

Useful Plants Used by Tajpuria Community of Jhapa District, Nepal

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Abstract

*Local plant resources are important in the livelihood of various ethnic communities in Nepal. The aim of the study is to record the useful plants used by Tajpuriya community of Jhapa district, eastern Nepal. The study documented 38 useful plants from 28 families and 36 genera. The family Malvaceae was documented as dominant. Trees were recorded as dominant (39%), followed by herbs (32%) and shrubs (29%). The major source of these useful plants was forest (66%), 18% were cultivated and 16% were both wild as well as cultivated. These documented plant species were used in six major categories namely medicinal use, food, oil-yielding, fibre-yielding, timber, and religious purposes. Out of the 38 important plant species, 25 species were used in medicinal purpose followed by 11 species in religious value, nine plant species were used as food. *Tinospora cordifolia*, *Terminalia bellirica*, *Terminalia chebula*, *Azadirachta indica* were documented as important medicinal plants. *Agave americana*, *Corchorus depressus*, *Dracaena roxburghiana*, *Musa paradisiaca*, and *Hibiscus sabdariffa* were fibre yielding plants. *Shorea robusta* and *Dalbergia sissoo* are the important timber plant of the region. The study highlights the Tajpuriya community's strong dependence on locally available plant resources. It emphasizes the importance of local knowledge regarding the medicinal practices, edible plant species, timber, and other resource utilization patterns, while also underscoring the need for biodiversity conservation and sustainable management.*

Key words: Traditional knowledge; food plants; Forest; Trees

Introduction

Since the beginning of human civilization, the close relationship has established between people and plants (Rajbhandary, 2020). The history explained that human beings were depend on plants for various purposes like traditional healing system, food, fibre, construction, fodder, and decoration (Balick, 1996; Martin, 2004). The local indigenous knowledge possesses global importance as it provides the valuable insights and potential contributions to science and biodiversity conservation (Kunwar & Bussmann, 2008). They also provide genetic resources for crop improvement and medicines development which are

used for the improvement of human and animal health (Anim, 2008). According to WHO (2000), 80% population of world are using traditional health care system as the important part of healthcare, and the identification of key medicinal plants is vital for the development of effective drugs (Newman & Cragg, 2007). Wild edible plants are the plant species having at least one edible part (Shaheen *et al.* 2017) and these plants possess higher nutritional value than many cultivated species (Burlingame, 2000). Wild edible plants enhance the food and nutrition security among rural populations (Chakravarty *et al.* 2016). Traditional knowledge of plant resource utilization passes down through generations, mainly from parents and close relatives (Khakurel *et al.* 2021).

Nepal is home to many ethnic communities having deep knowledge of plant use (Manandhar, 2002). Among them, the Tajpuriya is important ethnic community of eastern Tarai, including Jhapa District (Gurung, 2006). They possess a unique language and cultural heritage, along with rich traditional knowledge. Their main livelihoods are agriculture and foreign employment. The name “Tajpuriya” derives from *Taj* (crown), reflecting the crowns worn by brides and grooms during marriage. They trace their origin to Lord Shiva and practice nature worship. Their cuisine includes Rassa, Fedgo, Kanji, Ghotol, Pelka, and seafood like crab, while daily meals consist of rice, lentils, and potatoes. Women wear Petani, and coin garlands, while men wear Ganji and Dhoti along with modern attire.

However, their traditional understanding of plant use has not yet been scientifically documented. It is therefore essential to record these practices before they are lost due to modernization, deforestation, and overexploitation (Kunwar & Bussmann, 2008). The traditional knowledge is mostly transmitted orally and being lost as younger generation adopt modern lifestyles and values (Cotton, 1996). Therefore, conducting such studies in this region is essential not only for safeguarding indigenous wisdom but also for encouraging the sustainable utilization of natural resources. Systematic documentation of plant utilization supports biodiversity conservation and strengthens traditional use knowledge (Martin, 2004; Manandhar, 2002).

Materials and Methods

Study area

The study was conducted in Shivasatakshi Municipality, Jhapa District, eastern Nepal, located between 26°20' to 26°50' N and 87°39' to 85°15' E, covering 145.48 sq. km at an elevation of 125 to 381 m (Figure 1). Tajpuriya are mainly inhabitants of Bhelamani village with about 2,000 populations. The sex ratio is 89.35, literacy rate 82.3% (male 88.6%, female 76.8%) (NPHC, 2021). The area has a humid subtropical monsoon climate with hot

summers and cool winters, maximum temperatures ranged from 15.1°C to 25.3°C and minimums from 11°C to 22°C. Land use is dominated by agriculture (78%), followed by forests (17%), riverbeds (4.4%), and rivers (1.92%) (Municipality Profile, 2075).

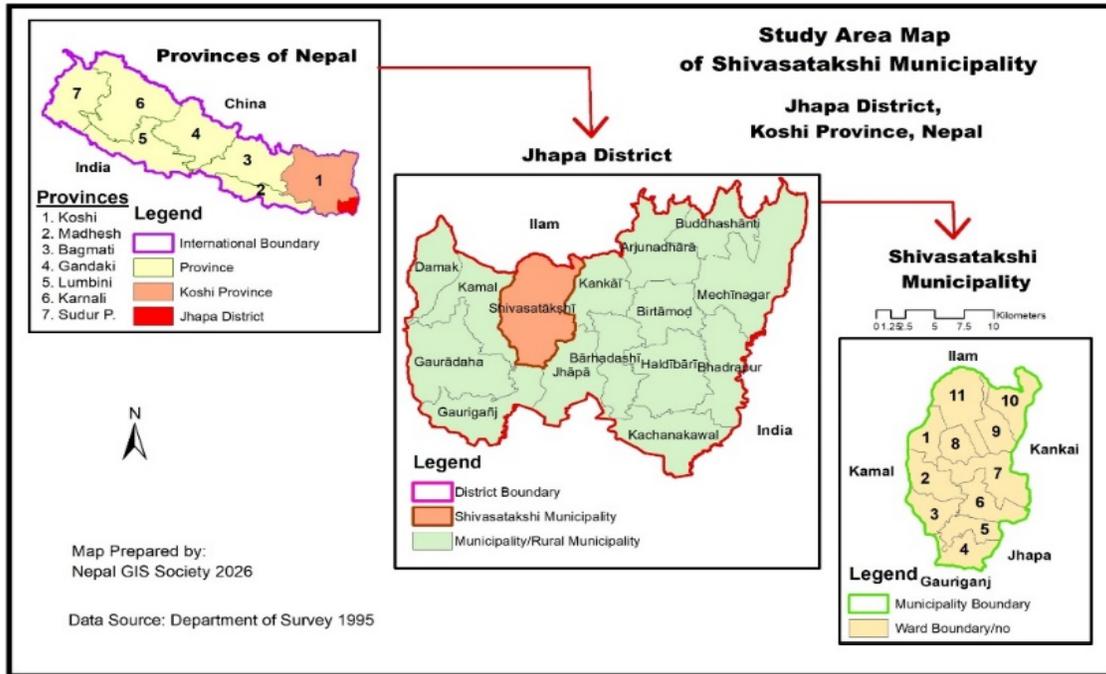


Figure 1. Study area map (Shivasatakshi Municipality, Jhapa district)

Primary data collection

The information was collected from local informants and knowledgeable individuals through semi-structured interviews with 50 informants using open-ended questionnaire. Two Focus Group Discussions (FGDs) with 6-8 participants explored community beliefs, challenges, and changes in plant use over time. Field visits conducted during March to May, 2025. Plant species were collected, tagged, photographed, and identified using literature, previously deposited herbarium and expert consultation. The plants were identified following Shrestha *et al.* 2022 and the online database, World flora online (www.worldfloraonline.org). The herbaria were prepared (Rajbhandari & Rajbhandary, 2015) and deposited in botany department, Patan Multiple Campus, Lalitpur.

Results and Discussion

The ethnobotanical study in Shivasatakshi Municipality documented 38 species of useful plants from 28 families and 36 genera (Table 1). Among 28 families, Malvaceae was dominant having three species and eight families (Amaranthaceae, Asparagaceae, Combretaceae, Fabaceae, Lamiaceae, Meliaceae, Moraceae, and Poaceae) were having two species for each. The remaining 19 families (Theaceae, Rutaceae, Phyllanthaceae, Pedaliaceae, Oleaceae, Musaceae, Menispermaceae, Lythraceae, Euhorbiaceae, Dipterocarpaceae, Crassulaceae, Brassicaceae, Aspholdaceae, Asteraceae, Apocynaceae, Arecaceae, Apiaceae, Anacardaceae, and Acoraceae) were having single species for each (Figure 2).

Table 1. Useful plants of the Tajpuriya community

S.N.	Botanical name	Family	Nepali name	Tajpuriya name	Life form	Uses
1	<i>Abroma augustum</i> (L.) L.f.	Malvaceae	Sanu kapas	Ulat Kambal	Shrub	Medicinal
2	<i>Achyranthes aspera</i> L.	Amaranthaceae	Datiwan	Apangi	Shrub	Medicinal/Religious
3	<i>Acorus calamus</i> L.	Acoraceae	Bojh	Bacha	Herb	Medicinal
4	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Bel	Bael	Tree	Edible/Medicinal/Religious
5	<i>Agave americana</i> L.	Asparagaceae	Ketuke	Sisal	Herb	Fiber yielding
6	<i>Aloe vera</i> (L.) Burm.f.	Aspholdaceae	Gheukumari	Gheukumari	Herb	Medicinal
7	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Lude	Gandhari	Shrub	Edible/Medicinal
8	<i>Azadirachta indica</i> A.Juss.	Meliaceae	Neem	Neem	Tree	Medicinal
9	<i>Bambusa vulgaris</i> Schrad. ex J.C.Wendl.	Poaceae	Bans	Bans	Herb	Religious/Timber
10	<i>Brassica campestris</i> (DC.) Metzg.	Brassicaceae	Tori	Sarsoo	Herb	Edible/Oil yielding/Medicinal
11	<i>Bryophyllum pinnatum</i> Kurz.	Crassulaceae	Pattharjatta	Patharchati	Herb	Medicinal
12	<i>Calotropis procera</i> (Aiton) W.T.Aiton	Apocynaceae	Aank	Aakhi	Shrub	Medicinal
13	<i>Camellia sinensis</i> (L.) Kuntze	Theaceae	Chiya	Cha	Shrub	Edible/Medicinal
14	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Ghodtapre	Lafati	Herb	Medicinal
15	<i>Cocos nucifera</i> L.	Arecaceae	Nariwal	Nariyal	Tree	Edible/Oil yielding
16	<i>Corchorus depressus</i> (L.) Peterm.	Malvaceae	Patsun	Patuwa	Herb	Fibre yielding

17	<i>Crotalaria pallida</i> Aiton	Fabaceae	Chinchine	Jhunjhuni	Herb	Medicinal
18	<i>Cynodon</i> <i>dactylon</i> (L.) Pers.	Poaceae	Dubo	Dubo	Herb	Medicinal/Religious
19	<i>Dalbergia</i> <i>sisoo</i> (Kuntze) E.V. Williams, Govaerts & Vatanpar.	Fabaceae	Sisau	Sisa	Tree	Medicinal/Timber
20	<i>Dracaena</i> <i>roxburghiana</i> (Schult f.) Byng & Christenh.	Asparagaceae	Nagbel	Snakeplant	Herb	Fibre yielding
21	<i>Ficus benghalensis</i> L.	Moraceae	Bar	Bar	Tree	Medicinal/Religious
22	<i>Ficus religiosa</i> L.	Moraceae	Peepal	Pipal	Tree	Religious/Medicinal
23	<i>Hibiscus</i> <i>sabdariffa</i> L.	Malvaceae	Aamilo	Emlia	Shrub	Edible/Fibre yielding
24	<i>Mangifera indica</i> L.	Anacardaceae	Aap	Aam	Tree	Edible/Medicinal/Religious
25	<i>Melia azedarach</i> L.	Meliaceae	Bakaino	Bakena	Tree	Timber
26	<i>Musa paradisiaca</i> L.	Musaceae	Kera	Athiya kela	Tree	Edible/Fiber yielding
27	<i>Nyctanthes arbor-</i> <i>tristis</i> L.	Oleaceae	Parijat	Parijat	Tree	Medicinal/Religious
28	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Tulsi	Tulosi	Herb	Medicinal/Religious
29	<i>Phyllanthus</i> <i>emblica</i> L.	Phyllanthaceae	Amala	/Aamala	Tree	Edible/Medicinal
30	<i>Ricinus communis</i> L.	Euphorbiaceae	Eranda	Eranda	Shrub	Oil yielding
31	<i>Sesamum indicum</i> L.	Pedaliaceae	Til	Til	Shrub	Oil yielding
32	<i>Shorea robusta</i> Gaertn.	Dipterocarpaceae	Sal	Sakhu	Tree	Timber
33	<i>Tagetes erecta</i> L.	Asteraceae	Sayapatri	Gendaphool	Shrub	Religious
34	<i>Tectona grandis</i> L.f.	Lamiaceae	Teak	Sagwan	Tree	Timber
35	<i>Terminalia</i> <i>chebula</i> Retz.	Combretaceae	Harro	Harra	Tree	Medicinal/Timber
36	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Barro	Barra	Tree	Medicinal/Timber
37	<i>Tinospora cordifolia</i> (Willd.) Hook. f. & Thoms.	Menispermaceae	Gurjo	Amarlata	Shrub	Medicinal
38	<i>Woodfordia</i> <i>fruticosa</i> (L.) Kurz	Lythraceae	Datiwan	Dhawai	Shrub	Medicinal

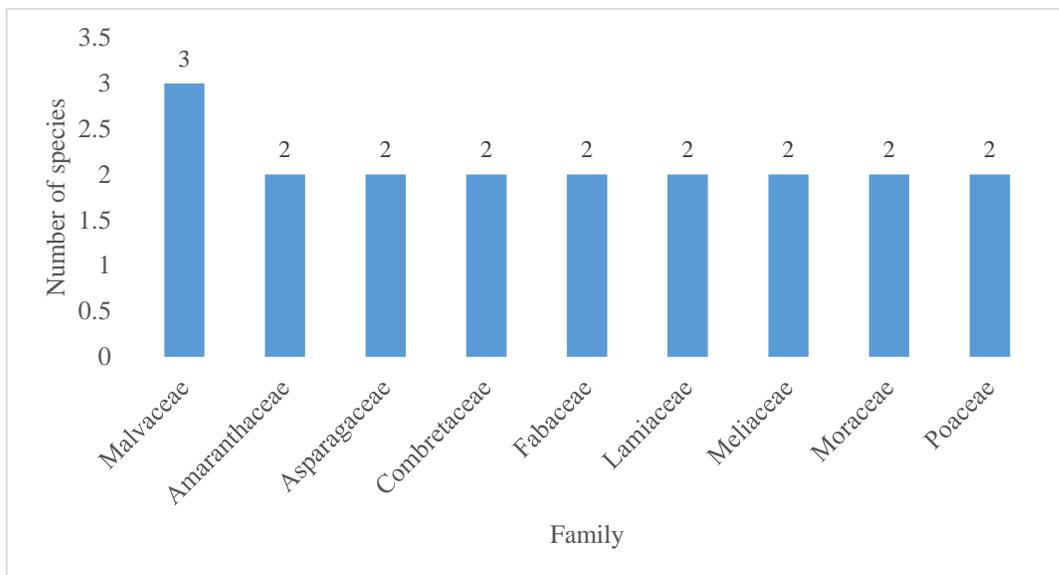


Figure 2. Distribution of plants species in families

Among the 38 important plants of ethnobotanical uses, herbs were 32% (12 sps.), Shrubs were 29% (11 sps.) and trees were 39% (15sps.) (Figure 3). Most of them were collected from wild (66%, 25 sps.), seven species (18%) were cultivated and six species (16%) were collected from wild as well as cultivating also.

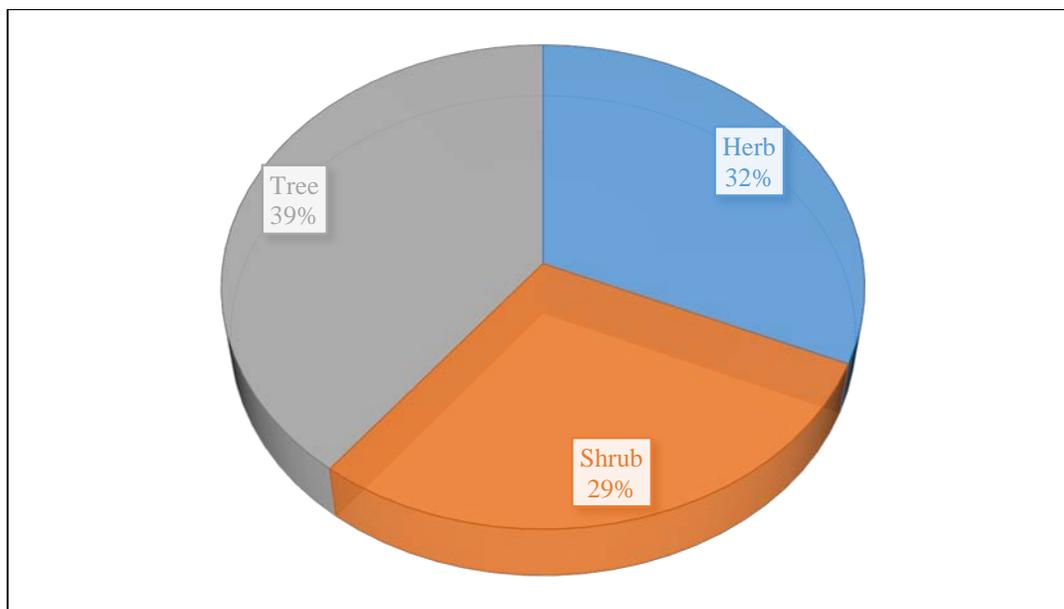


Figure 3. Habit of important ethnobotanical plant species

The present study recorded the six different use categories of plants in the Tajpuriya community. These were medicinal, food, Oil yielding, Fibre yielding, Timber and religious (Figure 4). Among these use categories, Maximum plants (25 spp.) were used in medicinal purposes and 11 species were used for the religious value. Similarly, nine species were edible, five were fibre yielding and four were oil yielding plants. Most of the recorded plants were used for more than one use value. *Tinospora cordifolia*, *Terminalia bellirica*, *Terminalia chebula*, *Azadirachta indica* were documented as important medicinal plants. *Agave americana*, *Corchorus depressus*, *Dracaena roxburghiana*, *Musa paradisiaca*, and *Hibiscus sabdariffa* were fibre yielding plants. *Shorea robusta* and *Dalbergia sissoo* are the important timber plant of the region. During the study, important wild edible plants such as *Aegle marmelos*, *Phyllanthus emblica* and *Hibiscus sabdariffa* were also documented.

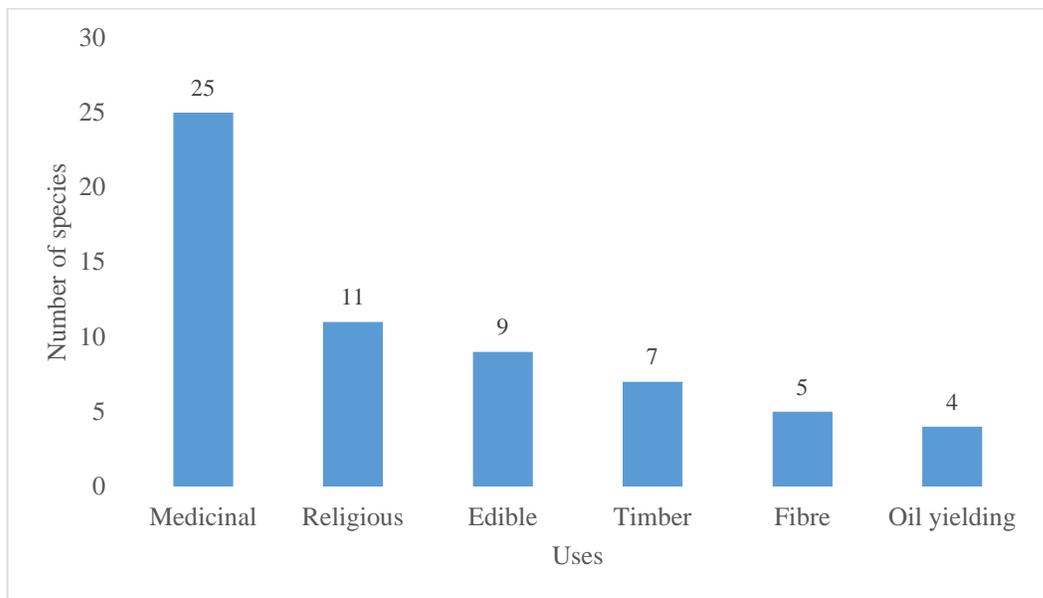


Figure 4. Use categories of important plant species

Previous ethnobotanical studies from eastern Nepal have commonly recorded Fabaceae as the dominant plant family (Magar *et al.* 2022; Baral & Bhagat, 2018) but Bhattarai (2017) documented Zingiberaceae as the most represented family among the Lepcha community of Jhapa District. In contrast to these studies, the present research recorded Malvaceae as the dominant family. This dominance may be attributed to the forest composition and traditional patterns of plant resource use in the study area. It likely reflects the specific floristic characteristics, forest structure, and cultural preferences of the local community. Such differences indicate that traditional knowledge can be influenced by geographical

distribution, ethnic identity, and variations in plant composition across regions. In most of the previous studies, herbs were documented as dominant life forms of ethnomedicinal plants (Kafle & Sharan, 2022; Gautam *et al.* 2023; Munankarmi *et al.* 2025). However, the prevalence of herb and shrub could be attributed to fast and extensive growth form (Bogale *et al.* 2023) and easy to collect and storage (Shrestha & Dhillon, 2003). The present study recorded the trees as dominant life forms which might explain the documentation of multipurpose value of plant resources and might be the abundance and easy accessibility of trees in study area.

Plant use patterns also reflected the traditional lifestyle of the community. Similar to many previous studies across Nepal (Bhattarai & Khadka 2016; Kunwar *et al.* 2013), most of the species recorded in this research were collected from the wild, while the remainder were cultivated in home gardens and agricultural fields. Wild edible plants are important in the local diet, being well adapted to local soil and climatic conditions (Joshi & Basnet, 2022). They are also nutritionally valuable, providing carbohydrates, minerals, vitamins, and proteins that support health and prevent dietary deficiencies (Belhun & Molla, 2017). Timber extraction remains a major economic activity in many rural regions of Nepal. More than half of forest-based household income in rural communities is derived from timber harvesting (Meilby *et al.* 2014). The study area was rich in valuable timber-producing tree species, providing substantial income to local households. Earlier studies by Dhakal & Masuda (2007) and Kanel & Niraula (2004) similarly reported timber as the primary revenue source for community forests. This dependency highlights the need for sustainable forest management to ensure the availability of plant resources for future generations while safeguarding biodiversity and traditional plant-based knowledge systems.

Conclusion

The study documents the ethnobotanical knowledge of the Tajpuriya community in Shivasatakshi Municipality, Jhapa District, highlighting the use of 38 plant species across six categories. Malvaceae emerged as the dominant family. Traditional medicinal use was most prominent, with many plants employed to treat various ailments. Wild edible species of the area contribute to food security and nutrition, while timber remains an important source of household income. These results underscore the need for management of forest sustainably and the preservation of local knowledge to support biodiversity and rural livelihoods. Documenting such practices contributes to the conservation and responsible use of forest resources in the region.

Acknowledgement

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Ethical approval

During study, the full respect for ethical and legal guidelines governing research on traditional knowledge was maintained.

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