

## Traditional Medicines Derived from Domestic Animals Used by Rebari Community of Rajasthan, India

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### Abstract

This Paper deals with the domestic animals based traditional medicinal knowledge of *Rebari* community of Rajasthan. Field study was conducted with *Rebari* people with the help of semi-structured questionnaire and open interview. 25 *Rebari* people including both sexes provided valuable information regarding uses of domestic animals and their products in local medicinal system and information was obtained, about their conservation too. The results show that there are 15 domestic animals and 2 plant species used in 30 ailments like headache, tuberculosis, paralysis and anal infection. The *Rebari* community has devised rules to ensure the social and ecological sustainability of their livestock but presently, these domestic animals are on verge of extinction due to the shortage of grazing land and loss of their territories. So there is an urgent need to uphold livestock diversity for appropriate medicinal use and to maintain an ecological balance in nature.

**Key words:** *Rebari* community, traditional medicine, livestock conservation, Rajasthan

### Introduction

Since long, humans have always been in intimacy with animal life in their habitats for food, transportation, and medicine through observation and experimentation (Judith, 2005). However, it can be assumed that concern about animal health only originated after the domestication of formerly wild animals species for use in transportation, agriculture, medicine, or as direct food source (Barboza, 2007). So our ancestors started converting wild animals into domestic ones for their benefit throughout the world. In Rajasthan (India), too many traditional animal herders (pastoralist) have large number of domestic animals for their livelihood and they also

depend on them for food, transportation, and medicinal purposes.

The medicinal use of animals and their products for the benefit of humans is termed Zootherapy. The Zootherapy (therapy attended or facilitated by animals) is a therapeutic device that is based on the interaction between animals and the human being (Bradbury, 2001; Costa Neto, 2005). Many ethnic communities have utilized various substances derived from domestic animals like milk, urine, and honey in curing various ailments over the years. In ancient china, substances of animal origin were used by many people for treatment of various diseases (Kremers and Urdang,

1976). In India, nearly 15-20 percent of the Ayurvedic medicines are based on animal derived substances and out of these animals most are domestic (Unnikrisnhan, 1998). The Hindus, in India use blending of five products (milk, dung, curd, urine and ghee) of cow for purification.

Among the 252 essential chemicals that have been selected by the WHO, 8.7% come from animals (Marques, 1997). Mahawar and Jaroli carried out a study among Saharia people of Rajasthan, India and identified 9 domestic animals out of 15 studied used in traditional therapeutic practices (Mahawar and Jaroli, 2007). Barboza carried out a survey in the district of Cubati, Brazil and described 5 domestic animals out of 15 total studied, 62.5% informant provided information about medicinal use of sheep and 37.5% provided information about cattle's for therapeutic practices (Barboza, 2007). Jain also described more than half dozen domestic animals used as traditional medicine by Bhil, Meena and Garasia tribes and also connected this knowledge with biodiversity in Tadgarh-Raoli Wildlife Sanctuary, Rajasthan, India (Jain, 2007). Kakati and Doulo found 7 domestic animal out of total 25 identified animal species for traditional therapeutic practices among Ao tribe of Nagaland, India (Kakati *et al.*, 2006). Padmanabhan and Sujana (2008) in Attappady hills of Western Ghats of Kerala, identified 44 animal species which are used in traditional medicinal system for treatment of various ailments and, approximately a dozen of them are found to be domestic.

Since ancient to present time many domestic animals are used for zootherapeutic practices throughout the world, so their proper conservation and management has turned imperative. However, very little work, in the field of

domestic animal based traditional medicine and their conservation status has been documented in Rajasthan, in spite of its great local value among many other communities. So this work deals with the zootherapeutic uses of domestic animals and their conservation among *Rebari* community.

#### ***Profile of Study area and Rebari community***

There are so many livestock herders communities in Rajasthan but the largest pastoral, agro-pastoralists and migratory community of Rajasthan is the *Rebari*. There are about 500,000 *Rebari* in Rajasthan (Srivastava, 1999) *Rebari* are the traditional caretakers of the camel and sheep herds. They are also known as *Raika* and *Dewasi* in Rajasthan. The *Rebari* community consists of two groups the Maru and Godwar *Rebari* which do not intermarry. Maru *Rebaris* inhabit Jodhpur, Jalore, Barmer and Pali districts, whereas Godwar *Rebaris* are in southern Pali and Sirohi districts of Rajasthan. This study is carried out only in two districts i.e. Jalore and Barmer of Rajasthan.

From socio-culture point of view, the Jalore and Barmer districts exhibit great ethnic and culture diversity. Jalore is located in the Southwest part of Rajasthan. The geographical location of Jalore is 24°48'-25°48'N Latitude to 71°7'-75°5'E Longitude. The total area of the district is 10,640 km<sup>2</sup>, with tropical and half tropical climate as its basic characteristics with 43.4 cm average rainfall. Barmer district is located in the western part of Rajasthan. Its geographical location is 24°58'-26°32' N Latitude to 70°5'-72°52' E Longitude and it forms part of the *Thar* Desert. The total area of the district is 28,387 Km. and

temperature varies between minimum of 9°C to the maximum of 45°C with 27.75 cm average rainfall. Most domestic fauna in study area are cat, here, sparrow, honey bee, cow, sheep, dog, camel and donkey etc. (Figure 1).

*Rebari* people with their herds of sheep and camels start their migration after Diwali festival around the months of October-November and return to their native place on the onset of monsoon in late June or early July. They migrate to other states of India like Harayana, Utter Pradesh, Gujarat, and Madhya Pradesh and travel more than thousand of kilometer in search of grazing area for their livestock. Thus they remain on journey for a period of 8 to 9 months in a year. *Rebari's* herds of camels and sheep are passed down from father to son. Due to pastoral character, annual migration and poverty their children are not able to take even primary education, and are engaged in grazing their livestock. Only 10-15% children of this community get primary education, higher education and girl education being negligible.

The *Rebaris* have a great deal of compassion for their animals, which they consider like their children (NGO/CSO Forum for Food Sovereignty Rome, 2002). The camel is the heart of *Rebaris* and they believe that without camels, there would be no *Raika*. Rajasthan hosts 20-30% of India's sheep and goat population and 70% of camels are also found in Rajasthan. The vast majority of which are kept by the community. The life of a *Rebari* is very simple and fully traditionally owing to outdated customs, not attuned to remain competitive in the current economic scenario of privatization. Most of the *Rebaris* in Rajasthan, with whom this study is concerned, belong to the Maru group.

### Materials and methods

The field study to acquire information about traditional medicine from domestic animals was conducted in Jalore and Barmer districts of Rajasthan in the period from March, 2008 to June, 2008. The study was conducted using semi-structured questionnaires, field notes, and open interview with *Rebari* people. Most of the informants were local residents, farmers, healers, old persons and midwives.

Local informants were interviewed from as many locations as possible. A total of 25 informants including both the sexes within age group of 35 to 65 years were selected, based on their specialized knowledge about Zootherapy, their experience of traditional medicinal practices. They were asked about traditional medicines prescribed for various ailments. They were also asked about the mode of preparation and the mode of prescription of such medicines. They were also discussed about the present status of their livestock and steps taken by them for welfare and conservation of their livestock.

The name of animals and the other information related to this study were documented. Some photographs of *Rebari* people and their life style in that area were taken. Moreover, discussions regarding zootherapeutic practices were also recorded with the help of voice recorder. According to them, their knowledge of traditional medicine was acquired mainly through parental heritage and experience about medicinal value of domestic animals to heal their kin or themselves. They told that it was their moral duty to save their animals because their life is depended upon livestock. The scientific name and species of animals were, identified using relevant and standard literature (Prater, 1996).

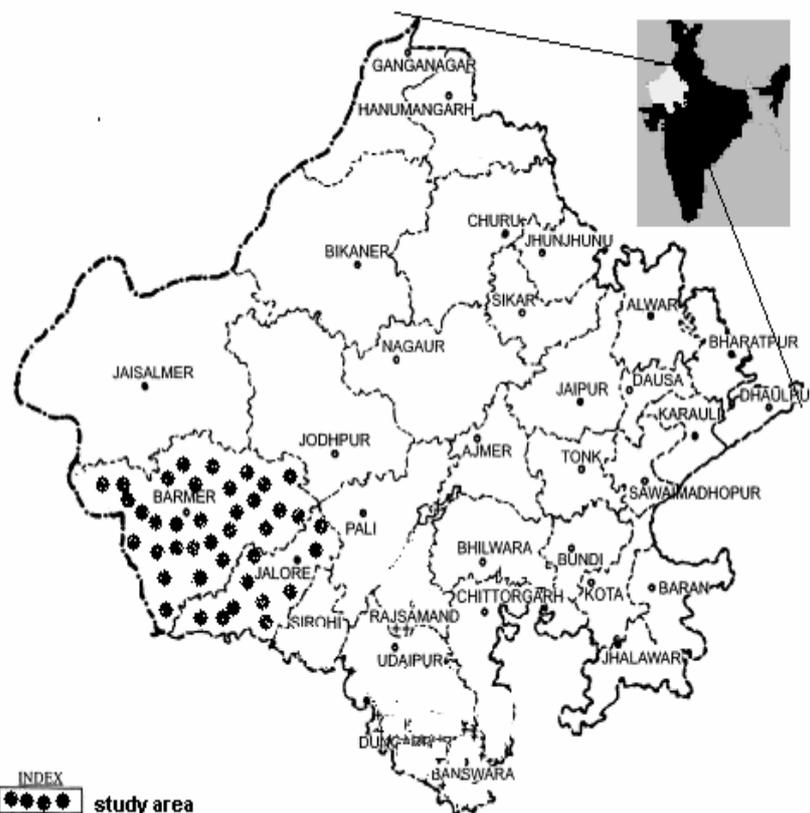


Figure 1. Map of study area

Table 1. List of domestic animals and their products used for traditional medicines by *Rebaris*.

| SN | AG         | CN        | LN        | SN   | PU    | Ailments                                       | Mode of preparation   |
|----|------------|-----------|-----------|--|-------|--|---|
| 1  | Arthropods | Honey bee | Mad-makhi | <i>Apis cerana indica</i><br>(Fabricius)<br>1798 | Honey | Mouth infection and mouth ulcer (oral lesions) | Honey mixed with water and the paste is orally applied.   |
|    |            |           |           |  | Honey | cough  | Equal parts of honey and juice of lemon taken orally.   |
|    |            |           |           |  | Honey | vomiting                                       | The equal solution of rice water (rice boiled in water) and honey is orally taken.                  |
|    |            |           |           |  | Honey | Infection and pain in legs (foot stem disease) | Honey + seed of Brassica +soil, containing slough, are mixed and topically rubbed on legs as cream. |

|   |        |       |       |  |                        |   |  |
|---|--------|-------|-------|--|------------------------|---|--|
|   |        |       |       |  | Honey                  | Infection of respiratory system (cough, asthma)                     | Honey mixed with Soup of Ginger ( <i>Zingiber officinale</i> ) and used orally.  |
|   |        |       |       |  | Curd                   | When glass pieces are Swallowed                                     | Orally Drink   |
|   |        |       |       |  |                        | Dyspepsia ( <i>Ajirn</i> ), cholera ( <i>heja</i> )                 | Semi liquid solution of curd and water is taken orally.                          |
|   |        |       |       |  | Ghee                   | To neutralized the poisonous effect of <i>Dhatura</i> .             | Orally drink   |
|   |        |       |       |  |                        | Hemicranias (pain affecting half of the head)                       | Pure and fresh ghee is applied by nasal at morning and evening for seven days    |
| 2 | Mammal | Cow   | Gai   | <i>Bos taurus</i> (Linnaeus) 1758            | Urine                  | Cough in children   | Urine + sugar, equally mixed and orally drink.                                   |
|   |        |       |       |  | Ghee, curd, milk, dung | Epilepsy ( <i>mirgi</i> )   | Ghee+ milk+ curd+ dung Cook and filtered, used orally                            |
|   |        |       |       |  | Urine                  | To purify Blood and stomach   | Urine, filtered with cloth and filtrate urine drink orally                       |
|   |        |       |       |  | Milk                   | Over bleeding in accident and weakness                              | Solution of turmeric and milk, orally taken at night before sleeping             |
|   |        |       |       |  | Milk                   | Jaundice  | Orally drink   |
| 3 | Mammal | Camel | Uant  | <i>Camelus dromedarius</i> (Linnaeus) 1758   | Milk                   | Liver infection or tumor in liver (not proper functioning of liver) | Milk mixed with flour of jowar ( <i>Sorghum bicolor</i> ) and orally taken.      |
|   |        |       |       |  | Milk                   | Malaria fever   | Drink orally at night  |
|   |        |       |       |  | Milk                   | Eye infection   | Boil the Solution of Milk and black salt, and remaining filtered applied on eye. |
| 4 | Mammal | Goat  | Bakri | <i>Capra aegagrus hircus</i> (Linnaeus) 1758 | Urine                  | Cough, asthma   | Orally taken at morning  |
|   |        |       |       |  | Milk                   | Anal infection  | Mixture of Milk+ honey+ <i>mishri</i> (big crystal of sugar) rubbed on anus.     |
|   |        |       |       |  | Milk                   | Cough   | Boil (milk + salt solution) and remaining used orally in cough                   |
| 5 | Mammal | Sheep | Gader | <i>Ovis aries</i> (Linnaeus) 1758            | Milk                   | In bone facture   | Milk rubbed on affected part.  |

|    |          |                     |                            |   |                               | and barn and muscular pain.    |   |
|----|----------|---------------------|----------------------------|---|-------------------------------|--------------------------------|---|
|    |          |                     |                            |   | Urine                         | Cough (cold)                   | Direct orally drunk   |
| 6  | Mammal   | Horse               | Ghoda                      | <i>Equus caballus</i> (Linnaeus) 1758       | Saliva                        | Sleeplessness problem          | Mixture of Black Pepper ( <i>Piper nigrum</i> ) and Saliva, rubbed on eyes before sleeping.         |
| 7  | Mammal   | Bull                | Khoda (♂)                  | <i>Bos taurus</i> (Linnaeus) 1758           | Head bone                     | Leg infection in buffalo       | Powder of bone mixed with food of buffalo.  |
| 8  | Aves     | Crow                | Kaag                       | <i>Corvus splendens</i> (Vieillot) 1817     | Feces or excreta of dead crow | Tumor on body                  | Feces or excreta rubbed on tumor.   |
| 9  | Mammal   | Pig                 | Bhadura (Non-domesticated) | <i>Sus scrofa domestica</i> (Linnaeus) 1758 | Feces matter                  | Neck tumor                     | Waste (Feces) + seed of braccica, mixed with oil and applied on tumor                               |
| 10 | Mammal   | Female horse (mare) | Ghodi (♀)                  | <i>Equus caballus</i> (Linnaeus) 1758       | Hair                          | Black moles on human body      | Tied the hair of mare around the moles tightly. After some days the moles are automatically broken. |
| 11 | Mammal   | Human               | Minakh                     | <i>Homo sapiens sapiens</i> (Linnaeus) 1758 | Urine                         | Cut on skin (wound)            | Topically used on cut.  |
| 12 | Reptiles | Spiny tailed lizard | Sanda (Non-domesticated)   | <i>Uromastyx hardwickii</i> (Gray) 1827     | Meat (flesh)                  | Muscular pain                  | Flesh Topically rubbed on body  |
| 13 | Aves     | House sparrow       | Chidia                     | <i>Passer domesticus</i> (Linnaeus)         | Feces or excreta              | Bump                           | Directly applied on Bump  |
| 14 | Aves     | Peacock             | Mor                        | <i>Pavo cristatus</i> (Linnaeus) 1758       | Feather                       | Asthma And T.B.                | Crown of feather burned and remaining ash mixed with honey to make paste used orally                |
| 15 | Aves     | Pigeon              | Kabuter                    | <i>Columba livia</i> (Gmelin) 1789          | Feces or excreta              | Dracunculiasis ( <i>naru</i> ) | Excreta mixed with honey and used as tablets  |

AG= Animals group, CN= Common name, LN Local name, SN= Scientific name PU= Parts or products used

## Results

A total of 15 animal species and 2 plant species used by Rebari community of Jalore and Barmer districts of Rajasthan identified for treatment of 26 ailments (Table 1). The table 1 indicate, name of animals species, their parts and products used, disease for which they are prescribed and mode of preparation. The table also shows that the animal resources used by *Rebari* community of Jalore and Barmer district of Rajasthan consists of 13 domestics animals and 2 non-domestic animals out of total 15 animal species used. Some compound medicines which are prepared from mixture of two or more then two animal products or mixture of animals and plants by-products were also found.

These figures indicate that a total of 15 animal species were identified which are used in traditional medicine and out of these, 13 (86.66%) animals are purely domesticated among *Rebari* community. So we can say that *Rebari* community mostly uses domestic animals in traditional medicinal system and these are very familiar with this community. Most of these medicines come from by-products of domestic animals so this practice is harmless for animals. But, the population of domestic animals is decreasing throughout the world including Rajasthan since last few years so their proper conservation has turned essential.

## Discussion

The summarized data in table 1 describe that, there are 15 animal species which are used in traditional medicinal system and out of these, 13 are domestic animals. So *Rebari* community use most of domestic animals to cure of various diseases, because their

migratory life, faith, poverty, lack of education make it very difficult to earn their livelihood and they face many diseases during migration without access to proper hospital facility, so they have only traditional medicines to cure various diseases. *Rebari* use their own system of medication to make plant and animal based medicines which are equally shared by men and women. The study conclude that the *Rebari* community widely use cow, sheep, camel, and honey bee and their products for many disease like cough in child, anal infection, neutralization of poisonous effect, blood purification and jaundice.

*Rebaris* use honey for the treatment of mouth ulcer, mouth infection, and respiratory problem while tribal of Tamilnadu use honey for cough and cold (Ranjith Sing and Padmalatha, 2004; Solavan *et al.*, 2004). Saharia tribe of Rajasthan use honey to cure eye infection (Mahawar and Jaroli, 2007). Honey and wax are used in Israeli traditional medicine (Lev, 2006). The use of honey is also recorded for cough, stomach ache, and urinary disorder (Padmanabhan and Sujana, 2008).

Data summarized in Table 1 also show that *Rebaris* largely use by-products of cow to treatment of so many ailments. Cow urine is used for blood purification and cough in child, Curd is used when glass is eaten; ghee is used to neutralize the effect of poison, a combination of four products (ghee+ curd+ dung+ milk) has been found effective in *mirgi* (Epilepsy). Products of cow are also reported to be used in traditional medicine since earlier times all over the world. Five products of cow are used for purification in India (Unnikrishnan, 1998). Mogya and Bawaria tribes of Rajasthan use cow urine to cure weakness and cancer (Mahawar and

Jaroli, 2006). Besides, use of cow dung has been recorded to cure urticaria in kachchh, Gujarat (Gupta *et al.*, 2003).

*Rebaris* use milk of goat to cure eye infection while urine of this animal is utilized in asthma, T.B., paralysis among Ao and Naga tribes of Nagaland (Jamir and Lal, 2005; Kakati *et al.*, 2006). Bone of legs goat is used in weakness and urine in cough and T.B. by Saharia people of Rajasthan (Mahawar and Jaroli, 2007) while its fat is used to heal wounds in Brazil (Barboza, 2007). Camel milk is used by *Rebaris* for the treatment of jaundice and diabetes, while its by-products are widely used all over the world. Milk of sheep is use in cough by *Rebaris* while its fat is used to cure torsion in northern Brazil (Costa-Neto, 2000). Faeces of crow is used in body tumor by these people; Nagaland tribes use its flesh for rheumatism and bones for earache (Kakati *et al.*, 2006). Moreover leucoderma is also cured by the flesh of crow (Padmanabhan and Sujana, 2008).

Further, *Rebaris* also use some non-domesticated animal species in traditional medicinal system. Faeces of pig is used in neck tumor, while its fat is used in muscular pain (Mahawar and Jaroli, 2006) and Ao tribe of Nagaland (Kakati *et al.*, 2006). Some traditional medicines are recorded only in *Rebari* community like, horse saliva for sleeplessness and body hair of female horse (mare) in black moles on body.

*Rebaris* are also found to use one animal product with other animal product or plant derived product to cure a particular disease. They use blend of many animals or plant products for treatment of ailments because of synergistic or additive effects of the constituents or by experience (Igoli *et al.*, 2005). *Rebaris* use mixture of honey with soil, containing slough and mustard oil to

cure human leg infection (foot stem disease), while Shoka tribe uses slough in foot and mouth diseases of animals (Negi and Palyal, 2007). These people use mixture of pigeon excreta with honey to cure *naru* (Dracunculiasis) and ash of peacock feather mixed with honey in asthma, whereas ash of peacock feathers mixed with coconut oil is used in headache (Padmanabhan and Sujana, 2008). This discussion shows that honey is mostly used in many of mixtures or compound medicines used by *Rebari* community of Rajasthan.

Many researchers have worked for the conservation of animal biodiversity and have reported animal species which are endangered or threatened. Alves reported that, 104 genera and 30 families of the reptiles are used in folk medicines and out of these 53% are listed as endangered, and he also discussed about their conservation status (Alves, 2008). Kakati and Doulo reported six species which are rare in Nagaland (Kakati and Doulo, 2002) while Neto reported six endangered animal species which are used in traditional medicines (Neto, 2000).

However, very little work has been done in the field of medicinal use of domestic animals and their conservation. Many ethnic communities widely use domestic animals and their products in traditional medicines, because they live in village where many domestic animals are easily available for domestic animals based medicines.

Census figure of livestock from 1997 to 2003, indicate that, the domestic animals (mainly indigenous) are decreasing in numbers in India (including Rajasthan) since last few years. So, there is an urgent need to conserve domestic animals, because, day is not so far enough when most of the domestic animals would be enlisted as

threatened and endangered species if necessary action is not taken for their welfare.

*Rebari* people are dedicated for conservation of their livestock though for their own sake such as food, transportation, medicine and their livelihood etc. yet in this way they are contributing a lot in securing domestic animals. They have their own traditions and social customs to ensure the social and ecological management of their livestock. Few of them are enlisted below.

- They consider it their holy duty to look after camels which according to them has been assigned by lord Shiva.
- They migrate to other states in search of grazing area for their livestock. In the way of migration they face lot of problems yet they don't abandon this traditional practices.
- They maintain grazing land such as *gochar* and *orans* (grazing land for livestock), where any hunting activity is prohibited.
- *Rebaris* do not sell their livestock outside the community (specially camel and female sheep) but they gift their livestock as a *Dhamini* at the time of marriage (given by family of bride)
- They have their own systems of livestock breeding
- Cow is regarded as a mother among Hindu community in India
- Black sheep among *Rebari* is considered very highly precious.

Thus, *Rebaris* play a vital role in conserving the livestock but due to the shortage of grazing land, traditions and customs of *Rebari* community is under threats, which are important for animal biodiversity.

### Conclusion

To conclude that in Rajasthan, *Rebari* community use many animal derived substances for treatment of many ailments and most of these animals are domestic. This community also plays a vital role in conserving domestic animals diversity, but due to some modern practices, their traditions and customs are also under threat caution so policy makers should take steps in conservation of biodiversity. Further studies are required for scientific validation to confirm medicinal value of such products and to include this knowledge in strategies of conservation and management of animal resources.

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