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Adoption of improved livestock technologies by the tribal farmers of North-eastern hill region of India

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The north- eastern hill region of India occupies about 7% of total land area and 4% of total population of the country. Coupled with the traditional meat-eating habit, increasing per capita income, urbanization and changes in lifestyle, the region is deficit in production of livestock products. Under this context, the paper was planned to study the adoption level and constraints in transferring improved livestock technologies in the region.

Meghalaya, Nagaland and Mizoram states were purposively selected for the study because of their higher progress in adoption of improved livestock technologies. Further, 3 blocks were selected from these 3 states purposively because of similar reason. Altogether 225 farm households were selected using proportionate random sampling technique. Primary data were collected using personal interview method and pre-tested questionnaire. The data relate to agricultural year 2006–07. The adoption level of the respondents and constraints were measured by using methodology developed by Karthikeyan (1994) and Olaniyi (2008).

The study indicated that majority of the farmers i.e. 47.9% had a low level of adoption about improved livestock rearing practices (Table 1). It shows that farmers in NEHR were adopting mostly less scientific technologies. Mizoram was having highest adoption level (13.3%) followed by Nagaland (12.0%). Meghalaya being the least with low adoption level of 61.3%.

High majority of the farmers adopted recommended practices (Table 2) such as daily cleaning of shed (74.4%), proper drainage system (60.9), stall feeding (55.3%), provision of drinking water facility (52.6%) and rearing of improved breeds of pig (52.3%). These findings are similar to the findings of Rahman (2007) and Kumar *et al.* (2007). Further analysis clearly showed that the adoption of recommended feeding and health management practices were very low. Awareness on health care aspects, feed management and other hygienic conditions are lacking amongst the farmers. The farmers were also using mostly traditional method of pregnancy diagnosis and breeding methods. More than 47% of the farmers were even not aware of improved breeds which can increase the productivity significantly. In brief, the livestock production system in the region is traditional as a subsistence means of livelihood.

Table 1. Distribution of respondents on the basis of improved livestock rearing practices in Meghalaya, Mizoram and Nagaland

Level of adoption	Meghalaya (%)	Mizoram (%)	Nagaland (%)	Overall (%)
Low (<10.1)	61.3	29.3	53.3	47.9
Medium (10.1–18.3)	28.7	57.4	34.7	40.3
High (>18.3)	10.0	13.3	12.0	11.8
Total	100.0	100.0	100.0	100.0

(N, 225)

Constraints analysis revealed that farmers rated high cost of feed (86.3%) as most severe constraint followed by poor economic condition (71.5%), lack of institutional and credit support (69.8%), lack of scientific know-how (63.4%), non-availability of health care facility (59.3%), non-availability of improved breeds (34.0%) and marketing problem being the least severe constraint with 7.6%. In fact, the feed requirement in NEHR is generally met through import from other states, which makes it costly and is often beyond the affordability of the farmers which needs attention of the researchers and administrators. Majority of the tribal farmers in NEHR are jhumias with poor socio-economic status and low level of knowledge. Lack of institutional support and credit rather constraint the adoption of livestock technology. There is no incentive mechanism for the government to support the livestock farming. Most of the extension and development programmes are concentrated to horticultural

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Table 2. Adoption of improved production practices by the farmers in Meghalaya, Mizoram and Nagaland

Practices	Mean % score			
	Meghalaya	Mizoram	Nagaland	Overall
Breeds				
Improved	44.0	66.7	46.3	52.3
Pregnancy diagnosis				
Improved	6.7	14.0	8.3	9.6
Breeding of animal				
Improved	27.3	47.5	34.3	36.4
Feeding				
Stall feeding	48.6	59.0	58.4	55.3
Balance feeding	6.7	8.0	8.0	7.5
Supplementation of vitamins and minerals	25.3	26.0	25.0	25.4
Periodic deworming	24.0	29.7	26.3	26.7
Health management				
Consultation of doctor	39.3	56.0	45.3	46.9
Timely vaccination	16.0	16.7	16.7	16.5
Kid management	33.3	42.7	48.0	41.3
Care for pregnant cow	24.0	26.0	29.3	26.4
Housing management				
Pucca	8.7	13.3	9.3	10.4
Daily washing	68.0	78.7	76.7	74.4
Drinking water facility	52.7	53.3	51.8	52.6
Proper drainage	56.7	68.0	58.0	60.9

(N, 225)

and agricultural crops. The inadequacy of infrastructure had resulted in less access of livestock farmers to veterinary services that was a severe constraint expressed by 59.3% of the respondents. In NEHR, only about 22% of the farmers could avail veterinary services, while at all India level 32 per cent of the farmers could use this service (Kumar *et al.* 2007). Non-availability of improved breeds of livestock was also another constraint revealed by 34% of the respondents as severe.

Research and development on production of high quality livestock feeds based on locally available raw materials and improved breeds, institutional and liberal credit support, intensive extension services and technical support such as training and demonstration and finally, infrastructure development on health care facility would improve the adoption of improved livestock technologies and thus, increase production and productivity of livestock in NEHR.

SUMMARY

Diagnostic survey on livestock farming in NEHR revealed that majority of the farmers had low adoption of recommended technologies. Farmers mostly adopted stall feeding, improved breeds and proper hygienic conditions. Adoption of recommended feeding and health management practices were missing. High cost of feed, poor economic condition, lack of institutional and credit support were the major constraints hindering adoption. Research and development on production of livestock feeds, institutional and liberal credit and technical support would finally improve the adoption of improved technologies.

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