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 plans 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, habit 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-Jhakri[1] of this community use various plants to remove the diseases since the time immemorial. Hundreds and thousands of traditional healers Amchis[2] 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

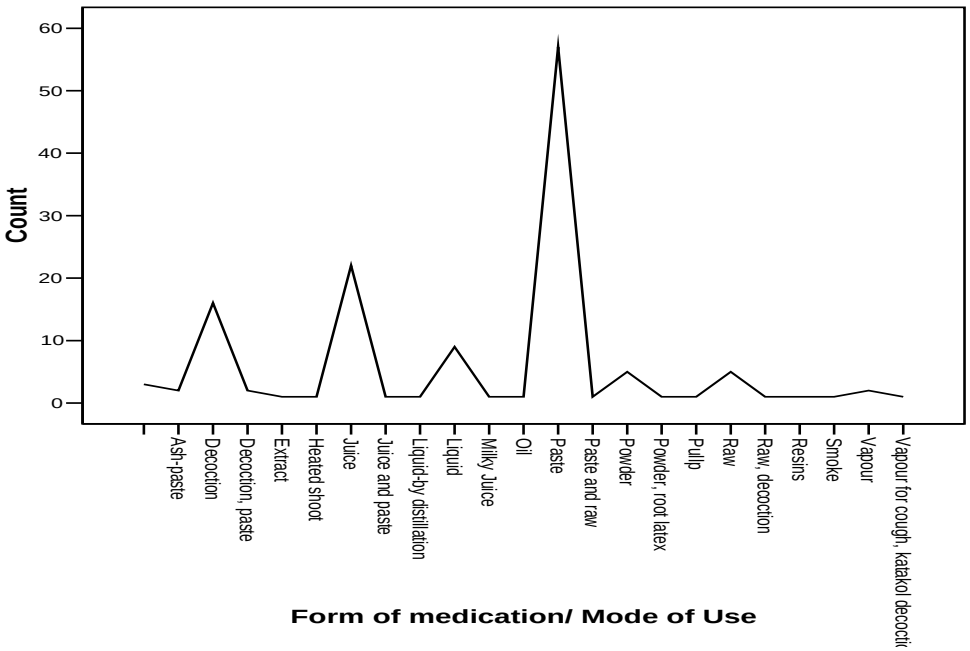

Count
60
50
40
30
20
10
0
Ash-paste
Decoction
Decoction, paste
Extract
Heated shoot
Juice
Juice and paste
Liquid-by distillation
Liquid
Milky Juice
Oil
Paste
Paste and raw
Powder
Powder, root latex
Pulp
Raw
Raw, decoction
Resins
Smoke
Vapour
Vapour for cough, katakol decoctic
Form of medication/ Mode of Use

Table1

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

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

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

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

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

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

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

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

meantruation								

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

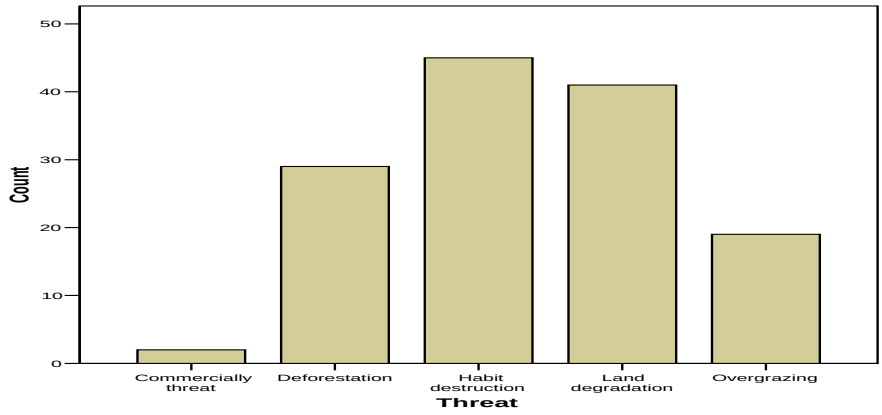
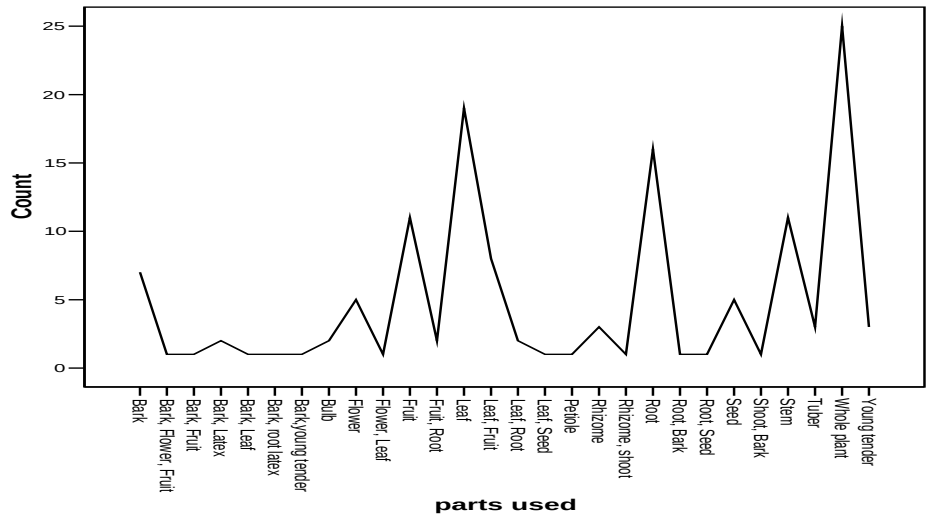


Figure: 3. Various Parts of the Plants Used as Medicine



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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