

Diversity of Cultivated and Wild Medicinal Plants Used by People of Devdaha VDC of Rupandehi District, West Nepal

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Article Info	Abstract			
Article History	This study aims to explore the information on uses of medicinal plants found in Devdaha			
Received : 11-03-2011 Revisea : 09-04-2011 Accepted : 09-04-2011	VDC of Rupandehi district, west Nepal. The study was conducted during January October 2010. Information's on plant resources were collected interviewing key information using a semi structured open ended questionnaires. Altogether 64 different species of plates a semi-structured open ended section of the study was conducted by the study was co			
*Corresponding Author	belonging to 36 families were found used for medicinal purposes.			
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©Scholar Journals, SSR	Key Words: Indigenous Knowledge, Devdaha VDC, Rupandehi district, Nepal			

Introduction

With the surface area of 1, 47,181km², Nepal, lies at crossroads of the Himalaya. Within its small boundary, marked variations exist between different areas in terms of amount and duration of annual rainfall and temperature. Its great climatic, geographical and geological diversity gives rise to biological and ecological diversity and comprises of tropical to alpine climatic zones. In Nepal, majority of people depend on agricultural works and heavily rely on plants and plant products (either domesticated or wild) to fulfill their basic needs and for household economics. Because of this, most of the ecosystems with useful species are under threat due to habitat destruction, unsustainable harvesting and overexploitation [4]. So, it is now realized that priority should be given to the documentation and conservation of the existing species and habitats before some of these are eliminated from the area. At present, research towards the general documentation of ethno-medicinal plants, wild plants and of other uses by different scientists is taking place in different areas of Nepal [1, 2, 7, 8,9,10 and 11]. But information on ethno medicinal uses of plant resources of Devdaha VDC is still not documented.

Devdaha VDC of Rupandehi district lies in the Terai region of Nepal. It is famous ancient capital of koliya kingdom. The total area of Devdaha VDC is about 100.34 km². About 85% of this VDC is covered by forest and remaining 15% is occupied by village, streams, road and agricultural lands. According to the source of [3 and 5] in 2058 total population of Devdaha VDC is 22122. Out of this 10746 (48.58%) are male and 11376 (51.42%) are female. Devdaha VDC is 35 km. east of Lumbini, the sacred birth place of Lord Gautama Buddha. It is lying in the lap of the Chure Mountain just south of Mahabharata range. The forest type of Devdaha VDC is tropical and the dominant plant species are Shorea robusta (Sal) associate with *Terminalia tomentosa, Terminalia bellirica*,

Terminalia chebula, Acacia catechu, Syzygium cumini, Dalbergia sissoo, Dalbergia latifolia, Adina cordifolia etc.

Materials and Methods

Ethnomedicinal data were collected by consulting the local healers and knowledgeable villagers. The study was conducted by covering three different seasons. A standard questionnaire was used to collect data, which includes local name of plants, plant parts used, methods of preparation and mode of uses. The uses of the plant species were verified in other respondents showing plant species in natural habitat or a collected sample. The data were considered valid if at least five informants provided similar uses about the medicinal plants.

The plant specimens were collected from different area of Devdaha VDC of Rupandehi district. Two sets of specimens collected from the natural habitats pressed and dried. Identification of specimens was confirmed at Department of Botany, Butwal Multiple Campus, Tribhuvan University, Butwal, Botany department of MLK (PG) College Balrampur Dr. R.M.L. Awadh University Faizabad, U.P. India and available literature. Ethno medicinal data obtained in the field were documented and compared with published literature such as [2,7 and 9]. The voucher specimens were deposited at Department of Botany, Butwal Multiple Campus Tribhuvan University Butwal.

Results and Discussion

Ethno botanical information's on 64 plant species have been collected with their indigenous knowledge and practices. These plant species fall under 55 genera and 36 families. List of medicinal plant species with their scientific name, family, local name, uses and parts used are presented in Table 1. The species are arranged alphabetically. The information's presented in this paper are collected from the senior members of the community. However, the new generations of the study area are less knowledgeable. This type of trend shows that the traditional knowledge on uses of plants is deteriorating in present study area. To preserve these valuable natural resources, first this existing valuable information's are needed to be documented before they are lost or disappeared. Therefore, strong emphasis should be given for the documentation of indigenous uses, traditional knowledge and practices.

Conclusion

Present study shows that the study area is rich in medicinal plants. Tharu community has developed their own unique system of using plants for medicinal uses.

Botanical Name, family and local name	Parts used	Method of preparation and use with dose.
<i>Abrus precatorius</i> L. (Leguminosae) Raatogedi'	Seed & root	 Seed and root paste is applied once a day, externally in goiter One part seed powder with 4 parts of <i>Eclipta prostrata</i> mixed in mustard oil is applied locally in dermatitis.
<i>Acacia catechu</i> (Lf.) willd (Leguminosae) 'Khayer'	Stem	 2-3 teaspoonful of decoction of stem (without bark) in given twice a day to treat cough. Powder of stem bark is used to stop bleeding from auto and unaudo.
<i>Achyranthus aspera</i> L. (Amaranthaceae) 'Apamarga' (Datiwan)	Whole plant	 cuts and wounds. Root juice is given in mental disorder About 2gm. of powder of leaves and root along with 4 or 5 fruits of black paper is given for relieving asthma pain. Leaf juice along with bheli is given orally twice a day in intermittent fever.
<i>Acorus calamus</i> L. (Araceae) 'Bojho'	Rhizome	 Small pieces of rhizome are chewed for instant cure of sore throat and cough. Juice of rhizome is used as nerve tonic.
<i>Aegle marmelos</i> (L.) Correa (Rutaceae) 'Bel'	Fruit, leaves	 Unripe fruit powder is given twice daily for 3-4 days to improve digestive disorder and to control diarrhea, jaundice and dysentery Ripe fruit pulp is given to drink in the morning or evening by adding sugar candy for improving digestive disorders as Heart tonic and to treat heat stroke. 2-3 tender leaves used by diabetic patient for
<i>Allium cepa</i> L. (Amaryllidaceae) 'Pyaz'	Bulb	 controlling sugar metabolism. One or two drops of the juice of scaly leaves or bulb are dropped in the ear to give relief in earache. Bulb juice is useful in dysentery, stomachic and jaundice. Uncooked use of bulb save from sun stroke.
<i>Allium sativum</i> L. (Amaryllidaceae) 'Lahsun'	Bulb	 Half fresh and half roasted bulb is taken to give relief from stomach pain due to indigestion. Paste is applied locally to get relief from arthritis Crushed bulb is fried in mustard oil and oil is used massage body and used as ear drops. 7 bulb lets are touched with sty one by one to cure sty of eye. Use of two bulblets early in the morning in empty stomach cures gastritis.

• Uses of fresh bulblets prevent mammary tumor formation in female.

<i>Aloe vera</i> (L.) Burm.f. (Liliaceae) 'Ghiu Kumari'	Leaf pulp	 leaf pulp or juice is applied externally in burns Leaf juice 10-20 ml used daily for improvement of digestive disorders. Leaf juice is used in skin and uterine disorders. Leaf paste is used on forehead prevents sunstroke.
<i>Amaranthus viridis</i> L. (Amaranthaceae) 'Lunde'	Root& leaves	 Tender leaves are cooked and eaten as vegetable About 10gm of root paste with powder of 10 black pepper seeds in diluted in chaulani (rice wasted water) and given at 4 hours intervals to reduce poison of snake bite Root juice is taken with amala juice 10ml twice a day for required days to control urinary problems.
Amorphophallus campanulatus Decne. (Araceae) 'Ole', 'Kaan',' Suran'	Tuber (corms)	 Used as vegetable. Corms are boiled and used along with common salt which acts as appetizer. Corms are also used as pickles.
Andrographis paniculata (Burm.f.) Wall. ex Nees (Acanthaceae) 'Kalamnaath'	Entire plant	 Decoction of plants along with black pepper powder used twice a day for four days in chronic fever. Juice of the plants used orally in cough, bronchitis and sore throat.
Arachis hypogea L. (Leguminosae) 'Badaam', 'Moongphali'	Seeds	 Unripe nuts are lacto gouge. Oil extracted from seeds is used in nephropathy and dislocated joints.
<i>Artemisia indica</i> willd. (Asteraceae) 'Teete pati'	Leaves and Tender shoots	 3-5ml leaf juice is taken twice a day for seven days to cure cough Leaf juice is applied in skin diseases, headache fever, itching and rheumatism.
<i>Asparagus racemosus</i> willd (Liliaceae) 'Kureelo', 'Sataawari'	Root, stem	 Tender shoots and tuberous roots are taken as vegetable and are prescribed to increase lactation in mothers with newly born. About 10gm of root powder along with cow's butter is given as antacids twice daily and also used as nervine tonic.
<i>Azadirachta indica</i> A. Juss (Meliaceae) 'Neem'	Leaves ,stem & seeds	 Decoction & fresh leaves is used to wash skin to treat scabies. Seed oil with powder of <i>Terminalia chebula</i> fruits and cows butter is applied externally in skin diseases Soft stem is used as tooth brush to wash the teeth and protect against the disease Fresh leaves are taken for the purification of blood Tender twigs are largely used as paste for wounds. Use of 2-3 leaves daily balance the sugar level of diabetic patient.
<i>Bauhinia variegata</i> L. (Leguminosae) 'Koiralo'	Bud, Bark	 Bud decoction is given in cough, piles and prolonged menstruation. Bark decoction is used as tonic which is useful in skin diseases.
<i>Berberis asiatica</i> Roxb.ex. De (Berberidaceae)	Bark & Fruit	 Decoction prepared from bark mixed with an equal amount of cow's urine is given in twice a day for one

'Chutro' <i>Bergenia ciliata</i> (Haw.) Sternb (Saxifragaceae) 'Pakhanved' , 'Silpaado'	Rhizome and root	 week to cure testis swelling Yellow bark juice is used as drug for conjunctivitis as 2 drops per dose in each eye twice a day for one week. Rhizome juice is considered to be carminative and a vital tonic Root and rhizome powder is mixed in a vital diet of breast feeding mother. Juice of rhizome is used for one month to expel the stone from kidney and urinary bladder. Dried root and rhizome boiled nicely in water and used orally for one month to expel stones from urinary tract
<i>Brassica juncea</i> (L.) subsp. <i>rugosa</i> (Roxb.) Prain (Brassicaceae) 'Rayo'	Entire plants	 Rhizome paste is taken orally to expel round worms. Tender shoots are used vegetable. Plant leaves are used in internal inflammation of lungs.
<i>Bryophyllum pinnatum</i> (Lam.) Oken (Crassulaceae) 'Ajammari'	Leaf	 Burnt leaves are externally applied in wounds and boils.
<i>Boerhavia diffusa</i> L. (Nyctaginaceae) 'Punarnawa'	Leaves and tender shoot	 Plant paste is applied locally to cure insect bite Leaves and tender stem are cooked and used as vegetable. This is most effective against bronchitis, arthritis, jaundice, anemia, stomachache, urinary tract problem, piles etc. Leaf juice is applied into the eyes to reduce redness.
<i>Bombax ceiba</i> L. (Bombacaceae) 'Simal'	Bark, gum	 Bark infusion is used as tonic Resins along with water are used once a day to control diarrhea and dysentery. Bark decoction used to treat cough Root is stimulant tonic and forms important ingredient given in impotency.
<i>Butea monosperma</i> (Lam.) Kentz (Leguminosae) 'Palaash'	Entire plant parts.	 Infusion of root cures night blindness Flower decoction is given in diarrhea and to puerperal (relating to child birth) woman Extract of seeds, flowers and leaves is reputed to have contraceptive (used to prevent pregnancy) properties gum is given in diarrhea and dysentery Root bark infusion produce more sexual desire and excitement it is also used as analgesic and anthelmentic Bark of stem is boiled in water and given to diabetic patient
<i>Calotropis gigantea</i> (L.)Dryander (Asclepiadaceae) 'Aank'	Entire plant Latex	 Seed oil is used to cure skin disease Latex is applied locally to cure insect bites, but it is injurious to eye Dried bark powder is boiled with mustard oil with 3-4 bulb lets of garlic and then paste is applied on the portion of rheumatic pain Mature roasted leaf along with cow's ghee placed on the chest of children to cure bronchitis & cough
Cannabis sativa L. (Cannabaceae)	Leaves, flowers and	Dried Leaves are used as nerve stimulant tonicInfusion of young leaves and inflorescence is taken

'Bhang' 'Ganja' <i>Cassia fistula</i> L. (Leguminosae) 'Raajbrikchha'	seeds Fruit & Root	 1-2 times to cure stomach pain and flatulence Pulp of the pod or infusion of dried fruit is given to constipation, jaundice, fever heart disease patient Pulp of the pod is also used in tuberculosis, ulcer, stomach pain, arthritis, bronchitis urinary inflammation Juice of root is used to cure skin disease.
<i>Cassia occidentalis</i> L. (Leguminosae) 'Chakmako'	Leaf and Fruit	 Few drops of leaf decoction is used into ears for relief of earache Roasted fruit and seeds are crushed and about 1gm of powder with 5-10ml of mustard oil is applied in scabies
<i>Catheranthus roseus</i> (L.) G. Don. (Apocynaceae) 'Sadabahar'	Leaf	Juice of leaves is applied over affected point of string of poisonous insects.Juice of flowers and leaves are used to reduce
<i>Centipeda minima</i> (L.) Br.& Aschers (Asteraceae) 'Chhiunke Jhar' 'Nak Chhikani'	Leaves	 sugar level in blood. Crushed leaves are smelled as well as 2 drops of juice inhaled through nostril to get relief from headache and nasal congestion
<i>Cucumis sativus L.</i> (Cucurbitaceae) 'Kaankaro' 'Khiraa'	Fruit & seeds	 Fruits are good source of water and used as high nutritious value. Seeds are cooling, tonic and diuretic.
<i>Curcuma amada</i> L. (Zingiberaceae) 'Aama haldi' ' Amaadi'	Rhizome	 Rhizome is used in digestive disorders. Rhizome paste is boiled in mustard oil and applied over joint and rheumatic pain.
<i>Curcuma longa</i> L. (Zingiberaceae) 'Haldi' 'Besar'	Rhizome	 Rhizome powder (one gram) mixed in milk and taken orally in internal wound and pain. Decoction of rhizome powder is used as appetizer.
<i>Cuscuta reflexa</i> Roxb. (Cuscutaceae) 'Amarbel', 'Aakash beli'	Entire Plant	Plant decoction is given orally to jaundice patient.Seeds are used in ulcer and liver disorders.
<i>Cinnamomum tamala</i> (Buch Ham.) Nees & Eberm. (Lauraceae) 'Tejpaat'	Bark & leaves	 Bark and leaves powder used as stimulant. Control digestive disorders, useful for checking nausea and vomiting It is also used to control diarrhea and colic pain. Use of fresh leaves increase the digestive properties.
<i>Cynodon dactylon</i> (L.) Pers. (Poaceae) 'Dubo'	Entire plant	 The young leaves paste is used for healing cuts and wounds Leaf juice is dropped inside the nostril to stop nose bleeding.
<i>Dalbergia sissoo</i> Roxb. ex. Dc. (Leguminosae) 'Sissoo' 'Sisham' <i>Datura metal</i> L. (Solanaceae) "Datura"	Leaves Leaf and seed	 Decoction of leaves along with sugar candy are used to cure digestive problems, gonorrhea, eye disease worms of intestine etc. Warm leaf bandage relief pain from inflammation swelling. Juice of leave is used for epilepsy. Seeds powder is antispasmodic and useful in

<i>Ficus benghalensis</i> L. (Moraceae) Bar, Bargad <i>Ficus religiosa</i> L. (Moraceae) 'Pipal'	Latex and Bark Entire plant	 Toothache, earache. White latex is applied externally on affected area of mumps and for healing of foot cracks Bark infusion cures dysentery, nervous disorders, leucorrhoea Bark, leaf and young shoots paste are used to control bleeding from cut parts. Decoction of bark is used in rheumatic pain.
<i>Ficus sarmentosa</i> Buch-Ham. ex Sm. (Moraceae) Berulo, Dumri	Bark	 Bark powder is given to lactating mother as galactogogue, also applied on boils. Milky latex is applied externally on mumps
Mangifera indica L. (Anacardiaceae) ' Aamp'	Fruit, Bark	 Bark decoction along with water used orally to cure gano (Gas ball) and stomach problems: Fruit juice is used due to its nutrition value unripe boiled fruit along with salt is given to cure sunstroke
<i>Mentha arvensis</i> L. (Lamiaceae) 'Pudina'	Leaves and young shoots	 Leaves and tender shoots are crushed to prepare sarbat and taken to overcome thirst and save from sun stroke Leaf decoction along with honey increase appetite
	Louis	generally at bed timeLeaf paste along with salt is important for cure of digestion disorders
<i>Murraya Koenigii</i> (L.) Spreng (Rutaceae) 'Karipatta'	Leaves	 Green leaves are eaten raw as a remedy for dysentery Dried leaves are used as apices in vegetable for scent Leaf paste is applied in utricaria and also destroys pathogenic organisms.
<i>Nyctanthus arbor-tristis</i> L. (Nyctaginaceae) 'Rudilo', 'Paarijaat'	Entire plant	 Juice of leaves are useful in fever and rheumatism Leaf decoction (warm) is used in sciatica Flower juice is used as anti-inflammatory, digestive and tonic
<i>Ocimum tenuiflorum</i> L. (Lamiaceae) 'Tulsi'	Entire plants	 Use of seeds is useful in boldness and scurvy. leaf juice along with ginger juice is given to cure cough, cold and fever Dried leaves and seeds are boiled in water and used as ayurvedic tea leaf juice is used as eye drop. Root decoction is used as diaphoretic (cause
<i>Oxalis comiculata</i> L. (Oxalidaceae) 'Chariamilo', 'Tinpaatiya'	Leaves and tender shoots	 Increased sweating) in malarial fever Leaf juice is applied over cuts and wounds Fresh juice of leaf and tender shoots are used to cure piles anemia and scurvy
<i>Phyllanthus niruri</i> L. (Euphorbiaceae) ' Bhuinamala'	Entire plant	 Dried powdered part of leaf, root, stem and fruits are given in troubles of genito-urinary tract stomach trouble. Fresh root paste is a remedy of jaundice
<i>Psidium guajava</i> L. (Myrataceae) 'Amba'	Fruit	 Roasted fruits are used to cure cough and whooping cough. Fresh fruit is used to cure bleeding from gums and colic problems
<i>Phyllanthus emblica</i> L. (Euphorbiaceae)	Bark, leaves and fruit	Bark juice is given twice a day to control dysenteryLeaves juice is given to cure constipation,

'Amala' <i>Ricinus communis</i> L. (Euphorbiaceae) 'Ander' <i>Raphanus sativis</i> L. (Brassicaceae) 'Molaa' <i>Solanum nigrum</i> L. (Solanaceae) 'Beehi', 'Kali gedi'	Root, leaf and seed oil Entire plant Fruit	 inflammation Fruits are one of the important ingredient of chawanprash' It is natural source of vitamin C Paste of fruit orally used as appetizers Bark is useful in gonorrhea jaundice and diarrhea Decoction of fresh fruit along with lemon juice is applied as hair tonic Warm paste of leaves with lemon juice is applied locally over swelling due to rheumatism. 2-5ml seed oil is given once a day in rheumatoid arthritis root decoction is useful in skin diseases Fresh leaf, root with salt and lemon is used as vegetable. It is used for urinary complaints, piles colic, flatulence appetizing digestive and gastrodynic pains Fresh root juice is remedy for scurvy Ripe fruits are used in fever, diarrhoea and gastric disorders Fresh fruit juice is applied over forehead to get relief from headache
<i>Solanum virginianum</i> L. (Solanaceae) 'Kantakari' 'Bhatkoeyaa'	Entire plant	 Decoction of whole plant is given to treat fever, pain in chest, asthma and cough
<i>Syzygium cumini</i> (L) Skeels (Myrataceae) ' Phader', 'Jaamun'	Bark leaves fruits, seeds	 Bark powder along with water is given to treat constipation, stomachic, blood dysentery and chronic diarrhea. Chewing of fresh leaves are useful for strengthening the teeth and gums Fresh fruit and fruit juice are given to diabetic patient.
<i>Tagetus erecta</i> L. (Asteraceae) 'Saya patri', 'Genda'	Leaves & flowers	 Leaf paste are used to treat wound and injuries Flower infusions is administrated in the treatment of amenorrhea (suppression of menstruation) Whole plant are used as insecticide Flower leaf juice are used to cure piles Leaf juice are used to cure urinary tract problems Tender shoot juice is given to earache.
<i>Tamarindus indica</i> L. (Leguminosae) 'Imali' <i>Tinospora cordifolia</i> (wild) miers f.e thomas (Menispermaceae) 'Gurjo"	Root bark leaves, flower fruits and seeds Stem, leaves, Root	 Root bark decoction is used in diarrhoea, asthma and ulcers. Leaf paste is externally applied to cure inflammatory swellings boils small pox and earache Fruit is used in the form of pickles to cure digestive disorders. Juice of fresh leaves and stems are used in rheumatism hyperacidity Stem decoction is given soothing effect in gonorrhea Root extract is used in fever, cold cough and jaundice

<i>Terminalia bellirica</i> (Gaerth.) Roxb. (Combretaceae) 'Barro'	Bark, fruits	 Decoction of bark is useful in anemia and leucoderma Fruits powders are given in fevers, ulcers, pharyngitis, cough bronchitis and digestive disorders. Fruit powder is an important ingredient of ayurvedic medicine Trifala
<i>Terminalia chebula</i> Retz. (Combretaceae) 'Harro'	Fruits	 Fruit powder based to control digestive disorders. Unripe fruits is used to control dysentery and diarrhoea Roasted fruit is given to chew for relief from cough
<i>Vitex negundo</i> L. (Verbenaceae) 'Simali'	Stem, leaves	 Leaf juice is taken orally to cure cold and headache Dried leaves are smoked to get relief from headache Leaf juice is applied to remove lice in children 1-2ml of juice of leaf and tender shoot is used as nasal drop in sinusitis
<i>Woodfordia fruticosa</i> (L.) Kurz. (Lythraceae) "Dhaero"	Flowers	 Dried powdered flowers with curd are given in blood dysentery. Flower powder mixed with oil (aalas, Tishi) is applied externally over burns.
<i>Zanthoxylum armatum</i> DC. (Rutaceae) 'Timur'	Fruits	 Fruits are used as spices in pickles Fruits are used in fever, cough, asthma, gout, diabetes, cardiac debility. Fruits powder is a remedy for toothache.
<i>Zizyphus mauritiana</i> Lam. (Rhamanaceae) 'Bayar'	Root	 Root decoction is used in fevers and urinary inflammations Fruits are aphrodisiac, tonic, appetizer useful in nausea, leprosy, purities, wounds, skin disease and ulcers.
<i>Zingiber officinalis</i> Rosc (Zingiberaceae) 'Aduwa'	Rhizome	 Dry ginger is called 'soanth' and it is given to child birth women along with bheli Small piece of rhizome when taken internally it has stimulant aromatic and carminative properties. Juice (4 or 5 drops) of rhizome us taken with honey twice a day to cure cough

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