

Indigenous Knowledge and Practices on Medicinal Plants among Tharu Community in Eastern Nepal.

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Abstract

The study has made an effort in order to explore and document indigenous knowledge and practice of Tharu Community of Eastern Nepal. For this three VDCs namely, Lakhantari, Pakali, and Jagatpur of Morang, Sunsari and Saptari District respectively. Three study visits over a period of September-February, 2006 in the study area were made to collect primary information on the medicinal plants by field observation, transect walk, interviews, focus group discussions, case study etc. Data analysis was done by SPSS program. Altogether 136 medicinal plants were recorded, which are used to cure various human diseases like skin diseases, stomach trouble, gastric, fever, cough and cold, headache etc. For the treatment of different health problems, people come to Dhami/ Ojha from local level, outside VDCs, National and International level too. Especially, elderly people and healers have knowledge about the medicinal plants and their uses in healthcare. With their long experiences and practices, they have acquired rich knowledge about the utilization of plant resources in various ways. It is found that medicinal plants are the first levels of health care providers to majority of the people in the study area. Medicinal plants of this area are highly threatened due to various human related activities like deforestation, habitat destruction, unsustainable harvesting of forest products etc. Besides, due to various ecological, social and economic factors, the indigenous knowledge of the people is under great threat. Therefore, for the conservation and preservation Indigenous knowledge on Medicinal plants, some recommendations have also been made based on the present study.

Key words: Dhami, Human disease, Healer, Indigenous Knowledge, Medicinal Plants

Introduction

Nepal, a Himalayan country, has diverse topographical, geo-ecological and climatic gradients that have distinct on distribution of various species of plants and animals as well as the human

settlements in its small domain of 147, 181 sq. km. Biological resources in Nepal represent a unique and an enormous diversity of flora and fauna due to variations in topography, altitude, and climate.

Tharus are one of the major ethnic groups, mostly inhabiting the Terai region, although they are distributed in the hilly regions also. Tharu people account 6.75% (population census, 2001) of total population of country. They mostly depend on plant resources for their livelihood. Plants are their main source of remedy for the various diseases. Several Vaidhya and Dhami-Jhakri¹ of this community use various plants to remove the diseases since the time immemorial. Hundreds and thousands of traditional healers Amchis² are engaged in herbal medical practices, because still Tharu community do not have access to the modern medicinal facilities, and their livelihood entirely depend on the plant resources (Manandhar, 1985; Shrestha & Singh, 1992).

Around the world about 20,000 species of plants are reported to be medicinal uses. Pandey (1968) accounted 70 species from Terai, Siwalik, Mahabharat and Himalaya. Malla and Shakya (1968) listed 287 species. Medicinal plants of Nepal (1968) illustrated 393 species along with their therapeutic uses. Manandhar (1980) illustrated 37 species. Tiwari and Joshi (1990) mentioned 300 species, which are commonly used in Ayurvedic preparation with their indications. Banerji (1955) publication is the earliest work on medicinal plants; he studies medicinal plants from East Nepal.

There is a growing threat on the use of medicinal plants, their products and the Indigenous medicinal practice as the deforestation and encroachment of people are rapidly leading to agriculture land and urbanization in the former jungle. As the result of the popularity of medicinal plants and their associated indigenous knowledge, the number of people and national and international institutions seeking information on these plants is increasing very rapidly. So that there is an urgent need to consolidate and organize all available information on medicinal plants of Nepal.

Objectives

¹ Dhami and Jhankri are among the popular traditional healers among the Terai region and other parts of Nepal.

² Amchis are also well known traditional healers basically among the mountainous region of Nepal.

- Documentation of medicinal plants and their use patterns and existing traditional knowledge on medicinal plants within Tharu community.
- Analysis of the participation of Tharu community and their level of awareness on sustainable management and utilization of medicinal plants and its practices.

Methodology

Eastern Nepal consists of sixteen districts representing Mountain, Hills and Terai. Eastern Nepal is rich in native floras and faunas, many of which have immense economic importance, and have been used by ethnic communities for various purposes since time immemorial.

This study has been conducted in the Lakhantari, Pakali and Jagatpur VDCs of Morang, Sunsari and Saptari districts respectively of Eastern Nepal. Although, some information were also collected from the adjacent VDCs of the above said VDCs of the concerned districts.

The study is based on nine months from September, 2006 to May, 2007 of wide study of medicinal plants and indigenous practices on them by Tharu community.

The primary information regarding the use and values of plants were collected during the field work comprised two approaches i.e. survey technique and inventory technique. The survey technique included individual and in depth interviews, and focus group discussion among the local plant users, community members and healers, persons having indigenous knowledge. The inventory technique comprised the collection of different plant specimens from the study area and identification of their local names, parts use, and purpose of use etc with the participation of knowledgeable key interviewees / people as well as by transect walk (survey) with the local people.

During the field visits, a number of plant specimens were collected. The taxonomic characters and other necessary information were noted down in the field. To obtain detail information, the plant specimens collected from the field were exhibited during focus group discussions and interviews, and detailed information were gathered and noted down.

The collected plant specimens were preserved as herbarium and were identified with the help of various literatures (Hara et al.; 1978, 1979; Siwakoti & Jha, 1987; Siwakoti & Verma, 1996, 1999; press et al, 2000) and comparing with specimens at Post Graduate College, Biratnagar, T.U. Central Herbarium (TUCH). While some of the specimens were identified by taxonomy experts and by consulting other relevant literatures of the similar geographical sites. Secondary information were collected by reviewing numerous published research papers, reports, records,

documents, articles, books and journals related to present study. More other information was collected from the districts and VDC office.

Result & Discussions

All together 136 medicinal plants belonging to 112 genera and 61 families have been recorded which are used to treat 43 human diseases. Out of these plants some are herbs, some are shrubs, climbers, and some are trees. Herbs are the most common medicinal plants. Tharu community use single plant or mix different plants as a medicine in a single disease. It is also found that a single plant is used in different diseases. The main medicinal plants of the study area are Neem, Kadam, Ultachirchiri, Dhatura, Bojho, Chhatyen, Dubo, Peeper, Gurujlatti, Tulsi etc.

Mostly healers and women are involved in processing and conservation of medicinal plants. It is found traditional healers (Dhami/ Ojha) are still highly respected and many people go to these healers for the primary treatment of diseases and disorders before going to the doctors or while they get weary from going to doctors. The healers help the diseased person by providing herbal medicines with which they are quite familiar. It is also found that most of the plants used for the treatment of dysentery and diarrhea, menstrual disorder, fever, cough, stomach pain, burn, cut and wounds and skin diseases. Menstrual disorder is the common disease seen among the Tharu women of eastern Nepal (**See Table.1**). There are various cases in which medicinal plants are effective where modern medicine was ineffective.

Among many one of stories about the effects of medicinal plants are presented below in **Box: 1** in the form of cases.

Box: 1

A resident of Lakhantari VDC, 11 Kilometer far from the Biratnagar Bazaar, named Dhiyani Devi Choudhary, age 37 years have no child although it was eight years of her marriage. Due to which Family members and society used to call her “Banj” (who have lack the capacity to give birth of child). This situation made her very much disturbed, mentally. She checked up with many doctors but after checking they found that every thing is o.k. At last with the advice of a neighbor, she consulted a “Dhami” of adjacent VDC. The local Dhami gave her “Buti” made from leaf of Ram tulasi and skin of “Harin” (deer) and advised her to chew one time daily for 3-5 days in the morning. She did as he instructed. After two months, she became pregnant and gave birth of a

healthy baby.

The different parts of plants used as medicines as per the respondent's response are whole plant (usually in herbs), leaves, flowers, fruits, roots of herb, shrubs, trees, climbers, stem, root, root bark, resins, and latex, rhizome, tuber, bulb, tender, seed, petiole and latex.

The study showed that the Tharu people use different parts of the same plants for different diseases and mixture of several parts of same plants or different plants for different diseases. It is also found that in some case only one part of the plant has medicinal value.

Usually the different parts of plants were made into paste, juice, powder, decoction and raw form. In most of the cases people uses fresh plant as a medicine. Single plant or a part of the plants was also found to be taken as a whole. The doses of the medicine depends upon the form how it was used. The dose differs with different plants. It was also found that fresh plant was more effective than dry or old plant materials.

From the SPSS data analysis, it was recorded that among the total number of medicinal plants 57 medicinal plants were used in paste form, 22 -juice form, 16 -decoction form, 9- liquid, 5 - powder form, 5- raw form(**Fig.1**).

Figure: 1. Form of Medication

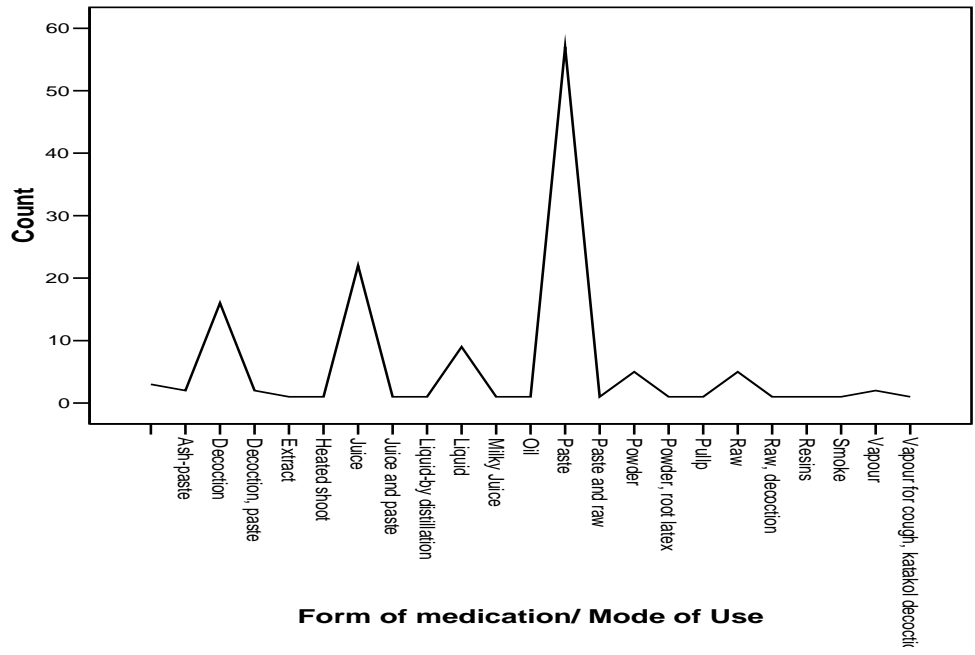


Table1

Diseases	Botanical Name	Local Name	Nepali Name	Family	Form of medication	Parts Used	Status	Threat
Menstrual disorder	<i>Achyranthes aspera</i> L.	Ulta chirchiri	Apamarga	Amaranthaceae	P	Rt	1	Overgrazing
	<i>Betula utilis</i> D.Don.	Bhojpatra	Bhojpatra	Betulaceae	P	Bk	3	Habit destruction
	<i>Cajanus cajan</i> (L.) Huth	Rahar	Rahar	Fabaceae	P	Lf	1	Land degradation
	<i>Calotropis gigantea</i> (L.) Dryand	Anko/Madar	Ank	Asclepiadaceae	P	Lf, Rt	1	Land degradation
	<i>Eleusine coracona</i> L.	Maruwa	Kodo	Poaceae	P	Rt	1	Land degradation
	<i>Ocimum gratissimum</i> L.	Ram tulsi	Ram tulsi	Lamiaceae	P	Rt	1	Land degradation
	<i>Oxalis corniculata</i> L.	Amlola	Chari amilo	Oxalidaceae	P	Rt	1	Overgrazing
	<i>Saraca asoca</i> (Roxb.) DC.	Ashok	Ashok	Fabaceae	J	Rt	1	Deforestation
	<i>Thevetia peruviana</i> (Pers.) Merrg	Kandel ke phul/ Champa phul	Karbir	Apocynaceae	P	Lf, Rt	1	Habit destruction
Cuts and Wounds	<i>Acacia Arabica</i> L.	Babul	Babul	Fabaceae	J& P	Bk,Td	1	Deforestation
	<i>Ageratum conyzoides</i> L.	Bokrabon	Ilame jhar	Asteraceae	Ash-Paste	Wp	1	Overgrazing
	<i>Butea monosperma</i> (Lam) Kuntz.	Panaas	Palans	Fabaceae	J	Lf	3	Habit destruction
	<i>Chrysopogon aciculatus</i> (Retz) Trin.	Charkanti	Kurro	Poaceae	Smoke	Wp	1	Overgrazing
	<i>Colocasia</i> sp.	Kachchu	Kalo Kachu	Araceae	J	Pt	1	Habit destruction
	<i>Cynodon dactylon</i> (Linn.) Pers.	Ujara Dub	Seto dubo	Poaceae	J	Wp	1	Overgrazing
	<i>Lantana camara</i> L.	Ganki	Banmara	Verbenaceae	P	Lf	1	Overgrazing
	<i>Magnifera indica</i> L.	Aam	Amp	Anacardiaceae	P	Ft	1	Land degradation
	<i>Semecarpus anacardium</i> L.f.	Bhela	Ranibhalayo	Anacardiaceae	P	Ft	3	Habit destruction
	<i>Shorea robusta</i> Roxb.ex. Gaertn.f.	Shakhuwa	Saal	Dipterocarpaceae	Re	St,Bk	3	Habit destruction
<i>Tridax procumbens</i> L.	Dhusur	Kurkurre jhar	Asteraceae	J	Wp	2	Deforestation	

	<i>Truinfetta rhombodea</i> Jacq.	Ballujhar	Allekurro	Tiliaceae	Pd	Wp	2	Habit destruction
Gastric								
	<i>Terminalia bellirica</i> (Gertn.) Roxb.	Barro	Barro	Combretaceae	P	Bk,Ft	3	Commercially threat
	<i>Curcuma angustifolia</i> Roxb.	Hardi	Hardi	Zingiberaceae	P & R	Rz	1	Land degradation
	<i>Acorus calamus</i> L.	Achheni	Bojho	Araceae	R	Rz	1	Habit destruction
Stomach pain								
	<i>Adhatota basica</i> Nees.	Vakas	Asuro	Acanthaceae	D	Wp	1	Habit destruction
	<i>Aegle marmelous</i> (L.)Corr.	Bel	Bel	Rutaceae	P	Lf,Ft	2	Deforestation
	<i>Apluda mutica</i> L.	Karauti ghans	Daklejhar	Poaceae		Wp	2	Habit destruction
	<i>Blumea lacera</i> (Burm.f.)DC	Bokrabon	Kurkure	Asteraceae	L	Rt	1	Overgrazing
	<i>Hibiscus rosa- sinensis</i> Linn.	Arholphul	Ghantiphul	Malvaceae	J	Fl	1	Land degradation
	<i>Mimosa pudica</i> L.	Lasauni	Buharijhar	Miosaceae	D	Rt	1	Overgrazing
	<i>Phyllanthus emblica</i> L.	Amlaa	Amlaa	Euphorbiaceae	D	Lf,Ft	1	Habit destruction
	<i>Strychnoc nux-vomica</i> Linn.	Kochila	Kuchila	Loganiaceae	P	Sd	2	Land degradation
	<i>Tinospora cordifolia</i> (Willd.) Miers	Guruj latti	Gurjo	Menispermaceae	P	S	1	Land degradation
	Musa sp.	Athiya kela	Kera	Musaceae	P	S	1	Land degradation
<i>Carica papaya</i> L.	Papita	Mewa	Caricaceae	J	Lf,Ft	1	Land degradation	
Headache								
	<i>Areca catechu</i> L.	Supari	Supari	Palmae	P	Ft	1	Land degradation
	<i>Brassica rapa</i> L.	Tori	Tori	Cruciferae	P	Sd	1	Land degradation
	<i>Cinnamomum tamala</i> Nees.	Patrash	Tejpatta	Lauraceae	P	S	1	Habit destruction
Earache								
	<i>Allium cepa</i> L.	Lasun	Lasun	Liliaceae	P	B	1	Land degradation
	<i>Allium sativum</i> L.				D	B	1	Land degradation

	<i>Ficus hispida</i> L.f.	Khokash	Khasreto	Moraceae	J	Lf	1	Deforestation
Tonic								
	<i>Asparagus racemosus</i> Willd.	Kurilo/ Saitabari	Kurilo/ satabari	Liliaceae	D	S	2	Habit destruction
	<i>Bombax ceiba</i> L.	Simar	Simal	Bombaceae	D	Bk,Fl,Ft	3	Habit destruction
	<i>Curcuma angustifolia</i> Roxb.	Hardi	Hardi	Zingiberaceae	P&R	Rz	1	Land degradation
	<i>Madhuka longifolia</i> (Koenig) Macbride	Mahuwa	Mahuwa	Sapotaceae	D	Fl	2	Deforestation
Hair tonic	<i>Melia azadirach</i> L.	Bakain	Bakaeno	Meliaceae	P	Bk	1	Habit destruction
	<i>Phyllanthus emblica</i> L.	Amla	Amla	Euphorbiaceae	D	Lf,Ft	1	Habit destruction
Toothache								
	<i>Artocarpus heterophyllus</i> Lam.	Katahar	Rukhatar	Moraceae	J	Td	2	Land degradation
	<i>Ricinus cummunis</i> L.	Andi/Arri	Andi	Euphorbiaceae	J	S	1	Deforestation
	<i>Solanum aculeatissimum</i> Jacq.	Katgain	Katgaini	Solanaceae	Heated Soot	S	1	Land degradation
Anthelmintic								
	<i>Alstonia Scholaris</i> (L.)R.Br.	Chhatiyan	Chhatyan	Apocynaceae	L	Bk	2	Deforestation
	<i>Artemisia dubia</i> Wall.ex.Besser	Titepaati	Titepaati	Asteraceae	J	Lf	2	Habit destruction
	<i>Azadirachta indica</i> A.Juss.	Neem	Neem	Meliaceae	P	Bk,Lf	1	Habit destruction
	<i>Cassia tora</i> L.	Toppariya	Tapre	Fabaceae	J	Lf	1	Habit destruction
Vomiting								
	<i>Artemisia dubia</i> Wall.ex.Besser	Titepaati	Titepaati	Asteraceae	J	Lf	2	Habit destruction
	<i>Cocos nucifera</i> L.	Nariyal	Nariwal	Arecaceae	D	Bk	1	Land degradation
	<i>Cuscuta reflexa</i> Roxb.	Amarlatti	Akashbeli	Cuscutaceae	Ash-Paste	Wp	2	Deforestation
Fever	<i>Amaranthus viridis</i> L.	Genari	Lude	Amaranthaceae	D&P	Lf	1	Land degradation
	<i>Callicarpa macrophylla</i> Vahl.	Dahigun	Guenlo	Lamiaceae	L	Rt	1	Land degradation

	<i>Clerodendron viscosum</i> Vent.	Bhant	Bhate	Verbenaceae	P	Td	1	Habit destruction
	<i>Nelumba nucifera</i>	Kamal	Kamal	Nymphiaceae	P	Lf	3	Habit destruction
	<i>Nelumbo nucifera</i>	Bhetiphul/Kamal phul	Kamal	Nymphiaceae	J	Lf	2	Habit destruction
	<i>Nyctanthus arbortristis</i> L.	Shinhara	Paarijat	Oleaceae	P	Fl,Lf	1	Habit destruction
	<i>Euphorbia</i> sp.	Nagfeni		Euphorbiaceae	L	S	1	Habit destruction
	<i>Pithecellobium dulce</i> benth.	Jilebi	Jilebi	Fabaceae	J	Lf,Ft	1	Habit destruction
	<i>Tinospora cordifolia</i> (Willd.) Merrs	Gurujlati	Gurjo	Mwnispermaceae	P	S	1	Land degradation
Skin Disease	<i>Azadirachta indica</i> A. Juss.	Neem	Neem	Meliaceae	P	Bk,Lf	1	Deforestation
	<i>Cassia occidentalis</i> L.	Jhunjhuna	Kasaudi/Panva r	Fabaceae	P	Lf,Sd	1	Habit destruction
	<i>Cassia tora</i> L.	Toppariya	Tapre	Fabaceae	J	Lf	1	Habit destruction
	<i>Clerodendrum indicum</i> (L.)Kuntze	Saharphoka		Verbenaceae	R	S	1	Habit destruction
	<i>Ficus benghalensis</i> L.	Baur	Bar	Moraceae	D	Bk,Lx	1	Deforestation
	<i>Ficus religiosa</i> L.	Peeper	Pipal	Moraceae	P	Bk	1	Deforestation
	<i>Ipomoea cornea subsp.fistulosa</i> (Mart.exChoisy)D.Austi	Karmisag	Karmi ko sag	Convolvulaceae	J	Lf	1	Overgrazing
Jaundice	<i>Amorphophallus campanulatus</i> Blume	Ol	Ol	Araceae	P	Tb	1	Land degradation
	<i>Carica papaya</i> L.	Papita	Mewa	Caricaceae	J	Lf,Ft	1	Land degradation
	<i>Lowsonia inermis</i> L.	Mendi	Mehandi	Sapotaceae	L	Lf	1	Land degradation
Anti- inflammation	<i>Amorphophallus campanulatus</i> Blume	Ol	Ol	Araceae	P	Tb	1	Land degradation
	<i>Echhornia</i>	Jalkumbhi	Jalkumbhi	Pontederiaceae	V	Wp	1	Habit destruction

	<i>crassipes</i> (Mart.)Solms							
Diabetes	<i>Annona reticulate</i> L.	Sarifa	Sarifa	Annonaceae		Lf,Ft	1	Deforestation
	<i>Bryophyllum pinnatum</i> (L.)	Magarmaush		Crassulaceae	P	Lf	1	Land degradation
Dysentery & Diarrhea	<i>Anthocephalus chinensis</i> (Lam.)A.rich.Exwallp	Kadam	Kadam	Rubiaceae	L	Bk	1	Deforestation
	<i>Atrocarpus lackoocha</i> Roxb.	Badahar	Badahar.	Moraceae	P&Rtlx	Bk,Rtlx	2	Habit destruction
	<i>Bauhinia purpurea</i> L.	Mauhli	Tanki	Fabaceae	P	Bk	1	Deforestation
	<i>Cannabis sativa</i> L.	Bhang/Ganja	Bhang	Cannabaceae	P	Fl	1	Overgrazing
	<i>Capsicum annum</i> L.	Marchain	Khurshani	Solanaceae	P	Lf	1	Land degradation
	<i>Centella asiatica</i> (L.)Urban	Bhatpuren	Ghodtapre	Apiaceae	P	Lf	1	Overgrazing
	<i>Dalbergia sissoo</i> Roxb.ex DC	Sissoo	Sissoo	Fabaceae	D	Lf	1	Deforestation
	<i>Datura metal</i> L.	Dhatur	Dhatur	Solanaceae	P	Rt,Sd	1	Land degradation
	<i>Ficus benghalensis</i> L	Baur	Bar	Moraceae	D	Bk,lx	1	Deforestation
	<i>Hygrophila auriculata</i> (Schumacher) Heine	Premul/Gokla ke kant	Kaneojhar	Acanthaceae	P	Lf,Rt	1	Overgrazing
	<i>Imperata cylindrica</i> (L.)Pal.	Dabhi	Siru	Poaceae	P	Rt	1	Overgrazing
	<i>Tamarindus indica</i> L.	Tetor/Tetair	Titri	Fabaceae	P	Lf,ft	1	Deforestation
<i>Zyzyphus mauritiana</i> Lam.	Bair	Bayar	Rhamnaceae	D	Rt,Bk	1	Deforestation	
Burn & Boils	<i>Aloe vera</i> (L.)Burm.f.	Gheukumari	Gheukumari	Liliaceae	J	Lf	2	Habit destruction
	<i>Heliotropium strigosum</i> Will.	Jhyangi	Chiraiya	Boraginaceae	J	Wp	2	Deforestation
	<i>Scorparia dulcis</i> L.	Chinijhar	Mithijhar	Scrophulariaceae	P	Wp	1	Overgrazing
	<i>Sesamum indicum</i> Linn.	Til	Til	Pedaliaceae	O	Sd	1	Land degradation
	<i>Solanum tuberosum</i> L.	Aaloo	Aaloo	Solanaceae	P	Tb	1	Land degradation
Antiseptic	<i>Azadirachta indica</i> A.Juss.	Neem	Neem	Meliaceae	P	Bk,Lf	1	Deforestation
Family	<i>Piper betle</i> L.	Paan	Paan	Piperaceae	P	Ft,Rt	1	Deforestation

Planning	<i>Piper betle</i> L.	Paan	Paan	Piperaceae	P	Ft,Rt	1	Habit destruction
Delivery problems	<i>Lagenaria siceraria</i> Mol.	Kaddu	Lauka	Cucurbitaceae	R	Rt	1	Land degradation
	<i>Musa paradisiacal</i> L.	Kela	Kera	Musaceae	P	Td	1	Land degradation
Pregnancy	<i>Bryonia laciniosa</i>	Ladvadi	Shivlinge	Cucurbitaceae	P	Ft	2	Habit destruction
Urinary disorder	<i>Bryophyllum pinnatum</i> (L.)	Magarmaush		Crassulaceae	P	Lf	1	Land degradation
	<i>Cynodon dactylon</i> (Linn.)Pres.	Ujra dub	Dubo	Poaceae	P	Rt	1	Overgrazing
	<i>Tinospora cordifolia</i> (Willd.)Merrg	Kandel ke phul/ Champaphul	Karbir	Apocynaceae	P	S	1	Land degradation
Appetizer	<i>Cestrum diurnum</i> L.	Bathuwa	Bethesag	Chenopodiaceae	P	Wp	2	Overgrazing
	<i>Cucumis melo</i> L.var agrestis	Kakari		Cucurbitaceae	R	Ft	2	Land degradation
	<i>Cyperus rotundus</i> L.	Motha	Mothe	Cyperaceae	P	Tb	1	Overgrazing
	<i>Jatropha curcas</i> L.	Banhandi	Datiwan	Euphorbiaceae	P	Rt	1	Land degradation
	<i>Tinospora cordifolia</i> (Willd.)Merrg	Kandel ke phul/ Champaphul	Karbir	Apocynaceae	P	S	1	Land degradation
Cough & Cold	<i>Citrus</i> sp.	Kagati	Kagati	Rutaceae	J	Ft	1	Land degradation
	<i>Butomopsis lanceolata</i> (D.Don) Kanth.	Pipariya sag	Karkalejhar	Butomaceae	P	Wp	2	Land degradation
	<i>Dendrocalamus strictus</i> Nees.	Bans	Bans	Poaceae	V	S	1	Land degradation
	<i>Nyctanthus arbortristis</i> L.	Shinhara	Paarijat	Oleaceae	P	Fl,Lf	1	Habit destruction
	<i>Ocimum tenuiflorum</i> L.	Tulsi	Tulsi	Lamiaceae	D&P	Wp	1	Land degradation
	<i>Piper betle</i> L.	Paan	Paan	Piperaceae	P	Ft,Rt	1	Deforestation
	<i>Piper betle</i> L.	Paan	Paan	Piperaceae	P	Ft,Rt	1	Habit destruction
	<i>Terminalia chebula</i> Retzius	Harro/Hairra	Harro	Combretaceae	Ext	Ft	2	Commercially threat

	<i>Zingiber officinale</i> Rosc.	Aadi/Aada	Aduwa	Zingiberaceae	R&D	Rz	1	Land degradation
Constipation	<i>Cassia fistula</i> L.	Rajbrikchha	Rajbrikchha	Fabaceae	Pulp	Ft	3	Deforestation
	<i>Chenopodium album</i> L.	Bathuwa	Bethesag	Chenopodiaceae	D	Wp	1	Overgrazing
	<i>Cuscuta reflexa</i> Roxb.	Amarlatti	Aakashbeli	Cuscutaceae	D	Wp	2	Habit destruction
	<i>Leucas indica</i> (L.)R.Br.ex	Dulphi	Dulphi	Lamiaceae	P	Lf	1	Deforestation
Rheumatism	<i>Cassia fistula</i> L.	Rajbrikchha	Rajbrikchha	Fabaceae	Pulp	Ft	3	Deforestation
	<i>Cissus quadrangularis</i> L.	Giraha Bat/Hadjor	Hadjor	Vitaceae	P	Wp	2	Habit destruction
	<i>Datura metel</i> L.	Dhatur	Dhaturo	Solanaceae	P	Rt,Sd	1	Land degradation
	<i>Psidium guajava</i> L.	Latam/Biloki	Amba	Myrtaceae	P	Wp	1	Land degradation
	<i>Solanum nigrum</i> L.	Bhutka	Kaligedi	Solanaceae	P	Ft	1	Habit destruction
	<i>Trachyspermum ammi</i> (Linn.) Sprague	Jwano	Jwano	Apiaceae	D	Sd	1	Land degradation
Body ache	<i>Celosia argentea</i> L.	Choroyo	Chadephul	Amaranthaceae	J	Wp	2	Habit destruction
	<i>Cucumis melo</i> L.var agrestis	Kakari		Cucurbitaceae	R	Ft	2	Land degradation
Piles	<i>Ficus racemosa</i> L.	Gular	Dumri	Moraceae	J	Bk,Lx	1	Deforestation
Lactation	<i>Alternanthera sessilis</i> (L.)DC	Sarauchi/Bhringraj	Bhringijhar	Amaranthaceae	J	Wp	1	Overgrazing
Revitalize sexual impotency	<i>Bombax ceiba</i> L.	Simar	Simal	Bombacaceae	D	Bk,Fl,Ft	3	Habit destruction
Backbone pain	<i>Abrus precatorius</i> L.	Raktachandan/Kajarni	Lalgedi	Fabaceae	L	Sd	2	Habit destruction
	<i>Polygonum barbatum</i> L.	Bisnair	Pirejhar	Polygonaceae		Wp	1	Habit destruction
Hysteria	<i>Allium cepa</i> L.			Liliaceae	P	B	1	Land degradation

	<i>Allium sativum</i> L.			Liliaceae	D	B	1	Land degradation
Scabies	<i>Argemon maxicana</i> L.	Surujkant	Thakal	Papaveraceae	P	Wp	1	Habit destruction
Intestinal disorder	<i>Cinnamomum tamala</i> (Buch-Ham.)Nees & Eberm	Patrashpatta	Tejpatta	Lauraceae	L	S	3	Habit destruction
Narcotic	<i>Nicotiana tabacum</i> Linn.	Surti	Surti	Solanaceae	Pd	Lf	2	Habit destruction
	<i>Datura metal</i> L.	Dhatur	Dhatur	Solanaceae	P	Rt,Sd	1	Land degradation
Scurvy	<i>Moringa oleifera</i> Lam.	Sahjan/Munga	Sajiwan	Moringaceae	D	Wp	2	Land degradation
Sedative	<i>Nicotiana tabacum</i> Linn.	Surti	Surti	Solanaceae	Pd	Lf	2	Habit destruction
Purgative								
	<i>Rheum emodi</i> Wall.ex meissner	Padamchal	Padamchal	Polygonaceae	P	Rt	3	Habit destruction
Cooler								
	<i>Stephania elegans</i> Hook.f.et.Thoms.	Gudurgana	Chillo batulpate	Menispermaceae	J	Wp	2	Deforestation
Blood circulation								
	<i>Vitex nigundo</i> L.	Sinwair	Simali	Verbenaceae	L	Rt	1	Habit destruction
Measles								
	<i>Valloria solanacea</i> (Roth.)O.Kuntze		Dudhe lahara	Apocynaceae	D	Wp	2	Habit destruction
Check excessive bleeding during								
	<i>Syzygium cumini</i> (L.)Skeels	Jamun	Jamun	Myrtaceae	L	Lf,Ft	1	Deforestation

meantruation								
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Note: 1: Common, 2: Occasional, 3: Rare, Ft: Fruit, Rt: Root, Wp: Whole plant, S: Stem, Sd: Seed, Tb: Tuber, Bk: Bark, Fl: Flower, Rz: Rhizome, Lf: Leaf, St: shoot, Lx: Latex, Td, Tender, Pt: Petiole, B: Bulb, Rtlx: Root latex, Pd: Powder, p: Paste, D: Decoction, V: Vapour, R: Raw, J: Juice, L: Liquid, Re: Resin, O: Oil, Ext: Extract

Figure: 2. Threat for Medicinal Plants

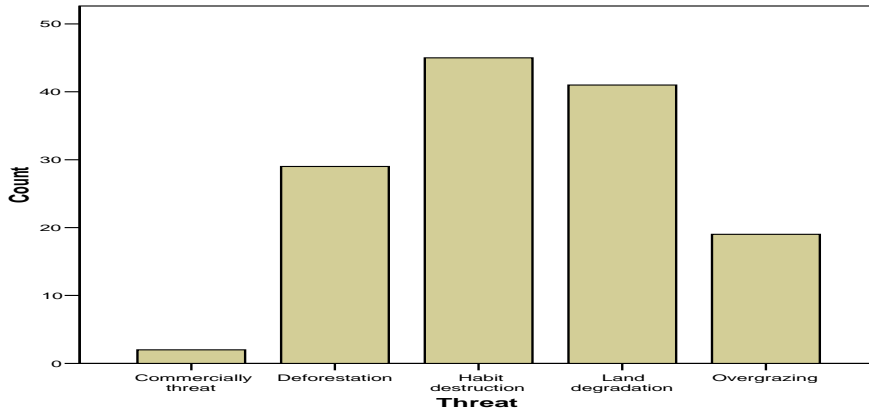
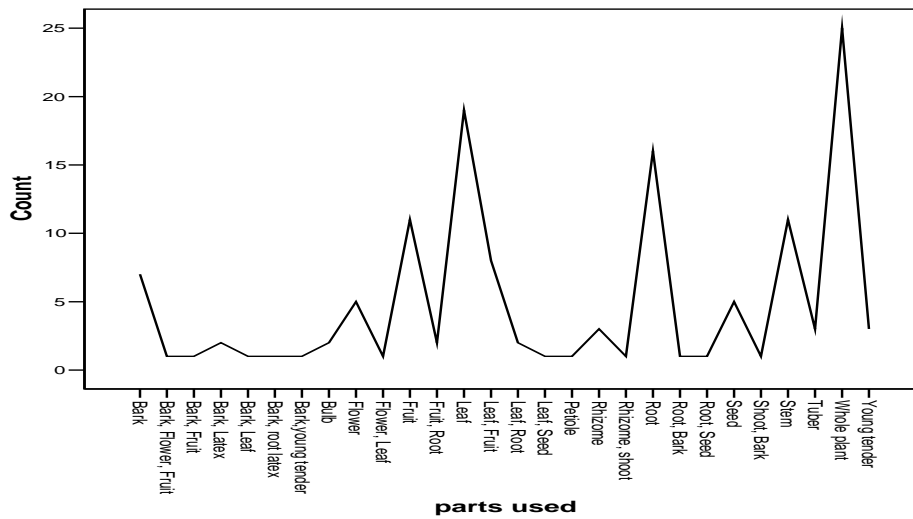


Figure: 3. Various Parts of the Plants Used as Medicine



Recommendation:

- The indigenous knowledge and practices of the Tharu people on the utilization of plant resources as medicine should be documented and preserved before they get lost and disappeared due to increasing integration.
- Market access for traditional knowledge of Tharu community should be created by the concerned department of government..
- ‘Jadibuti’ processing should be prioritized by the concerned authorities.
- Orientation about all the useful plants should be given to people of young generation people by expert time to time.
- Legal authority/ license should be given by the government to local healers to promote trade/ business to improve their economic condition.

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