

ETHNOVETERINARY PRACTICES OF SOME PLANT SPECIES BY ETHNIC PEOPLE OF PARBAT DISTRICT, NEPAL

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ABSTRACT

In Parbat district, tribal communities rear livestock mostly cattle, buffalo, goats, sheep etc. Most of the time animal diseases are treated by the uses of local herbal medicines extracted from the plants. All together 21 plant species belonging to 19 families are being identified having used to treat different veterinary diseases like; injury, poisoning, foot and mouth, wounds, stomach disorder, antiworms and bone fracture of animals. These ethnoveterinary plants species are normally collected from nearby forest or natural vegetation. Some of them like, *Acorus calamus*, *Cuscuta reflexa*, *Schima wallichii*, *Fraxinus floribunda* etc are even domesticated by them in nearby cropland therefore such plants are readily available at any time.

Keywords: Ethnoveterinary, plant species, indigenous knowledge, Parbat district, Nepal

INTRODUCTION

Ethnoveterinary research and development is a holistic inter-disciplinary study of indigenous knowledge and associated skills, practices, beliefs and social structures pertaining to the healthcare husbandry income producing animals, has emerged as a fertile field for generation and transfer appropriate and sustainable veterinary alternatives to the stock raisers. The term ethnoveterinary was firstly applied and used [1]. She defined it as an indigenous knowledge, abilities and methods for caring, for healing and managing livestock. Ethnoveterinary in simple terms, is supposed to be a sub-discipline of ethnoecology that simply means the ecological wisdom of local people regarding animals healthcare [2]. Ancient animal husbandry systems and practices prevalent for the treatment of livestock diseases are still relevant today. Some ethnobotanists have recorded traditional knowledge on ethnoveterinary practices by the tribal communities [3, 4, 5, 6, 7, 8, 9, 10].

Parbat is one of the four districts of Dhaulagiri Zone in western development region of Nepal. It lies between 27° 58' N to 28° 39' N latitudes and 83° 34' E to 83° 59' E longitudes covering an area of 494 sq. km. with hills, valleys, plateaus and gorges. The major tribes inhabiting in this area are Gurung, Magar, Newar, Thakali, Kumal, Majhi, Puri, Tolange, Biswakarma, Pariyar etc. The district has sub-tropical, temperate and sub-alpine monsoon type of climate. It is traversed by two big rivers Kaligandaki and Modi as well as other rivulets, streams and streamlets. In Parbat district, beside agriculture, animal husbandry is the main occupation of the tribal communities due to excess availability of fodders. Goats, cows, bulls, buffaloes and sheep are the main cattle of the local people in the district. The ethnic people have their own system of herbal veterinary medicines practiced since the ancient time. The cattle are let loose in the forest for grazing except for three month of the rainy season, and then they practice in dry-land agriculture.

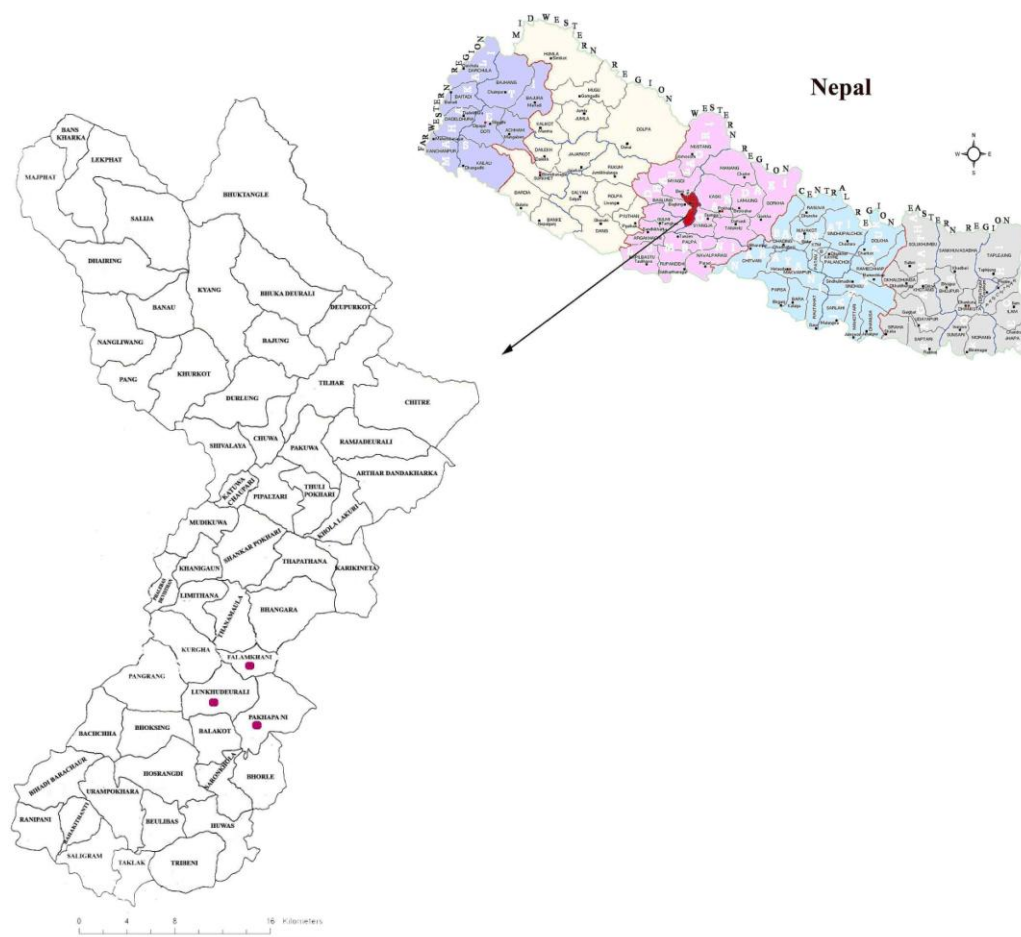


Fig: 1 Map of Parbat district

MATERIALS AND METHODS

Present research was conducted to three different village development committees namely, pakhapani, lunkhudeurali and phalamkhani of Parbat district during 2010. Several visits were made to different villages of the VDCs at monthly intervals. The rural inhabitants are dependent on forests and natural vegetation for their day to day requirements. The study was concentrated in different villages of the VDCs and the information regarding the usage of plants for animal healing available in the local areas were collected by directly interviewing elderly knowledgeable and experienced persons of local people, who have traditional knowledge on these ethnoveterinary plants in the villages. The plant specimens were identified with the help of local floras [11, 12, 13]. Voucher specimens have been deposited in Kathmandu University, Dhulikhel, Nepal.

ENUMERATION

Plant species that are known and highly regarded in ethnoveterinary practices are enumerated with botanical name, vernacular name in Nepali, family name and parts used for the treatment of various ailments.

Table-1 Plant species used in the treatment of animal disorders by local people of Parbat district

Botanical name	Local name	Family	Parts used	Uses
<i>Acorus calamus</i> L.	'Bojho'	Araceae	Rhizome	Paste prepared from the rhizomes is applied on the body of animals to remove lice.
<i>Begonia picta</i> Smith.	'Magarkanche'	Begoniaceae	Whole plant	Plants are feed to sterile animals to help them conceive. Juice of the root is applied to treat conjunctivitis of buffalos.
<i>Cleistocalyx operculatus</i> (Robx.) Murr. & Perry	'Kyamuno'	Myrtaceae	Leaf & Stem	Juice from leaf and stem bark is applied once a day to treat muscular swelling for a week caused by external injury of cattle.
<i>Cuscuta reflexa</i> Roxb.	'Akasebeli'	Cuscutaceae	Whole plant	A paste of the plant is applied twice a day to treat foot and mouth disease of cattle.
<i>Cynoglossum zeylanicum</i> Thumb. ex. Lehm.	'Bhere kuro'	Boraginaceae	Whole plant	Powder of plant mixed with water and given to treat ringworm of goats. Root juice is applied once a day for 3-4 days on cuts and wounds. Leaf juice is used as an eye drops to treat conjunctivitis.
<i>Dalbergia sissoo</i> Roxb.	'Sissoo'	Fabaceae	Leaf	Leaf juice is mixed with churning curd and given to the animal for diarrhea. Leaf paste is used for foot and mouth diseases.
<i>Dioscorea deltoidea</i> Wall. ex Griseb.	'Bhayaakur'	Dioscoreaceae	Tuber	Tuber juice about 5-7 teaspoons twice a day is given to treat roundworm and constipation of sheep. A paste of tuber about 30-40 g is applied to cure mastitis of cows and buffalos.
<i>Drepanostachyum falcatum</i> (Nees)	'Nigalo'	Poaceae	Stem bark	Powder made from stem epidermis mixed with egg is applied on broken legs of hen and cock.
<i>Euphorbia hirta</i> L.	'Dudhejhar'	Euphorbiaceae	Whole plant	Plants are feed as a fodder to cows and buffalos for increasing milk.

<i>Fraxinus floribunda</i> Wall.	'Lankuri'	Oleaceae	Stem bark	Stem bark juice about 50 ml. twice a day is given to treat stomach disorder in sheep and goats. A paste of bark is applied to treat broken legs and arms of cattle.
<i>Lindera neesiana</i> (Wall. ex Nees) Kurz.	'Siltimur'	Lauraceae	Fruit	The fruit juice about 30 ml. once a day is given to treat stomach disorder of animals if they eat poisonous plants.
<i>Maesa chisia</i> Buch.-Ham. ex D. Don.	'Bilauni'	Myrsinaceae	Stem bark	Juice of the stem bark is applied to treat ringworm in animals.
<i>Mucuna pruriens</i> (L.) DC.	'Kaauso'	Fabaceae	Leaf	The leaves and its extracts are used by local people about two liters twice a day is given to animals for snakebites.
<i>Osbeckia stellata</i> Buch. Ham ex D. Don.	'Angaru'	Melastomataceae	Leaf & Fruit	A decoction of the leaf and fruit twice a day is given to domestic animals when they eat poisonous plants.
<i>Ricinus communis</i> L.	'Ander'	Euphorbiaceae	Leaf	The leaf powder is rubbed twice a day on the body of animals to cure the wound.
<i>Rhus javanica</i> L.	'Bhakamilo'	Anacardiaceae	Fruit	A decoction of fruit is administered to cure animals foot and mouth diseases.
<i>Rumex nepalensis</i> Spreng.	'Halhale'	Polygonaceae	Root	The root juice is used as an antidote to food poisoning in cattle. The fresh root is pounded and the extract is given orally a small quantity about 6 ml. instilled into nose.
<i>Salvia plebeia</i> R.Br.	'Banbawari'	Lamiaceae	Leaf	A paste of the leaves is applied to wounds between the toes caused by prolonged walking on muddy water. Leaves are rubbed externally on feet to remove lice of cattle.
<i>Schima wallichii</i> (DC.) Korth.	'Chilaune'	Theaceae	Stem bark	The powder of stem bark is used to treat fresh cuts and liver flukes in animals.
<i>Solena heterophylla</i> Lour.	'Golkankree'	Cucurbitaceae	Whole plant	The plant is considered a nutritious feed and also helps to increase milk production of cows and buffalos.
<i>Solanum indicum</i> L.		Solanaceae	Leaf	The leaf juice twice a day about 50 ml. is given for treating ringworm in cattle.



Begonia picta



Schima wallichii



Mucuna pruriens



Cuscuta reflexa



Osbeckia stellata



Euphorbia hirta



Lindera neesiana



Researcher entering to the forest

RESULTS AND DISCUSSION

Present research reveals ethnoveterinary uses of 21 plant species belonging to 19 families which are widely used by the ethnic people of Parbat district. The tribes are highly dependent on the herbal remedies because diseases concepts and treatments differ in different societies, and even within a single community among gender, age, education and ethnicity but in some cases, the medicinal plants reported are claimed to treat the common diseases in the different communities. It has been noted that leaves, stems and whole plant were the most frequently used plant parts for the treatment of various veterinary ailments followed by fruits, rhizomes, roots and tuber, in the order. The study has shown that foot and mouth diseases, food poisoning, ringworm, bone fracture, stomach disorder, injury, conjunctivitis, muscular swellings, diarrhea, reduce lactation, snakebites and lice etc. were common diseases among the domestic animals and few diseases reported as liver flukes, mastitis and conceivness have rare occurrence in the district. These findings need further clinical research to develop new herbal drugs for the effective treatment of different ethnoveterinary diseases in domestic animals.

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