



A Critical Analysis of Resource Poor Sheep Farmers and Measures to Enhance their Livelihood and Food Security

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Abstract

Sheep farming substantially contributes to the income generation and to ensure livelihood security of farmers in drought prone Tirunelveli district of Tamil Nadu, which has 3,03,105 sheep population as per census data (19th Livestock Census, GOI, 2012). But sheep farming is threatened by number of viral diseases of which Bluetongue is the most important and frequent outbreak of lamb mortality in the farmers field also cause huge economic loss to farmers. Considering these facts, a study was conducted in Tirunelveli district of Tamil Nadu using a multi stage random sampling technique 120 respondents were selected. A cross-sectional survey of sheep farmers was done to assess the constraints in sheep farming. The study showed that, lamb mortality was the major constraint perceived by 90 per cent of the respondents followed by lack of awareness (70 per cent) about feeding concentrate feeds and inclusion of mineral mixture in the feed exclusively prepared for sheep. The study has suggested that suitable strategies have to be evolved to reduce lamb mortality and conduct of awareness programme among the sheep farmers about the importance of concentrate feed to sheep and this could lead to reduced lamb mortality and thereby increase in farmers' income to ensure food security and sustain livelihood of resource poor.

Keywords: Constraints, Food Security, Lamb Mortality, Sheep Farming

Introduction

The sheep rearing is an important livelihood activity for resource poor. Apart from providing regular income, they act as an asset which could easily be converted into cash. Many rural families plan their yearly financial activity such as meeting out the educational expenses and marriages, etc., through selling the lambs especially at the time of failure of agriculture due to drought. Sheep rearing also sustain and supplement the rural households. The skill and resource requirements are minimal. Further, being traditionally women centric activity, they empower women on various dimensions besides improving the family food security and quality of life. Sheep provides dependable source of income to the farmers in the form of mutton, wool and sale of animals thus providing stable economic environment to the farmers.

But sheep farming is threatened by number of viral diseases of which Bluetongue is the most important and frequent incidence of lamb mortality in the farmers' field also causes huge economic loss to farmers. Keeping these facts in mind, a study was conducted in Tirunelveli district of Tamil Nadu during the year of 2019 under TANUVAS Sub-project on "Economic Implications of Bluetongue Disease in Sheep" with the objectives to study the gender dimension and the constraints perceived by the sheep farmers.

Materials and Methods

The study was conducted in Tirunelveli district of Tamil Nadu in which a multi stage random sampling technique was followed to select the respondents. Accordingly, six blocks were identified from district; from each block 4 villages were selected and from each village 5 farmers were selected randomly to constitute a sample size of 120. A cross-sectional survey of sheep farmers was conducted to assess the nature, extent and impact of disease across randomly selected respondents. Interview schedule was constructed, pretested and applied to collect information on flock size and structure, source of income and costs, disease outbreaks and constraints perceived by farmers. The collected data were tabulated and analyzed statistically.

Results and Discussion

I. Demographic Characteristics of Respondents

From this study, the mean age of respondents was 52.1 years (ranging from 20 to 85 years). The majority (68.33%) of respondents were adults within the age bracket of 41 – 60 years. Farming is considered as an alternative for people retiring from their jobs and that the young and active people migrate to urban areas to seek better opportunities, are actively involved in other agricultural enterprises or do not consider farming as a potential business. Men (81.67%) owned more livestock as compared to women (18.33%). The lower proportion of female farmers could be due to the inability to get their own farmland as head of a family if they are not married. In addition to this, there are other responsibilities for women that may not be associated with livestock production such as household duties (Musemwa *et al.*, 2010; Fayemi and Muchenje, 2013). The mean family size was 6.2 members / household. This finding was similar to that reported by FAO (2010) where the average family size in Vietnam was between 4.0 and 5.2. In general, difference in family size may be attributed to the low level of awareness in family planning in the rural areas.

The results also showed that 40.8, 22.5, 20.0, and 6.7% had primary, secondary, senior secondary and higher secondary education, respectively, whereas the remaining 12% of the respondents had no formal education. The high proportion of farmers having primary education is a good indicator of the potential of these farmers to be exposed to new and more advanced management and production programs; for example, record keeping which is of paramount importance for decision making in farming industry.

II. Constraints Perceived by Farmers

The perceptions of farmers on the constraints associated with sheep production are shown in Table 3. The results show that lamb mortality (27 %), shortage of feed (21.25%), high prevalence of diseases and parasites (18.75%), organized market access (15.00%), high cost of drugs/vaccines (11.75%) and stock theft (6.25%) were among the major challenges facing sheep farmers in the study area in that order.

Table 1: Demographic characteristics of respondents (n=120)

S. No.	Item	f	%	
1	Gender	Male	98	81.67
		Female	22	18.33
2	Age (Year)	< 40	23	19.17
		41 – 60	82	68.33
		> 61	15	12.5
3	Household Size	< 5	32	26.67
		6-10	75	62.5
		> 11	13	10.83
4	Education	Primary	49	40.8
		Secondary	27	22.5
		Senior Secondary	24	20
		Higher Secondary	8	6.7
		No Formal Education	12	10

Table 2: Major constraints in sheep farming (n= 120)

Constraints	Frequency	Ranking	Percentage
Shortage of feed	85	2	21.25
Diseases and parasites	75	3	18.75
lamb mortality	108	1	27
Organized market access	60	4	15
Stock theft	25	6	6.25
High cost of drugs/vaccines	47	5	11.75
Total	400		100

High prevalence of diseases and parasites is a serious constraint on small ruminant production particularly in more humid areas. High incident of diseases might cause high mortality among lambs and leads to low reproduction performance. Farmers ranked lamb mortality and diseases & parasites as major constraints to sheep production in the study area. The reasons for high prevalence of diseases and parasites might be due to high cost of drugs, long distance to health care centers and visibility of animal health advisors. These findings are in agreement with Githiori *et al.* (2006) and Mapiliyao *et al.* (2012) in sheep. Contrary to our findings, a study conducted by Belay *et al.* (2013) at Ginchi Watershed area ranked diseases and parasite as second. Shortage of feed was ranked second and this could be attributed by high livestock number, prolonged drought seasons and construction of homestead in grazing areas due to increasing human population. The findings confirm the assertions made by Mutibvu *et al.* (2012), Ben and Smith (2008) and Harding *et al.* (2007) that the major problems of sheep and cattle rearing include among other things, the shortage of feed.

The fifth ranked constraint as perceived by the farmers was high cost of drugs. High costs of drugs/vaccines are the major causes for lower adoption of these practices which results in high mortality rate among sheep producers under small-scale production system. Stock theft as a key challenge for sheep production was least ranked by the respondents. High stock theft may be caused by high unemployment rate and quick cash yield. This is similar to the findings of Kabore *et al.* (2011) and Mashala (2013) for livestock.

Conclusion

Results of the study showed that lamb mortality, diseases, shortage of feed, high cost of drugs/vaccines, stock theft, visibility of animal health technicians were the major constraints limiting sheep production. Hence, the study has suggested that suitable strategies have to be evolved to reduce lamb mortality and conduct awareness programme among the sheep farmers about importance of concentrate feed to sheep. These measures would reduce lamb mortality and thereby augmenting farmers' income to ensure food security and in turn sustains the livelihood for the resource poor sheep farmers.

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Conflict of Interests

There is no conflict of interest.

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