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Teaching (With) Medical Ethnobiology: Indigenous Knowledge System Found In Raji People of Western Nepal

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Abstract
This ethnobiological study aims to document and discuss original knowledge that local people develop based on the climate, local ecology, culture, and tradition in order to sustain their society. An ethnobiological survey on Raji people was conducted in Uttarganga village of Surkhet in Western Nepal with a view to understanding what medicinal, animal and plant species the Raji community uses for treating different ailments, thereby exploring the traditional indigenous knowledge practiced by them. Data were collected through interviews with key informants (Dhami, Jhakri, and Gurau) and through group discussions. The study revealed that the Raji community has deep respect for its indigenous knowledge, such as biodiversity conservation, agricultural practice, medicinal practices for livelihood, yeast making practices, and art, craft, and technology. The implications of their worldview are then discussed within the context of higher education. In particular, we highlight the possibilities of using research like this to rethink curricula and pedagogy, as well as research and scholarship about higher education.

Key words: ethnobiology, indigenous, traditional medicine, Raji, ethnic epistemology

Nepal's 2011 national population census has recorded 125 different ethnic groups and 123 languages (CBS, 2012). Nepal is a home for different cultural and indigenous ethnic people, as they have been developing distinctive cultures, languages, religions, histories, and traditions. Indigenous people live close to nature. The Raji is one of the 125 indigenous nationalities in Nepal. This community originated from Surkhet and migrated towards Dang, Bardia, Kailali, and Kanchanpur districts of Mid-Western and Far-Western Developments of Nepal. They are believed to be similar to the last nomadic Raute tribe in the past, but later they settled in their own permanent community. In this sense, the Raji community is perhaps the closest to nature after the Rautes who continue to be nomads.

Rajis are considered one of 10 least known and endangered indigenous groups (Maskey, 2007). Agriculture is their main occupation, and they are rich in their culture, tradition and indigenous knowledge system. They use traditional methods to heal diseases by using various

animal and plant based products. They also cultivate deep respect for living organisms and incorporate them in a myriad of ways into their spiritual beliefs and practices. On the basis of available natural resources, the ethnic community developed their own indigenous knowledge to heal their ailments. This ethnobiological study aims to promote the exchange of original knowledge and research in the indigenous area. The ethnic people developed their valuable knowledge depending on the climate of where they lived; their ecology, culture, and tradition helped sustain their society (Maskey, 2007). But the indigenous knowledge for treating diseases is the hidden treasure of the whole world, which can provide essential information for human beings in this modern world if we are successful in documenting it properly. In particular, learning about how communities like this developed, use, and transmit knowledge like this can become powerful new avenues of research and scholarship in higher education. Such scholarship would not only be relevant for sociologists, anthropologists, and medical scientists – but also to educators who teach with and about research.

Materials and methods

Study area

Surkhet district lies in Bheri Zone of Mid-Western Development Region. The area of Surkhet is 2,451 sq. km. The neighboring boundary districts of Surkhet are Achham, Dailakh, and Jajarkot in the north; Doti in the west; Kailali and Bardia in the south; and Salyan in the east. In the Surkhet district the population of Raji is 1,171, in which 557 are male and 614 are female. There are altogether 63 Raji people residing in Uttarganga village (Figure 1). The major occupation of Raji people inhabiting the village is agriculture.

The general objective of the research is to explore the medical ethnobiology and indigenous knowledge system found in the Raji community in Uttarganga village of Surkhet district. This study concentrated on the following specific objectives:

- To explore the traditional knowledge of medicinal animals and plants used by the Raji community for the treatment of various diseases.
- To explore the indigenous knowledge system found in the Raji group.

In this research work, primary and secondary data were collected. Simple and precise questions were prepared in order to meet the objective of the present study. The field visits were conducted in 20-26 June, 2014 and 21-25 April, 2015.

Primary data were collected via group interview, interview with key informants (Dhami, Jhakri, and Gurau), and direct field visit including observation, sample collection and identification. Samples of known and unknown species of animals and plants which were available in the study area were collected. The collected samples were identified with standard literatures and with the help of experts. The plant and animal species were taxonomically classified into division, order, family, genera and species. Secondary data were very important for the comparison and justification of primary data and were collected from different sources like books, journals, and research articles of different authors.

Results

Medical ethnobiology

The people of the Raji community use animal and plant species for treating diseases. They used different animal species including vertebrates and invertebrates, both wild and

domesticated types. Altogether they used 36 animal species to treat 30 different ailments by using their traditional knowledge. Similarly 91 plant species were used to treat 60 different ailments. The list of animal species used in medicine by local Raji people of study area is shown in Table 1. The list of plant species used in traditional medication is shown in Table 2.

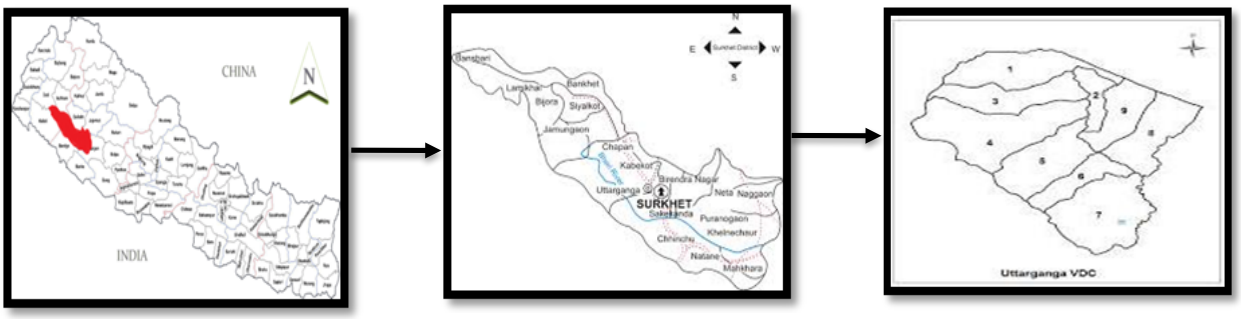

Figure 1. a) Map of Nepal ***b) Surkhet District*** ***c) Uttarganga VDC***

TABLE 1: Animals with medicinal values in Raji community (for more, see appendix)

S.N	Class	Order	Scientific Name	Common name/ Local Name	Habitat	Medicinal Uses
1	Amphibia	Anura	Rana tigrina	Diptheria (N)/ Bhainkha(R)	Wild	Leprosy
22	Arthropoda	Coleoptera	Cosmopolites sordidus	Gabaro(N/R)	Wild	Epilepsy
33.	Aves	Columbiformes	Columba livia	Parewa (N/R)	Wild	Arthritis, prevent from cold.
44.	Mammalia	Carnivora	Melurus ursinus ursinus	Bhalu (N)/ Kangrya (R)	Wild	Arthritis, fracture, asthma
55.	Pisces	Cypriniformes	Tor tor	Sahar (N)/ Tarkaiklyak (R)	Wild	Common cold, breast feeding increment.
66.	Reptilia	Testudines	Varanus spp.	Gohoro (N/R)	Wild	Asthma, breast feeding problem (Thunelo)

The results revealed that 30 types of diseases were treated by using 36 animal species belonging to 22 orders and 31 families. Among 36 species, 31 species were found to be wild and only 5 species were domestic. Raji people have been using different organs of animals apparently for a long time now. Compared to other materials, the use of meat was more prevalent (30.3%) followed by whole organism (27.27%), dung (9%), and skin, fat, and tail (6.6%). Similarly, honey, bile, bone, blood, urine, carapace, and milk products were also used for medication. A maximum of four species were used to treat asthma, and three species for pneumonia. Similarly, two species were used for common cold, fever, rheumatism, and

toothache, and one species for body ache, breast problem (thunelo), diphtheria, conjunctivitis, diarrhoea, dizziness, earache, epilepsy, gastric disorder, heart disease, jaundice, khoret, leprosy, malnutrition, mirgi, piles, scabies, sinusitis, snake bite, tetanus, and vomiting. For different medicinal purposes, different animal parts as well as products were used, such as honey, milk, blood, urine, dung, bone, skin, meat etc.

Table 2: Plants having medicinal values in Raji community (for more, please see appendix)

S.N	Family	Scientific Name	Common name/Local Name	Life forms	Medicinal used
1.	Acanthaceae	Justice adhatoda	Asuro(N), Asur(R)	Shrub	Piles
2.	Amaranthaceae	Achyranthes bidentia	Datiwan (N)/ Chichibhata(R)	Shrub	Blood purification, tooth ache, menstrual haemorrhage
3.	Anacardiceae	Mangifera indica	Aanp(N)/gada(R)	Tree	Diarrhoea, dysentery, abdominal distension (begar pareko)
4.	Caryophyllacea e	Drymeria diandra	Abijalo(N/R)	Herb	Sinusitis, abdominal distension(begar pareko)
5.	Utricaceae	Utrica dioca	Sisnu (N)/ Sisni(R)	Shrub	Labour pain, retain placenta, high blood pressure
6.	Zingiberaceae	Zingiber officinale	Adhuwa(N)/Adang(R)	Herb	Indigestion, cough, throat pain, high altitude sickness

(Note: N= Nepali Name; R= Raji Name)

The study found that 91 species of medicinal plants were used for the treatment of 60 ailments, among 51 families. Among 91 medicinal plant species, 29 were trees, 29 were herbs, 19 were shrubs, six were climbers, four were grasses, one was fern, one was epiphytic, and one was a parasitic plant. The different parts of plants were used for medicinal purpose including fruits, roots, leaves, barks, rhizomes, stems, stem/ root hairs, whole plants, young shoots etc.

Among the plants, many of the species were used for treating the same diseases. For example, 11 species of plants were used for the treatment of diarrhoea; seven species for constipation; six species for abdominal distension, gastritis, cough, and hotness of body; five species for cold; four species for labour pain, loss of appetite, and cholera; three species for antiseptic use, body pain, bloody stool, dysentery, piles, removal of placenta, renal calculus, retained placenta, and tonsillitis. Similarly, two species were used for blood purification, burns, burning urination, dandruff, high altitude sickness, lactation enhancement, menstrual hemorrhage, nose bleeding, rabies, snake bite, sprain, swollen body, and stomach pain, and one species of plant for anti lice, boils , general weakness, heart disease, high blood pressure,

indigestion, insomnia, joint pain, leucorrhoea, menstrual disorder, micturition, nausea, scabies, skin disease, toothache, ulcer, vomiting, warts, and wounds.

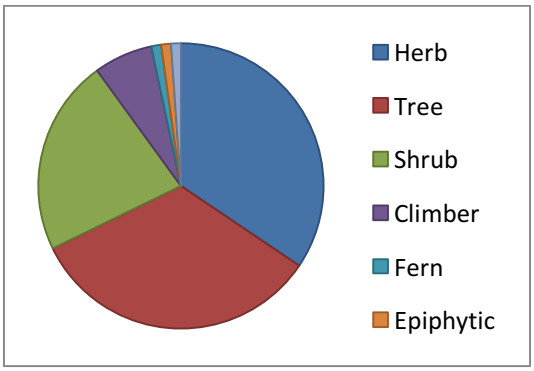

Figure 2: The numbers of plants belonging to their different life forms

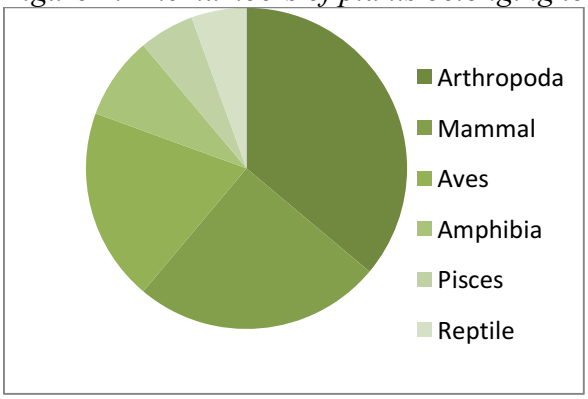

Figure 3: The numbers of animals belonging to different classes

Indigenous knowledge System

Raji people practically implemented knowledge suitable to their environment, as we illustrate in this section:

1. Raji people used indigenous knowledge systems in biodiversity conservation by sustainable wildlife hunting and trapping and cultivating wild medicinal plants species in their gardens. Similarly, they cut down old trees instead of new and young plants for firewood and grass. They also took out yam (Colocasia esculenta) only of githa (Dioscorea bulbifera), bhyakur (Dioscera deltoids) and tarul (Dioscorea spp), leaving some part inside the pit and covering it with mud and leaf litter, instead of plucking it all out, so that the plants could produce roots continuously.
2. Raji people used organic pesticides and insecticides for pest control in ways that reflected both sophisticated knowledge and a desire to maintain the health of plants and nature. They used wood ash, cow's urine, and neem juice to control aphids (Lahi) in vegetables. They also spread litters of Pinus roxburghii (Salla) and Acacia catechu (Khyar) in paddy fields when the crop was affected by Khaire disease (yellow colour in paddy leaves). Mechanical practices, such as hand picking and destroying of affected parts, were very common.

Spraying cow's urine, local beer (Jaad), tobacco solution, and neem leaf juice was popular practices as well.

3. The Raji people of Uttarganga were found to use powder of Neem (Bhumea lacera) for preserving grains like maize, wheat, and beans. The dried leaves of neem plant were crushed and the extracted powder was mixed with seed of grains and stored. Oil cake (Kati) was applied to whole grains, which were stored in airtight containers for long term storage.
4. They used Allium sativum (Bhote lasun), Dhatura metel (Dhaturo), Aranea spp. (Makura), Curcuma longa (Besar), and Prunus Persica (Aru) for the treatment of indigestion, cough, fractures, wounds, to kill worms, and cold and cough; respectively as a form of medicinal practices for livestocks.
5. They had good skills of arts, crafts, and technology. They prepared doko (Bamboo basket); sekhu (V-shaped bamboo umbrellas), mats, rowing boats, ploughs, levelers etc. were prepared from bamboo and paddy. These practices were also inherently sustainable and eco-friendly.

Discussion

The traditional healers of the Raji community in Western Nepal used 36 types of animal species to treat 30 different ailments. Similarly, 91 species of plants are used for treating 60 types of diseases. Although these tribe people had rich knowledge of modern medicines, they rely on and believe in their traditional methods of treating disease. Most of the Raji people were found still relying heavily on traditional medicine rather than 21st century medicines. Ethnobiological knowledge and their use by indigenous healers are not only useful for conservation of cultural traditions and biodiversity but also for the community health care and development of drugs in the future too.

Generally traditional healing in other communities are seen as gender based, but in the Raji community it seems that both males and females are engaged in this practice. The indigenous knowledge and practice of usage of ethnobiological medicine in the Rajis is passed generation to generation through personal experience and oral tradition. Due to the development in technology and desire to be advanced, many youth from Raji were seen out of the village. Among these people some of them were also seen practising their traditional knowledge of using both plants and animals for the remedy of disease. They live very close to the community forest and go to collect firewood and fodder on a daily basis. One of the boys seemed enthusiastic in collecting medicinal plants and animals. He often used to go with his grandfather to fetch firewood and grass, and his grandfather helped him recognize medicinal plants and animals. He was seen collecting spiders, and when asked he said "I have collected these spiders to treat the broken legs of the fowl and I knew it from my grandad." There were other young ones as well who were following in their elders' footsteps for the usage of traditional healing practices. The ama, the women of these tribe people, were seen planting the medicinal plants in their garden, and their men were helping them and the old people encouraging them. Although all of them were not well known about the sustainable usage of these medicinal plants and animals, during the field visit, programs related to the conservation and use were seen running effectively. The rajis also share their knowledge among the healers. They don't test the practices of using medicinal plants and animals directly on humans, rather they at first try it with animals affected by similar type of diseases, like wounds, cough, and other. One of the healers was intending to treat his Ox having eye infection with latex of *Euphorbia spp.* (Siudi). Gurau (healers) of different localities were found meeting eachother and sharing their knowledge. But it was heard

during the study period that they refuse to share knowledge to other people because of their superstition that teaching other people will make the medicine less effective. Similar type of belief is also heard from other ethnic group of people. They teach this knowledge (tantra mantra) only to their intimate relative such as their oldest son or someone of their own ethnic group. Advancement and adaptation of viruses have led to the different types of disease hence they were also seen visiting hospitals and using modern pharmaceuticals too.

The Raji people's knowledge and practices of medicine and the inherently preservationist approach to that knowledge and practice has powerful implications for practitioners and scholars in higher education.

The world of higher education is dominated by certain subjects and disciplines that are mainstream in certain dominant societies in the world. This means that the bodies of medical knowledge, cultural assumptions and worldviews about health and healing, and medicinal practices of those dominant societies largely shape what is studied and what is ignored by modern science (and other disciplines). Sociology and anthropology tend to focus on societies and cultures in the margins, but the findings are theorized in anthropological terms, usually as exotic and only of "academic" interest. The findings are not discussed in the educational context, whether that is to expand the field of study in the mainstream disciplines such as sociology and anthropology or to rethink teaching and learning. Educators must begin to question what counts as knowledge and whose knowledge systems deserve to be studied. They must start seriously studying local knowledge (about various subjects, including medicine) and teaching how communities outside the spotlights of modern academic disciplines create, sustain, and use local knowledge. The case of the Raji people is, in this sense, a case in point for broader conversations about knowledge and education. This work is a humble attention to demonstrate the richness and value of indigenous knowledge and the importance of studying them as part of investigations in education.

Conclusions

When we think about "globalization," we celebrate the spreading out of certain dominant bodies of knowledge, knowledge practices, and how we study and teach them across the world. Relatively, the idea of reaching beyond the mainstream to find new bodies of knowledge and new approaches to life and well-being by using traditional knowledge are not popular topics for educators. We have argued here that higher education is a powerful tool for identifying, promoting, and fostering the knowledge such as that of Raji people who have unique knowledge and skills for using animals and plants for medicinal purposes. They use 36 types of animals to treat 30 types of ailments. Similarly, 91 species of plants used for treating 60 types of diseases. Due to globalization of modern medicine and health posts and hospitals in their community, such traditional indigenous use of medicinal animals and plants is declining day by day. Raji people have shown their consciousness through conservation and protection of frequently used and essential medicinal plants in their own agricultural field. Learning and teaching methods were seen in the daily basis to the children by engaging them in the field.

The major message of this research is that the indigenous knowledge system practiced by indigenous ethnic groups like the Raji is very significant not only for the protection of biodiversity, reducing the impact of climate change, having lesser side effect of the use of organic pesticides/insecticides, and the cultivation of alternative medicine. The message is also that in the context of higher education, learning about how knowledge is used and transmitted in indigenous communities like this is important for fostering diverse views about knowledge and

teaching/learning. This work only scratches the surface of the possibilities, so we hope that future research and scholarship in higher education will build on these humble arguments.

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Appendix

Table 1. Animals having medicinal values in Raji community

S.N	Class	Order	Scientific Name	Common name/Local Name	Habitat	Medicinal Uses
1	Amphibia	Anura	Rana tigrina	Paha(N)/ Bhainkha (R)	Wild	Heart diseases, diphtheria (in cattle)
2	Amphibia	Anura	Rana tigrina	Diptheria (N)/ Bhainkha(R)	Wild	Leprosy
3	Annelida	Neooligochaeta	Pheretima posthuma	Gadyeula(N)/ Katlya (R)	Wild	Increase breast feeding in mother
4	Arthropoda	Coleoptra	Cosmopolites sordidus	Gabaro (N/R)	Wild	Epilepsy
5	Arthropoda	Hymenoptera	Ichhneumonida spp	Kamalkuti(N)/ Kamalkuti gheu (R)	Wild	Tooth ache, gastritis, weight loss
6	Arthropada	Diptera	Muscadomestica	Makho(N)/ Ghyeu (R)	Wild	Wound made by spider's stool
7	Arthropoda	Hymenoptera	Apis spp.	Mauri (N)/ Ghuwas (R)	Wild/ domestic	Snake bite, malnutrition
8	Arthropoda	Trombidiformes	Trombidium spp.	Makhamali kira (N)/ Chui ghyeu (R)	Wild	Gastric disorder
9	Arthropoda	Scutigeromorpa	Scutigeraspp	Khajuro (N)/R)	Wild	Wound made by itself by biting
10	Arthropoda	Araneida	Araneaspp	Makura (N)/ Mukuri (R)	Wild	Fracture in chicken
11	Arthropoda	Hymenoptera	Selonopsis spp.	Rote kamilo/ Bekmota(N)/ Jamata (R)	Wild	Pneumonia
12	Arthropoda	Coleptera	Photuris spp.	Junkiri (N)/Timrya (R)	Wild	Tooth ache
13	Arthropoda	Coleptera	Acilius spp.	Pani kiro /Jade kira(N)/ Ghyeli gheu (R)	Wild	Dizziness
14	Arthropoda	Coleptera	Scarabidae spp.	Gueye kira (N)/ Ghuera (R)	Wild	Fever, food poisoning
15	Arthropoda	Decapoda	Cancer spp	Gangato (N)/ Grain (R)	Wild	Jaundice
16	Aves	Passeriformes	Passer	Bhangero (N)/	Wild	Ear ache

			domesticus	Bhyeri (R)		
17	Aves	Galliformes	Lophura leucomelanos	Kalij (N/ R)	Wild	Prevent from cold
18	Aves	Galliformes	Francolinus francolinus	Titra (N)/ Tihan chari (R)	Wild	Malnutrition
19	Aves	Columbiformes	Columba livia	Parewa (N/R)	Wild	Arthritis, prevent from cold.
20	Aves	Passeriformes	Corvus splendens	Kaag (N)/ Kauwa (R)	Wild	Conjunctivitis
21	Aves	Charadifomes	Vanellus indicus	Huttityau (N)/ Tetwa (R)	Wild	Fever with red spot, pneumonia
22	Aves	Passeriformes	Diceurus spp.	Lampuchhre charo (N)/ Koklya (R)	Wild	Piles
23	Mammalia	Artiodactyla	Bubalus bubalis	Bhaisi (N/R)	Domesti c	Scabies
24	Mammalia	Artiodactyla	Bos indicus	Gai(N/R)	Domesti c	Fracture, rheumatism, sinusitis, body ache
25	Mammalia	Artiodactyla	Muntiacus munjack	Mirga (N)/ Khasya (R)	Wild	Mirgi (a kind of skin disease in which red patches is seen)
26	Mammalia	Artiodactyla	Sus spp.	Kalo sungur (N)/ Kalo pak (R)	Domesti c	Pneumonia
27	Mammalia	Carnivora	Melurus ursinus ursinus	Bhalu (N)/ Kangrya (R)	Wild	Arthritis, fracture, asthma
28	Mammalia	Carnivora	Panthera tigris tigris	Pate bagh (N)/ Goghwa (R)	Wild	Rheumatism, arthritis
29	Mammalia	Carnivora	Canis aureus	Shyal (N)/ Sayalla (R)	Wild	Arthritis
30	Mammalia	Perissodactyla	Equus cabalus	Ghoda (N)/ Ghode (R)	Domesti c	Fever, pneumonia
31	Mammalia	Rodentia	Hystix indica	Dumsi (N)/ Bhatlayebota (R)	Wild	Tetanus, asthma
32	Pisces	Anguilliformes	Anguilla begalensis	Raja bam macha(N)/Bam ngha(R)	Wild	Foot rotten in cattle (khoret)
33	Pisces	Cypriniformes	Tor tor	Sahar (N)/	Wild	Common cold,

				Tarkaiklyak (R)		breast feeding increment.
34	Reptilia	Testudines	Testudo spp.	Kachuwa (N)/ Kachu (R)	Wild	Diarrhea, pneumonia
35	Reptilia	Testudines	Varanus spp.	Gohoro (N/R)	Wild	Asthma, breast feeding problem (Thunelo)
36	Reptilia	Squamata	?	Bam sarpa (N)/ Mughu (R)	Wild	Vomitting

(Note: N= Nepali Name; R= Raji Name)

Table 2. Plants having medicinal values in Raji community

S .N	Family	Scientific Name	Common name/Local Name	Life forms	Medicinal used
1	Acanthaceae	Justice adhatoda	Asuro(N), Asur(R)	Shrub	Piles
2	Amaranthaceae	Achyranthes aspera	Ulte kuro(N/R)	Herb	Gastritis, nausea, loss of appetite
3	Amaranthaceae	Amaranthus spp.	Kade lude(N)/Marse(R)	Herb	Leucorrhoea
4	Amaranthaceae	Achyranthes bidentia	Datiwan (N)/ Chichibhata(R)	Shrub	Blood purification, tooth ache, menstrual haemorrhage
5	Apocynaceae	Periploca calophylla	Sikari lahara(R/N)	Climber	Fracture, burning urination
6	Anacardiceae	Rhus javanica	Bhakkimlo (N) Bharkullo(R)	Tree	Gastritis, piles ,blood purification
7	Anacardiceae	Mangifera indica	Aanp(N)/gada(R)	Tree	Diarrhoea, dysentery, abdominal distension (begar pareko)
8	Anacardicae	Semecarpus anacardium	Bhalayo (N)/ Ryak (R)	Shrub	Wound
9	Araceae	Acorus calamus	Bojho(N)/Bach(R)	Herb	Cough, tonsillitis
10	Araceae	Colocasia esculanta	Karkalo (R/N)	Herb	Wound
11	Arecaceae	Phoenix acaulits	Khajuri (N/R)	Shrub	Diarrhea, dysentery
12	Asclepiadaceae	Calotropis gigantean	Aak(N)/Madar(R)	Shrub	Sprain, snake bite, joint pain, bloody stool
13	Asparagaceae	Asperagus	Kurilo(N)/Kurila(	Shrub	Lactation enhancer,

		racemosus	R)		fracture, general weakness
14	Berberidaceae	Berberis aristata	Chutro(N)/ Chinkari (R)	Shrub	Diarrhea, antihelmenthic
15	Brassicaceae	Brassica compestris	Tori (R/N)	Herb	Pubic rashes, sprain, body pain
16	Brassicaceae	Raphanus sativus	Mula (N)/Toti (R)	Herb	Dysentery
17	Brassicaceae	Lepidium sativum	Chamsur (N/R)	Herb	Back pain, body pain
18	Burseraceae	Garuga pinnata	Dabdabe (N)/Jyanda(R)	Tree	Bloody stool, diarrhea
19	Caricaceae	Carica papaya	Mewa (N/R)	Tree	Renal calculus, jaundice
20	Caryophyllacea e	Drymeria diandra	Abijalo(N/R)	Herb	Sinusitis, abdominal distension(begar pareko)
21	Chenopodiaceae	Chenopodium album	Bethe (N/R)	Herb	Labour pain, retain placenta
22	Combretaceae	Terminalia belerica	Barro(N)/Barain(R)	Tree	Constipation, loss of appetite, cough, throat pain
23	Combretaceae	Terminalia chebula	Harro (N)/Harain(R)	Tree	Constipation, loss of appetite, cough, throat pain
24	Compositeae	Artemisa vulgaris	Titepati (N/R)	Herb	Nose bleeding, scabies, cut wound
25	Convulvulaceae	Cuscuta reflexa	Akashbeli(N)/Aka she beli (R)	Parasite	Jaundice, dandruff, removal of placenta
26	Dioscireaceae	Dioscorea bulbifera	Githa(N)/Syak(R)	Climber	Antihelmenthic , control body heat
27	Dioscireaceae	Dioscorea deltoids	Bhyakur(N/R)	Climber	Constipation, fracture
28	Ericaceae	Rhododendron arboretum	Gurans (N/R)	Tree	Bone prick, cholera
29	Euphorbiaceae	Euphorbia spp.	Siudi (N/R)	Herb	Eye infection in cattle
30	Euphorbiaceae	Sapium insigni	Khirro(N)/Khirri(R)	Tree	Cholera, green stool
31	Euphorbiaceae	Emblica officinalis	Amala (N)	Tree	Cough, constipation
32	Euphorbiaceae	Phyllanthus urinaria	Bhuiamala(N/Jhar (R)	Herb	Diarrhea, dysentery
33	Euphorbiaceae	Mallotus philippensis	Royeni(N)/Rugna g(R)	Tree	Dysentery, abdominal pain

34	Equisctaceae	Equisetum debile	Kurkure ghans (R/N)	Herb	Jaundice, warts
35	Fabaceae	Bauhinia variegate	Koiralo (N)/Greainblack(R)	Tree	Diarrhoea, dysentery, bloody stool
35	Fabaceae	Cassia fistula	Rajbrichye (R/N)	Tree	Constipation
36	Fabaceae	Acacia catechu	Khayer (N)/Khairang(R)	Tree	Abdominal pain
37	Lamiaceae	Pogostemon amaranthides	Rudilo(N)/(R)	Shrub	Control body heat, anti lice
38	Lamiaceae	Menthe spicata	Pudina (N)/ Patena(R)	Herb	Jaundice, control body heat
39	Lamiaceae	Colebrookea oppositifolia	Dhursele (N/R)	Shrub	Sinusitis
40	Lauraceae	Lindra neesiana	Siltimmur (N/R)	Tree	Abdominal distension, high altitude sickness
41	Leguminosae	Trigonella foenumgraceum	Methi (N/R)	Herb	Cough and cold
42	Leguminosae	Dolichos biflorus	Gahat (N/R)	Herb	Cold, renal calculus
43	Leguminosae	Bahunia vahlii	Bhorlo (N)/ Mahi (R)	Climber	Bloody stool
44	Liliaceae	Smilax aspera	Kukurdino(N/R)	Shrub	Stomach ache, fever
45	Liliaceae	Aloe vera	Gheu kumari(N/R)	Herb	Burnt skin, gastritis, abdominal distension
46	Loranthaceae	Viscum articulatatum	Hadchur (N/R)	Shrub	Fracture
47	Lythraceae	Woodfordia fruticosa	Dhiro(N)/Dhairee(R)	Tree	Gastritis, bloody stool
48	Malvaceae	Bombax ceiba	Simal (N/R)	Tree	Constipation
49	Menispermacea e	Cissampelos pareira	Batul pate(N)/Khalite(R)	Climber	Gastritis, abdominal distension (begar pareko), menstrual disorder
50	Menispermacea e	Tinospora cordifolia	Gurge gano(N)/Bhrun(R)	Climber	Abdominal distension (Gano gako), piles
51	Moraceae	Ficus religiosa	Pipal (N)/ Piple (R)	Tree	Spleen swelling

52	Moraceae	Artocarpus lakoocha	Badahar (N/R)	Tree	Removal of placenta
53	Moraceae	ficus semicordata	Khanyu (N)/ Karchya (R)	Tree	Removal of placenta
54	Moraceae	Morus australis	Kimbu (N)/Toont(R)	Tree	Antihelminthic
55	Musaceae	Musa paradisiac	Kera(N)/ Kela (R)	Tree	Retain placenta, control body heat
56	Myrataceae	Cleistocalyc operculatus	Kemuno(N)/Bhuk ijabu(R)	Tree	Nose bleeding, sinusitis
57	Myrataceae	Syzygium cumini	Jamuno (N)/ Jemuno(R)	Tree	Diarrhoea, dysentery
58	Myriaceae	Myrica esculenta	Kafal(N)/Kafla(R)	Tree	Cholera, diarrhoea
59	Myristicaceae	Myristica fragrans	Jaifal (N/R)	Tree	Prevent from cold
60	Myristicaceae	Psidium guajava	Belauti (N/R)	Tree	Diarrhoea
61	Nyctaginaceae	Mirabilis jalapa	Malati phool(N)/Lankafo ol(R)	shrub	Ulcer, constipation, stomach disorder
62	Orchidaceae	Orchid spp.	Bandar kera (N)/Gumatela (R)	Epiphytic	Fracture
63	Oxalidaceae	Oxalis ocrniculata	Chariamilo(N/R)	Herb	Control body heat
64	Piperaceae	Piper nigrum	Marich (N/R)	Shrub	Prevent from cold, cough
65	Poaceae	Eleusine caracana	Kodo (N)/ Kodi (R)	Grass	Diarrhoea, cold
66	Poaceae	Saccharum officinarum	Ukhu (N/R)	Grass	Jaundice
67	Poaceae	Thaysanolaena maxima	Amriso (N/R)	Shrub	Labour pain, snake bite
68	Poaceae	Hordeum vulgare	Jau (N)/Kas (R)	Grass	Constipation, antiseptic
69	Poaceae	Imperata cylindrica	Siru (N)/Sirau(R)	Herb	Deworming, antihelmenthic
70	Poaceae	Eulaliposis binata	Babio (N)/ Banghas (R)	Grass	Cut wound
71	Poaceae	Bambusa arundinaceae	Bans (N)/ Paa (R)	Tree	Micturation control, boils wound
72	Poaceae	Oriza sativa	Dhan (N/R)	Grass	Retain placenta

73	Pteridaceae	Cheilanthes dalhousidae	Rani sinka (N/R)	Fern	Antiseptic
74	Rosaceae	Rubus ellipticus	Ainselu (N/R)	Shrub	Tonsillitis, labour pain, fever
75	Rosaceae	Rosa indica	Gulab(N)/Gulabi(R)	Shrub	Cholera
76	Rutaceae	Citrus limon	Kagati (N/R)	Tree	Vomit control, dandruff
77	Rutaceae	Murraya koenigii	Asare(N/R)	Tree	Skin diseases, eye diseases
78	Saxifragaceae	Bergenia ciliate	PakhanbedN/R)	Herb	Menstrual haemorrhage, fracture, renal calculus
79	Solanaceae	Solanum capsicoides	Kantakari (N)/ R)	Shrub	Rebies
80	Solanaceae	Datura metel	Dhaturo (N/R)	Shrub	Swelling body, cough in cattle, rabies
81	Solanaceae	Solanum nigrum	Kalikamai (N)/ Khakani(R)	Herb	Insomnia, indigestion
82	Solanaceae	Solanum tuberosum	Aalu (N/R)	Herb	Burnt skin
83	Sapotaceae	Diploknema butyracea	Chiuri (N)/ Chiurya (R)	Tree	Diarrhoea, dysentery
84	Umbelliferae	Centella asiatica	Ghodtapre(N/R)	Herb	Jaundice, control body heat
85	Umbelliferae	Anethum sowa	Samphu(N/R)	Herb	Back pain, body pain
86	Umbelliferae	Carum copticum	Jawano (N/R)	Herb	Cold infestation, lactation enhancer
87	Utricaceae	Utrica dioca	Sisnu (N)/ Sisni(R)	Shrub	Labour pain, retain placenta, high blood pressure
88	Zingiberaceae	Curcuma caesia	Haledo(N/R)	Shrub	Retain placenta, burning urination
89	Zingiberaceae	Curcuma longa	Besar (N/R)	Herb	Cough, antiseptic
90	Zingiberaceae	Curcuma zeodaria	Kachur(N/R)	Herb	Indigestion, heart disease, joint pain antihelmenthic
91	Zingiberaceae	Zingiber officinale	Adhuwa(N)/Adang(R)	Herb	Indigestion, cough, throat pain, high altitude sickness

(Note: N= Nepali Name; R= Raji Name