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Sushila Vishnoi

Ph.D. Student, Department of Agricultural Economics and Management, Rajasthan College of Agriculture, MPUAT, Udaipur, Rajasthan, India

Dr. GL Meena

Associate Professor (Agril. Econ.) Department of Agricultural Economics and Management, Rajasthan College of Agriculture, MPUAT, Udaipur, Rajasthan, India

Dr. Latika Sharma

Head & Associate Professor (Agril. Econ.) Department of Agricultural Economics and Management Rajasthan College of Agriculture, MPUAT, Udaipur, Rajasthan, India

Dr. SS Burrak

Retd. Professor (Agril. Econ.) Department of Agricultural Economics and Management Rajasthan College of Agriculture, MPUAT, Udaipur, Rajasthan, India

Dr. Hari Singh

Associate Professor (Agril. Econ.) Department of Agricultural Economics and Management, Rajasthan College of Agriculture, MPUAT, Udaipur, Rajasthan, India

Corresponding Author

Sushila Vishnoi

Ph.D. Student, Department of Agricultural Economics and Management, Rajasthan College of Agriculture, MPUAT, Udaipur, Rajasthan, India

Prevailing land use pattern adopted by goat keepers across various flock size categories in tribal sub plan area of Rajasthan

Sushila Vishnoi, Dr. GL Meena, Dr. Latika Sharma, Dr. SS Burrak and Dr. Hari Singh

Abstract

The paper discusses the land use pattern adopted by goat keepers across various flock size categories of Rajasthan. A total of 160 respondents were selected for present study. On an average land holding in the study area was 1.31 hectare however, across the categories the land holdings was 0.32, 1.12 and 2.24 hectare for small, medium and large category respectively. Across the categories, farmers allocated land for growing crops and goat rearing the small category farmers allocated about 0.23 and 0.09 hectares land for crops and goat rearing respectively whilst large category farmers allocated about 1.98 hectares for crops and 0.26 hectares for goat rearing respectively. The land utilized for goat shed in study area across the categories reveals that area of the shed increases with flock size for small category farmer utilized of 27.78% and large category farmer 46.16% of the total area. With respect to open area of rearing goat small farmer utilized about 72.22% of the area whereas 70.58% for medium and large farmer 53.84% of the total area. The small category farmer with 27.20 hectare out of this 17.84% of the area under irrigated whilst 82.16% of un-irrigated area. In case of large category farmer owns about 73.59 hectare out of this, 11.34% of the irrigated area and 88.66% un-irrigated area. The medium category farmer possess the highest irrigated area as against of small and large category farmers. Overall out of 147.83 hectare only 25.17 hectare access to irrigation.

Keywords: Land utilized, flock size, land holding

Introduction

According to Birthal and Taneja (2006), roughly 75 percent of the India's landless and marginal farmers rely on livestock, particularly small ruminants, because of their increased socio-economic importance and potential to provide a key source of animal nutrition. Most of India's goats are kept by the rural masses (marginal and small farmers) that possess less than 2 hectares of land (Singh *et al.*, 2018).

Poor people own small ruminant wealth, and farming is done as a way of life rather than for profit. Small ruminants in the country have low production due to poor utilization of indigenous animals' genetic potential, low absorption of available technology, insufficient feed and fodder resources, and inadequate health coverage, among other factors. The productivity of the operational land holding, which is fragmented, generally unirrigated, less fertile, and tiny plots of desert soil, falls far short of the minimum need for generating income from agriculture. The farmers must engage in supplementary employment and production activities to fill this gap. Goat rearing is an obvious solution for this; especially in low-rainfall places and hill regions with sufficient pasture land (especially top feeds) in common property resources on behalf of local governments in rural areas. The country has a tremendous genetic endowment, as evidenced by the fact that there are 20 different goat breeds (Acharya, 1982 & Tantia and Vij, 2000). Jamunapari, Beetle Jakharana, and Sirohi are huge breeds from the northwestern region that produce a fair amount of milk

Methodology

Depending upon number of tehsils in each of two districts, Gogunda and Mavli tehsils were selected from Udaipur district likewise Gangrar and Kalpasen tehsils from Chittorgarh district, was selected on the basis of maximum number of goat population.

Selection of Villages

Out of four selected tehsils, two villages from each tehsil were selected on the basis of

maximum number of goat population. The kukarakhera and madri villages from Gogunda tehsil and Khembar and Sindhu villages from Mavli. Whilst, Bhatwerakalan and Jawasiya from Gangrar and Kankarwa and Mugana from Kapasen tehsil. Thus, a total of eight villages spread over two districts were taken for final selection of sample household.

Selection of Households

A complete list of the entire goat rearing households (having

at least five does) in the selected villages was prepared. Sample 20 households from each selected village was taken. The total 160 households were selected for the study. Further, all selected households was classified into three flock size categories *viz.*, small, medium and large on the basis of does owned by the goat keepers using cumulative frequency square root method.

Analysis and Discussion

Table 1: Prevailing land use pattern in the study area across the categories

Flock size category	Average Land Holding	Crops	Goat Rearing (In Hectares)
Small	0.32	0.23	0.09
Medium	1.12	0.95	0.17
Large	2.24	1.98	0.26
Overall	1.31	1.15	0.19

The prevailing land use pattern in the study area across the category was depicted in the table 1. The average land holding was 0.32, 1.12 and 2.24 hectare for small, medium and large category and with overall category 1.31 hectare in the study area. This implies that as land holding increases with flock size. Across the categories, the small category farmers allocated about 0.23 and 0.09 hectares land for crops and goat rearing respectively whilst large category farmers allocated about 1.98 hectares for crops and 0.26 hectares for

goat rearing respectively. As the flock size increases the allocation of land area and goat rearing also increases growing crops also increases with flock size category.

The small category farmer allocated land for goat rearing of about 0.09 ha and cropped area of 0.23 ha whilst large category farmer allocated with 1.15 ha and goat rearing of about 0.19 ha implies that area allocation for crops and goat farming increases with flock size. This is mainly because larger area required for rearing goats.

Table 2: Land utilized for goat shed in the study area across categories

Goat shed	Small	Medium	Large	Overall (In hectare)
Area of shed	0.025 (27.78)	0.05 (29.42)	0.12 (46.16)	0.065 (34.22)
Open area	0.065 (72.22)	0.12 (70.58)	0.14 (53.84)	0.108 (65.78)
Total area	0.090	0.17	0.26	0.19

Figures in parentheses indicates percentage of total area

The land utilized for goat shed in the study area across the categories was depicted in the table 2. The findings reveals that area of the shed increases with flock size for small category farmer utilized of 27.78% and large category farmer 46.16% of the total area. With respect to open area of rearing goat small farmer utilized about 72.22% of the area whereas 70.58% for medium and large farmer 53.84% of the total area. The findings reveals that small category farmer prefers open area in rearing the goat mainly due poor financial conditions and high initial amount. In overall the farmers rears the goat under shed (34.22%) and in open conditions (65.78%).

Table 3: Details of irrigated and un-irrigated area in the study area

Particular	Small	Medium	Large	Overall
Area	27.20	47.04	73.59	147.83
Irrigated	4.85 (17.84)	11.98 (25.46)	8.34 (11.34)	25.17 (17.03)
Un-irrigated	22.35 (82.16)	35.06 (74.54)	65.25 (88.66)	122.66 (82.97)

Figures in parentheses indicates percentage of total area

The irrigation sources in the study area across the categories depicted in the table 3. The small category farmer with 27.20 hectare out of this 17.84% of the area under irrigated whilst 82.16% of un-irrigated area. In case of large category farmer possess about 73.59 hectare out of this, 11.34% of the irrigated area and 88.66% un-irrigated area. The medium category farmer possess the highest irrigated area as against

of small and large category farmers. In sum, the un-irrigated area is relatively higher than irrigated area in the study area. At category wise, the area under irrigation was less as compared to un-irrigated area in all the categories due to study area lack of irrigation facilities in the region. In overall out of 147.83 hectare only 25.17 hectare access to irrigation because of bore well facilities. This clearly implies that provides the irrigation facilities in the study area enables for sustainable goat farming in turn improves livelihood of the tribal people who area depends on goat farming.

Conclusion

1. Across the categories, farmers allocated land for growing crops and goat rearing the small category farmers allocated about 0.23 and 0.09 hectares land for crops and goat rearing respectively whilst large category farmers allocated about 1.98 hectares for crops and 0.26 hectares for goat rearing respectively.
2. The land utilized for goat shed in study area across the categories reveals that area of the shed increases with flock size for small category farmer utilized of 27.78% and large category farmer 46.16% of the total area.
3. The small category farmer with 27.20 hectare out of this 17.84% of the area under irrigated whilst 82.16% of un-irrigated area. In case of large category farmer owns about 73.59 hectare out of this, 11.34% of the irrigated area and 88.66% un-irrigated area.
4. The medium category farmer possess the highest irrigated

area as against of small and large category farmers. Overall out of 147.83 hectare only 25.17 hectare access to irrigation.

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