

Migratory Sheep Farming Practices in Cauvery Delta Zone in Tamil Nadu

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ABSTRACT

Migratory sheep, due to its movement, poses threat of spreading diseases among small ruminants. Considering this, the study was carried out to identify the focus area of extension intervention among the migratory sheep farmers to disseminate scientifically recommended practices which minimize disease risk and enhance flock health. The study was conducted following ex post fact research design at Venganur village, Cuddalore district, Tamil Nadu. Using a semi-structured interview schedule, data were personally collected from 30 migratory sheep farmers who were selected purposively. The findings were subjected to focussed group interview involving seven farmers. The results envisaged a wider difference among the farmers from 100 per cent non-adoption of balanced ration to 100.00 per cent adoption of deworming. Therefore, extension interventions need to be intensified to educate the farmers on technologies which help in disease prevention and control.

Keywords: Flock health, Migratory sheep farming, Recommended farming practices.

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INTRODUCTION

Sheep farming offers diversification opportunities in gaining economic and nutritional benefits for small and limited-resource farmers. Such benefits are adversely affected by small ruminant diseases. For an instance, Peste des Petits ruminants (PPR), a notifiable sheep and goat disease threatens more than 68 per cent of world's small ruminant population (Bardhan *et al.*, 2017). PPR is considered as one of the main constraints in improving the productivity of small ruminants in developing countries and causes heavy economic loss (Thakor *et al.*, 2016). Small ruminants reared in pastoral or nomadic system has high risk for diseases (Sakhare *et al.*, 2019). It poses risk of disease spread from animal to animal. Therefore, management practices followed during migration plays a major role. Furthermore, extension interventions need to be intensified to eradicate small ruminant diseases such as PPR (Chander, 2018). Keeping these in view, the study was carried out with an objective to identify the focus area of extension intervention in educating migratory sheep farmers on scientifically recommended practices.

MATERIALS AND METHODS

Ex-post facto research design was followed to carry out the study in Venganur village located in Mangalur Block, Cuddalore district, Tamil Nadu state. Venganur is an *en-route* village in sheep migratory route preferred by migratory sheep farmers who mostly depend on Cauvery delta zone for sheep grazing. To accomplish the objective of the study, recommended farming practices were identified. Based upon this, a semi-structured open-ended personal interview schedule on practices adopted during migration was

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developed for data collection. The response about practices adopted during migration were collected and categorized under on awareness (Aw), non-adoption (NA), symbolic adoption (SA), adoption (A), partial adoption (PA), over-adoption (OA) and discontinued (D), rejected (R), introduced (I) and reintroduced (RI) practices.

Thirty migratory sheep farmers who were migrating with sheep in Mangalur block during the study period were purposively selected for data collection. The findings of the personal interview were taken as the problem area

for conducting focussed group interview involving seven migratory farmers to understand the participants' viewpoints and cross-check the findings drawn from individual interview.

RESULTS AND DISCUSSION

Table 1 gives an overall view about migratory sheep farming in Cauvery delta zone in Tamil Nadu.

Table 2 shows the practices adopted during migration of sheep flock by the farmers.

a. General and nutritional management practices

In the migratory flocks, recommended practices were adopted to care pregnant animals and young ones, since they were considered as vital to increase the flock size. Available grazing and agricultural land helped the farmers (73.33%) to provide adequate space during night shelter, but made difficult to protect their animals during extreme weather. Notably, no farmer adopted balanced nutrition and 70.00 per cent did not maintain records in any form.

b. Disease management practices

Partially adoption of quarantine and isolation practices and willingness showed by farmers to adopt vaccination show the scope of bringing migratory sheep disease control programme particularly PPR Control Programme (PPR-CP) by implementing the PPR Global Control and Eradication Strategy (PPR-GCES) by 2030.

c. Marketing management practices

The farmers concerned on health condition of sheep while increasing the flock size through purchase of sheep from outside sources. None of the farmers sought veterinary advocacy while selling their sheep, since they believed that they knew their animals' health condition.

d. Using extension and advisory services

Half of the farmers did not undergo any training programme and other formal extension programmes and nearly two-thirds (63.33%) did not make office call to the *en-route* veterinary institutions, despite their awareness on availing institutional services. Only 30.00 per cent farmers used social media for receiving information on migratory sheep farming. These imply the scope of extension intervention.

e. Migratory route

An overwhelming 83.33 per cent of the farmers collected information on grazing route from other migratory farmers and local farmers. Comparatively more farmers were partially changed their grazing route (43.33%) than time gap while sharing migration route. Equal proportion of farmers (30.00%) did not allow their animals to mingle with sedentary sheep and goats.

f. Disposal of dead animals or aborted foetus

Farmers were more concerned on disposing dead animals and aborted foetuses. Such materials were disposed properly by majority of the farmers (70.00%).

g. Animal insurance

None of the farmers insured their animals. Notably, 40.00 per cent farmers in symbolic adoption stage reveals the scope for disseminating insurance among farmers.

Reasons for varied or lesser adoption of practices by migratory sheep farmers

The focused group interview revealed following as the reasons for their varied adoption level on recommended sheep farming practices during migration.

a. General and nutritional management practices

- Adequate space during night shelter in agricultural land helps in manuring.

Table 1: Details of migratory sheep farming in central part of Tamil Nadu

S.No.	Particulars	Numbers or details
1	Breed maintained	Ramnad white
2	Number sheep per flock	350-400
3	Number of farmers per flock	Three to four including one women farmer
4	Migratory en-route districts	Cuddalore – Mayiladuthurai - Nagapattianm – Thiruvarur - Tanjore – Ariyalur – Perambalur – Cuddalore – Villupuram – Kallakurichi – Tiruvannamalai
5	Period	Every year from January to August
6	Grazing hours	8.00 am - 6.00 pm
7	Radial distance travelled / Migration route in km	650-750 km
8	Number of en-route districts	Eight to eleven
9	Number of en-route villages visited	175-225
10	Average number of stay in each village	2-5 days
11	Number of en-route farmers/farm families interacted	600-700
12	Number of en-route livestock markets	10-14
13	Maximum distance from their home	500-600 km

Migratory sheep farming in Cauvery Delta Zone

Table 2: Practices adopted by migratory sheep farmers during migration (n=30)

S.No.	Practice	Aw	Nad	SA	A	PA	OA	D	R	I	RI
<i>a General and nutritional management practices</i>											
1	Balanced nutrition	4 (13.33)	30 (100.00)	0	0	0	0	0	0	0	0
2	Adequate space during night shelter	30 (100.00)	0	0	22 (73.33)	8 (26.67)	0	0	0	0	0
3	Care on young animals	30 (100.00)	0	0	27 (90.00)	3 (10.00)	0	0	0	0	0
4	Care on pregnant animals	30 (100.00)	0	0	24 (80.00)	3 (10.00)	0	0	0	1 (3.33)	2 (6.67)
5	Protecting animals' extreme weather	30 (100.00)	9 (30.00)	0	13 (43.33)	8 (26.67)	0	0	0	0	0
6	Record-keeping	30 (100.00)	21 (70.00)	2 (6.67)	0	5 (16.67)	0	0	2 (6.67)	0	0
<i>b Disease management practices</i>											
1	Quarantine	30 (100.00)	0	0	11 (36.67)	17 (56.67)	0	0	0	1 (3.33)	1 (3.33)
2	Isolation of animals	30 (100.00)	0	5 (16.67)	0	20 (66.67)	0	3 (10.00)	0	1 (3.33)	1 (3.33)
3	Deworming	30 (100.00)	0	0	30 (100.00)	0	0	0	0	0	0
4	Veterinary service in treating animals	30 (100.00)	3 (10.00)	0	9 (30.00)	7 (23.33)	0	8 (26.67)	0	0	3 (10.00)
5	Vaccinating young animals at four months age	30 (100.00)	0	22 (73.33)	3 (10.00)	5 (16.67)	0	0	0	0	0
6	Recommended revaccination	30 (100.00)	0	22 (73.33)	4 (13.33)	4 (13.33)	0	0	0	0	0
<i>c Marketing management</i>											
1	Seeking veterinary service for selling animals	30 (100.00)	30 (100.00)	0	0	0	0	0	0	0	0
2	Seeking veterinary service for purchasing animals	30 (100.00)	23 (76.67)	0	0	7 (23.33)	0	0	0	0	2 (6.67)
<i>d Using extension and advisory services (EAS)</i>											
1	Attending training/extension programmes	24 (80.00)	15 (50.00)	9 (30.00)	0	0	0	0	0	0	0
2	Making office call at en-route veterinary service providing centre	30 (100.00)	19 (63.33)	6 (20.00)	3 (10.00)	2 (6.67)	0	0	0	0	0
3	Using social media	25 (83.33)	12 (40.00)	1 (3.33)	9 (30.00)	3 (10.00)	0	0	0	0	0
<i>e Managing migration route</i>											
1	Information on grazing route from other migratory farmers and local farmers	30 (100.00)	0	0	25 (83.33)	5 (16.67)	0	0	0	0	0
2	Few days gap between migratory flocks while sharing migration route	30 (100.00)	8 (26.67)	5 (16.67)	0	7 (23.33)	0	6 (20.00)	0	3 (10.00)	1 (3.33)
3	Changing pastoral route during adverse health conditions of animals	30 (100.00)	4 (13.33)	5 (16.67)	6 (20.00)	13 (43.33)	0	0	0	1 (3.33)	1 (3.33)
4	Not allowing animals with sedentary semi-extensive sheep	30 (100.00)	0	7 (23.33)	8 (26.67)	9 (30.00)	0	0	0	3 (10.00)	3 (10.00)
5	Not allowing animals with goats	30 (100.00)	0	11 (36.67)	8 (26.67)	9 (30.00)	0	1 (3.33)	0	0	1 (3.33)
f	Disposal of dead animals or aborted foetus	30 (100.00)	0	0	21 (70.00)	7 (23.33)	0	0	0	1 (3.33)	1 (3.33)
g	Animal insurance	23 (76.67)	11 (36.67)	12 (40.00)	0	0	0	0	0	0	0

Aw-Aware; Nad-Not adopted; SA-Symbolic adoption; A-Adoption; PA-Partial adoption; OA-Over-adoption; D-Discontinued; R-Rejected; I-Introduced; RI-Reintroduced.

Figures in the parentheses indicate percentage to the total.



- Care on young animals and pregnant animals are vital to increase the flock size.
- Treating entire flock as one unit does not necessitate record-keeping.

b. Disease management practices

- Less frequent purchase and constant movement made quarantine difficult.
- Prompt care given on animals does not necessitate isolation of sick animals.
- Observable infection and reduction in animal weight due to worms necessitate deworming.
- Difficult access adversely affects availing veterinary services.
- Vaccination at four months age was considered as very early to vaccinate.
- Farmers prefer to do recommended vaccination by themselves.

c. Marketing management

- Farmers' knowledge on their animals' health condition and purchase of animals from observed flocks were reasons for availing veterinary services less.

d. Using extension and advisory services (EAS)

- Constant movement of farmers and manpower shortage hinder attending extension programmes and office call.
- The trend of using android phones among farmers show the scope of social media.

e. Managing migration route

- Information exchanged on grazing route to save time and avoid unnecessary search.
- Few days gap between migratory flocks while sharing migration route to get and offer help.
- Difficulty in locating an unused, new migration route because of dwindling pasture land and water resource.
- Not allowing animals with goats or sedentary / semi-

extensive sheep due to control imposed by local villagers is also a reason.

f. Disposal of dead animals or aborted foetus is considered as farmers' responsibility.

g. Away from home round the year made difficult to insure animals.

Strategies recommended

- Extended vaccination coverage including migratory sheep
- Digitally connecting farmers and stakeholders
- Migratory route map to avoid intermingling of animals
- Farmers group formation
- Engaging farmers for community surveillance of diseases

The results help to understand focus area of extension intervention to increase the capacity of the migratory farmers on recommended scientific practices.

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