

Research paper**Migration pattern of Desi sheep of Gujarat – a note**

GR Gowane*, LLL Prince, C Paswan, RC Sharma and SMK Naqvi

*Division of Animal Genetics & Breeding, Central Sheep & Wool Research Institute,
Avikanagar-304501 (Rajasthan) India***ABSTRACT**

The study was conducted to understand the migration pattern of the local sheep of Gujarat commonly known as Desi or Patanwadi sheep. It was observed that the flocks of sheep are truly migratory and follow a shuttling pattern of migration depending on the availability of the feed resources and rainfall. Detailed survey and tracking of migratory flocks in Surendranagar district revealed that, Sayla, Muli and Chotila blocks (taluka) harbours a number of villages where Bharwad or Rebari communities are mostly associated with migratory sheep husbandry practices. The sheep shifts from Saurashtra, Kutch and Bhuj region post Diwali to Ahmedabad and surrounding region and at the onset of monsoon again return to the dry region of Saurashtra, Kutch and Bhuj to avoid excess rainfall and to secure grazing resources. Geographical condition, soil make up, rainfall pattern, etc. play a significant role in deciding the migratory route for nomads.

Keywords: Patanwadi sheep, Desi sheep, Migration, Gujarat state***Corresponding author:** gopalgowane@gmail.com

Manuscript received: 06.6.2018; accepted: 30.6.2018

INTRODUCTION

Gujarat is one of the important states of India with respect to biodiversity resources in the country. This region is surrounded by deserts of Rann of Kutch from north, Arabian Sea from west and south, hills of Abu, Danta, Chota Udaipur, Rajpipla and Mathwar from eastern region adjacent to Rajasthan, Madhya-Pradesh and Maharashtra states. The state enjoys the bio-diversity arising out of deserts, hills, plains, forests and coastal areas. Sheep rearing is an important occupation of rural people of Gujarat as it provides gainful employment and income to the economically and socially backward rural masses. *Desi* sheep, also known by the name of Patanwadi, Kutchi, Kathiawari, Vadhiyari and Charotari is found in the coastal plains of the Saurashtra and Kutch regions of Gujarat, and the sandy loamy areas of Patan, Panch Mahals and Mehsana districts of Gujarat (SAPPLPP 2013). *Desi* sheep is bigger in size than the original Patanwadi sheep available in the Patan region of Gujarat. It is managed and reared by traditional shepherds (*Dhangar*) of Rebari and

Bharwar tribes of Gujarat. There are three distinct strains of Patanwadi sheep, - i) non-migratory, red-faced animals with small bodies yielding relatively finer fleece. These are typical Patanwadi and are found in north eastern Saurashtra; ii) the migratory type, with a larger body and long legs, a typical Roman nose and long tubular ears. This variety, which has coarser fleece, is found in western and north eastern Gujarat; iii) the meat type, with a big body, low stature and a coarse fleece, found in the south eastern part of the state around Palitana (Acharya, 1982). Present report primarily reflects the migratory pattern of *Desi* sheep of Gujarat, which falls in second category, as revealed after surveying the migratory tract adopted by shepherds. However, the phenotypic characteristics of the *Desi* sheep revealed that the other features being same to sheep of second category, face colour has little changed from red to tan and black.

Desi sheep is probably evolved through the breeding of local sheep with the migratory sheep en-route of migration. Phenotypic characteristics of this sheep

indicate that it is a cross between Patanwadi sheep (category one) and migratory sheep breeds of Rajasthan. Literary evidences suggest that mixing of breeds might have taken place as shepherds used to migrate from Rajasthan to Gujarat. Each year after the rains, a huge number of shepherds migrate from Rajasthan into regions of greater forage. Their migration lasts 7-10 months on the average and spans distances between 500 and 1000 miles. Broadly speaking, the direction of migration is towards areas bordering Uttar Pradesh, Madhya Pradesh and Gujarat (Rao, 2011). Migration of shepherds from Rajasthan is described by Singh (2012), "Droughts and crop failures are not uncommon and there are frequent historical references to mass migration to neighbouring areas like Malwa, Gujarat and Ajmer." In the detailed migratory route map, Singh (2012) described the route of Rebaris or Raikas with their sheep from western Rajasthan to Gujarat and back. *Desi* sheep, is a heavy, mutton type breed that has high demand amongst the farmers of Gujrat and Rajasthan. In the institutionally managed flock this sheep could attain average body weight of 3.03 kg at birth, 21.04 kg at 3 month and 28.23 kg at 6 month of age based on small data (CSWRI Annual Progress Report, 2009-10). Wool quality although is of rough carpet type, yields more than half kg during first six month clip.

MATERIALS AND METHODS

Desi sheep, being mostly migratory in nature, must not be looked in to region specific entity. Mostly the information regarding whereabouts of flocks is available with the local Veterinarian and thereafter village head and medicine shop owners. Local traders are an easy access for making contact with the shepherds. A survey in the state of Gujarat that included three districts viz. Ahmedabad, Kheda and Surendranagar. Nearly 15 villages in and around these districts were surveyed along with migratory route of nomads. A number of farmers were surveyed for collecting the information. Survey was conducted during the month of August 2013.

RESULTS AND DISCUSSION

It was observed that *Desi* sheep currently dwells as native of Saurashtra region of Gujarat and they migrate to north-eastern region of Gujarat during the

period of scarcity of feeding resources. This is similar to the migratory pattern of most of the *Rebaris* in Rajasthan who have responded to the growing scarcity of grazing resources by adopting a more extended migratory strategy (Singh, 2012). The *Rebaris* have traditionally left their villages during drought-affected parts of the year but returned for the monsoon season (Khera, 2004). A thorough survey and information collected by discussion with shepherds, farmers, village *Sarpanchs* (head of village Panchayat), Veterinary officers, Medical shop owners, meat traders, etc. revealed that Saurashtra and Kutch region that includes mainly, Surendranagar, Kuchchh, Rajkot districts, or in short Kathiawar and Kutchh peninsula, harbours the native tract of the *Desi* sheep. All the shepherd communities who go for migration follow lunar calendar to decide the time and duration of migration, naturally it coincides with the major Indian festivals that help them remember the timings of arrival and departure with accuracy. Pastoralists stay in Saurashtra region from the onset of the monsoon (Month of Shravan) till the festival of *Dipawali* (Month of Kartik). These four months secure the grazing resources availability for their large sheep flocks in this comparatively semi arid and resource poor region. As the monsoon surpasses and winter approaches, the scarcity of resources to feed sheep compels the shepherds to migrate their flocks to relatively resource rich regions such as Ahmedabd, Kheda, Nadiad, Vadodara and nearby cities and villages. In this region, they stay for nearly eight (08) months and after the festival of *Holi* they start planning for migration back to their home tract and by the onset of monsoon, they reach the Saurashtra region.

Detailed survey and tracking of migratory flocks in Surendranagar district revealed that, Sayla, Muli and Chotila blocks (*taluka*) harbours a number of villages where *Bharwad* or *Rebari* communities occupy complete villages and are mostly associated with migratory sheep husbandry practices. The terrain of this region is uneven and has widespread grasses (*Eragrostis*, *Aristida*) in abundance suitable for sheep grazing during 4 months stay. Mostly, the common property resources are vanishing day by

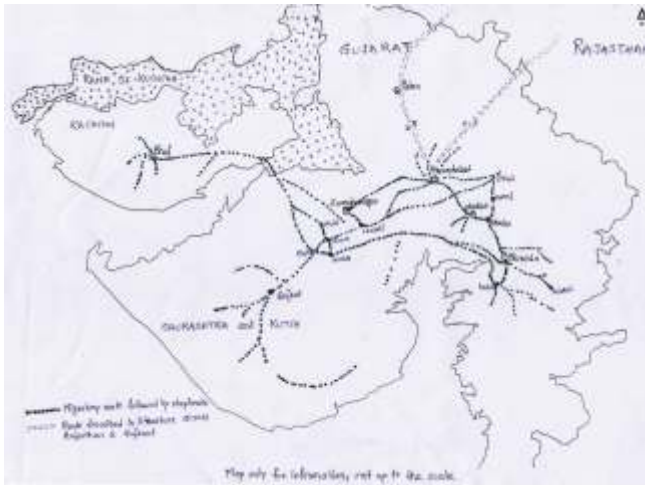


Figure 1: Migratory route map of sheep flocks across Gujarat

day; however, forest lands (abandoned for sheep grazing) are used along with roadside vegetation for grazing. No extra supplementation such as concentrate, green or dry fodder is given to them and sheep travels for a long distance per day. In the Sayla district, we visited villages such as Sudamada, Nathupura, Nadala, Dhandalpur, Sirvaniya, etc. and observed small to large flocks starting from 50 or 100 to more than 500 or so per shepherd. Every village and the shepherds have separate route for migration so as to avoid conflict for resources. Post *Diwali*, shepherds migrate to Karjan, Daboi and other blocks of Baroda, and several places such as Kheda, Mehmedabad, Pithai, Katraj, Kathlal, etc. of Ahmedabad and nearby districts. In this resource rich region, they travel with their sheep flocks with tremendous exchange of resources. Usually, it was heard from the shepherds that they are welcomed in most places and offered food and even in some cases money for allowing their sheep to sit for a night in the open field known as sheep penning, as the sheep manure will fertilise their land. However, this is not the case everywhere; *Rebaris* are more likely seen as a burden in the accommodating areas that results in conflict and violence. Extension of agriculture has narrowed traditional routes (Bharara et al. 1999) and thus the problem of non-accommodation arose. However, it must be looked with great appreciation that these communities have not lost their interest in migratory sheep farming and are still adhered to all the old customs starting from sheep husbandry, to colourful dressing pattern. After travelling for miles

together they travel back to their home tract by the onset of monsoon and reach interiors of Saurashtra, Bhuj and Kutch as it allows them escape from water logging, trap freely available feed resources and avoid competition for resources. The travelled road map as per the surveyed route, collected information and available literature is drawn for more information (Fig. 1). The map suggests possible intermixing of breeds of Rajasthan and Gujarat and also depicts pictorial route of migratory sheep in Gujarat.

Geographical condition, soil make up, rainfall pattern, etc. play a significant role in deciding the migratory route for nomads. Literature reveals that in general, during the period 1978-2008, more than ninety per cent of the districts had more number of years with below average rainfall. Only the districts of Dangs and Narmada had more number of years with above average rainfall as compared to below average rainfall (Hiremath and Shiyani, 2012). This has also probably led to forced migratory lifestyle of Nomads as they are completely dependent and vulnerable to change in climate. In the Kutch region, average rainfall is 322 mm, whereas in the south Gujarat, especially in Dangs it is 2000 mm. The plains receive more rainfall in Gujarat than Kutch and south Saurashtra-Kathiawar region. This is one reason, why shepherds migrate to Kutch and Saurashtra region by the onset of monsoon. Discussion with shepherds and Veterinary officers revealed that shepherds are aware of the problems associated with foot rot and associated diseases and thus do not stay for monsoon in the Ahmedabad and nearby region. Similarly, alluvial plain in the eastern region, especially in the mainland covering Ahmedabad, Vadodara and nearby districts, where river deposits, sandy loam and black soil exists allows for water stagnation. However, in the Kutch, Saurashtra and Kathiawar region the nature of soil is sandy loam, sandy and black. Hilly regions that include small mountains in Saurashtra and Kathiawar region present a favourable tract for sheep in the monsoon season. These factors combined with the availability and scarcity of feeding resources, presence of common property resources and market decides the migratory route and duration of the nomads and

their sheep flocks.

CONCLUSION

Migratory sheep husbandry is diminishing with advances in education and technology and it would be no wonder for the next generation to listen stories about the nomads who travelled for months together along with their sheep for hundreds of miles. Survey revealed existence of strong *Rebari* or *Bharwad* communities in the Saurashtra and Kutch region of Gujarat who are engaged in sheep migration. It was found that they follow a shuttle system of migration from Saurashtra and Kachchh region to plains of central and north Gujarat and back in a year. Mainly this pattern is dependent upon the availability of feed resources, and pattern of rainfall. Social conflicts arise due to shortage of common property resources and thus there is a threat to the existence of nomad culture in the region. A combined approach for detailed survey and information about the livestock and social heritage of nomadic tribes in Gujarat along with directed administrative reforms and provision to stop shrinkage of common property resources may help to stop extinction of real stakeholders of livestock biodiversity in this region.

ACKNOWLEDGEMENT

Authors acknowledge the help and support provided by the Director, CSWRI Avikanagar for carrying out this work. Support provided by Dr. Panchal (Veterinary officer, Kheda Gujarat) and Medical shop owner at Sayla (Mr. Jayantibhai), Village Sarpanch of Andej (Balwantbhai), Dairy secretary, Vatavas (Hemabhai) and all the migratory farmers was of immense help for collecting and compiling the information. Support and help provided by Dr. S. L. Sisodia (Veterinary Officer, CSWRI Avikanagar) and Mr. Ramkhiladi Meena proved much beneficial.

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