget allocation in a developing country context. In spite of clear recommendations by various committees including 10^{th} and 11^{th} plan working groups on animal husbandry extension, only 8 states had created an exclusive extension wing within the SDAH of respective states for effective delivery of extension services to the livestock owners. The authors concluded that the SDAH should pay adequate attention and streamline their livestock extension education role by ensuring programmes, sufficient funds, infrastructure, and human resources development initiatives to train the manpower and deliver extension services to the farmers effectively.

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