

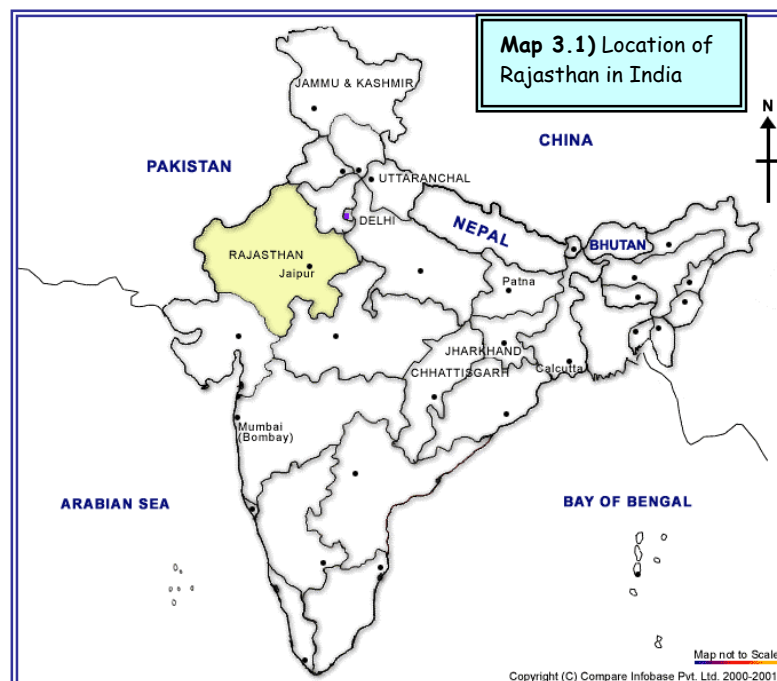
3. Background information on study area

3.1. Rajasthan

Rajasthan is a state in north-western India, see map 3.1. It covers 342,239 square kilometers and is the second largest state in the country. Only Madhya Pradesh is larger. Rajasthan means "the land of the *rajahs* (or kings)". The state has a long border with Pakistan, and contains a large area of desert. It covers 68% of the state's geographical area and represents 61% of the area covered by desert in India.

The state capital is Jaipur. Geographically Rajasthan comprises of two distinct regions divided by the Aravalli range. The Aravalli Range runs from Mount Abu in the south-west to Khetri and beyond in the north-east. They divide the state in half and rise to 5,577 feet (1,700 meters). To the north-west is the Thar desert. This region is arid, sandy, and far less productive than the land to the south-east.

Within the arid and semi-arid part of Rajasthan, annual rainfall varies from 100 mm in the Jaisalmer area in the extreme west to 450 mm at its eastern boundary which is the Aravalli mountain range. Rainfall occurs mostly during the monsoon months from July to September. With 48 persons and 80 heads of livestock per square kilometer, the Great Indian (Thar) Desert was by the 1970's supporting a higher density of human and livestock populations than any physically similar area in the world (Köhler-Rollefson, 1999).



3.2. Animal husbandry in Rajasthan

The rural economy of Rajasthan has traditionally been based on livestock kept on common property resources. More than 80% of farmers own animals and livestock ownership is much more evenly distributed than that of land. While keeping of large animals (cattle and buffaloes) is usually integrated with agriculture, there are also many specialized animal herders (pastoralists) who have a large number of animals but own little land” (Köhler-Rollefson *et al*, 1999). Livestock includes sheep, cattle, goat, buffalo, camel and donkey.

According to the livestock census of 1997, Rajasthan has about 7% of the country's cattle population and contributes over 11% of the total milk production. Rajasthan has about 20% of the country's sheep and goat population of which the sheep contribute 40% of the mutton and 42% of the wool produced in India. 70% of India's camel population can be found in Rajasthan, these camels are an important means of transportation and important draught animals. Raikas own more than 90% of the camels in the area. Less than 10% of these Raika families own camels. Sheep are the second most numerous type of livestock in the state of Rajasthan. Goats are the most numerous type of livestock in Rajasthan. They are kept throughout the state, but their importance is relatively higher in the desert areas.

“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 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, a significant proportion is met through the migration of animals, especially sheep” (Agrawal, 1992).

3.2.1. Raikas

Raika agro-pastoralists are one of several, but perhaps numerically the largest, migrant groups in India. Various estimations place their population at around half a million people. The number may well be higher since migrant populations, because of their mobility, are often underestimated. Within Rajasthan, Raikas dwell primarily in the drier western districts of Jaisalmer, Barmer, Jodhpur, Jalore, Pali and Nagaur. Depending on their access to water and fodder, the amount of cultivable land they possess, the size of their flocks, and the composition of their households, Raikas may migrate for anywhere between three to twelve months a year (Agrawal, 1999).

According to a large number of historical references, the traditional occupation of Rajasthan's Raika community was to take care of the camel breeding herds (*tolas*) belonging to the Maharajahs and other nobility. When the royal camel establishments were dissolved in the

first half of this century, many of the camels passed into ownership of the Raikas who switched to producing camels for the emerging market in draught animals. Lately the camel market for draught camels has been depressed and the severe decrease in grazing areas has turned camel production into a losing venture (Köhler-Rollefson, 1999).

While in the minds of many people, the Raikas are still mostly associated with camel breeding, it is actually only a minority that is active in this occupation. The majority are now specialized sheep breeders who may keep a handful of burden animals, if any. "The raikas are not mentioned in connection with sheep-breeding in early records and the switch to this occupation probably post-dates the middle of the 19th century since prior to this date sheep wool was not a marketable good" (Kumar quoted in Köhler-rollefson, 1999; p 310). The migratory system used by the Raikas can be described as trans-humance since they do have a permanent home to which they return every year. Some of the members of the Raika community take the majority of the flocks away from the permanent settlement. Only small flocks remain in the area of permanent settlement since returns do not outweigh the costs of migration.

3.3. NGO's activities in the research area

Livestock related activities are an important component of NGO activities in Rajasthan. Most of these projects related to cattle and goats, there were no specific activities for sheep. Para-vet training was taken up by many NGOs in Rajasthan, however, the methods of paravet training that are used are in need of improvement. Furthermore NGO's do not place any significant emphasis on the research and revitalization of livestock related indigenous knowledge and institutions, even though Rajasthan has a particularly strong tradition in this respect. In some cases, awareness about the value and even the existence of traditional knowledge is lacking among NGO staff. With one exception, none of the projects concerns itself with the needs of the nomadic pastoralists population. Migratory pastoralists in essence fall through the gaps in the NGO-network (Köhler-Rollefson *et al.*, 1998).

In 1998 Köhler-Rollefson and Rathore made an overview and analyses of NGO strategies for livestock development focussing on western and southern Rajasthan. This study included conversations and discussions with NGO representatives, field visits and talks with beneficiaries, analyses of project proposals and reports, as well as the compilation of background information. Ten NGO's were included in the study. Reading this paper it can be concluded that the reason for the lack of acceptance in regards to the official animal health system is to some extent the inconvenience of having to bring an animal into the hospital. But equally responsible might be the inadequate communication skills, as well as social disparity and distance, between university trained veterinarians and livestock owners. Interactions tend to be awkward with lack of respect on both sides. Adding up to this is the

inability of livestock keepers to cope with commercially produced medicines necessary for diseases which can not be cured by traditional intervention.

3.3.1. Lokhit Pashu-Palak Sansthan and League for Pastoral People

Project activities in the research area go back to a field study conducted in Rajasthan in 1990-1991 (Köhler-Rollefson 1992). This study highlighted that camel breeding communities have difficult access to grazing land and healthcare services for their animals. To address these issues, a series of projects was designed and implemented that built on or complemented each other. The first projects were the Camel Husbandry Improvement Project (1994-95) funded by the German Agency for Cooperation (GTZ). Project holder was the School of Desert Sciences in Jodhpur in collaboration with League for Pastoral People (L.P.P.). Because of difficulties of administrating the project from jodhpur, a new organization was set up with headquarters in Sadri, Pali district. At the end of 1996, it was officially registered as Lokhit Pashu-Palak Sansthan (LPPS). Since then, LPPS and LPP have implemented a number of field projects in Rajasthan (Mathias forthcoming 2001).

After undertaking an action research project documenting the traditional camel breeding system and its bottlenecks, LPP and LPPS are now involved in the promotion of camel milk marketing, breed improvement by providing male camels for breeding, organizing camel health services, researching ethnoveterinary knowledge and raising awareness about the crisis of camel pastoralism among the government and other NGO's. It is currently working together with about 50-60 families. The present research was conducted under auspices of LPPS and LPP and with logistical support of LPPS.

3.4. Research location

The research area is basically formed by the Godwar area of Pali District. Pali district is situated in south-central Rajasthan (see map 3.2. and 3.3.).

Godwar area is composed of Bali and Desuri *tehsils* (administrative subdivisions) that stretch along the edge of the Aravalli Hills. Bordered by Mewar in the south-east and Jalore and Sirohi in the south-west, it is a zone characterized by extreme cultural and ecological diversity. The Raikas are densely distributed in this area and form a significant part of the population. However, Godwar area is also a rather remote area that appears to be outside the zone of other NGO's other than L.P.P. and L.P.P.S. (Köhler-Rollefson, 1997).

