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## Socio personal and economic profile of the migratory sheep farmer in arid region of Rajasthan

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### Abstract

A survey was conducted to study the Socio personal and economic profile of the migratory sheep farmer in arid region of Rajasthan. Pastoral migration of sheep in Rajasthan has been a traditional solution to seasonal unavailability of feed and water. For the survey study information was gleaned from 120 farmers, 40 each from Jodhpur, Nagaur and Pali district of Marwar region of Rajasthan were selected by applying simple random sampling technique, who had at least 50 Sheep at the time of investigation. Results of the study revealed that majority (65.00%) of the farmers belonged to middle age group, mostly illiterate (85.00%) and could speak Marwari, Rajasthani and Hindi. In the present study, 38.33% farmers were engaged in sheep rearing and 57.50% in sheep rearing with agriculture having average flock size 142. About 76.67 per cent of the respondents were in medium annual income ( ₹26469-125115) category 15.00 percent in high (> ₹125115) and 8.33 per cent low (< ₹26469) income.

**Keywords:** sheep migration, Socio personal and economic profile

### Introduction

Animal Husbandry is a major economic activity of the rural peoples, especially in the arid and semi-arid regions of the Rajasthan and development of livestock sector has a significant beneficial impact in generating employment and reducing poverty in rural areas. About 10 per cent of GDP of the state is contributed by livestock sector alone. This sector has great potential for rural self-employment at the lowest possible investment per unit. More than 80 per cent of farmers own animals and livestock ownership is much more evenly distributed than that of land. While keeping of large animals (cattle and buffaloes) are usually integrated with agriculture, there are also many specialized animal herders (pastoralists) who have a large number of animals but own little land (Kohler- Rollefson, 1999) [5]. According to 20th Livestock Census, Rajasthan is the 4<sup>th</sup> most leading state in sheep population (7.9 million). Rajasthan contributes about 7.59 per cent of mutton and 35.9 per cent wool produced in the country. Sheep farming is a major occupation of farmers in the arid and semi arid region of India and has become an integral part of their livelihood. It is a movable asset for the resource poor farmer in terms of economics returns and also for liquidity in time of crisis. Sheep in India are raised mainly for lamb, mutton and carpet wool production. Sheep (*Ovis aries*) play an important role in rural economy of Rajasthan by providing gainful employment and source of income to a large number of socially and economically backward sections of society. Sheep constitute an important species of livestock and has special importance in Rajasthan ecology because commercial dairy farming and other cash crops are not economical / feasible particularly in vast arid region. There are eight recognized breeds of sheep available in Rajasthan (Malpura, Marwari, Jaisalmeri, Chokla, Nali, Pugal, Sonadi and Magra) besides huge population of non-descript sheep.

In arid region of Rajasthan sheep farming is a major occupation of farmers and has become an integral part of their livelihood. Sheep rearing is a movable asset for the resource of poor farmers in terms of economics returns and also for liquidity in time of crisis. The profession of sheep rearing has many advantages associated with it such as low input, utilization of family members for labour and diversified income generation from various products and by products. Sheep are the most important small ruminant species of economic value to the small and marginal farmers and landless labourers. However, sheep rearing in Rajasthan is basically a Nomadic pastoralism.

Nomadic pastoralism is critically important to the economy of Rajasthan. Aridity and poor soils, especially in the western districts, where the homes of most migrant shepherds are

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located, make it well-suited to a combination of agriculture and livestock rearing. However, the large number of animals in these districts cannot be supported by existing fodder resources. While part of the fodder deficit in the state is met by importing fodder from the neighboring states of Punjab and Haryana and a significant proportion is met through the migration of animals, especially Sheep (Agrawal, 1992) [1]. Long-distance pastoral migration of sheep and other animals in Rajasthan has been a traditional solution to seasonal unavailability of feed and water in the native region, but it results in a temporal increase in population in certain zones. The migratory sheep flocks follow some well established routes of migration for about 5 to 6 months in a year in search of grazing and water resources. The sheep reared in this traditional way lacking the minimum necessities for proper development and sheep flocks are prone to diseases lead to high mortality.

### Materials and Methods

The study was undertaken in Jodhpur, Nagaur and Pali districts of the Rajasthan. From each selected district, two tehsils namely Jodhpur and Bhopalgarh from Jodhpur district, Nagaur and Khimsar from Nagaur district, Pali and Rohat from Pali district were selected by applying simple random sampling technique. For the present study information was gleaned from 120 farmers, 20 from each selected tehsil, who had at least 50 Sheep at the time of investigation. The variables and their respective measurement are collected through Scheduled developed for this study.

### Results and discussion

The study revealed that majority (65.00%) of the farmers belonged to middle age group (35 - 50 yrs) followed by the category of old age group (>50 yrs) and young (<35 yrs) which accounts for 18.33 per cent and 16.67 per cent, respectively (Table 1.1). It was observed that minimum age was 25 whereas highest age was 65. The age of farmers observed in the present study is similar to the results observed Rajanna *et al.* (2012) [7], who reported 70.31% farmers in middle age (42.69 yrs) group. However, Choudhary (2011) [2] have reported 45.83 per cent respondents were in 35-60 years age group in western part of Rajasthan. This shows an aging population of migratory farmers involved in sheep rearing in Rajasthan and younger generation are not taking this occupation in a big way may be due to hardship faced by the migratory people in the remote routes. Data in Table 1.1 showed that 85.00 per cent of the respondents were illiterate, 10.00 per cent were functionally literate, 2.50 per cent were up to primary level, 2.50 per cent were only middle level, and no one respondent was educated beyond the middle level. All migratory farmers speak Marwari and Rajasthani and most of them can also speak Hindi (84.17%). Only few farmers could read (5.83%) and write (0.83%) the Hindi language. The farmers had no knowledge about English language (Table 1.2). Very low level of literacy is due to most of the farmers are in the higher age group and young literate siblings are either going for other occupation or leaving this occupation. Once a family member comes in to the occupation of migratory sheep management, there is hardly any chance for any formal education in the school. However, during their stay in the native village during non migration period; if informal education and skill of animal management is provided it will definitely help in better management and care of the animals during the migration period. That will improve

their income, living standard and liking for sheep husbandry. It was clear from that majority (60.83%) of the respondents were having medium size family ranging from 4 to 7 members followed by the low sized family size i.e. up to 4 members and high (>7) family size which were 30.00 per cent and 9.17 per cent respectively. Choudhary (2011) [2] and Porwal *et al.* (2006) [6] reported more than 5 members in majority of families. Gurjar (2005) [4] also reported goat keepers possess more than 5 members in a family. The family size of the migratory sheep farmers are within the Indian average family size.

Data in the table 1.3 revealed that 38.33 per cent farmers engaged in Sheep rearing, 57.50 per cent in Sheep rearing with Agriculture and 4.17 per cent in Sheep rearing and work as labour in the vicinity. The occupation of farmers observed in the present study is all most similar to the survey results observed by Rajanna *et al.* (2012) [7], who reported 77.26% farmers have main occupation was Agriculture. In different region of Rajasthan, the occupation is different base on caste and availability of cultivable land and water resources. However, in the present study area majority of the farmers have migratory sheep rearing as major occupation with agriculture as secondary occupation during the rainy season. As there is scarcity of water and fodder due to arid region all these farmers migrate to different sates in a fixed route for managing the sheep during the scarcity period, which depends on quantity of rain fall.

Results of income presented in the table 1.3 indicate that about 76.67 per cent of the respondents were in medium annual income (₹26469-125115) category followed by high (>₹125115) and low (<₹26469) income category comprising of 15.00 per cent and 8.33 per cent respectively. Previous study by Rajanna *et al.* (2012) [7] shown that 85.76% farmers were in medium income group (₹54957-90750 rupees). Thiruvankadan *et al.* (2004) [9] reported that average annual family income was ₹ 19,432±202 in south India. Suresh *et al.*, (2008) [8] conducted a survey in eastern semi-arid zone of Rajasthan by using field level data collected from 107 sheep breeders from Tonk district and reported that average net return per flock was nearly Rs. 25000 per year with average net return per animal of ₹456. These studies give insight that the income from sheep rearing not very profitable, however it give sustenance to the poor farmers as they have no other choice for living in the harsh climatic conditions. However, proper nutritional, reproductive and health management will prove remunerative with support from Govt. and through good marketing channels. Data revealed (Table 1.3) that 42.50 per cent of the respondents were in the category of landless, 1.67 per cent was in marginal category, 10.83 per cent were in small landholding, 20.00 per cent were in semi-medium, 13.33 per cent were in medium category and 11.67 per cent were in large category of landholding. The average land holding in the study area was 3.5 hectares although few farmers were having land up to 25 hectares. However, land holdings are very good, as they have to depend only on rain water for drinking water, agriculture. As agriculture is unpredictable, this forced them to have sheep rearing on migratory route for their sustenance. The total livestock (cattle, sheep, goat, donkey and camel) holding of respondents has been presented in Table 1.4. The overall mean of livestock holding was 160.73 ± 9.33. The overall sheep population of migratory herd was highest (142.28 ± 8.84) followed by goat (15.13 ± 1.14), camel (1.78 ± 0.53), donkey (1.33 ± 0.14) and cattle (0.21 ± 0.07). The average

size of migratory sheep flock in arid zone of Rajasthan was reported 136 by Geerlings (2001) [3]. Rajanna *et al.* (2012) [7] also reported flock size of 113.5 in Telangana region of Andhra Pradesh, which lower than the present study. The lower flock size may be due to regional variation.

**Table 1:** Socio- personal profile of the migratory sheep farmers (N=120)

Variables	Categories	Frequency	Percentage
Age (in years) Range (25-65) Mean (44.58)	Young (<35)	20	16.67
	Middle (35-50)	78	65.00
	Old (>50)	22	18.33
Education	Illiterate	102	85.00
	Functionally Literate	12	10.00
	Primary	3	2.50
	Middle	3	2.50
	Secondary	0	0.00
	Higher Secondary	0	0.00
	Graduate and above	0	0.00
Family size (Numbers) Range (3-11) Mean (5.46)	Low ( $\leq 4$ )	36	30.00
	Medium (4-7)	73	60.83
	High (>7)	11	9.17

**Table 2:** Knowledge of languages of migratory sheep farmers (N=120)

Variables	Categories	Frequency	Percentage
Hindi	Read	7	5.83
	Write	1	0.83
	Speak	101	84.17
	Not known	19	15.83
Rajasthani	Read	0	0.00
	Write	0	0.00
	Speak	120	100.00
	Not known	0	0.00
Marwari	Read	0	0.00
	Write	0	0.00
	Speak	120	100.00
	Not known	0	0.00
English	Read	0	0.00
	Write	0	0.00
	Speak	0	0.00
	Not known	120	100.00

**Table 3:** Socio-economic profile of migratory sheep farmers (N=120)

Variables	Categories	Frequency	Percentage
Occupation	Sheep rearing	46	38.33
	Sheep rearing + Agriculture	69	57.50
	Sheep rearing + Labour	5	4.17
	Sheep rearing + Business	0	0.00
	Sheep rearing + Salaried	0	0.00
Annual income Rupees ('20000-'250000)	Low (<26469)	10	8.33
	Medium (26469-125115)	92	76.67
	High (>125115)	18	15.00
Land holding (ha) Range (0-25) Mean (3.5)	Landless (0)	51	42.50
	Marginal (< 1)	2	1.67
	Small (1-2)	13	10.83
	Semi-medium (2-4)	24	20.00
	Medium(4-10)	16	13.33
	Large (>10)	14	11.67

**Table 4:** Livestock holding size of migratory sheep farmers (N=120)

S. No.	Species	Range	Mean $\pm$ S E
1	Cattle	0-6	0.21 $\pm$ 0.07
2	Sheep	50-515	142.28 $\pm$ 8.84
3	Goat	0-100	15.13 $\pm$ 1.14
4	Donkey	0-10	1.33 $\pm$ 0.14
5	Camel	0-50	1.78 $\pm$ 0.53
6	Total	55-533	160.73 $\pm$ 9.33

## Conclusion

From the above study, it may be concluded that majority of the farmers belonged to middle age group, mostly illiterate, speak Marwari and Rajasthani, economically poor, living in joint family, mostly adopted Sheep rearing and agriculture farming system under privileged rural people were involved sheep rearing in arid region of Rajasthan. The farmers were still practicing traditional system of sheep rearing. These studies give insight that the income from sheep rearing not very profitable, however it give sustenance to the poor farmers as they have no other choice for living in the harsh climatic conditions. However, proper nutritional, reproductive and health management will prove remunerative with support from Government and through good marketing channels. Migratory sheep farmer can be targeted towards adoption of recommended scientific management practices through intensive extension education efforts.

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