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RESEARCH ARTICLE

Study of medicinal organisms used by Tharu Ethnic Group (TEG) in Dekhatbhuli area of Kanchanpur District, Nepal

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ABSTRACT

This study tried to document the traditional medicinal organisms and their parts used by Tharu ethnic group (hereafter TEG) and we documented a total of 22 animal species including 20 families which they used in treating 25 different ailments among them 68.18% were wild species, 27.27% were domesticated and 4.55% belongs to other, and 103 plant species used in treating 86 different ailments among them 28 species were trees, 13 were shrubs, 51 were herbs and 11 were climber. Most of the animal species used belongs to class mammalian. The study revealed that 51 plants were used for treating of single ailment and remaining 52 species of plants were used for treating more than one ailment. In present exploration we proudly can say that TEG is very much rich from ethnobiological point of view. Data were collected through semi-structured open ended questionnaire survey, direct personal interviews with key informants (faith healers', they call them, Bharras and Guruwas) and through group discussions. Simple random sampling method was applied for the selection of respondents. The result showed that leaf is highly used in medicinal purposes among all other parts and is successively followed by the root and fruit.

KEYWORD

Tharu, Medicinal Ethnobiology, IK, Dekhatbhuli, Conservation.

History

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INTRODUCTION

Himalayan country of Nepal is well known for her richness in biodiversity and the indigenous knowledge of different ethnic groups. The term 'ethnic groups' means the people living in one particular community since very long and it has assumed to have its own indigenous traditional knowledge. The study of all the aspects of these communities in a scientific way is, therefore, known as ethno-biology. The word 'ethnobiology' means the multidisciplinary scientific study of the folk knowledge and cultural practices embodied in traditional medical systems, with particular emphasis on the uses of natural and biological resources in the maintenance and restoration of normal functioning of human health (Berlin and Berlin, 2005). Manandhar (2002) showed that still due to the inaccessibility to the modern facilities about 70-80% of the total population of the country depends upon a wide range of medicinal plants and animals for their primary healthcare. Traditional medicines play an important role in maintaining the health care system in developing countries (Thapa et al., 2013).

There are all total 125 different ethnic groups and 123 languages spoken as mother languages in Nepal (CBS, 2011). The study area comprises both the Tharu communities (Dangaura and Rana tharu) whose population all over the country is 6.6% i.e. 1,737,470. Of them, 18,578 people lives in Dekhatbhuli Kanchanpur (NPHC, 2011).

Indigenous people such as, rural communities, tribes, and ethnic societies have invaluable bank of knowledge, which is passed on verbally from one generation to another (Singh, 1995). Likewise, Tharu people are also very much rich in traditional ethnobiological knowledge.

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It is fact that if we are able to conserve forest ecosystem and take our great concern on climate change and, therefore, medicinal ethno-biology, it is certain that our country will get economically enhanced. For this we all have to think about different anthropological activities that promotes rapid climatic alteration and put the biodiversity in verge of extinction.

However, one of the local healers, Keshar Rana (aged 80) lamented in the point that the medicinal organisms which were found easily in past years are hard to get in these days. He added, youngsters are not keen in this traditional knowledge and if this process is continued, he said that this indigenous knowledge will lost in sooner coming future.

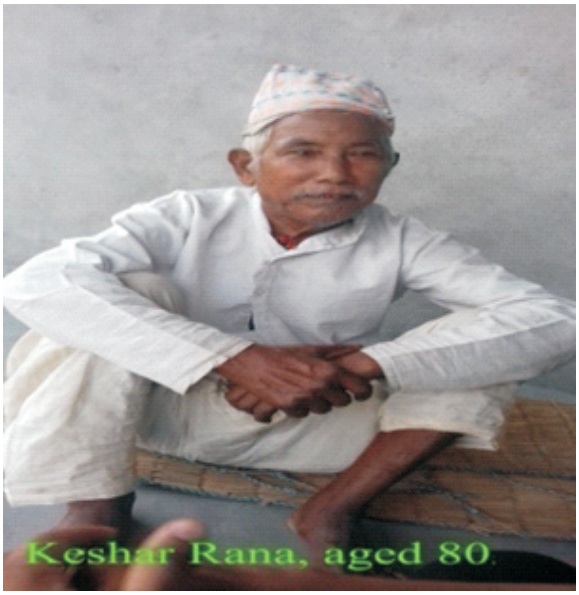

Figure 1: One of the local healer, Keshar Rana (aged 80).

He insisted that rising climate is the principal cause for extinction of the locally available medicinal organisms. Previously Nepal is exporting the medicines locally available in an illegal way, he added but due to lack of knowledge to conserve habitat, forest resources that were found in past days has extinct.

Materials and Methods

Study Area

Dekhatbhuli predominately possesses Tharu community (both Dangaura and Rana). It lies in Kanchanpur district of Sudurpaschim province. It is between latitudes 280 50' N and longitude of 800 24'E. The Dekhatbhuli area lies in to three municipalities' viz. Krishnapur Municipality, Suklaphanta Municipality and Laljhadi Rural Municipality. The elevation ranges from 160 m to 184 m (The Siwalik Hills). The average annual rainfall of the district is 1775 mm. The average maximum temperature is 43°C while the average minimum temperature is 3°C.

Primarily the simple random sampling was applied for the selection of interviewees. Then the field visit was conducted in five shifts during the range of three months from October 1 to December 30 of the year 2018.

Primary data was obtained using key informant interview technique with faith healers' (Bharras and Guruwas) and other local stakeholders, teachers etc., following questionnaire method. Then the documented data were analyzed through pie-charts, bar-graphs etc., using MS Excel spread sheet, and during the course no animals and plants were harmed.

Figure 2: Map of Kanchanpur district.

Results

Medico-ethno-zoology

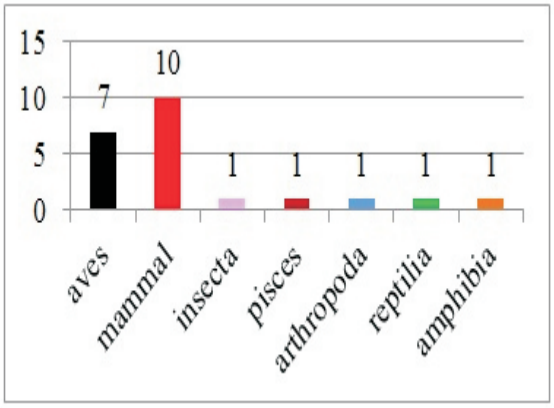

Figure 3: The number of animals belonging to different classes.

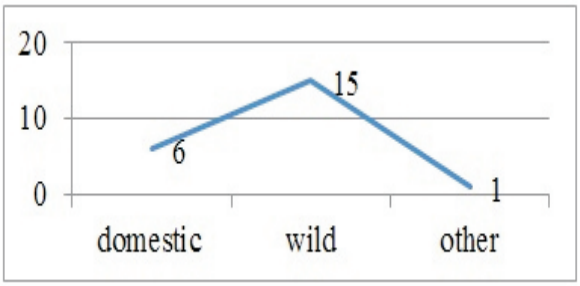

Figure 4: Habitat of Animals Collected.

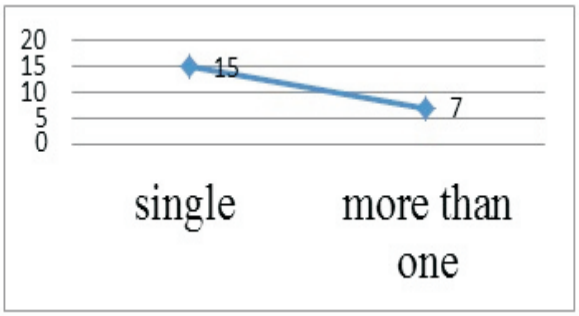

Figure 5: Types of diseases cured by animals in numbers.

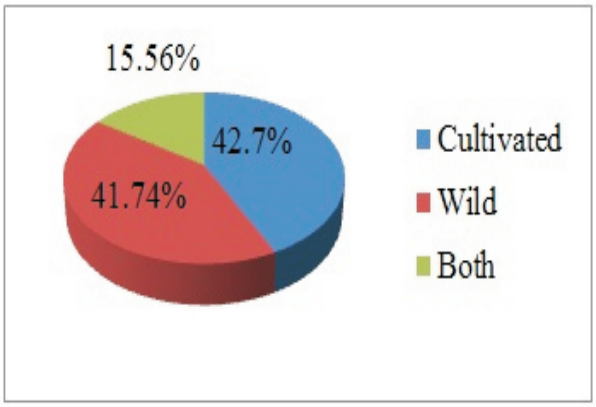

Figure 6: Habitat of plant species.

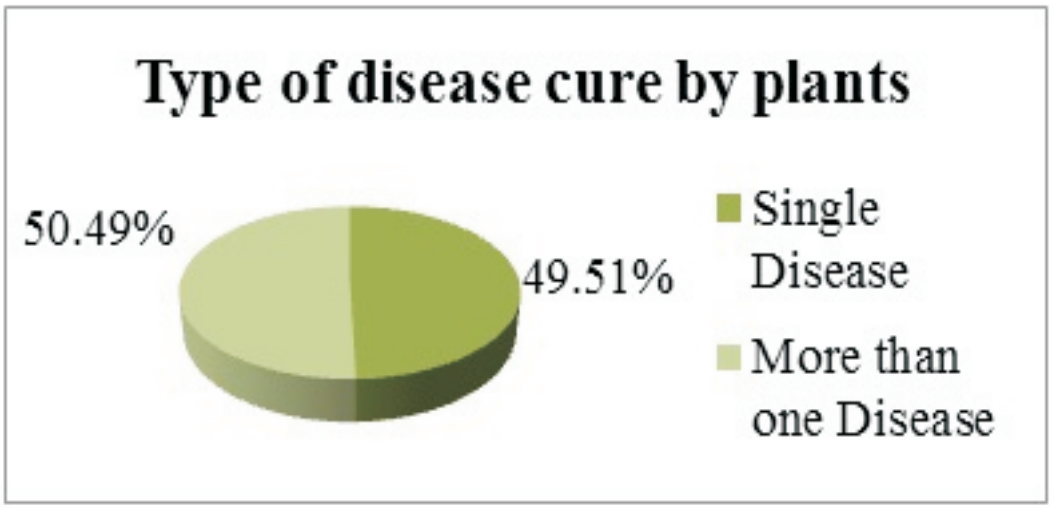

Figure 7: Types of diseases cured by plants.

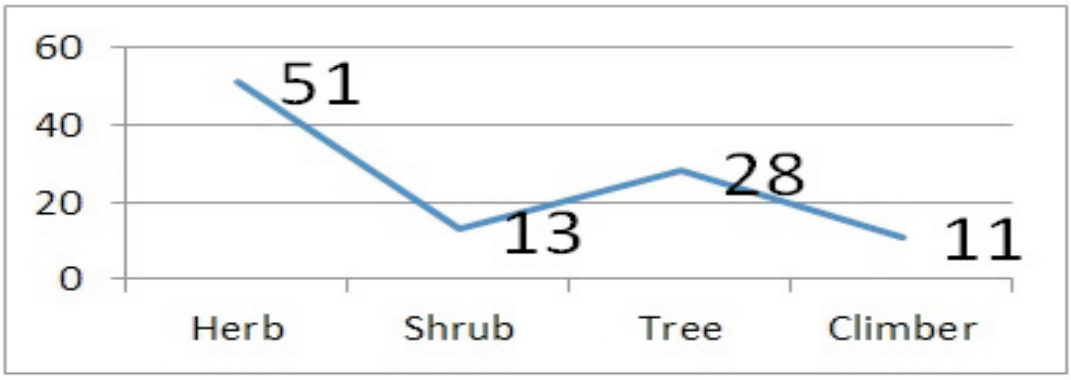

Figure 8: Plant life form in numbers.

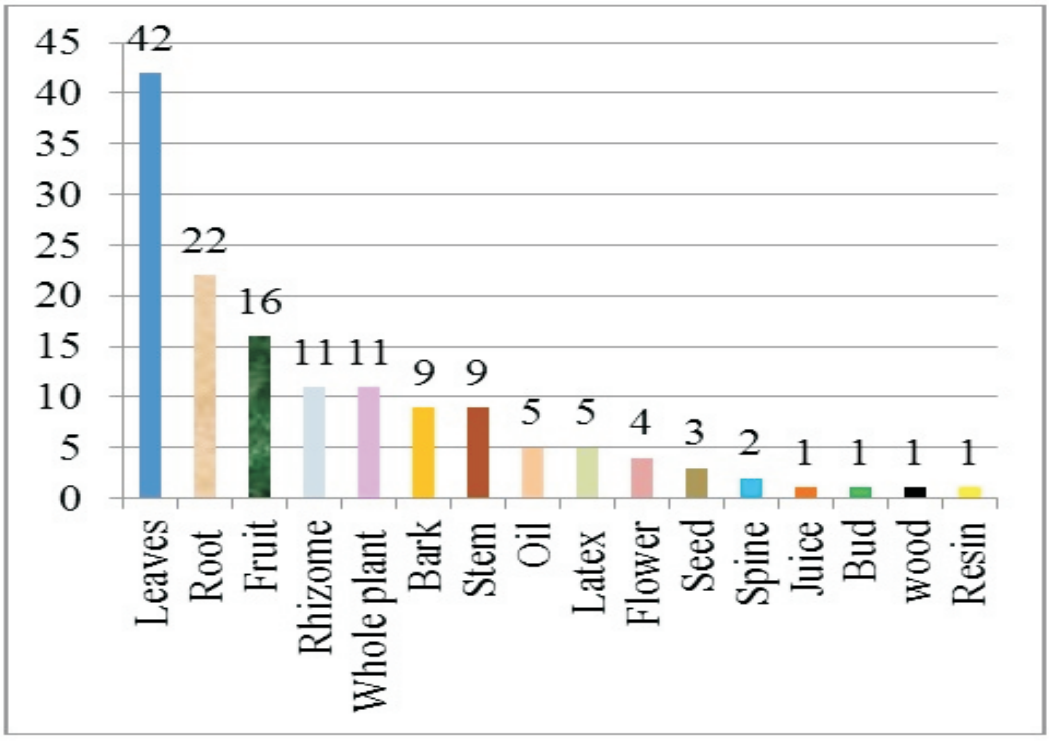

Figure 9: Plant parts used for medicinal purposes.

Table 1: Animals having medicinal values in Tharu ethnic group of Dekhatbhuli, Kanchanpur.

S. N	Order	Family	Scientific name	Nepali/ Local name	Habit	Parts/ products used	Name of the ailment/disease treated
1.	Artiodactyla	Bovidae	*Bos indicus*	Cow/Gaiya	Domestic	Urine, Milk	Skin disease, Hand/ leg sprain
2.	Artiodactyla	Bovidae	*Bubalus bubalis*	Buffalo/ Baisiya	Domestic	Dung, Butter	Body pain, leg and mouth cracked
3.	Artiodactyla	Suidae	*Sus scrofa*	Pig/ Soura	Domestic	Mouth parts	Chest pain
4.	Galliformes	Phasanidae	*Gallus gallus domesticus*	Chicken/ Murga/Murgiya	Domestic	Egg, Blood, Meat	Menstural disorder, Cold, Snake bite, Pneumonia
5.	Lagomorpha	Leporidae	*Orgodactylus sp.*	Rabbit/ Kharahaa	Domestic	Meat	Asthma
6.	Columbiformes	Columbidae	*Columba livia*	Pigeon / Parewa	Domestic	Meat	Muscular pain and Cold
7.	Galliformes	Phasanidae	*Pavo cristata*	Peacock/ Mulla	Wild	Bone	Heart pain
8.	Accipitriformes	Accipitridae	*Gyps sp.*	Vulture/ Giddha	Wild	Bone/Abdomen	Fracture
9.	Passeriformes	Passeridae	*Passer domesticus*	Bhagera Gagaya	Wild	Meat	diminished sexual power
10.	Passeriformes	Corvidae	*Corvus macrorhynchos*	Jungle crow/ Kauwa	Wild	Tounge	Impaired speaking in children
11.	Artiodactyla	Cervidae	*Axis axis*	Spotted deer /Hirian	Wild	Antlers, Meat	Fracture, Bone strengthening, Blurred vision
12.	Hymenoptera	Apidae	*Apis cerana*	Honey bee Saahat	Wild	Honey, wax, larva	Cough, Pneumonia, Weakness
13.	Strigiformes	Strigidae	*Athene noctua*	Owl/ Khasutar	Wild	Eye(pesera)	Eye problem
14.	Carnivora	Canidae	*Canis aurens*	Jackal /Sera/Seriya	Wild	Fat, Meat	Rheumatism(Baath)
15.	Probacidea	Elephantiadae	*Elephas maximus*	Elephant Hatiya/Hatini	Wild	Dung	Leg sprain
16.	Rodeatia	Hystricidae	*Hystrix indica*	Porcupine /Sehi	Wild	Meat	Asthma
17.	Squamata	Agamidae	*Calotes versicolor*	Garden lizard/ Khirkhando	Wild	Meat	Marasmus
18.	Decapoda	Cancridae	*Cancer pagurus*	Crab /Gingata	Wild	Meat	Common cold
19.	Decapoda	Palaemonidae	*Paleomon malcolmsonii*	Fish/ Jhinge Macha'	Wild	Meat	Common cold
20.	Anura	Ranidae	*Rana tigrina*	Frog/Mudka	Wild		Snake Bite
21.	Primates	Cercopithecidae	*Maccaca mulata*	Monkey /Bandara	Wild	Meat	Marasmus
22.	Primates	Homonidae	*Homo sapiens sapiens*	Manche	------	Milk	Eye infection

Table 2: Plants having medicinal values in Tharu ethnic group of Dekhatbhuli, Kanchanpur.

S.N	Name	Habitat	Scientific name	Plant life form	Family	Order	Part used	Medicinal applications	Procedure of application
1	Aakashbeli (N/Th)	C	*Cuscuta reflexa*	Climber	Convolvulaceae	Solanales	Whole plant	Bone fracture	Grinded finely and applied.
2	Aakh (N/Th)	W	*Calotropis procera*	Shrub	Asclepiadaceae	Gentianales	Whole plant	#Bakhra ko pet fulne rog	Given to the goats.
3	Aap (N)/ Aam (Th)	C	*Magnifera indica*	Tree	Anacardiaceae	Sapindales	Leaf	Diarrhea, dysentery	Soup of bark and leaf is taken.
							Bark	Common cold, diarrhea	
4	Aduwa (N)/Adrak (Th)	C	*Zingiber officinale*	Herb	Zingiberaceae	Zingiberales	Rhizome	Indigestion, cough and throat pain	Eaten directly or in vegetables.
5	Amala (N)/Aura(Th)	C/W	*Emblica officinalis*	Tree	Euphorbiaceae	Malpighiales	Bark	Asthma, jaundice and swollen	Bark powder is mixed with Barro and Harro and then eaten.
6	Amba(N/Th)	C/W	*Pisidium guajava*	Tree	Myrtaceae	Myrtales	Soft tips	Headache	Soft tips are grinded and applied to nose.
7	Anar(N)/Dadim (Th)	C	*Punica gromatum*	Tree	Puniaceae	Myrtales	Fruit	Diarrhea and tonic	Eaten directly or sometimes filtrate is also used.
8	Azwain(N/Th)	C	*Trachyspermum ammi*	Herb	Apiaceae	Apiales	Fruit	Lactation and menstrual cramps	Soup is prepared and eaten.
9	Badai (Th)	W		Tree			Stem	Infertility	Hanged over neck for weeks.
10	Badam(N)/ Mumfali(Th)	C	*Arachis hypogaea*	Herb	Fabaceae	Fabales	Fruit	Tonic and appetite	Directly eaten.
11	Ban pyaj(Th)	W	*Urginea indica*	Herb	Amaryllidaceae	Liliales	Rhizome	Fever	Eaten orally.
12	Ban tarul(Th)	W	*Dioscorea bulbifera*	Climber	Dioscoreaceae	Dioscoreales	Rhizome and stem	Piles	Eaten orally by frying.
13	Banda Gobi (N)	C	*Brassica oleraceae*	Herb	Brassicaceae	Brassicales	Leaf	Cardiotonic, stomachic	Leaf and seed is eaten along with vegetables
							Seed	diuretic, laxative, stomachic	
14	Bandralathi (Th)	W	*Cassia fistula L.*	Tree	Fabaceae	Fabales	Leaf and root	**#Navi sujan**	Paste is applied.
15	Barro (N)/ Bahera(Th)	W	*Terminalia bellirica*	Tree	Combrefaceae	Myrtales	Bark	Asthma and swollen	Bark powder is mixed with Amala and Harro and then eaten.
16	Basil (N/Th)	W	*Ocimum basilicum*	Herb	Labiateae	Lamiales	Leaf	Tonsillitis	Leaf paste is applied.
17	Bayer(N/Th)	W	*Zizyphus mauritiana*	Tree	Rhamnaceae	Rosales	Leaf	Scorpion bite	Grinded leaf is applied to the bitten part.
							Root	Parasitic attack on cattle	Root soup is given to the cattles.
18	Bela phul(Th)	W	*Jasminum sambac*	Shrub	Oleaceae	Lamiales	Flower	Stomach pain #BELA ROG	Flower is squeezed and its exudation is eaten orally.
19	Besar(Th)	C	*Curcuma longa*	Herb	Zingiberaceae	Zingiberales	Rhizome	Cough	Eaten orally or by making its soup.
20	Bethi(N)/ Bethu(Th)	C	*Chenopodium album*	Herb	Chenopodiacea e	Caryophyllales	Leaf	Joint pain and cough	Eaten in vegetables.

21	Bhang(N)/ Bhangauta(Th)	C/W	*Cannabis sativa*	Herb	Cannabaceae	Rosales	Leaf and fruits	Murmuring in goats	Applied along with neem.
							Leaf	Cut	Grinded leaf exudation in applied to the cut part.
							Fruits	Stomach pain and indigestion.	Its fruits are filled in a cigarette and smoked orally.
22	Bhanta(N)/ Bhata (Th)	C	*Solanum melongana*	Herb	Solanaceae	Solanales	Root	Testes swollen	Paste is applied along with Gurjebelo.
23	Bijaya Saal(N/Th)	W	*Pterocarpus marsupium*	Tree	Fabaceae	Fabales	Wood, latex, and young stem	Asthma, headache, body ache, stomachache, skin disease	Solid part is grinded and applied while the latex is applied surfacely.
24	Bishkhapra (Th)	W	*Trianthema portulacastrum*	Herb	Aizoaceae	Caryophyllales	Soft tips	Ripening (Pilo)	Grinded very finely and applied to the infected part.
25	Bojho(Th)	W	*Acorus calamus*	Herb	Araceae	Acorales	Rhizome and leaf	Common cold, fever, toothache, headache, body pain, cough	Eaten or soup is applied to forehead.
26	Botali (Th)	W		Herb			Root	Dysentery	Eaten by making its soup.
27	Chameli(N/Th)	C	*Jasminum gracile*	Shrub	Oleaceae	Lamiales	Oil and flower	Sedative, antidepressant and antiseptic	Oil is used as an ointment.
28	Chadi (Th)	W		Tree			Leaf	Scabies	Grinded finely and applied.
29	Chamomille (Th)	C	*Matricaria recutita*	Herb	Compositae	Asterales	Oil	Joint pain and cosmetics	Oil is mixed with other chemical and applied
30	Chichindo (N/Th)	C	*Trichosanthes cucumerina anguina*	Climber	Cucurbitaceae	Cucurbitales	Fruit	Antihelmintic and purgative	Fruits are eaten.
31	Chirchira or chhatisa (Th)/ Apamarga (N)	W	*Achyranthes aspera*	Tree	Amaranthaceae	Caryophyllales	Leaf	Infertility, Dhatu rog and testes swollen	Leaf paste is applied and for infertility its leaf soup is eaten.
							Root	Marasmus, Swellen and paining of fingers #Gadha barma	Root paste is eaten or applied.
							Bark	Diarrhea, dysentery	Bark boiled and soup is eaten.
							Whole plant	Parasitic attack on cattles, scabies,diarrhea, urinary disorders, snake bite, scorpion sting, dysuria	Grinded finely and applied to the relevant part. For cattles, it is given by mixing with grasses.
							Stem	Toothache, bone fracture	Grinded finely and applied to the relevant part.
							Spines	Delivery problems	Spines are shown to the person in labour pain.
32	Chito (Th)	W	*Plumbago Zeylanica*	Shrub	Plumbaginaceae	Caryophyllales	Leaf	#Navi Sarne rog	Paste is used.
33	Chuk(N/Th)	C/W	*Citrus spp.*	Tree	Rutaceae	Sapindales	Root	Worm attack	Paste is applied.
34	Chukuli (Th)	W		Shrub			Stem and leaf	#Aakha ma phulo parne rog	Stem and leaf are grinded finely and exudation is applied to eyes.
							Leaf	Toothache	Leaf in applied to the teeth to recover tooth pain.
35	Chyau(N/Th)	W	*Agaricus bisporus*	Herb	Fungus spp.		Whole plant	Measles	Soup is eaten by cooking it adequately.
36	Citrinella (Th)	C	*Cymbopogon winterianus jowin*	Herb	Gramineae	Poales	Oil	Mosquito and snake repeller	Mosquito repeller candles are prepared by mixing citrinela oil and the candle is burn on desired place
37	Dhaniya (N/Th)	C	*Coriandrum sativum*	Herb	Umbelliferae	Apiales	Leaf	Allergy	Leaf paste is used.
							Seed	Common cold	Eaten by mixing in vegetables.
38	Dhaturo(N) / Dhatura(Th)	C/W	*Datura metel*	Herb	Solanaceae	Solanales	Leaf	Swollen	Paste extract is applied.
							Fruits	Rabies and joint pain	Its fruits are grinded and paste id applied to the bitten part.
39	Doobo(N)/ Dubarra(Th)	W	*Cynodon dactylon*	Herb	Gramineae	Poales	Whole plant	Cuts and wounds	Finely masticated and applied to the cut part.

40	Dudhi(Th)	W	*Euphorbia hirta*	Herb	Euphorbiaceae	Malpighiales	Latex	Swollen	Directly applied.
41	Ek patiya(Th)	W	*Ophioglossum spp.*	Herb	Ophioglossaceae	Ophioglossales	Fruit	Kidney stone and in Dhatu rog	For dhatu rog, ek patiya along with chirchira and mice and goat fecal matter plus mircha's soup is eaten to recover it.
42	Gahat (N/Th)	C	Dalichos biflorus	Herb	Fabaceae		Seed	Kidney stone	Eaten as a pulse to cure kidney stone.
43	Gajar(N/Th)	C	*Daucus carota*	Herb	Umbelliferae	Apiales	Whole plant	Painful urination, dysmenorrhea, abscesses, itching and ulcer	It is eaten.
44	Ganhaune jhar (N)/ Gindhuwana (Th)	W	*Ageratum conyzoides*	Herb	Asteraceae	Asterales	Leaf	Cut	Plant exudation is applied to the cut part.
45	Gilaujal or Gadpatta (Th)	W		Shrub			Leaf	Gastritis	Soup of the leaf is eaten
46	Ghyeukumari (N/Th)	C	*Aloe vera*	Herb	Liliaceae	Asparagales	Whole plant	Burning, gastritis and sugar	Its paste is applied to cure burning sensation.
47	Gulab(N/Th)	C/W	*Rosa indica*	Tree	Rosaceae	Rosales	Flower	Ear problem	Flower juice is applied to the ear.
48	Gurj(Th)	W	*Tinospora sinensis*	Shrub	Menispermaceae	Ranunculales	Stem	Constipation in animals	Given to the animals along with grasses.
49	Haddijor (N/Th)	W	*Vitis quadrangularis*	Herb	Vitaceae	Vitales	Whole plant	Fracture	Paste is applied to the fractured part by chicken feather.
50	Haldi (N/Th)	C/W	*Curcuma caesia*	Herb	Zingiberaceae	Zingiberales	Rhizome	Common cold and as a cosmetic	For common cold, first it needs to boil and then masticated finely and eaten by mixing with Chuk.
							Leaf	Cut	Powder is put into the cut part.
							Leaf	Headache	Grinded finely and applied to the nose.
51	Harelu	W		Herb			Leaf	Toothache	It's placed to the aching tooth.
52	Harro(N) / Harra(Th)	W	*Terminalia chebula*	Tree	Combretaceae	Myrtales	Bark	Asthma	Bark powder is eaten along with Barro and Amala.
53	Jakhambel(Th)	W	*Capparis zeylanica*	Climber	Capparaceae	Brassicales	Root	Stomach pain and swollen(leg)	Paste is applied to the leg and its soup is eaten for stomach pain.
							Leaf and stem	#Saat mukhe phoda	Paste is applied to the infected part.
54	Jharbaira(Th)	W	*Zizyphus rugosa*	Tree	Rhamnaceae	Rosales	Root	Stomach pain	Soup of root is eaten orally.
55	Kagati(N/Th)	C/W	*Citrus aurantifolia*	Tree	Rutaceae	Sapindales	Juice	Stomach disorder, cough, cold, pimples and dandruff	Directly eaten or in mixing with tea.
							Leaf	Skin disorder	Leaf paste is applied to the skin.
56	Kera(N)/ Kela (Th)	C	*Musa paradissica*	Herb	Musaceae	Zingiberales	Leaf	Nodal pain	Its pen like structure, called Chhiya in their language, is first of all dipped in to the coal and then burned in a fire and applied to the muscle.
57	Khair (N)	W	*Acacia catechu*	Tree	Fabaceae	Fabales	Bark	Sore throat and infection in mouth, Asthama	Bark paste is applied or extract is drunk.
58	Koiralo (N)	C/W	*Bahunia variegata*	Tree	Fubaceae		Bark and flower	Digestion problem, ulcer and in goiter.	Buds are given for digestive problem and ulcer and bark is given to remove goiter.
59	Kurilo(N)/ Kurla or Satawor(Th)	C/W	*Asparagus racemosus*	Climber	Liliaceae	Asparagales	Root	pain killing, milk enhancer	Root paste is eaten by mixing with vegetables.
60	Kuvindo(N)/ Kumda(Th)	C	*Benincasa hispida*	Climber	Cucurbitaceae	Cucurbitales	Root	Stomach pain	Eaten by cooking.

61	Lalpyari(Th)	C		Herb			Root	TB	Soup is eaten.
62	Lasun(N/Th)	C	*Allium sativum*	Herb	Liliaceae	Asparagales	Rhizome	Scabies	Paste is applied to the infected part.
								Gastritis	Directly eaten with water.
								Headache	Grinded finely and applied to the forehead.
63	Lazzawati (N/Th)	W	*Mimosa pudica*	Herb	Mimosaceae	Fabales	Root	Cut and wound	Root paste is applied to the cut and wound part.
64	Lemongrass (Th)	C	*Cymbopogon flexousus*	Herb	Gramineae	Poales	Oil	Cosmetic, scent and as a mosquito repeller	oil is sprayed.
65	Liptis(N/Th)	C	*Liparis elliptica*	Tree	Orchidaceae	Asparagales	Leaf extract	Burns and fever	Leaf paste is applied.
66	Masupeda (Th)	C/W		Tree			Leaf	Cut and wound	Leaf paste is applied to the cut part.
67	Mehandi(N/Th)	C	*Lawsonia inermis*	Tree	Lytheraceae	Myrtales	Leaf	#Kachhuwa rog and #gola rog	Its soup is first of all mixed with sweets and applied.
68	Mentha(Th)/ Pudina(N)	C/W	*Mentha arvensis*	Herb	Labiatae	Lamiales	Whole plant	Common cold, headache, body pain	Mentha extract is used as ease they can
69	Methi(N/Th)	C	*Trigonella foenumgraecum*	Herb	Fabaceae	Fabales	Whole plant	Pneumonia	Eaten by adding in vegetables.
70	Mewa(N) / Papita (Th)	C	*Carica papaya*	Herb	Cariaceae	Brassicales	Fruits	Jaundice	Fruit is eaten orally.
							Latex	Scabies	Latex is applied to the infected part.
71	Mula (N/Th)	C	*Raphanus sativus*	Herb	Cruciferae	Brassicales	Leaf vein	Scorpion bite	It is grinded and filled in a cigar and smoked.
							Rhizome	Jaundice	Eaten orally.
72	Mung(N) / Masul (Th)	C	*Vigna radiate*	Herb	Fabaceae (Leguminaceae)	Fabales	Fruits	Lactation	Its soup is eaten orally.
73	Nariwol(N/Th)	C	*Cocos nucifera*	Tree	Arecaceae	Arecales	Latex	Scabies	Latex is applied to the infected part.
							Fruit /bark	#Gola and #Kachhuwa rog	Hukka ma halera khaney
74	Neem(N/Th)	C/W	*Azadirachta indica*	Tree	Meliacaceae	Sapindales	Leaf	Allergy	Leaf paste is applied to the infected part.
75	Nirbisi (Th)	C		Herb			Root and leaf	Swollen and #Saat mukhe foda	Applied by grinding finely.
76	Okhar(N/Th)	C	*Juglans regia*	Tree	Juglandaceae	Sapindales	Fruit	Headache	Seed is applied to the aching part.
77	Padamchal (N/Th)	W	*Rheum moorcroftianum*	Herb	Polygonaceae	Caryophyllales	Root	Cut	Root paste is applied to the cut part.
78	Palungo (N/Th)	C	*Spinacia oleracea*	Shrub	Amaranthaceae	Caryophyllales	Leaf and root	Cut and wounds	Root paste and leaf juice is applied to the cut and wound part.
79	Pamakhar(Th)	W	*Cassia tora*	Shrub	Fabaceae	Fabales	Leaf	Sleep bring	By placing its leaf under the pillow while sleeping.
80	Pathariya (Th)	C		Herb			Whole plant	Kidney stone	Paste extract is used orally.
81	Parmal(N)/ Kundru(Th)	C	*Trichosanthes dioica*	Climber	Cucurbitaceae	Cucurbitales	Fruit	#Gadha barma	Grinded finely and applied.
82	Peeper(Th)	W	*Piper longum*	Herb	Piperaceae	Piperales	Leaf and stem	Babasheer and asthma,	In mixing with titekareli and kali mircha along with old sweets.
83	Puthaliya (Th)	C	*Brassica rapa*	Shrub	Cruciferae	Brassicales	Root	Lactation enhancer	Eaten by boiling it.
84	Pyaj (N/Th)	C/W	*Allium cepa*	Herb	Liliaceae	Asparagales	Rhizome	Fever,cold, high blood pressure	It is eaten along with vegetables.
85	Ratgal or ratophul (Th)	W	*Iris milesii*	Shrub	Iridaceae	Asparagales	Rhizome	Stomach disorder	Rhizome soup is eaten.

86	Saal(N/Th)	W	*Shorea robusta*	Tree	Dipterocarpaceae	Malvales	Root	Diarrhea and dysentery	Root decoction is orally given.
							Bark	Cut, wound and fracture	Bark paste is applied.
								Earache	It is applied to the earache as eardrop.
87	Sakharkhand	C/W	*Ipomoea batatas*	Climber	Convolvulaceae	Solanales	Rhizome	Appetite enhancer, lactation	Eaten after boiling or in mixing with vegetables.
88	Sallo (N)/ Dhoop (Th)	W	*Pinus spp.*	Tree	Pinaceae	Pinales	Resin	Scorpion bite	It is applied to the bitten part.
89	Sanserbed	W		Shrub			Root and leaf	Gastritis and eye vision enhancer	Root extract is eaten orally for gastritis and for eye vision leaf exudation is applied to the eye.
90	Satbaruwa	C		Herb			Root and leaf	Fever and tuberculosis	Leaf and root paste is used for fever and supernatant is used for Tuberculosis.
91	Sarifa/Slifa (N)/ Sitaphal (Th)	W	*Annona squamosa*	Tree	Annonaceae	Magnoliales	Fruit	Infection in hair	Fruit paste is applied to the hairs.
92	Semi (N/Th)	C	*Phaseolus vulgaris*	Climber	Leguminosae	Fabales	Leaf	Scabies and oversleeping(#sukn idiya)	Leaf paste is applied in scabies and applied to head to remove oversleeping
93	Sisham (N/Th)	W	*Dalbergia sissoo*	Tree	Fabaceae	Fabales	Root	Diarrhoea and dysentery	Root paste extract is drunk.
94	Sisnu (N/Th)	W	*Utrica dioica*	Herb	Utricaceae	Rosales	Root and leaf	Nodal pain and swollen	Spine is applied to the swollen nodes.
95	Siudi (N/Th)	W	*Euphorbia spp.*	Shrub	Euphorbiaceae	Malpighiales	Latex and spine	Ripening (Pila)	Latex is applied to the infected part.
96	Suryamukhi (N/Th)	C	*Helianthus annuus*	Herb	Asteraceae	Asterales	Leaf	Fever	Leaf decoction is used in fever.
97	Tamatar (N/Th)	C	*Lycopersicum esculentum*	Climber	Solanaceae	Solanales	Bud	Wound	Applied after grinded finely.
98	Titekareli (N/Th)	C	*Momordica charantia*	Climber	Cucurbitaceae	Cucurbitales	Leaf and fruits	Babasheer, BP patients, fever and diabetes	In mixing with piper, mircha and older sweets.
99	Titepati(N/Th)	W	*Artemisia vulgaris*	Herb	Compositae	Asterales	Leaf	Fever and skin diseases	Leaf paste is applied.
100	Tori(N/Th)	C	*Brassica comprestis*	Herb	Brassicaceae	Brassicales	Oil	Stomach pain	Eaten in mixing with vegetables
101	Tulasi(N/Th)	C/W	*Ocimum tenuiflorum*	Herb	Lamiaceae	Lamiales	Leaf and fruit	Common cold, cough,	Eaten by adding in a teacup.
102	Ukhu(N)/ Ginna (Th)	C	*Saccharum officinarum*	Shrub	Poaceae	Poales	Stem	Jaundice	Eaten orally.
103	Vada (Th)	W	*Cyperus rotundus*	Herb	Cyperaceae	Poales	Root	#Janai rog	Root paste is mixed with oil and then applied.

Where, N=Nepali name, Th=Tharu name, N/Th= Nepali and Tharu name and #=Particular Tharu terms

22 animal species (68.18% wild, 27.27% domesticated and 4.55% other) including 20 families were documented to be used by TEG for treating 25 different ailments. The animals used by TEG in traditional medicinal practices were as: 10 species belonged to class Mammalia, seven to Aves, one to Insecta, Reptilia, Pisces, arthopoda and amphibian each.
15 species were used in curing single ailment while 7 of them were used for multiple diseases.

Medico-ethno-botany

103 species of plants were documented to be used by TEG among which 51 species were herbs, 28 species were trees, 13 were shrubs, and 11 were climber. These were used to cure 86 different ailments. Among these plants, 42.7% were cultivated, 41.74% were wild and 15.56% of them were both wild and cultivated. 50.49% of documented plants were used for curing multiple diseases while 49.51% were used for single diseases only. Likewise, the most part of the plants used for this purpose is found to be leaf and is followed by other parts such as root, fruit, rhizome etc., as shown in fig. 8.

DISCUSSION

In this study we documented the traditional medicinal organisms that are being used by TEG. A total of 22 animal species including 20 families which they used in treating 25 different ailments among them 68.18% were wild species, 27.27% were domesticated and 4.55% belongs to other, and 103 plant species used in treating 86 different ailments among them 51 were herbs, 28 species were trees, 13 were shrubs, and 11 were climber, were collected and documented. Most of the animal species used belongs to class Mammalia followed by Aves. The study analyzed 51 plants are being used for treating single ailment and remaining 52 species of plants are used for treating more than one ailment. In this study it is found that leaf is the highly used part of plants for the purpose of medicine to cure different ailments at local level using their own IK which they are learning since very long ago through an oral transmission way of transferring knowledge and also through 'hit and trial' method.
The mostly used plant part is leaf and followed by other parts such as root, fruit, rhizome or sometimes whole of the

plant is also used which agrees with the (Singh and Hamal, 2013; Kumar, Singh and Bharati, 2013) but this is not in agree with the results published by (Limbu and Rai, 2013). They noticed the maximum use of root parts than leaf and others while their study among Limbus. The plants that are documented in this study belong mostly to herbs and is also in agreed with (Limbu and Rai, 2013). Most of the plant species that are being used are of cultivated type and lesser are of wild type but some of the plants are also of both the types that is cultivated as well as wild. Also, most of the animal species that were documented are of wild type than domesticated.

CONCLUSION AND RECOMMENDATION

Finally we can conclude that TEG is the rich ethnic group from the ethnobiological point of view. They are being used this practice of healing different ailments at locally since very long ago. A total of 22 animal species including 20 families which they used in treating 25 different ailments among them 68.18% were wild species, 27.27% were domesticated and 4.55% belongs to other, and 103 plant species used in treating 86 different ailments among them 51 were herbs, 28 species were trees, 13 were shrubs, and 11 were climber, were collected and documented. Most of the plants used were cultivated type and the part used mostly is leaf. Most plants used belong to herbs while most animals belong to the class Mammalia and second to it is Aves. Due to the reason that they lack the knowledge of conservation and the continuation of this vast indigenous knowledge, it is not free from the verge of extinction in the days to come. Therefore, necessary conservation from the concerned agencies is immediately needed to conserve this vast majority of knowledge.

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