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The Rebaris are a traditional pastoral community in the semi-arid zone of western Rajasthan. Historically, the Rebaris have adapted to local scarcity through migration. These “environmental migrants” cover hundreds and even thousands of miles each year to feed their sheep, goats, and camels. They migrate in large groups, with each camp consisting of adults, children, and hundreds of animals. Unlike other pastoral groups throughout the world who have gradually become more sedentary, the Rebaris continue to migrate with their flocks of sheep in order to adapt to harsh climatic conditions. Despite the arid conditions and unpredictable grazing resources in western Rajasthan, herd populations have increased. In recent years, the Rebaris have expanded their range, migrating to more distant regions such as Haryana, the Punjab, and even Andhra Pradesh, almost 1,000 miles from Rajasthan. On occasion they have remained away from their homes for the entire year. This paper argues that a broader view of environmental migration is needed in order to understand the relationship between increasing herd sizes and shrinking grazing resources. My research suggests that environmental migration in western Rajasthan, once viewed as a response to drought and famine, has also developed into a planned livelihood strategy.

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Vipul Singh

In general, the focus of migration studies has been on establishing the bases of migration. The uneven ratio of population and resource access is usually pointed to as the main driver of migration, variously understood in terms of opportunity or income.¹ However, recent studies argue that environmental change may be more fundamental to the acceleration of migration today. The concept of “environmental refugees,” pioneered by El-Hinnawi and extended by many others, has been particularly important to

new environmental approaches to migration. Here, environmental refugees are defined as those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a noticeable environmental disruption that threatens their existence and seriously affects the quality of their life.² This perspective underlines the fact that environmental change is unevenly experienced. For instance, in harsh climates, the consequences of rapid land-use changes are particularly severe among poor pastoral communities whose production system is totally dependent on natural cycles. Migration for them can be a short-term or long-term livelihood strategy to cope with environmental as well as economic change.

Much of this new scholarship, however, has failed to adequately distinguish environmental refugees from “voluntary migrants.” For both migrants and refugees, environmental degradation remains the prime driving factor. But what about those who, responding to local conditions, leave their villages only temporarily? Can we consider them “environmental migrants”? Definitely not. They are more akin to nomadic pastoralists. Micro-studies of certain regions in India can help us understand how and when such mobile or nomadic pastoralism turns into migration. In contrast to the sedentarization of

¹ See, for instance, E.G. Ravenstein, “The Laws of Migration,” in *Journal of Royal Statistical Society*, 52, 2, 1889, pp. 241-301; S.A. Stouffer, “Intervening Opportunities: A Theory Relating to Migration and Distance,” in *American Sociological Review*, 5, 6, 1940, p. 346; E.S. Lee, “A Theory of Migration,” in *Demography*, 3, 1, 1966, pp. 47-57; M.P. Todaro, “A Model of Labour Migration and Urban Unemployment in Less Developed Countries,” in *American Economic Review*, 59, 1, 1969, pp. 138-48.

² E. El-Hinnawi, *Environmental Refugees*, United Nations Environmental Programme, Nairobi, Kenya, 1985. Also see A.H. Westing, “Environmental Refugees: A Growing Category of Displaced Persons,” in *Environmental Conservation* 19, 1992, pp. 201-7; A. Suhrke, “Pressure Points: Environmental Degradation, Migration and Conflict,” 1993. Retrieved from http://www.cmi.no/publications/1993%5Cpressure_points.pdf on 15 April 2011; G. Hugo, “Environmental Concerns and International Migration,” in *International Migration Review* 30, 1996, pp. 105-31; R. Ramlogan, “Environmental Refugees: A Review,” in *Environmental Conservation* 23, 1996, pp. 81-88; S. O’Lear, “Migration and the Environment: A Review of Recent Literature,” in *Social Science Quarterly* 78, 1997, pp. 608-18.

pastoral herds worldwide over the past several decades, long-distance migration has become an accepted and annual reality in western Rajasthan.³ Contrary to expectation, growing economic prosperity in the region has not been accompanied by a decrease in migration but rather the opposite, as long-distance pastoral migration has sharply increased in recent years.

My research suggests that environmental migration in western Rajasthan, once viewed as a response to drought and famine, has also developed into a planned livelihood strategy.⁴ Based on fieldwork in the villages of Barmer, Bikaner, Jaisalmer, Jodhpur and Pali, I have observed a massive movement of the Rebari pastoralists and their animals to places outside Rajasthan. While one of the prime factors behind long-distance migration (usually for nine months or longer) has been the long dry season leading to severe shortages of fodder, this paper attempts to identify other possible dynamics of migration and the subsequent social conflicts they precipitate. In order to determine under what conditions migration and social conflicts develop, we need to address several key questions: Are these migrations environmentally driven as an adaptive and planned livelihood strategy? Why and how do such migrations result in conflicts? Are the conflicts due to resistance from permanent settlers against the migratory movements of the Rebaris and their herds? And, finally, what tactics do the migrants adopt to overcome these challenges?

³ See P.C. Salzman, *When Nomads Settle: Processes of Sedentarization as Adaptation and Response*, Praeger, New York 1980, for the situation worldwide. For the scenario in western Rajasthan see P. Robbins, "Nomadization in Rajasthan, India: Migration, Institutions, and Economy," in *Human Ecology*, 26, 1, 1998, pp. 87-112.

⁴ In one of the earliest works on environmental migration in India, R.B. Mandal argued that "migration by choice occurs due to drought and famine." R.B. Mandal, "Spatial Diffusion or Clan Group: A Comparative Study of Population Migration in North Bihar," in *Frontiers in Migration Analysis*, R.B. Mandal (ed.), Concept Publishing Company, New Delhi 1981, p. 172. Whyte similarly contended that long-distance migration from western Rajasthan was not "so acute" and that "migration occurs only during famine years." R.O. Whyte, *The Grassland and Fodder Resources of India*, ICAR, New Delhi 1957.

Methodology and Fieldwork

The present study draws on both primary and secondary sources. Documents from the Rajasthan State Archives (Bikaner), state and district gazetteers, and published Rajasthani literature have been used for the historical analysis. Research data has also been generated through field surveys. Without compromising the historical dimensions of Rebari society, I incorporated ethnographic methods as well. This has allowed me better insights into the routine life of the Rebaris, their migration experiences, their forms of remembrance, and their storytelling.

My research focuses on a cluster of four adjoining villages – Gadana, Chelawas, Ranawas, and Chirpatiyaal – all located in the Pali district of western Rajasthan. They share similar ecological conditions and contain significant numbers of Rebaris who depend primarily on agriculture and pastoralism. I pay particular attention to Gadana, the village *panchayat* (administrative unit).

I conducted fieldwork at Gadana and the surrounding villages during two parts of the year: the dry months of May and June and the wetter months of August and September. My main objective was to conduct household surveys to identify the factors and patterns of migration among local inhabitants: why some household members left, why some stayed, and why long-distance migration has increased in recent years. In the drier months I was able to interview the family members, both male and female, who remained in the villages. During the monsoon months, when green pastures were abundant, I was able to meet and interview Rebaris who had come back after nine or ten months of travel. Some had been away for several years. I was also able to track some migrating Rebaris, visiting their camping sites and conducting interviews, though it was impossible to follow them throughout because of their extensive range – some may travel over the course of many months, reaching areas as far away as Delhi and parts of western Uttar Pradesh, Madhya Pradesh, and Andhra Pradesh.

Ecology of Western Rajasthan

Western Rajasthan is a semi-arid region. The Thar Desert covers a major part of the region, spreading from the western slopes of the Aravali up to Sind. These areas have very little vegetation and are sparsely populated. Livestock rearing and subsistence cultivation predominate, in large part because of the harsh environmental conditions. Average annual rainfall is between 250 and 350 mm. Rainfall failures are common.⁵ Droughts and crop failures are not uncommon and there are frequent historical references to mass migration to neighboring areas like Malwa, Gujarat and Ajmer.⁶ The water tables in western Rajasthan are low, ranging from 60 to 100 meters, and ground water tends to be saline, brackish, and unfit for drinking or irrigation.⁷ The soil is also not particularly suitable for agricultural production; mostly sandy, with some alluvium, it tends to be alkaline, saline, and prone to wind erosion. One of the few forms of vegetation that is able to grow in this area throughout the year is *khejri*. The Luni is the only semi-permanent major river in this area and even it only flows during the rainy season.⁸

The Rebaris, a traditional camel and sheep-herding community,

⁵ *India: Case Study on Desertification*, Luni Development Block, United Nations Conference on Desertification, August-September, Central Arid Zone Research Institute, Jodhpur 1977. Also see L.A. Ramdas, "Monsoon and Rainfall Pattern in Indian Sub-Continent," in *Mountains and Rivers of India*, B.C. Law (ed.), National Committee for Geography, Calcutta 1968, pp. 231-57.

⁶ M. Nainsi, *Marwar-ra-Pargana-ri-Vigat*, N. Singh Bhati (ed.), Vol. I, Rajasthan Archyavidya Pratishthan, Jodhpur 1968, p. 88 ff; Vol. II, Rajasthan Archyavidya Pratishthan, Jodhpur 1969, pp. 66-7 and Appendix 1A p. 368. Also see *Dhola Maru Ra Duha*, M. Singh Gahlot (ed.), Rajasthani Granthagar, Jodhpur 1985, p. 25.

⁷ C. Henderson, "Famines and Droughts in Western Rajasthan: Desert Cultivators and Periodic Resource Stress," in *The Idea of Rajasthan*, Vol. II, K. Schomer, J.L. Erdman, D.O. Lodrick and L.I. Rudolph (eds), Manohar, New Delhi 1994, p. 4.

⁸ V. Singh, "Could Religion Act as a Force for Conservation? Case of a Semi-Arid Zone in India," in *Conservation of Architecture, Urban Areas, Nature and Landscape: Towards a Sustainable Survival of Cultural Landscape*, Vol. II, A. Dolkart, O. M. Al-Gohari, and S. Rab (eds), CSAAR Press, Amman 2011, p. 428.

are the original inhabitants of western Rajasthan. Historically, pastoralism has been an important mode of subsistence for the people of this semi-arid region. Documents from the seventeenth century talk about the thriving pastoral economy.⁹ According to the administrative report of 1883-84, a large sector of the population depended on livestock, reflected in the large number of cattle, camels, sheep, and goats.¹⁰ Grazing taxes, such as the *ghasmari* (tax on livestock other than camels) and *pancharai* (grazing tax on such animals who used to feed on leaves) were important sources of revenue for the pre-modern state.¹¹ The pastoral levies in states like Jodhpur were as high as seven percent in normal years, four percent in drought-affected years.¹² In fact, premodern states maintained a large portion of pasture within the *khalisa* (crown) land in order to increase revenue.¹³ In times of drought and scarcity, states frequently opened forest and other reserved areas for grazing.¹⁴

Rebaris and Their Migration Pattern

The Rebaris, also referred to as *Raikas* in historical sources, are nomadic.¹⁵ In their permanent villages, families live in traditional huts

⁹ Nainsi, *Marwar-ra-Pargana-ri-Vigat* cit., Vol. I, pp. 166-68; Vol. II, pp. 88-98.

¹⁰ H. Singh, *Report Majmui Halat-wa-Intizam Marwar*, Rajasthan Archyavidya Pratishthan, Jodhpur 1885, pp. 11-12.

¹¹ Cf. B.L. Bhadani, *Peasants, Artisans and Entrepreneurs: Economy of Marwar in the Seventeenth Century*, Rawat Publications, Jaipur 1999, p. 108 (notes).

¹² Nainsi, *Marwar-ra-Pargana-ri-Vigat* cit., Vol. I, 1968, pp. 166-68; Vol. II, 1969, 94 ff.

¹³ *Jodhpur Administrative Report*, 1883-84, Jodhpur. *Rent Bigori*, Mehkam Khas, Governemnt of Jodhpur, File n. 4/1, part I, Rajasthan State Archives. Bikaner also talks about the state's right to levy tax on cattle owners.

¹⁴ K.D. Erskine, *Rajputana Gazetteers: The Western Rajputana States Residency and Bikaner*, Vintage Books, Gurgaon 1992 (reprint of 1908 edition), p. 106. Munhta Nainsi has also mentioned at various places in his account that in some villages the land was left fallow after harvest or it was left uncultivated for grazing. See his *Marwar-ra-Pargana-ri-Vigat* cit., Vol. II, pp. 328-44.

¹⁵ The nomadism of the Rebaris is distinct from other nomadic communities of western Rajasthan as they follow purely pastoral nomadism. They are concerned primarily with finding grazing grounds and adequate drinking water for their cat-

called *jhumpi*, often with a *bara* (cattle-shed) attached.¹⁶ In 1901, the total population of the Rebaris in Marwar (Jodhpur State) was 66,809, roughly three and a half percent of the total population.¹⁷ Since India has not had a caste-based census since 1931, it is difficult to determine the exact population numbers in Rajasthan today. Based on the last available figure of 99,099 and assuming average population growth, a total current population of 350,000 seems reasonable.¹⁸

Since at least medieval times, the Rebaris have been known as experts in camel, sheep and goat-keeping.¹⁹ According to Ibbetson, “they were skilled camel-keepers, which the Muslims were not, and a story goes that once, when camel milk was prescribed for a Jodhpur princess at Akbar’s court, no one could milk a she-camel except a Rahbari.”²⁰ The Rebaris were often employed as caretakers by the ruling kings of various Rajasthan states who used camels extensively in medieval times

tle, goats, sheep or camels. A. Agrawal uses the term “agropastoralists” for them. See A. Agrawal, “Indigenous Decision-Making and Hierarchy in Migrating Pastoralist Collectives: The Raikas of Western India,” in *Nomadism in South Asia*, A. Rao and M.J. Casimir (eds), Oxford University Press, New Delhi 2003, p. 420.

¹⁶ Nainsi mentions in his account that the state charged 15 *duganis* per hut from the Rebaris. M. Nainsi, *Munhta Nainsi Ri khyat*, B.P. Sakaria (ed.), Rajasthan Oriental Research Institute, Jodhpur 1984, Vol. 2, p. 88.

¹⁷ Erskine, *Rajputana Gazetteers* cit., p. 83. It is to be noted that Marwar is one of the largest princely states of Rajputana, located in western Rajasthan, and it had its capital in Jodhpur. In historical literature it is also referred to as Jodhpur state. At present Jodhpur is just one of the districts in the region. The other important district of the region is Pali, which happens to be our main area of fieldwork.

¹⁸ I. Kohler-Rollefson, “From Royal Camel Tenders to Dairywomen: Occupational Changes within the Raikas,” in *Desert, Drought and Development*, R. Hooja and R. Joshi (eds), Rawat Publications, Jaipur, 1999, p. 306.

¹⁹ One of the earliest historical references to the Rebaris comes from *Ain-i-Akbari*, written in the late sixteenth century under the rulership of the Mughal emperor Akbar. A. Fazl, *The Ain-i-Akbari*, H. Blochmann (trans), Aadih Book Depot, Delhi 1965, p. 155. Also see B.L. Gupta, *Trade and Commerce in Rajasthan during the 18th Century*, Jaipur Publishing House, Jaipur 1987, p. 141; A.S. Leese, *A Treatise on the One-humped Camel in Health and Disease*, Haynes and Sons, Stamford 1927, p. 224; and Nainsi, *Marwar-ra-Pargana-ri-Vigat* cit., Vol. II, pp. 88 ff.

²⁰ H.A. Rose, D. Ibbetson, and E. Maclagan, *A Glossary of the Tribes and Castes of the Punjab and North-West Frontier Province: Based on the Census Report of the Punjab, 1883*, Government Printing, Punjab 1914, p. 269.

for both transport and war.²¹ The Rebaris would hire their camels to grain traders and even to revenue collectors to bring “revenue grain” to the state granary.²² They were also known as camel doctors. Bagga Ram from Gadana in Pali district claimed that he and other Rebaris could diagnose the illness of camels from the smell of their urine.

Since wool became a marketable good in the nineteenth century, the Rebaris have largely switched to sheep-rearing.²³ Though many Rebaris have only two or three camels, a few goats and a small flock of sheep, they traditionally take care of the livestock of other castes as well. Salzman has calculated that less than five percent of the village population in Rajasthan owns about fifty percent of the livestock.²⁴

The major districts where the Rebari population is concentrated are Jodhpur, Pali, Sirohi, Barmer, and Jaisalmer, located in western Rajasthan. Since further west and north of this region is pure desert, their natural movement has been traditionally towards the modern bordering states of Gujarat, Madhya Pradesh, Haryana and Uttar Pradesh. Often they travel further south to Andhra Pradesh and Maharashtra. Most of the Rebari groups take four to five months to reach the furthest point of their travels in one or several states, after which they return back to their starting place. Their traditional knowledge about monsoons is highly accurate and enables them to always follow the monsoon track during their return journey. That is why the route taken by them on the return journey is often different

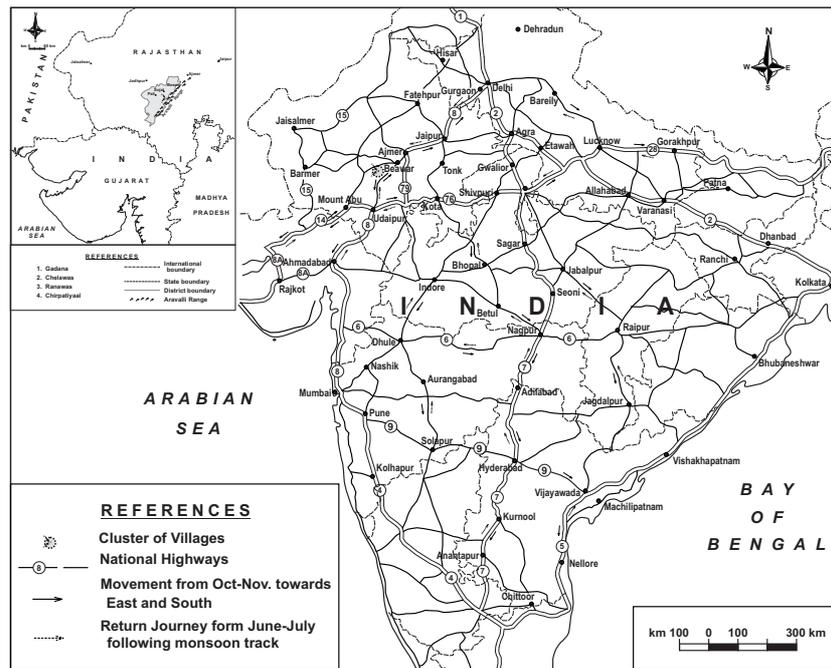
²¹ The Rebaris assert that their ancestor was brought into existence by Mahadeo in order to take care of the first camel which had just been created by Parbati for her amusement. They had two main divisions, Maru and Chalkia. The former deals only in camels and occupies a superior position in that its members can marry the daughters of the Chalkias without giving their own in return. The Chalkias keep large herds of sheep and goats, and their women generally wear brass ornaments. See Erskine, *Rajputana Gazetteers* cit., p. 88. Also see Gupta, *Trade and Commerce in Rajasthan* cit., p. 141.

²² *Qanungo Bahi*, VS 1720 and *Hasal-Pargana-ri-Bahi*, VS 1746, Rajasthan State Archives, Bikaner. Cf. Bhadani, *Peasants, Artisans and Entrepreneurs* cit., p. 308 (notes).

²³ Kohler-Rollefson, *From Royal Camel Tenders to Dairymen* cit., p. 310.

²⁴ P.C. Salzman, “Shrinking Pasture for Rajasthani Pastoralists,” in *Nomadic People*, 2, 1986, pp. 49-61.

Figure 1. Map showing cluster of villages Gadana, Chelawas, Ranawas, Chirpatiyaal of Rebaris and their migration routes



Source: Map designed by Vipul Singh.

from the one taken during the migration outwards. On an average one Rebari group travels a distance of roughly 1,000 kilometers in one migration cycle. These days their herds are composed mainly of sheep, with one or two camels. The camels are used to carry goods, tents, female members of the group, and children. (Figure 1)

Now predominantly sheep breeders, the Rebaris must travel extensively to feed their flocks. However, in western Rajasthan and many other areas, the extent of grazing land has not kept pace with the number of sheep, decreasing from 0.82 ha to 0.40 ha per animal between 1951 and 1991.²⁵ This trend persists today, forcing the Re-

²⁵ L.P. Bharara and Y.N. Mathur, "Common Property Resources: A Case Study

baris to migrate every year, covering hundreds and even thousands of miles to feed their animals. In contrast to other pastoral communities in various arid and semi-arid parts of the world, the Rebaris migrate in order to tackle climatically harsh conditions and also to take advantage of annual variations in rainfall. Unlike other nomadic communities, such as the Gadolia Luhar (who are ironsmiths) or Banjara (involved in transporting trading goods across deserts), the Rebaris are “driven by the needs of their livestock (on which their own livelihood depends) rather than by any service rendered to the community.”²⁶

The lack of rainfall in western Rajasthan means that the geographical distribution of grassland is extremely unpredictable, forcing the herders to travel great distances to feed their animals. In this sense, the Rebaris may be termed “environmental migrants”: scarce environmental resources in their original habitat force them to migrate with their animals on grazing expeditions. Migration is necessary to counter the risks stemming from environmental fluctuations, what Arun Agrawal calls a “naturalized fact.”²⁷

Historically, a major portion of village land was open to grazing after the harvest. Since at least the seventeenth century, sheep, goats, and other livestock have grazed on uncultivated land during the monsoon. At times, the state would appoint someone to ensure that the animals did not enter the cultivated fields.²⁸ Drawing on data from the turn of the century, B.L. Bhadani has estimated that roughly one-fifth of the total land was available for cattle grazing.²⁹ Even today, after the harvest of the *kharif* (summer crop season), animals are allowed

of Grazing Lands and Their Management in the Arid Zone of Rajasthan,” in Hooja, *Desert, Drought and Development cit.*, pp. 331-32.

²⁶ R. Bharucha, *Rajasthan: An Oral History*, Penguin Books, New Delhi 2003, p. 53.

²⁷ A. Agrawal, *Greener Pastures*, Oxford University Press, Delhi 1999, p. 13. Also see id., “The Grass is Greener on the Other Side: A Study of Rebaris, Migrant Pastoralists of Rajasthan,” IIED Paper 36, 1992; and id., *I Don't Need It But You Can't Have It: Politics on the Commons*, Pastoral Development Network Papers 36a, Overseas Development Institute, London 1994, pp. 36-55.

²⁸ Cf. *Hasal-re-pargana-ri-Bahi*, VS 1746, n. 5, Bikaner Bahis, Rajasthan State Archives, Bikaner.

²⁹ Bhadani, *Peasants, Artisans and Entrepreneurs cit.*, p. 83.

to graze on crop stubble.³⁰ Beginning in October, most of the village's non-migratory flocks of the villages graze on these uncultivated areas. On the other hand, the migratory flocks feed on the harvested fields and governmental lands in their migratory tracts.

The state has played a role in shaping migration patterns among the Rebaris. The premodern states used to provide assistance to Rebaris for grazing their animals. Yet even with expanded areas of grazing, the Rebaris were often forced by climatic conditions to migrate to Malwa, Sind, and Uttar Pradesh in search of greener pastures.³¹ More recently, as my own research has shown, the state has favored cultivation over pasturage, providing incentives and resources to farmers in Rebari villages in western Rajasthan while ignoring the population's pastoral needs. This has led to splits within villages, as non-pastoralist villagers have "used environmental conservation as an excuse to close off traditional grazing lands to grazing."³²

In recent years, Rebari migrations have extended to more distant regions, such as the Punjab, even traveling as far as Andhra Pradesh, more than 1,500 kilometers from Rajasthan. While some Rebari families migrate for shorter periods of time, mainly as a response to poor agricultural seasons, most families undertake expeditions lasting eight to nine months. They start their journey in October or November and return home only with the onset of the monsoon rains in July. They will then stay at home for three to four months, tending their herds, before repeating the cycle again. In the village of Gadana, some male members of Rebari households have remained away from their homes for the entire year. Sometimes a family might not return for five or six years and there are even examples of those who have been away for twenty-five years or more. I met Rebari men in the villages of Gadana, Chelawas, and Auwi who could not attend the marriage of their daughters because they did not want to leave their flocks unattended.

³⁰ R.M. Acharya, *Sheep and Goat Breeds of India*, Food and Agriculture Organization of the United Nations, Rome 1982. M. Nainsi mentions that such grounds in the villages were used for grazing. See Nainsi, *Marwar-ra-Pargana-ri-Vigat* cit., Vol. II, p. 328.

³¹ Erskine, *Rajputana Gazetteers* cit., pp.106-7.

³² Agrawal, *Greener Pastures* cit., p. 43.

In sum, Rebari migration seems to be largely determined by push factors operative at the place of origin, such as the reduction of common property resources and environmental degradation. Peasants have begun double-cropping with the support of irrigation and fertilizer assistance from the state, and the land remains under cultivation for the greater part of the year. Lands once grazed by the Rebaris are now off-limits, forcing this pastoral community to migrate farther and for longer periods of time. Earlier research on migration has shown that such mobility allows more efficient use of pastoral resources.³³ The argument is based on the presumption that the pastoral movement takes place in two extreme ecological zones, each with different amounts of net annual biomass production. During a bad monsoon year in one of the zones some of the animals move to the other zone and sustain the sum total of animals. So when there are more “different ecological zones,” the difference in net biomass production is also greater, and thus “greater are the benefits of opportunistic movement across zones.” Agrawal suggests that in regions with erratic rainfall, such as Rajasthan, “this is what the raikas also attempt,” as they tend to derive benefit through mobility by moving their animals “across a series of environments.”³⁴ In drought years, Rebaris have often taken care of the cattle of other high-caste villagers. Those who sent their cattle with them believed that they were as good as lost since not all would be returned to them and some might be sold by the Rebaris on way.³⁵ But this is too simplistic an explanation, at least in the case of the Rebaris (Figure 2).

³³ S. Sanford, *Management of Pastoral Development in the Third World*, Wiley, Chichester 1983, p. 33.

³⁴ Agrawal, *Greener Pastures* cit., p. 12.

³⁵ R. Khera, *Drought Proofing in Rajasthan: Imperatives, Experience and Prospects*, Discussion Paper Series 5, United Nations Development Programme, New Delhi 2004.

Figure 2. A Rebari with his flock of sheep



Source: Photograph taken by Vipul Singh during fieldwork.

Migration as a Livelihood Strategy

Environmental degradation, increasing population pressure on land, changing patterns of resource use, and climatic extremes all appear as major causes of migration in western Rajasthan. However, to understand why this is the case, a broader focus on the development process is needed. In western Rajasthan, expanding commodity production has encroached on lands traditionally used by pastoralists, forcing them to migrate. According to Paul Robbins, “[i]rrigation and cropping has been favored over pastoral development.”³⁶ Enclosures,

³⁶ P. Robbins, “Nomadization in Rajasthan, India: Migration, Institutions, and Economy,” in *Human Ecology*, 26, 1, 1998, p. 99.

too, have reduced the extent of grazing lands, “encouraged by communities with fewer demands for grazing.”³⁷ In this sense, Rajasthan looks a lot like other pastoral societies, particularly in Africa, where state development, combined with rapid demographic and livestock growth, has intensified pressures on grazing resources. In areas suffering from drought and desertification, where the margin for disaster is narrow, such pressures merely accelerate outmigration.³⁸

In Rajasthan, the Rebaris have responded to the growing scarcity of grazing resources by adopting a more extended migratory strategy. As noted above, the Rebaris have traditionally left their villages during drought-affected parts of the year but returned for the monsoon season.³⁹ Now, however, pastoralists are spending more and more time away from their home villages in order to compensate for scarce resources. For them, long-distance migration is better than the alternatives, such as killing herds for food, or eventual displacement to relief camps or urban areas. In short, they have become environmental migrants, choosing to respond proactively in specific ways to a combination of push and pull factors. According to Paul Robbins, the Rebaris’ adaptation is an example of “distress rural outmigration” where the loss of strategic and season-specific resources and lands, rather than just the reduction in total pasture, has the greatest impact on pastoral populations.⁴⁰ (Figure 3)

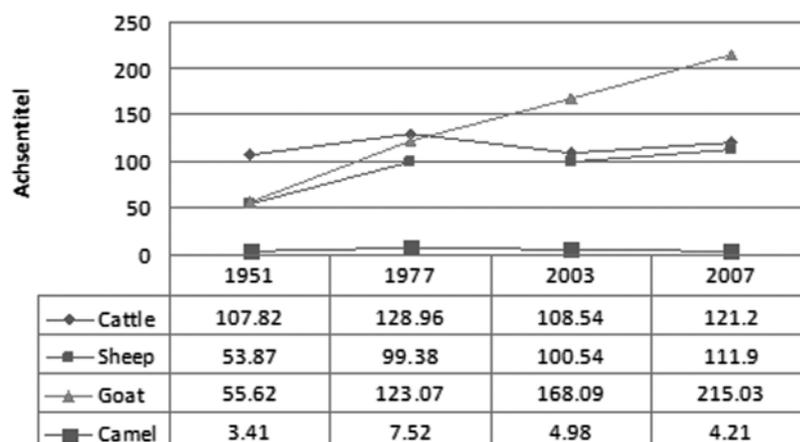
³⁷ Agrawal, *I Don't Need It* cit., pp. 36-55.

³⁸ Suhrke, *Pressure Points* cit., p. 8.

³⁹ Social scientists are nearly unanimous about the fact that the intensity of drought has increased over time, and so has the increase in migration. Reetika Khera, however, suggests that there is not much data available to prove this. See Khera, *Drought Proofing in Rajasthan* cit., p. 5. But social scientists such as V. Sagar and N.S. Jodha are sure that this phenomenon of increased drought leading to migration exists. See Vidya Sagar, “Public Intervention for Poverty Alleviation in Harsh Agro-Climatic Environment: Case of Rajasthan,” in *Economic and Political Weekly*, 14-21 October 1995; and N.S. Jodha, “Drought Management: The Farmers’ Strategies and their Policy Implications,” *Economic and Political Weekly*, 26, 39, 28 September 1991.

⁴⁰ Robbins, *Nomadization in Rajasthan* cit., p. 99. There has been a drift towards management of pasture land by the *gram panchayats* (local level village assemblies), which has its own pitfalls. These gram panchayats have largely been controlled and

Figure 3. Livestock population (1951-2007)



Source: 18th Livestock Census, Department of Animal Husbandry, Government of Rajasthan (2007)

That the Rebaris have turned towards long-term migration as a kind of planned livelihood strategy to deal with conditions of scarcity and encroaching development is reflected in their herd sizes. Despite supposedly diminishing sources of feed and fodder, which one might assume would discourage livestock breeding and therefore pastoral migration, sheep and goat herds in western Rajasthan have increased notably since the 1950s. Today, roughly a third of the total sheep population of India and 43 percent of the total goat population is concentrated in western Rajasthan.⁴¹ The distribution of species has also changed, as goats and especially sheep are favored over cattle, which are considered to be less sturdy and therefore less suited for migration.⁴² In comparison, eastern Rajasthan, which en-

governed by high caste elites of the village. K. Chopra and S.C. Gulati, *Migration, Common Property Resources and Environmental Degradation: Interlinkages in India's Arid and Semi-Arid Regions*, Sage Publication, New Delhi 2001, p. 65.

⁴¹ Acharya, *Sheep and Goat Breeds of India* cit., p. 27.

⁴² Khera, *Drought Proofing in Rajasthan* cit., pp. 5-6.

joys a milder climate and relatively more feed and fodder, has not witnessed the same growth in sheep and goat populations.

The comparison of livestock populations and patterns between eastern and western Rajasthan leads us to an apparent contradiction. The harsher the region, the greater it appears to favor sheep and goat herds, suggesting that the shortage of fodder might not be the only deciding factor behind long-distance migration. A look at the economics of sheep breeding sheds new light on long-distance migration as a livelihood strategy of the Rebaris.

Sheep-breeding normally takes place twice a year: in March and April, when stubble grazing is available to the animals, and again in July and August, after the onset of the monsoon.⁴³ Breeding the sheep twice a year is profitable for the herders, as they are able to sell the wool on the open market. It has been estimated that sheep from western Rajasthan produce more than two-thirds of the total wool produced in India.⁴⁴ Well-suited for the manufacture of carpets, blankets, and apparel, the wool is in high demand. By migrating, the Rebaris not only increase the reproductive potential of their sheep, but also get back a good return on their investment by selling wool and meat. Large and mobile herds have become viable sources of income, particularly since they allow the Rebaris to maximize their returns by cutting out the middlemen.⁴⁵ At the same time, they also maximize reproductive potential by taking advantage of protein-rich grasses alongside agricultural fields at their destination points.

Changing Land Use Patterns and Land Reform

Livestock production in Rajasthan is entirely dependent on crops and grass. Yet changes in land use, especially the conversion of fallow land into arable land with the help of fertilizers and new technologies, have affected the supplies of feed and fodder. There is a huge gap if we compare the estimates of fodder, both current and

⁴³ Goat-breeding takes place throughout the year, but the peak breeding season is August-September.

⁴⁴ Acharya, *Sheep and Goat Breeds of India* cit., p. 12.

⁴⁵ Robbins, *Nomadization in Rajasthan* cit., p. 104.

future, and livestock population, particularly in western Rajasthan. Changes in land-use patterns are not new. Wheat, one of the most popular crops in Marwar in the seventeenth century, had become confined to intensively irrigated fields by the twentieth century. We find a drastic reduction in percentage of wheat cultivation out of the total net cropped area, which dropped from 35-40 percent in 1658 to only 15-20 percent in 1930.⁴⁶ This was most likely because the profitability of intensive wheat cultivation was undermined by high state taxes. Peasants preferred to produce *bajra* (millet) and *jowar* (sorghum), which needed little attention and also allowed them to cultivate the field every year. The production of pulses such as moth beans also decreased substantially during this period.

Changes in land use were a response to the growing revenue or tax demands of the state, but they also had serious environmental and social implications.⁴⁷ In a region where there is limited cultivable land available to the peasantry and only a brief period of rain for planting, peasants have tended to intensively exploit their scarce resources, leading to erosion. Since peasants were under constant pressure they had little choice but to either till the soil or migrate. "Forced plowing" disturbed the dry soils, making them susceptible to wind erosion. Erosion was a very common phenomenon in Rajasthan, and it led to the deterioration of soil fertility, ultimately forcing peasants to expand cultivation to unsuitable and vulnerable lands: wastelands, slopes, village commons, and other marginal areas.

Earlier practices of leaving land fallow to replenish its fertility were gradually abandoned. The entire region of western Rajasthan practiced shifting cultivation for a long time, but during the eighteenth century this practice became less common.⁴⁸ The settlement reports for the arid zone of Marwar in the 1930s also suggest that after three years of cropping, the land was left fallow for the next three years,

⁴⁶ Bhadani, *Peasants, Artisans and Entrepreneurs* cit., pp. 69-70.

⁴⁷ V. Singh, *The Marathas in Rajasthan in the 18th Century: A Study of Socio-economic Relationships*, unpublished PhD thesis, University of Delhi, Delhi 2002, pp. 36 ff.

⁴⁸ Bhadani, *Peasants, Artisans and Entrepreneurs* cit., p. 39.

indicating that this was a common practice in the region.⁴⁹ During the eighteenth century, when pressure of revenue increased due to the frequent Maratha demands, the concept of leaving the land fallow was gradually forgotten, and so the impact on the fertility of the soil was negative.⁵⁰ We have frequent reference to relief provided by the local *thikanedars* before the second half of the eighteenth century, but later on, during the late eighteenth and nineteenth centuries, most of these *thikanedars* began collecting more than the normal revenues.⁵¹ The *pattadars* were asked by the rulers of Marwar to pay a lump sum amount other than regular revenue.⁵² The community had its own way of responding to the situation. They often resorted to handing over cattle to Rebari pastoralists. However, when the situation did not improve and famine occurred, they left the region. In the famine of 1868-69 there was a massive migration of one-and-a-half million people from Marwar. In the famine of 1891-92, nearly 200,000 people migrated to Jodhpur with about 662,000 livestock.⁵³

Cultivation intensified in the twentieth century as peasants turned towards irrigated agriculture and away from the rain-fed farming that had once supported pastoralism through its supply of fodder crops like millet, sorghum, and pulses.⁵⁴ After India's independence and the emergence of a democratic government, peasants became a dominant political force in this part of Rajasthan.⁵⁵ Their large representation

⁴⁹ *Settlement Report: Rent-Rate Report of Pargana Merta, Parbatsar and Sambhar*, Hawala File n. 40/4, (typescript) Part I, Mehkama Khas, Govt. of Jodhpur, Rajasthan State Archives, Bikaner.

⁵⁰ Singh, *The Marathas in Rajasthan* cit., p. 214.

⁵¹ Nainsi, *Marwar-ra Pargana-ri Vigat* cit., Vol. II, p. 88; J.C. Brooke, *Report on the Famine in Rajputana, 1868-70*, Rajasthan State Archives, Bikaner.

⁵² V. Singh, "Ecology and Encounters: The Maratha Demands and its Impact on Land-use Pattern in 18th Century Marwar," in *Resource Conservation and Food Security*, T. Singh (ed.), Concept Publishing Company, Delhi 1994, pp. 648-84.

⁵³ Erskine, *Rajputana Gazetteers* cit., p. 126.

⁵⁴ R. Thomas Rosin, "Locality and Frontier: Securing Livelihood in the Aravalli Zone of Central Rajasthan," in *The Idea of Rajasthan: Explorations in Regional Identity*, K. Schomer, J.L. Erdman, D.O. Lodrick, and L.I. Rudolph (eds), Vol. II, Manohar, New Delhi 2001, pp. 33-37.

⁵⁵ D. Singh, *Land Reforms in Rajasthan*, Planning Commission, Government

in the ruling party helped them formulate and adopt the Rajasthan Tenancy Act of 1955 that allowed the reallocation of land to the same landholders based on long-term tenancy rights of these holders.⁵⁶ This increased the political and economic power of the peasants and forced the government to introduce modern irrigation facilities that, in turn, led to more intensive land use like double-cropping. Lands once grazed by Rebaris have now increasingly come under cultivation, forcing them to wander farther and for longer periods. My interaction with the community revealed an acute sense of abandonment: According to Bagga Ram from Gadana, the “state has preferentially provided cultivators with incentives and resources to expand cultivation, while ignoring the requirements of the pastoralist communities in the region.”

Challenges Facing the Rebaris

As environmental migrants, the Rebaris face many challenges. Most of the time, the Rebaris migrate collectively since they have to travel through densely settled and often hostile environments, with the potential for repeated altercations between herders and cultivators. They are more likely to be seen as a burden in the accommodating areas. Since environmental refugees are wanderers – new to the area and few in numbers – they would normally hardly be a cause of conflict in the receiving areas, at least according to the arguments of Astri Suhrke. Too weak to make demands and too few to be agents of destabilization, they are more likely to become passive victims than a source of conflict. But with increasing migration and growing herds, receiving areas such as Haryana, Madhya Pradesh and western Uttar Pradesh have become centers of endemic tension that periodically erupt in violence. Settled populations in these areas make sure that the Rebaris with their herds do not pass through their area.

of India, New Delhi 1964. Also see R. Thomas Rosin, *Land Reforms and Agrarian Change: Study of Marwar Village from Raj to Swaraj*, Rawat Publications, Jaipur 1987, p. 35 ff.; id., *Locality and Frontier* cit, p. 51.

⁵⁶ For details of the act see S.K. Dutt, *Tenancy Law of Rajasthan*, Western Law Publishers, Jaipur 1979.

Such obstacles to migration are further bolstered by the fact that the extension of agriculture has narrowed traditional routes.⁵⁷ Therefore, contrary to Suhrke's thesis, their movement through a village's cultivable areas often result in a conflict and sometimes even aggravate into civil war.⁵⁸ That is why the Rebaris with their livestock herds and cattle are not always welcome in the villages they move through.

Historical documents refer to villagers inviting the Rebaris to move through the fields with their cattle as it would make the cultivable area more fertile with the dung of the cattle acting as manure.⁵⁹ In one place Munhta Nainsi informs us that livestock were taken to uncultivated fields in neighboring areas in Sanchor.⁶⁰ Today, with annual multiple cropping, villagers do not want any such movement of cattle that might damage their fields, however. Rebaris are often sources of concern and tension among the villagers and the settled population in Gujarat, Haryana, Uttar Pradesh and other adjoining states. There are instances of attacks on the Rebaris when their herds sneak into cropped areas. Police and *nyaya panchayats* (village-level legal authorities) have brought many cases of trespassing against the Rebaris.⁶¹ Fines and bribes account for roughly three percent of their total income during the migration cycle.⁶² Sexual harassment against

⁵⁷ L.P. Bharara, Y.N. Mathur, and W. Khan, "Nomadism and Pastoralism: Socio-Economic Profile, Grazing Systems and Feeding Management in Rajasthan Desert," in Hooja, *Desert, Drought and Development* cit.

⁵⁸ Suhrke, citing the case of pastoralists from the Chadian desert of Sudan, would suggest that when confronted with socio-economic forces of modernization, traditional nomads can resist during the upswing of the conflict cycle, before they are displaced, disempowered or marginalized and become refugees. According to her, migrants generally are too weak to be a threat and that is why large-scale distress migrations generated by drought and desertification in areas like the Sahel (Africa) did not visibly destabilize the receiving areas, nor generate acute social conflict. See Suhrke, *Pressure Points* cit, p. 7.

⁵⁹ Nainsi, *Marwar-ra-Pargana-ri-Vigat* cit., Vol. II, p. 275. Nainsi uses the term *gowalu* for the migrating cattle and the nomads have been mentioned as *gowali*.

⁶⁰ Nainsi, *Marwar-ra-Pargana-ri-Vigat* cit., Vol. II, p. 368.

⁶¹ Bharara, Mathur, and Khan, *Nomadism and Pastoralism* cit., p. 355.

⁶² A. Agrawal, "Mobility and Cooperation among Nomadic Shepherds: The Case of the Raikas," in *Human Ecology*, 21, 3, pp. 261-79.

Rebari women and theft of animals have also become sources of tension and, at times, bloodshed.

The changing agricultural, ecological and industrial settings have had a great impact on the Rebaris, since they need cash to fulfill their daily needs. Their sale of *ghee* (butter from milk) and meat for immediate cash has remained insufficient, and therefore they have found migration a good survival strategy. During the course of the migration itself the Rebaris sell their sheep and goats in order to purchase daily foodstuffs. Roughly 15-20 sheep and goats must be sold each month to support the same number of Rebaris. Inflation has forced them to sell more and more livestock. The information gathered from migrating Rebaris suggest that during one migration cycle a group of 15-20 members sell 150-180 livestock and lose 50-70 due to natural death.

Unlike village peasants, the Rebaris are considered politically insignificant as they do not have the opportunity to vote for political leaders because they are constantly migrating, and are therefore not considered to have any potential to influence local politics. Since these migrants are politically weak and numerically small, they are exposed to misery, exploitation, and death. Even seen historically, the Rebaris did not have the capacity to trigger a conflict. They suffered from low status in the region. According to one source from Sirohi, a noble who had attacked a group of Rebaris in 1939 explained that “the Rebari had insulted him and they had to beat him up. They got to Nala before daybreak, found Rupa Rebari lying asleep and shot him, beat up others, took such jewellery as they had on them, deliberately set fire to the Rebari’s hut and went off in two parties over the range of hills to Rohua.”⁶³ Such was the situation despite the fact that a substantial portion of the state’s revenue came from grazing taxes (specifically on sheep and camels), and the political instability put further pressure on them.⁶⁴

However, as the Rebaris’ use of migration as a livelihood strategy increases, resistance to them from settled populations has turned

⁶³ *Corfield to MacGregor*, Collectorate Office Library, 14.7.39, Sirohi.

⁶⁴ Nainsi, *Marwar-ra-Pargana-ri-Vigat* cit., Vol. I, pp. 166-68. Also see Singh, *Ecology and Encounters* cit., pp. 648-84.

even more violent. In order to avoid attacks, migration routes are chosen after careful consultation and deliberation among the experienced members by the *nambardar* (group leader). They make a rough plan of their route and temporary stays (bases) during migration. Bagga Ram (from Gadana), Pukharamji (from Ranawas), and many other Rebaris informed me that they have been deviating from traditional routes because of the increased resistance they have been facing from the settled population. The Center for Arid Zone Research (CAZRI) has identified five routes in Madhya Pradesh, three routes in Haryana, two routes in Uttar Pradesh and one route in Delhi. In recent years, the Rebaris have started entering Delhi from Haryana and then moving towards western Delhi and to Haryana from other side, instead of crossing over to Uttar Pradesh via southeast Delhi. They follow the modern highways, since the land lying on both sides of the roads is generally common property. They complain that while they still manage to follow the routes of their forefathers, it has become much more difficult.

Despite these severe challenges, the Rebaris have proven to be remarkably resilient. It is generally believed that if individuals constantly meet new people, customary rules and understanding about ethnicity and community are disturbed. But the Rebaris have been able to maintain their family bonds and customs despite their constant movement, and resistance from the local population. This has not been the case in other parts of the world, such as the Sudan. Studies of the *Beja* tribes displaced to the shantytown of Khartoum, for instance, show progressive disintegration of social bonds and customs, and hence the necessary organization to mobilize politically.⁶⁵ In the case of the Rebaris, my fieldwork and interviews have shown that constant movement has strengthened, not weakened, family bonds. A shrinking and threatened community has made them more conscious of their own customs. Their traditional lifestyle has not been altered and their cultural structure has also re-

⁶⁵ O. Bennett (ed.), *Greenwar: Environment and Conflict*, The Panos Institute, London 1991, p. 33.

mained intact. I have observed that during their movement to new areas interaction with other communities is minimal and language acts as one of the major barriers in that respect. Since this community moves in a group, they also carry their *dangs*, or mobile villages, with them.

Conclusion

Among the Rebaris, traditional nomadic pastoralism has evolved into long-distance migration. It is a strategic move by this community. Migration for them is a rationally planned action. It is the result of their growing needs that could not have been fulfilled in their villages. Therefore, they have made a conscious decision after “consideration and calculation of the advantages and disadvantages of moving and staying.”⁶⁶ The more hostile the region, the greater the increase in livestock. Despite facing acute shortages of fodder, the Rebaris have preferred to breed sheep in large numbers. This suggests that the availability of food is not the only deciding factor behind long-distance migration. Since sheep are shorn twice a year and provide a steady source of revenue, migration is seen by the Rebaris as a beneficial livelihood strategy. By migrating, they not only increase the reproductive potential of their sheep, but also get back a good return by selling wool and meat. All this they do at the risk of conflicts in the migration areas. Despite their constant movement to newer areas, the Rebaris have been able to maintain their traditional lifestyle and customs.

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⁶⁶ J.B. Donald, “A Migrant’s Eye View of the Costs and Benefits of Migration to a Metropolis,” in *Internal Migration: A Comparative Perspective*, A. Brown and E. Newberger (eds), Academic Press, New York 1979, p. 168.

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