# Utilization of plant resources in Dang district, West Nepal

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This paper aims to highlight the uses of forest resources in Purandhara, Panchakule and Goltakuri Village Development Committees (VDCs) of Dang district, western Nepal. The ethnobotanical data was collected through Participatory Rural Appraisal (PRA) that involved discussion with local people and key informants, through semi-structured questions and informal conversations. Vulnerability of plants used in the study area was assessed by adapting the Rapid Vulnerability Approach (RVA). Altogether 85 plant species belonging to 79 genera and 56 families were recorded in the study areas. Twelve plant species were found to be used for various purposes other than medicinal. They were used as food, fodder, in construction, in religious purposes and even in yielding dyes. Seventy three plant species were found to be medicinal in properties for treating 144 different ailments. Remedies for 27 ailments were reported as new uses. The most common way of admission of medicine was oral (76.71 %) followed by external or topical (35.6 %) and nasal (1.27 %). The RVA test showed *Dalbergia sissoo* (with 15 scores) and *Terminalia alata* (with 14 scores) as most vulnerable ones.

**Key words:** Dang district, ethnobotany, medicinal plants, vulnerability test

There are many researches related to ethnobotany carried out in Dang district (Manandhar, 1985; Acharya, 1996; Adhikari, 1997; Adhikari, 1998; Poudel, 2000). Such researches are found to be focused mainly on uses of the plants for medicinal purpose only. However, a study related to uses of plants for various purposes (including medicinal) would also be of great importance in the field of ethnobotany. Furthermore, use of analytical tools to prioritize certain species for conservation is instrumental in ethnobotanical studies (Lama *et al*., 2001; Rokaya, 2002; Ghimire and Aumeeruddy-Thomas, 2005; Wagner *et al*., 2008; Rokaya *et al*., 2010). Such tools play important role in setting conservation goals.

In this study, the researchers attempted to collect and document indigenous ethnobotanical information from Dang District of Western Nepal. The researchers specifically, focused on seeking the answers for: (I) What is the diversity of plants in Dang district? (II) What are the different uses of plants and how are they administered for herbal medicine? and (III) What are the most important medicinal plants that are needed for conservation?

## Materials and methods

### Study area

The study was carried out in the Purandhara, Panchakule and Goltakuri VDCs lying in Dang district of Western Nepal. The population of the area is 21258 people (CBS, 2001). The altitudinal variation ranges from 200 to 1400 m above sea level. The vegetation comprises mainly of tropical type (Chaudhary, 1998). Major vegetation of the zone includes: Sal (*Shorea robusta*) forest, tropical deciduous riverine forest and tropical evergreen forest. Sal forest has mainly pure stands of *Shorea robusta*. Some of the other species, inter alias, include: *Terminalia bellirica, T. chebula, and Adina cardifolia.* Along the streams and valleys, sal forest is replaced by the tropical deciduous riverine forest. Tropical deciduous riverine forest and tropical evergreen forest compose tress like: *Aegle marmelos*, *Albizia* spp, *Bauhinia variegata*, *Dalbergia latifolia*, *Symplocas ramosissima*, *Lagerstroemia parvifolia*, *Toona serrata*, *Justicia adhatoda*, *Hypericum cordifolium*, *Clerodendron viscosum* and *Bauhinia vahlii*, *Bombax ceiba*, *Zizyphus mauritiana*. In poorly drained areas, large stretches of *Saccharum bengalense* and *Saccharum spontaneumi* are predominantly found studded with clumps of *Acacia catechu* and *Dalbergia sissoo* (Chaudhary, 1998).

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## Data collection

The field visit was carried out in November 2007 for 9 days. The data were collected through Participatory Rural Appraisal (PRA) which included discussion with local people and key informants, through semi-structured questions and informal conversations (Martin, 1995). The information collected was on: uses of plants, modes of preparation, administrations and the parts used. The vernacular names were determined with the help of local people. The informants were around 50 people including traditional healers, firewood collectors, farmers, teachers, household heads and many villagers. The age of the informants ranged from 20 to 69 years. The information on plants were cross-checked twice or thrice for each plant at different places. Herbarium specimens were not collected for the commonly known plants. However such specimens were collected for all dubious species and were pressed and dried in the field. Scientific names were determined by using different literatures (Polunin and Stainton, 1984; Lama *et al.*, 2001; Manandhar, 2002; Baral and Kurmi, 2006). Nomenclature of Press *et al.* (2000) was followed.

The ethnobotanical information was categorized into seven classes: medicinal, food, fodder, construction, fiber, religious and others (colouring, dyes). The medicinal uses were further classified into nine diseases: circulatory, digestive, excretory, muscular, nervous, respiratory, reproductive, skeletal systems and others (cough cold, cuts, wounds, lactation, eye problems, etc.)

### Data analysis

There are many tools that are used in selecting the most used plants (Lama *et al.*, 2001; Rokaya, 2002; Hoffman and Gallaher, 2007; Wagner *et al.*, 2008; Rokaya *et al.*, 2010). Here, the researchers used Rapid Vulnerability Assessment (RVA) technique to identify plants that were vulnerable to over-exploitation. The technique, originally developed by Cunningham (2001) in Uganda, has been used by many researchers in Nepal (Lama *et al.*, 2001; Rokaya, 2002; Ghimire and Aumeeruddy-Thomas, 2005; Wagner *et al.*, 2008). Here, the researchers adopted the modified RVA method of Wagner *et al.*, (2008) that included six indicators: plant parts used in local medicine, life form, local frequency, distribution, intensity of use in Tibetan medicine; and use value: single vs. multiple use. Endangerment value was based on numerical values obtained by adding the final threat values (Table 1).

**Table 1: Threat value by indicator and category**

| Indicator | Category | Threat value |
|---|---|---|
| Life form | | |
| | annual/ biennial | 1 |
| | Perennial | 2 |
| | Woody | 3 |
| parts used | | |
| | Leaves | 1 |
| | generative organs, whole above-ground plant parts, bark | 2 |
| | whole plant, whole below-ground plant parts | 3 |
| distribution | | |
| | wider distribution | 1 |
| | Himalaya-endemic | 2 |
| | Nepal-endemic | 3 |
| local frequency | | |
| | Frequent | 1 |
| | Moderate frequent | 2 |
| | Rare | 3 |
| intensity of use | | |
| | Rare | 1 |
| | Occasional | 2 |
| | Frequent | 3 |
| use value | | |
| | Single | 1 |
| | Multiple | 2 |

## Results and discussion

Indigenous people included in the study area were: Bramin, Chhetri, Newar, Magar, Rai, Kami, and Bhujel. These communities fulfill their daily needs, depending directly or indirectly upon the forest resources. This finding is similar to other findings from different parts of Nepal (Joshi and Edington, 1990; Uprety *et al.*, 2010; Rokaya *et al.*, 2010).

A total of 85 plant species belonging to 79 genera and 46 families were recorded in the study areas. Twelve plant species were used for various purposes other than medicinal. They were used as: food, fodder, in construction, in religious purposes and even in yielding dyes.

Altogether 73 plant species were found to bear medicinal properties for treating 144 different ailments. When comparing with different literatures (Manandhar, 1985; Acharya, 1996; Adhikari, 1997; Adhikari, 1998; Poudel, 2000; Joshi and Joshi, 2001; Rajbhandari, 2001; Manandhar, 2002; Baral and Kurmi, 2006; DPR, 2007), the researchers found remedies for 27 ailments as new uses (Table 2). None of the plants, recorded in the study, were identified as new medicinal plants, as they have already been reported from different parts of Nepal. The similar kinds of remedies reported from different plants of Dang (three VDCs of the study area) and also from other parts of Nepal show that the information documented in this research are reliable. As the plants are also found to be used in some life threatening ailment such as diabetes (e.g. *Aegle marmelos*, *Syzygium cumini*) and asthma (e.g. *Datura stramonium*, *Piper longum*), further investigation should be carried out in depth, to find the possibility of such plants being used in broader scales.

The ethnobotanical information was categorized into seven classes: medicinal, food, fodder, construction, fiber, religious and others (colouring, dyes). The medicinal uses were further classified into nine diseases: circulatory, digestive, excretory, muscular, nervous, respiratory, reproductive, skeletal systems and others (cough cold, cuts, wounds, lactation, eye problems, etc

Regarding the categories of medicinal uses, the highest number of plants belonged to the category: others; followed by the category: digestive system; and the category: muscular system (Fig. 1). The category: nervous system; had only one species (*Semecarpus anacardium*). Medicinal plants were also used for various other purposes such as food, fodder, fiber, construction, religious and others (colouring, dyes).

The different plant parts: roots/rhizomes/bulbs/ tubers, young shoot; stem/bark, leaves, flowers and seeds/fruits were used for different ailments. The medicinal plants were used in different forms of preparations; and the most widely used form was juice (24), followed by soup or tea or food (13), and paste or decoction (12 each). The smoke (2) is the least used type of form; and is used for treating sinusitis (e.g. *Colebrookea oppositifolia*, *Flemingia procumbens*, *Woodfordia fruticosa*). The most common way of admission of medicine was oral (76.71 %) followed by external or topical (35.6 %) and nasal (1.27 %). This finding which is similar to other findings (e.g. Rokaya *et al*., 2010) indicates that people usually follow the easiest means of mode of admission of medicine.

There are some plants, which are widely used as medicinal plants in various parts of Nepal but not in this study sites. For this reason, such plants were deliberately excluded from medicinal plant category in the results of this study. Examples of such plants are: *Elsholtzia flava* that is used as condiment in Dang, but is used against scabies (Rajbhandari, 2001; Manandhar, 2002); *Lawsonia inermis* leaves are crushed to obtain dye for colouring hands, feet and hair in Dang, but the plant is used in toothache, cracks in skin, skin diseases, burns (Manandhar, 2002), jaundice, spleen, skin diseases, leprosy, headache, increase sperms, sore throat, hair tonic (DPR, 2007); *Leucaena leucocephala* is only used as fodder in Dang, but bark and roots are aborifacient and seeds are emollient in nature (Manandhar, 2002); and *Thysanolaena maxima* is used only to make broom in Dang, whereas its root paste is applied to treat boils (Rajbhandri, 2001; Manandhar, 2002).

In the present study, many plants were reported as having only a limited number of medicinal uses (usually one or up to three). However, several other studies have found such plants to possess a wide range of uses. For example, *Acacia catechu* is reported to be used against intestinal worms only, but its stem is also used by the Tharus to treat cough in Dang (Rajbhandari 2001), to treat body pain and skin diseases in Rukum, Dhading, Sindhuli, Makwanpur, Chitwan and Sankhuwashava, Morang (Manandhar, 2002; Rajbhandari, 2001), construction in Bara (Rajbhandari, 2001), and to treat indigestion ulcer in some other parts of Nepal (DPR, 2007) (Table 1).

The RVA result showed that scores ranged from 7-15. *Dalbergia sissoo* is found to be highly vulnerable with 15 scores. It was followed by *Terminalia alata* (14 scores). Three species: *Calotropis gigantea*, *Euphorbia thymifolia*, and *Oxalis corniculata* each with the least score 1 were widely distributed (Table 2). Wagner *et al.* (2008) found that there were 7 species of plants out of 102 species with high potential

endangerment whereas Lama *et al.* (2001) pointed out that there were 24 species to be potentially vulnerable out of 136 species of absolutely needed by Traditional Health Care centre in lower Dolpa and Rokaya (2002) pointed out that there were 21 plant species as potentially vulnerable from Upper Dolpa. The RVA-test in the present analysis showed that possibly 9 plant species with high scores are potentially vulnerable. A detailed study is needed for formulating a pragmatic plan to conserve these vulnerable plants. The plan should be formulated in accordance with local interest as well as the available resources. Uprety *et al.* (2010) prioritized 10 plant species (out of 101) plant species from Bardiya, Terai region similar to Dang.

## Conclusion

The forest resources play vital role in daily life of the people of Dang district. They need domestication and commercialization in boarder scale. Till today, indigenous knowledge has continued to be transferred verbally. Now, it needs proper documentation. phytochemical or pharmacological studies have also become necessary to explore the potential of plants used for medicinal purposes. In order to develop sustainable harvesting techniques, proper techniques and awareness programmes are necessary. Any benefits that are obtained from the present knowledge should be equally shared with indigenous people because the documented knowledge in the present paper is actually their valuable asset.

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**Table 2: Ethnobotanically important plants in three VDCs of Dang district, west Nepal**

| Scientific name (Family) voucher number | Local Name | Parts and Mode of use | Local frequency | Intensity of use | Use category | Vulnerability scores |
|---|---|---|---|---|---|---|
| *Acacia catechu* (L.f.) Willd. (Leguminosae) SRS 22 | Khair | Bark decoction is taken orally to kill intestinal worms<br>Red dye used for coloration. | frequent | occasional | multiple | 11 |
| *Acacia rugata* (Lam.) Voight. (Leguminosae) SRS 23 | Sikakai | Mixture of leaves and peepers is taken to treat jaundice.[b] | moderate frequent | occasional | single | 11 |
| *Achyranthes aspera* L. (Amaranthaceae) SRS 25 | Apamarg | Root paste is taken orally to treat fever or urine problems. | frequent | occasional | single | 9 |
| *Acorus calamus* L. (Araceae) SRS 27 | Bojho | Dried roots are chewed to treat cough, cold and bronchitis. | moderate frequent | Frequent | multiple | 13 |
| *Aegle marmelos* (L.) Corr. (Rutaceae) SRS 29 | Bel | Leaves powder or Little amount of fruit juice is taken to treat diarrhea, dysentery and diabetes. Leaves and fruits are also used in religious ceremonies. | moderate frequent | frequent | multiple | 13 |
| *Aesandra butyracea* (Roxb.) Baehni (Sapotaceae) SRS 31 | Chiuri | Seed oil is used for making soap and beneficial for skin diseases. | rare | rare | single | 12 |
| *Aloe vera* L. (Liliaceae) SRS 32 | Ghue Kumari | Leaves decoction is taken orally to treat jaundice. | rare | occasional | single | 10 |
| *Abrus precatorius* L. (Leghuminosae) SRS 33 | Ratigedi | Fruits are kept in the eyes to clean them. Fruits are used as weighing gold. | moderate frequent | frequent | multiple | 13 |
| *Artemisia indica* Willd. (Compositae) SRS 34 | Titepati | Root juice is taken orally to treat stomach pain. | frequent | rare | single | 9 |
| *Artocarpus lakoocha* Wall. (Moraceae) SRS 35 | Badahar | Bark juice is beneficial for skin diseases. Used as fodder. | frequent | frequent | multiple | 12 |
| *Asparagus racemosus* Willd. (Liliaceae) SRS 36 | Kurilo | Roots are also useful for lactations, constipation and stomachache. | frequent | occasional | single | 12 |
| *Azadirachta indica* A. Juss. (Meliaceae) SRS 37 | Neem | Leaves, bark and seed paste are useful in intestine and for skin diseases. Leaves or barks are also used as insecticides. | moderate frequent | occasional | multiple | 13 |
| *Bauhinia purpurea* L. (Leguminosae) SRS 39 | Koiralo | Powder of bark is taken for stomach pain and diarrhea. | frequent | occasional | single | 10 |
| *Bauhinia vahlii* Wight & Arn. (Leguminosae) SRS 40 | Malu/ Bhorla | Roasted seeds are taken as tonic. | frequent | occasional | single | 10 |

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|---|---|---|---|---|---|---|
| *Bombax ceiba* L. (Bombacaceae) SRS 41 | Simal | Leaves decoction is used as antiseptic | moderate frequent | rare | single | 9 |
| *Butea monosperma* (Lam.) Kuntze (Leguminosae) SRS 57 | Palans | Flowers are useful in diarrhea.<br>Leaf paste is externally applied to treat cuts and wounds.[b] | moderate frequent | rare | single | 11 |
| *Calamus acanthospathus* Griff. (Palmae) SRS 58 | Bet | Stem is used to make basket or as sticks. | frequent | frequent | single | 10 |
| *Callicarpa macrophylla* Vahl. (Verbenaceae) SRS 59 | Gunyalo | Root juice and fruit juice is taken orally to treat fever. It is also externally for cuts and wounds. | frequent | occasional | single | 11 |
| *Calotropis gigantea* (L.) Dryand (Asclepiadaceae) SRS 60 | Ank | Warmed leaves are used to relieve body pain or pain due to rheumatism. | frequent | rare | single | 7 |
| *Celastrus paniculatus* Willd. (Calastraceae) SRS 61 | Malkagun o | Oil from fruit is externally used for body ache.[b] | moderate frequent | rare | single | 9 |
| *Centella asiatica* (L.) Urban. (Umbelliferae ) SRS 62 | Ghodtapr e | Leaf juice is taken to treat fever. Whole plant is also useful for urine and skin problems. | frequent | frequent | single | 11 |
| *Cinnamomum tamala* (Buch.-Ham.) Ness & Eberm. (Lauraceae) SRS 63 | Tejpat | Leaves are chewed to increase body heat.[b] | rare | occasional | single | 11 |
| *Cissampelos pareira* L. (Menispermaceae) SRS 64 | Batul pate | Tuber paste is taken to treat gastritis. | frequent | occasional | single | 10 |
| *Colebrookea oppositifolia* Sm. (Labiatae) SRS 65 | Dhursul | Leaves paste is applied externally to treat snakebite or burns.[b] | frequent | rare | single | 8 |
| *Curculigo orchioides* Gaertn (Hypoxidaceae) SRS 66 | Musali | Rhizome juice is beneficial for peptic ulcer. | rare | occasional | single | 12 |
| *Curcuma angustifolia* Roxb. (Zingiberaceae) SRS 67 | Haledo | Tuber paste is mixed, cooked with porridge and consumed to relieve body ache. | frequent | occasional | single | 10 |
| *Cuscuta reflexa* Roxb. (Convolvulaceae) SRS 79 | Aakasbeli | Plant juice is taken orally to treat jaundice. | rare | frequent | single | 12 |
| *Cynodon dactylon* (L.) Pers. (Graminae) SRS 81 | Dubo | Whole plant paste is applied on cut and wound and religious ceremonies | frequent | frequent | multiple | 12 |
| *Dalbergia sissoo* Roxb. (Leguminosae) SRS 83 | Sisso | Roots are taken for stomach problems. | frequent | frequent | multiple | 15 |

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|---|---|---|---|---|---|---|
| *Datura stramonium* L. (Solanaceae) SRS90 | Dhaturo | Root juice is kept in ear to treat earache. Dried leaves are smoked to treat asthma and sinusitis. | frequent | occasional | single | 10 |
| *Desmostachya bipinata* L. (Graminae) SRS 95 | Kush | Root juice is taken orally to treat urine problems or toothache. Whole plant is used for religious purposes. | frequent | frequent | multiple | 13 |
| *Dioscorea bulbifera* L. (Diascoreaceae) SRS 102 | Ban tarul | Tubers are used as tonic in the form of food. | moderate frequent | occasional | single | 11 |
| *Dryopteris cochleata* (D.Don.) C. Chr. (Aspidiaceae) SRS 103 | Ghue niuro | Young shoots are used as tonic and vegetables. | frequent | occasional | single | 9 |
| *Elaeocarpus sphaericus* Gaertn. K. schum (Elaeocarpaceae) SRS 105 | Rudraksha | Fruit powder is used in cough. Used in ceremonial purposes. | rare | occasional | multiple | 13 |
| *Elsholtzia flava* (Benth.) Benth (Labiatae) SRS 106 | Ban silam | Seeds are used as condiments. | moderate frequent | rare | single | 9 |
| *Euphorbia thymifolia* L. (Euphorbiaceae) SRS 109 | Dudhe jhar | Latex is used externally for eye infection.[b] | frequent | rare | single | 7 |
| *Feronia limonia* (L.) Swingle (Rutaceae) SRS 110 | Karaunte Kanda | Fruits are edible and beneficial for stomach. | frequent | occasional | single | 10 |
| *Ficus bengalensis* L. (Moraceae) SRS 111 | Bar | Leaves are used in Hindu rituals. | moderate frequent | frequent | single | 11 |
| *Ficus benjamina* L. (Moraceae) SRS 112 | Swami | Leaves are used in Hindu rituals. | moderate frequent | frequent | single | 11 |
| *Ficus religiosa* L. (Moraceae) SRS 113 | Pipal | Leaves are used in Hindu rituals. | moderate frequent | frequent | single | 11 |
| *Flemingia procumbens* Roxb. (Leguminosae) SRS 114 | Tendu | Dried leaves are smoked to treat sinusitis.[b] | frequent | occasional | single | 8 |
| *Grewia sclerophylla* Roxb (Tiliaceae) SRS 115 | Phorso | Fruits are edible. Leaves are used as fodder. | moderate frequent | frequent | single | 13 |
| *Ichnocarpus frutescens* (L.) R. Br. (Apocynaceae) SRS 116 | Sariva | Latex or roots are consumed to increase lactation. They also help in stopping vomiting, curing fever and blood problems. | moderate frequent | occasional | single | 11 |
| *Inula cappa* DC. (Compositae) SRS 117 | Gai tihare | Root juice is taken orally to treat fever, dysentery and headache. | frequent | rare | single | 9 |
| *Jatropha curcas* L. (Euphorbiaceae) SRS 118 | Sajiwan | Twigs are used as tooth brush. Latex is applied externally on cuts as antiseptic. | frequent | occasional | single | 10 |
| *Justicia adhatoda* L. (Acanthaceae) SRS 119 | Asuro | Root juice is taken about five days to treat fever and typhoid. | frequent | occasional | single | 11 |
| *Lawsonia inermis* L. (Lythraceae) SRS 121 | Mehandi | Leaves are crushed to obtain dye for coloring hands, feet and hair. | rare | frequent | single | 12 |

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|---|---|---|---|---|---|---|
| *Leucaena leucocephala* (Lam.) De Wit (Leguminosae) SRS 122 | Ipil Ipil | Leaves are used as fodder. | moderate frequent | frequent | single | 11 |
| *Lindera neesiana* (Wall ex. Ness.) Kurz (Lauraceae) SRS 123 | Siltimur | Seeds are used as condiments and useful for stomach. | moderate frequent | rare | single | 10 |
| *Madhuca longifolia* (Koenig.) Mac. (Sapotaceae) SRS 137 | Mahuwa | Flower decoction is drunk to treat cough and cold. Seed oil is applied externally to treat skin problems. | moderate frequent | rare | single | 10 |
| *Mallotus philippensis* (Lam.) Muell.-Agr. (Euphorbiaceae) SRS 140 | Rohini/Sindure | Leaves are crushed and used for skin diseases and as fodder. | frequent | frequent | single | 10 |
| *Mangifera indica* L. (Anacardiaceae) SRS 143 | Amp | Bark paste is consumed to treat stomachache. It is also useful for rheumatism and wounds. | frequent | occasional | single | 10 |
| *Mimosa pudica* L. (Leguminosae) SRS 146 | Lajjawati | Root juice taken orally to treat indigestion.[b] | frequent | rare | single | 9 |
| *Nyctanthes arbor-tristis* L. (Oleaceae) SRS 149 | Parijat | Leaves decoction is drunk to treat fever.<br>Bark juice is used for tooth infection.[b] | frequent | rare | single | 10 |
| *Ophioglossum petiolatum* L. (Ophioglossaceae) SRS 161 | Jibre sag | Whole plant is consumed as vegetables.[b] | moderate frequent | occasional | single | 10 |
| *Oroxylum indicum* (L.) Vent. (Bignoniaceae) SRS 162 | Tatelo | Bark decoction is taken orally to treat jaundice. | moderate frequent | occasional | single | 11 |
| *Oxalis corniculata* L. (Oxalidaceae) SRS 163 | Chariamilo | Leaves juice is taken orally to treat diarrhea and dysentery. | frequent | occasional | single | 7 |
| *Phyllanthus emblica* L. (Euphorbiaceae) SRS 165 | Amala | Fruit powder or decoction is taken to treat diarrhea, dysentery and jaundice. | frequent | frequent | multiple | 13 |
| *Pinus roxburghii* Sargent. (Pinaceae) SRS 166 | Khotesallo | Resin is applied on body part to treat muscular pains or cramps.[b]<br>Wood is used for furniture and as firewood. | moderate frequent | occasional | single | 11 |
| *Piper longum* Linn. (Piperaceae) SRS 167 | Pipla | Fruit and root powder or paste is used to treat asthma, bronchitis and cough. | moderate frequent | occasional | single | 10 |
| *Pogostemon bengalensis* (Burm.f.) (Labiatae) SRS 168 | Rudhilo | Bark juice is used to treat tooth problems.[b] | moderate frequent | rare | single | 9 |
| *Rauvolfia serpentina* (L.) Benth. ex Kurz (Apocynaceae) SRS 169 | Sarpagandha | Root paste is used to treat snakebites and blood pressure control.<br>It is also beneficial for ulcer.[b] | moderate frequent | frequent | single | 12 |
| *Ricinus communis* L. (Euphorbiaceae) SRS 170 | Arin | Leaves decoction is used is consumed to treat gout. | frequent | rare | single | 9 |

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| *Sapindus mukorossi* Gaertn. (Sapindaceae) SRS 171 | Rittha | Fruits are used as alternatives of soaps and avoid dandruffs. | moderate frequent | frequent | single | 12 |
| *Schleichera oleosa* (Lour.) Oken (Sapindaceae) SRS 172 | Kusum | Ripen fruits are taken to treat urinary problems.[b] | moderate frequent | rare | multiple | 11 |
| *Semecarpus anacardium* L.f. (Anacardiaceae) SRS 173 | Bhalayo | Fruits are consumed orally in fever, stomach problems and piles. It is also used for nerves, constipation and leprosy. Excessive use of fruit juice is considered to cause sterility in women.[b] | moderate frequent | rare | single | 10 |
| *Shorea robusta* Gaertn. (Dipterocarpaceae) SRS 174 | Sal | Resin is used against dysentery. Wood is valued for construction and furniture. Leaves are used for making plates. | frequent | frequent | multiple | 12 |
| *Spondias pinnata* (L. f.) Kurz (Anacardiaceae) SRS 277 | Amaro | Bark juice is taken orally or fruits are chewed to treat cough | rare | occasional | single | 12 |
| *Symplocos racemosa* Roxb. (Symplocaceae) SRS 279 | Dabdabe, Lodh | Bark juice is used for blood clotting.[b] | moderate frequent | rare | single | 10 |
| *Syzygium cumini* (L.) Skeels (Myrtaceae) SRS 281 | Jamun | Seed decoction is taken orally to treat diabetes. | moderate frequent | occasional | single | 11 |
| *Tamarindus indica* L. (Leguminosae) SRS 283 | Imli | Decoction of leaves drunk and helps to join fractured bones or treat sprain.[b] | moderate frequent | occasional | single | 10 |
| *Terminalia alata* Heyne ex. Roth. (Combretaceae) SRS 285 | Saj | Bark juice is used against cuts and wounds. | moderate frequent | frequent | multiple | 14 |
| *Terminalia bellirica* (Gaertn.) Roxb. (Combretaceae) SRS 287 | Barela | Fruit powder is consumed orally to treat stomach problems, diarrhea, dysentery and cough. | moderate frequent | occasional | single | 11 |
| *Terminalia chebula* Retz. (Combretaceae) SRS 289 | Harela | Fruit decoction is consumed orally to treat diarrhea, dysentery, stomachache and cough. | moderate frequent | occasional | single | 11 |
| *Thysanolaena maxima* (Roxb.) O.Kuntze (Graminae) SRS 391 | Amriso | Used to make broom. | moderate frequent | frequent | single | 11 |
| *Tinospora sinensis* (Lour.) Merr. (Menispermaceae) SRS 392 | Gurjo | Tuber or stem infusion taken orally to treat gastritis and diarrhea. | moderate frequent | rare | single | 10 |
| *Woodfordia fruticosa* (L.) Kurz. (Lytharaceae) SRS 393 | Dhayero | Flower powder is taken through nose to treat sinusitis.[b] The powder is also taken orally to treat fever. | frequent | occasional | single | 9 |
| *Zizyphus mauritiana* Lam. (Rhamnaceae) SRS 401 | Bayar | Bark juice is taken orally to treat diarrhea and dysentery. | frequent | occasional | single | 10 |

[b] New medical remedies or ethnobotanical use.