

# JOURNAL OF TRADITIONAL AND FOLK PRACTICES



Volume 07 (1&2) & 08 (1)

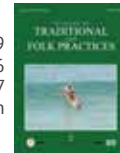
June 2020

ISSN 2278 - 5906

# JOURNAL OF TRADITIONAL AND FOLK PRACTICES

JTFP online: <http://www.jtfp.jntbgri.res.in>





# Socio-cultural and religious use of plants by ethnic communities of Darjeeling and Sikkim Himalayas

Geetamani Chhetri\*, Dinesh Bhujel and Y K Rai

G.B. Pant National Institute of Himalayan Environment & Sustainable Development,  
Sikkim Regional Centre, Pangthang, Gangtok 737101, Sikkim, India

\*chhetri\_geeta@rediffmail.com

Received: 04 November 2019

Accepted: 19 December 2019

## Abstract

Plants are connected with the human culture since antiquity. All the religions of India worship plants or utilize their parts in various ways to complete their socio-religious ceremonies. Darjeeling and Sikkim Himalayas are inhabited by three main ethnic communities *Lepcha*, *Bhutia* and *Nepali*. *Lepchas* are nature worshippers and traditionally followed 'Bon' religion. They later started following Buddhism like *Bhutias*. Hence there is an amalgamation of *Lepcha* and *Bhutia* culture, whereas *Nepali* follows Hinduism. All these communities use various plants in their socio-religious and cultural heritage. Present study on the subject reports a total of 74 plant species from 65 genera and 44 families. Out of them 62.1% represents dicots followed by monocots 33.8%, gymnosperms 2.7% and pteridophytes 1.4%. Maximum uses were found to be of leaves (21.6%), followed by fruits (14.9%), twigs (10.8%), etc. Of the total recorded plant species, about 16% were used by all the three communities. Considering community wise use frequency, maximum were recorded from *Nepali* community (60 species) followed by *Bhutia* (34 species) and *Lepcha* (26 species). Preservation of indigenous knowledge related to plant resources may serve as an important tool for conserving them. Hence, the scientific documentation of these plant species having high utility and importance is essential for sustainable utilization.

**Keywords:** Socio-cultural, Religious plants, Ethnic communities, Darjeeling and Sikkim Himalayas

## 1. Introduction

Plants have played an important role in human civilization and are connected with their culture since time immemorial. Human beings recognized their dependence on plants at the very beginning of their life on earth, primarily for food, shelter, medicine etc., at the same time plants are considered dear to Gods and hence planting them are considered as a ritual of worship. According to mythology, planting trees facilitate people to lead better life with the grace of God. In the context to prehistoric Indian traditions, plants were deeply incorporated with religion and asserted that by planting any kind of tree, a person gets rewarded of thousand

cows adorned with jewels, while cutting a tree was an unforgiving offense. All religions in India worship plants in their respective ways and promote the practice of plantation and conservation (Sarma and Devi, 2015). Darjeeling and Sikkim Himalayas are not exception to this. The region is inhabited by different ethnic communities with their respective rich traditions and cultures with different religious faith. According to Hindu scriptures, many plants like *Ficus religiosa*, *Azadirachta indica*, *Ocimum sanctum*, *Centella asiatica*, *Curcuma longa*, *Cynodon dactylon*, etc., has divine qualities, hence used in a number of religious activities

and rituals (Robinson and Cush, 1997). Hindu epics like *Ramayana*, *Mahabharat* and *Vedas* emphasised on preserving forests as a part of the cultural heritage (Arya, 2015). Likewise, According to the Buddhist scriptures, nature creates and preserves life. Consequently it is the duty of people to preserve plants considering them as living beings. Therefore, Buddhist monks never cut down a tree considering that they have life and are abode of deities. Even King Ashoka after the Kalinga war planted many trees in different parts of India for spreading Buddhism. *Oroxylum indicum* is regarded as most sacred by Buddhists, since its flower buds open at night and fall before dawn and are not touched even by bees, signifying its purity. The seeds resembling paper silk are used in every auspicious ceremony (Panda and Mishra, 2012). There is hardly any religious ritual which does not requires plants or plant parts either in Hinduism or Buddhism. Jain (2005) described magico-religious beliefs about plants among tribes of Baster. Such intimate association of man with the plants has helped him to develop a sense of reverence for nature and natural resources (Sood *et al.*, 2005). Likewise, the ethnic communities are very much concerned about the use of plants for every occasion from birth to death as part of their socio-cultural heritage. Simultaneously, they are conserving these plant resources and in turn biodiversity. In spite of having such imperative traditional socio-religious value, literature regarding sacred plants and belief systems by these communities are very scanty from the region. Moreover, proper scientific study and documentation in this field is of utmost importance. The usefulness of these plants have been mentioned in religious literature and transmitted from generation to generation primarily through religious heads. But due to modernization and influence of western culture, younger generations are less concerned on such belief systems and practices, neither interested comprehending religious literature. Keeping all in view, an attempt has been made to study all sacred plants used by different ethnic communities of Darjeeling and Sikkim Himalayas focussing how such socio-cultural beliefs and practices are contributing to biodiversity conservation.

### 1.1. Ethnic communities studied

**1.1.1. Bhutia:** Also pronounced as *Bhotia*, derived from their original habitat 'Bhot' (Tibet).

In Sikkim, they are concentrated towards northern part where they are known as *Lachenpas* and *Lachungpas*, but they are scattered in other parts of Sikkim as well. In Northern Bengal, *Bhutias* are found mostly in Darjeeling and Kalimpong districts.

*Socio-religious beliefs:* They are Buddhists by religion; their chief deity is Buddha and *Bodhisattwas*, followed by the guardian deities such as local deities, family deities, village deities and Mt. Khanchendzonga. Most of the deities are identified with mountains, lakes and forests (Subba, 2008). Monastery or *Gumpa* is their worship place, the main repository of the Bhutia culture (<https://shodhganga>). Most of the villages have their own *Gumpa* Lamas, the 'religious heads' officiate various rituals at *Gumpas* (Subba, 2008; Rai and Bhujel, 2011).

**1.1.2. Lepcha:** Derived from the *Nepali* word *Lapche* or vile speakers. They are mongoloid people living in the Himalayas on southern and eastern slopes of Mount Khanchendzonga (Subba, 2008). They consider themselves as the children of the Himalayas and were created by *Rum* (God) out of the snow of peak of Mount Khanchendzonga (Roy, 2011). They are said to be the original inhabitants of Darjeeling and Sikkim Himalayas, in Sikkim inhabiting mostly Dzongu area of North district in the foothills of Khangchendzonga and Darjeeling and Kalimpong districts in Northern Bengal. *Lepchas* are good in archery; traditionally they were hunters and food gatherers who lived quite close to the nature therefore, the community holds a rich knowledge base on wild edibles and ethno-medicines of their surroundings. In the past, they practiced shifting cultivation and raised grains like maize and millets (Dwivedi, 2016), presently they are land owning farmers. Bamboo is an inseparable part of their livelihood, used for food and making a variety of tools. Hence, *Lepcha* households often maintains small bamboo groves near their dwellings.

*Socio-religious beliefs:* They are nature worshippers and respect their natural surroundings. Earlier *Lepchas* were believers in *Bon* and *Mun* faith based on good or bad spirits; and worship spirits of mountains, rivers and forests. The main religious roles in the community are traditionally occupied by the

priest 'Bungthing', and priestess 'Mun' who functions as shamans (Subba, 2008). At present, some of them have adopted Buddhism, however, they have not forgotten their *Bon* religion and *Bungthings/Muns* perform their rituals along with Buddhist Lamas and many of them have adopted Christianity as well.

**1.1.3. Nepali:** The term *Nepali* is very broad and generic which encompasses a number of hill tribes and Hindu castes (<https://shodhganga>). This community is inclusive of a few main sub cultural sectors: the *Kiratis*, the *Newars*, the high caste *Khasas* and the low caste *Khasas*. The *Kirati* consists of *Limboos*, *Rais*, *Yakhas*, *Mangars*, *Gurungs*, *Tamangs*, etc. The *Newars* commonly known by *Pradhans* and high caste *Khasas* include *Bahun*s, *Chhetris*, *Thakuris* and the low caste *Khasas* belong to barbers and artisan castes such as smiths (*Kami*), tailors (*Damai*) and cobblers (*Sarki*) (Subba, 2008). On socio-ritual ground, *Nepalis* may be divided into two broad groups: the *Tagadharis* who wear sacred thread locally called as *janai*, and this group of *Nepali* community do not use alcoholic beverages in their socio-religious rituals; whereas, the second group *Matwalis* who do not put sacred thread, use local alcoholic beverages prepared from finger millet, wheat, barley, etc., which is the part of their culture. Therefore, different tribes and castes belonging to *Nepali* community have their own social and cultural systems as well as languages. Regardless of all these differences, their identical life styles and base of common religion have tied the members of this largest community together (<https://shodhganga>).

**1.1.4. Socio-religious beliefs:** Some castes like *Bahun*s, *Chhetris*, *Thakuris*, etc., follow Hinduism and also believe and worship family deity or *kul* and their socio-religious rituals are performed by religious heads from *Bahun* or *Brahmin* caste called *Pandit* or *Purohit*. Whereas other castes mostly *Matwali* group basically follow Hinduism, worship their respective household deities as well, and have their own priests to perform their rituals. Some of them worship host spirit through their own shamans and sacrifice animals for their Gods and Goddesses.

## 1.2. Healing Practices

To maintain human health, various traditional healers across the world have diverse beliefs and

practices but the common aim of all is to cure ailments (Panda and Mishra, 2012). Similarly, in Darjeeling and Sikkim Himalayas faith healing system is one of the significant healing practices prevalent among rural communities. This practice of three major ethnic groups *Lepcha*, *Bhutia* and *Nepali* is a mixture of personalistic and naturalistic theories of illness. Illness may be linked to transgressions of a moral or spiritual nature. They may involve inappropriate behaviour, violation of social norms, or breach of religious taboos on the part of the patient. Naturalistic theories view illness as a disharmony between the person and environment. Perception of illness is thus highly culture related (Ravishankar and Shukla, 2007). Faith healing system or shamanistic medicine is an ancient method of treating diseases by prayers and exercise of faith in God, believing that the illness is caused by the curse of the God or witches or demons. During the course of treatment these faith healers go into trance state to communicate with God or spirits to diagnose and find cure for the illness (Sherpa et al., 2015). The faith healers of different communities perform similar functions in their respective ways to ward off evil spirits. It is believed that they acquire super natural powers by constant prayers and deep meditations. During this process, they use different plants like *Thysanolaena latifolia*, *Neyraudia arundinacea*, *Ocotea lancifolia*, etc., to ward off the evil spirits from the body of the patients. Traditional spiritual leaders/shamans in Darjeeling and Sikkim Himalayas are called *Dhami-Jhankri*, *Bijuwa*, *Phedangma*, *Bungthing*, etc. (Bantawa and Rai, 2009).

## 2. Materials and Methods

The present study was carried out among three major ethnic groups (*Lepcha*, *Bhutia* and *Nepali*) residing in Darjeeling and Sikkim Himalayan region. Household surveys were conducted during the year 2016 to 2018 with the help of questionnaires to gather information regarding use of various plant species in socio-religious activities of different ethnic communities. The head of the household was generally interviewed. In the absence of family head other elder members were interviewed. Interviews were conducted in local language. A total of 130 informants (85 males and 45 females) from

*Nepali* community, 118 informants from *Lepcha* community (81 males and 37 females) and from *Bhutia* community a total of 70 informants (50 males and 20 females) were consulted (Table 1a). Religious heads from different communities consisting of 9 *Pandit/Purohits* from *Nepali* community 5 *Lamas* from *Bhutia* community and 6 *Bunghthings* from *Lepcha* community and traditional faith healers such as 8 *Dhami/Jhankri/Bijuwa/Phedangma* from *Nepali*, 1 *Pau* from *Bhutia* and 6 *Bunghthings* from *Lepcha* community were consulted to verify the information gathered from the local inhabitants.

In order to collect authentic relevant data, authors attended different occasions, rituals and festivals in different parts of the region to record required information including uses of plant and plant parts, beliefs and practices related to different plants and captured field/event photographs (Plates 1 & 2). Thus the information gathered from the household surveys and discussions with resource persons were validated and finally used for interpretation of the results (Lepcha *et al.*, 2018). Local names of the plants gathered from native folk were compared with available literature (Singh *et al.*, 2002; Panda and Misra, 2012; Badola and Pradhan, 2013; Rai *et al.*, 2013; Sherpa *et al.*, 2015; Chhetri and Rai, 2018) to find out the proper botanical identification and valid botanical names and their families were checked online using <http://www.theplantlist.org>, through which accepted names of plant species along with author citations and families were updated and listed alphabetically in Table 2.

### 3. Results and Discussion

#### 3.1. Demography

During the community wise survey to document the plants having socio-cultural and religious importance, maximum number of informants were from *Nepali* community (130) followed by *Lepcha* (118) and *Bhutia* (70). Gender wise distribution of informants from each community is presented in Table 1a. Age wise ranking of informants was done in three different categories, *viz.* (30-50 years) less experienced, (50-70 years) experienced and (above 70 years) highly experienced. It was found that in *Bhutia* and *Nepali* communities maximum informants were between the ages of 30-50 yrs. whereas in *Lepcha* community maximum informants were

between the ages of 50 -70 yrs. (Table 1b). Most of the informants from all three communities were from experienced and highly experienced categories or above the age of 50 yrs. *i.e.* maximum were from *Lepcha* (65%) followed by *Bhutia* (56%) and *Nepali* (53%).

**Table 1a.** Total number of informants from three different communities

Communities	Total no. of informants	Males	Females
<i>Bhutia</i>	70	50	20
<i>Lepcha</i>	118	81	37
<i>Nepali</i>	130	85	45

**Table 1b.** Age wise ranking of informants from three different communities

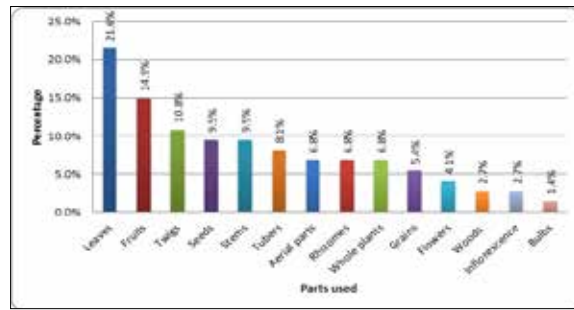
Communities	30 – 50 yrs.	50 – 70 yrs.	Above 70 yrs.
<i>Bhutia</i>	44%	30%	26%
<i>Lepcha</i>	35%	40%	25%
<i>Nepali</i>	47%	38%	15%

#### 3.2. Plants used in Socio-cultural and religious rites

The present study documents 74 plant species from 65 genera and 44 families which are associated with the socio-cultural and religious beliefs among different ethnic communities residing in Darjeeling and Sikkim Himalayas. Among the total plants recorded, 30 spp. each represents herbs and trees followed by shrubs (9 spp.), climbers (3 spp.) and arborescents (2 spp.) which represent larger bamboos. Dicots form the dominant groups representing 62.1% followed by monocots 33.8%, gymnosperms 2.7% and pteridophytes 1.4% (Fig.1). Among the 44 families, the most utilized species belong to the monocot family Poaceae (13 spp.) followed by dicot families Moraceae (5 spp.), Anacardiaceae, Asteraceae and Ericaceae (3 spp. each). *Musa* spp. is very important and all parts of the plant are widely used during all forms of Hindu worship and every part is important from worship point of view (Sarma and Devi, 2015). Likewise, in the present study all the three communities studied use different parts of *Musa* spp. in various socio-religious rituals in their respective ways. Considering the uses of different plants/plant

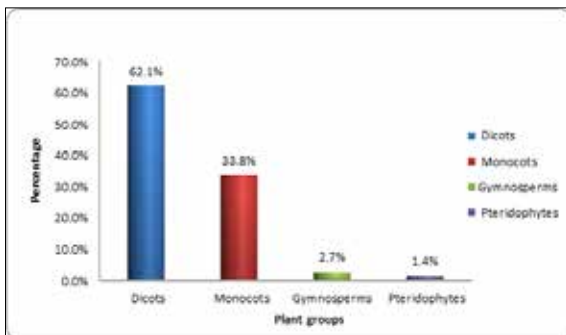
parts maximum uses *i.e.* (21.6%) were found to be of leaves, followed by fruits (14.9%), twigs (10.8%) and so on (Fig. 2). Some of these plants are used by particular community only and some are used by all communities in their various socio-cultural rituals, though method of utilization differs from community to community and it was found that out of the total recorded plant species, about 16% were common among all the studied communities. While taking community wise use frequency of these plant species, maximum number of plants uses was recorded from *Nepali* community (60 species) followed by *Bhutia* (34 species) and *Lepcha* (26 species) (Fig. 3). Plants like Bamboo, Banana, Broom grass, Paddy, Sugarcane, Ginger, etc., are common among all the communities. The plant species recorded are arranged alphabetically with their botanical names, families, local names, parts used, usages, practicing communities, etc. (Table 2).

In Hindu custom particular plant species is required to worship different Gods and Goddesses, such as *Aegle marmelos* (*Bel*), *Datura metel* (*Dhatura*), *Elaeocarpus serratus* (*Rudraksha*), etc., are used to worship Lord *Shiva*. Likewise *Cynodon dactylon* (*Dubo*) is essential for worshipping Lord *Ganesh*. *Desmostachya bipinnata* (*Kush*), *Hordeum vulgare* (*Jau*) and *Sesamum indicum* (*Kalotil*) are essential part of every socio-religious ritual. Likewise, *Areca catechu* (*Supari*) and *Piper betle* (*Paan*) are two most important components of each and every ceremony of Hindus (Sarma and Devi, 2015). Leaves of *Ficus benghalensis* (*Bar*), *F. religiosa* (*Pipal*) and *Mangifera indica* (*Aam*) are equally important for the rituals. During death and *shraddh* rituals departed souls plants and plant parts of *Artemisia vulgaris* (*Titeypati*), *Desmostachya*

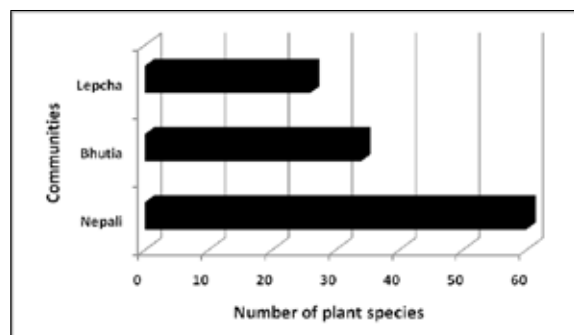


**Fig. 2.** Use frequency of different plant parts in socio-cultural and religious rituals

*bipinnata* (*Kush*), *Eclipta prostrata* (*Bhringiraj*), *Hordeum vulgare* (*Jau*), *Sesamum indicum* (*Kalotil*), *Phaseolus mungo* (*Kalo dal*) are used by *Nepali* community who follow Hinduism and in marriage ceremony powder from *Bixa orellana* (*Sindur*) is of utmost importance. Similarly, seeds of *Oroxylum indicum* (*Totola*) are used in every auspicious occasion including marriage ceremonies by *Bhutias*, *Lepchas*, *Tamangs* and *Sherpas* who follow Buddhism. *Chi* (millet beer) plays a very important role in *Lepcha* culture. The *Lepchas* believe that the God created them from the snow of Mount Khanchendzonga, therefore in the beginning of the harvest festival *Chi* made from the first harvested millet grains is offered to Mount Khanchendzonga who is the guardian deity of the *Lepchas* (Panda and Mishra, 2012). Likewise, in *Bhutia* local beverage is called *Chang* which is equally important in socio-religious rituals. During marriage ceremonies Buddhist priest Lama takes the vessels containing *Chang* and recites prayers and distributes the liquor to all the guests as well as hosts. *Chang* is an important drink in *Bhutia* marriage therefore marriage is called *Chang-sa* (Mukherjee, 1995).



**Fig. 1.** Utilization pattern of different plant groups in socio-cultural and religious activities



**Fig. 3.** Use frequency of socio-religious plants by three communities

Table 2. Plant species used by ethnic communities in their socio-cultural and religious activities

Sl. No.	Botanical name /Family	Local name	Habit	Part/s used	Usage	Community
1.	<i>Acorus calamus</i> L. (Acoraceae)	Bojo (N) Ruktaop (L)	Herb	Rhizomes	Used by Lepcha healers 'Bungthings' during traditional healing practices	Lepcha
2.	<i>Aegle marmelos</i> (L.) Correa (Rutaceae)	Bel (N)	Tree	Fruits, Leaves	In socio-religious rituals of Hindus where Lord Shiva is worshiped, whole fruits and leaves are offered	Nepali
3.	<i>Allium sativum</i> L. (Liliaceae)	Lasun (N) OoTsong / Paki-sungoo (L)	Herb	Bulbs	Used by Lepcha healers 'Bungthings' during traditional healing practices	Lepcha
4.	<i>Areca catechu</i> L. (Arecaceae)	Supari (N)	Tree	Seeds	In many socio-religious rituals of Hindus	Nepali
5.	<i>Artemisia vulgaris</i> L. (Asteraceae)	Titeypati (N) Tuknyil (L)	Shrub	Leaves, twigs	Socio-religious rituals of all communities, also used by faith healer, burnt to make fumes to purify the surroundings	Nepali Bhuitia Lepcha
6.	<i>Bixa orellana</i> L. (Bixaceae)	Sindur (N)	Shrub	Fruits	Red powder from seeds used in religious rituals, marriage ceremonies of Nepali community is incomplete without <i>sindur</i>	Nepali
7.	<i>Bambusa nutans</i> Wall. ex Munro (Poaceae)	Mala Baañs (N) Tung (L)	Arborescent	Stems	Used as poles for erecting Buddhists prayer flags	Bhuitia Lepcha
8.	<i>Bombax ceiba</i> L. (Malvaceae)	Simal (N)	Tree	Fruits	Cotton from fruits used in making wick for lighting lamp ( <i>diya</i> ) during religious rituals	Nepali
9.	<i>Brassica rapa</i> L. (Brassicaceae)	Tori (N) Newkarnaku (B)	Herb	Seeds	Seeds are used in various socio-religious rituals of Nepali community to drive away the evil spirit. <i>Bhuitia</i> used seeds during death rituals and some religious rituals	Nepali Bhuitia
10.	<i>Buddleja asiatica</i> Lour. (Scrophulariaceae)	Bhimsepati (N) Pondam koong (L)	Tree	Leaves, Twigs	Used by faith healers, and during specific <i>Naya puja</i> this plant is mainly used by <i>Pradhan</i> or <i>Newar</i> of Nepali community for <i>Bhimse Puja</i> hence locally called 'Bhimsepati' or <i>Newarpati</i>	Nepali
11.	<i>Canna indica</i> L. (Cannaceae)	Phultarul (N)	Herb	Tubers	Matured tubers are boiled in water and consumed with salt or chutney during the festival of <i>Makar Sankranti</i> ( <i>Maghe Sakranti</i> )	Nepali
12.	<i>Castanopsis lanceifolia</i> (Oerst.) Hickel & A. Camus (Fagaceae)	Jhakri Katus (N)	Tree	Twigs	Twigs used by faith healers during healing rituals	Nepali



13.	<i>Choerospondias axillaris</i> (Roxb.) B.L. Burtt. & A.W. Hill (Anacardiaceae)	<i>Churu</i> (B) <i>Lupsi</i> (N)	Tree	Fruits	Buddhists used fruits during <i>Nag puja</i>	<i>Bhuita Lepcha</i>
14.	<i>Cocos nucifera</i> L. (Arecaceae)	<i>Nariyal</i> (N)	Tree	Fruits	Fruits with cover are used in various social rituals like thread ceremonies of Brahmins, marriages, etc. Whole fruits with outer cover worship as Lord <i>Ganesh</i> and whole dried fruit with ghee offer to <i>Hawan agni</i> or <i>Hawan</i> fire at the end of the ritual of <i>Hawan</i> . Dried fruits offered to Gods.	<i>Nepali</i>
15.	<i>Colocasia esculenta</i> (L.) Schott (Araceae)	<i>Pindalu</i> (N) <i>Singti</i> (L)	Herb	Tubers	Boiled tubers consumed with salt or <i>chutney</i> during the festival of <i>Makar Sankranti</i> ( <i>Maghe Sankranti</i> )	<i>Nepali</i>
16.	<i>Cryptomeria japonica</i> (Thunb. ex L.f.) D. Don (Cupressaceae)	<i>Dhuppi</i> (N) <i>Sang/ Sikpa</i> (B) <i>Soang</i> (L)	Tree	Leaves	Burnt as incense by Buddhists during their religious rites, also burnt while taking dead body for cremation	<i>Bhuita Lepcha</i>
17.	<i>Curcuma longa</i> L. (Zingiberaceae)	<i>Hardi</i> (N) <i>Mungga</i> (L)	Herb	Rhizomes	In many socio-religious rituals including marriage and death	<i>Nepali</i>
18.	<i>Cynodon dactylon</i> (L.) Pers. (Poaceae)	<i>Chaturva</i> (B) <i>Dubo</i> (N) <i>Paongmook</i> (L)	Herb	Aerial parts	Socio- religious rituals of all communities, <i>Nepali</i> Hindus offer the clean aerial parts to Lord <i>Ganesh</i> to gratify him	<i>Nepali Bhuita Lepcha</i>
19.	<i>Datura metel</i> L. (Solanaceae)	<i>Dhatura</i> (N) <i>Richen</i> <i>Nyongboou</i> (L)	Shrub	Fruits	Used in worshipping Lord <i>Shiva</i>	<i>Nepali</i>
20.	<i>Dendrocalamus hamiltonii</i> (L.) Stapf (Poaceae)	<i>Choya Baañis</i> (N)	Arborescent	Leaves, Stems	Used in all socio-religious rituals of Hindus and Buddhists	<i>Nepali Bhuita Lepcha</i>
21.	<i>Desmostachya bipinnata</i> (L.) Stapf (Poaceae)	<i>Kush</i> (N)	Herb	Aerial parts	Pieces of leaves and stems used by <i>Nepali</i> Hindus during social and religious rituals considering it as holy	<i>Nepali</i>
22.	<i>Dioscorea alata</i> L. (Dioscoreaceae)	<i>Ghartarul</i> (N)	Climber	Tubers	Tubers are boiled and consumed with salt or <i>chutney</i> during the festival of <i>Makar Sankranti</i> ( <i>Maghe Sankranti</i> )	<i>Nepali</i>

23.	<i>Dioscorea hamiltonii</i> Hook.f. (Dioscoreaceae)	<i>Bantarul</i> (N)	Climber	Tubers	Piece of raw tubers pasted on forehead as <i>tilak</i> to mark the occasion of <i>Makar Sankranti</i> ( <i>Maghe Sankranti</i> ) and boiled tubers are offered to nature deities first and then consumed with salt or <i>chutney</i> during the same festival	Nepali
24.	<i>Eclipta prostrata</i> (L.) L. (Asteraceae)	<i>Bhringiraj</i> (N)	Herb	Aerial parts	Few fresh twigs are used during death and <i>shradh</i> rituals of departed souls	Nepali
25.	<i>Elaeocarpus serratus</i> L. (Elaeocarpaceae)	<i>Rudraksha</i> (N)	Tree	Seeds	Used in worshipping Lord <i>Shiva</i> by Hindus. Beads from seeds used by traditional healers	Nepali
26.	<i>Eleusine coracana</i> (L.) Gaertn. (Poaceae)	<i>Kodo</i> (N) <i>Mench</i> (B) <i>Mong</i> (L)	Herb	Grains	Fermented beverage from grains used for offering to deities, also used in all social ceremonies by Buddhists and <i>Matwali</i> group of <i>Nepali</i> community	Bhutia Lepcha Nepali
27.	<i>Fagopyrum esculentum</i> Moench (Polygonaceae)	<i>Phapar</i> (N)	Herb	Grains	Flour from grains used for making <i>fulaura</i> ( <i>pakora</i> like) eaten during the festival of <i>Makar Sankranti</i>	Nepali
28.	<i>Ficus auriculata</i> Lour (Moraceae)	<i>Nevara</i> (N)	Tree	Leaves	Leaves used by Hindus (mostly <i>Chhetri</i> , <i>Bahun</i> , <i>Pradhan</i> etc.) for making disposable plates ( <i>Duna</i> , <i>Tapari</i> ) to offer fruits and other items to the deities	Nepali
29.	<i>Ficus benghalensis</i> L. (Moraceae)	<i>Bar</i> (N)	Tree	Leaves	Social and religious rituals. Leaves of <i>F. benghalensis</i> , <i>F. religiosa</i> and <i>Mangifera indica</i> put in a brass pot ' <i>kalash</i> ' during the religious rites, after the ritual the same are tied on coconut thread to make ' <i>toran</i> ' and hung around the house to protect from evil spirits	Nepali
30.	<i>Ficus benjamina</i> L. (Moraceae)	<i>Sami</i> (N)	Tree	Leaves	Whole plant is considered as holy. Leaves used in socio-religious rituals; this along with leaves of <i>F. benghalensis</i> , <i>F. religiosa</i> and <i>Mangifera indica</i> during the religious rituals tied on coconut's thread to make ' <i>toran</i> ' and hung around the house to protect from evil spirits	Nepali
31.	<i>Ficus nerifolia</i> Sm. (Moraceae)	<i>Dudhilo</i> (N) <i>Omsing</i> (B)	Tree	Leaves, Stems	Social rituals mainly during death rituals	Bhutia Nepali

32.	<i>Ficus religiosa</i> L. (Moraceae)	Pipal (N)	Tree	Whole plant	Worship trees and leaves used in socio-religious rituals. The leaves along with leaves of <i>F. benghalensis</i> , and <i>Mangifera indica</i> put in a brass pot 'kalash' during the religious rites, after the ritual the same are tied on coconut's thread to make 'toran' and hung around the house to protect from evil spirits	Nepali
33.	<i>Himalayacalamus hookerianus</i> (Munro) Stapleton (Poaceae)	Pareng (N)	Herb	Stems	Used in socio-religious rituals for making prayer altars, Nepali Hindus used it as four supporting poles around hawan place during marriage rituals and other religious rituals	Bhuita Lepcha Nepali
34.	<i>Hordeum vulgare</i> L. (Poaceae)	Jau/tuva (N) Kachyer (L) Nay/Na (B)	Herb	Grains	One of the ingredients of Hawan	Bhuita Nepali
35.	<i>Imperata cylindrica</i> (L.) Reausch. (Poaceae)	Siru (N)	Herb	Inflorescence	For lighting lamp (diya) during religious rituals	Nepali
36.	<i>Ipomoea batatas</i> (L.) Lam. (Convolvulaceae)	Moongur book (L) Sakarkhanda (N)	Herb	Tubers	Boiled tubers are consumed during the festival of Makar Sankranti (Maghe Sakrati)	Nepali
37.	<i>Juglans regia</i> L. (Juglandaceae)	Kaol koong (L) Okhar (N) Tagu (B)	Tree	Fruits	Fruits used while celebrating 'Bhaitika' by Nepalis. Buddhists used fruits in socio-religious rituals including death rituals	Bhuita Nepali
38.	<i>Juniperus recurva</i> Buch.-Ham ex D.Don (Cupressaceae)	Bhairung-Pati (N) Balu (B)	Tree	Leaves	Leaves burnt as incense by Buddhists to purify their worship place and surroundings and to create tranquility	Bhuita Lepcha
39.	<i>Lycopodium clavatum</i> L. (Lycopodiaceae)	Chusingderomu (B) Nagbeli (N)	Herb	Aerial parts	Socio-religious rituals including death rituals	Bhuita
40.	<i>Maesa chisia</i> Buch.-Ham. ex D.Don (Myrsinaceae)	Bilaune (N)	Tree	Twigs	Used in healing rituals by faith healers	Nepali
41.	<i>Mahonia napaensis</i> DC. (Berberidaceae)	Keshari (N)	Shrub	Stems	Debarked stem is used in rituals of Buddhist and paste from the same is used by Nepali community during Shyv Pujia	Bhuita Lepcha Nepali

42.	<i>Mangifera indica</i> L. (Anacardiaceae)	<i>Aam</i> (N)	Tree	Leaves, Fruits	Leaves used in every religious and social rituals. Leaves of <i>Ficus benghalensis</i> , <i>F. religiosa</i> and <i>Mangifera indica</i> put in a brass pot 'kalash' during the religious rites, after the ritual the same are tied on coconut's thread to make 'toran' and hung around the house to protect from evil spirits	<i>Nepali</i>
43.	<i>Manihot esculenta</i> Crantz (Euphorbiaceae)	<i>Simal tarul</i> (N)	Shrub	Tubers	Boiled tubers are consumed with salt or chutney during the festival of <i>Makar Sankranti</i> ( <i>Maghe Sakranti</i> )	<i>Nepali</i>
44.	<i>Musa</i> spp. (Musaceae)	<i>Kera</i> (N) <i>Kundung</i> (L)	Herb	Whole plant	Worship plant by Hindus. Leaves, stems and fruits used in social and religious rituals by all communities	<i>Bhuita Lepcha Nepali</i>
45.	<i>Myristica fragrans</i> Houtt. (Myristicaceae)	<i>Jaidana</i> (N) <i>Jaati</i> (B)	Tree	Fruits	Hindus and Buddhists religious rituals used as one of the <i>hawan</i> ingredients	<i>Bhuita Nepali</i>
46.	<i>Nardostachys jatamansi</i> D. Don (DC.) (Caprifoliaceae)	<i>Jatamansi</i> (N) <i>Nagsang</i> (B)	Herb	Rhizomes	Used in religious rituals as part of <i>hawan</i> ingredients	<i>Bhuita Nepali</i>
47.	<i>Neyraudia arundinacea</i> (L.) Henrad (Poaceae)	<i>Ghungring</i> (N)	Herb	Twigs	Used by faith healers while performing healing rituals	<i>Nepali</i>
48.	<i>Nyctanthes arbor-tristis</i> L. (Oleaceae)	<i>Parijat</i> (N)	Shrub	Flowers, Stems	Flowers used for worshipping Lord "Shiva", stems used to burn in <i>Hawan</i> fire	<i>Nepali</i>
49.	<i>Ocimum tenuiflorum</i> L. (Lamiaceae)	<i>Tulsi/Tulasi</i> (N)	Herb	Whole plant	Considered as sacred by Hindus and worship the plant, leaves used in many socio-religious rituals	<i>Nepali</i>
50.	<i>Ocotea lancifolia</i> (Schott) Mez (Lauraceae)	<i>Jhankri kath</i> (N)	Tree	Twigs	Twigs used in healing rituals by faith healers	<i>Nepali</i>
51.	<i>Oroxylum indicum</i> (L.) Kurz (Bignoniaceae)	<i>Totola</i> (N) <i>Phago rip</i> (L)	Tree	Seeds	Seeds used in religious rituals and marriage ceremony of Buddhists; used by traditional healers as medicine	<i>Bhuita Lepcha</i>
52.	<i>Oryza sativa</i> L. (Poaceae)	<i>Bhea</i> (B) <i>Dhan</i> (N) <i>Joh</i> (L)	Herb	Grains	Fresh grains are offer to God during <i>Udhauli puja</i> every year after harvesting, whole grains used in various socio-religious rituals of all communities, traditional healers use de-husked grains in healing practices	<i>Bhuita Lepcha Nepali</i>

53.	<i>Piper betle</i> L. (Piperaceae)	<i>Paan</i> (N)	Climber	Leaves	All social and religious rituals, also used by faith healers along with <i>Areca catechu</i>	<i>Nepali</i>
54.	<i>Prunus cerasoides</i> Buch.-Ham. ex D. Don (Rosaceae)	<i>Paiyun</i> (N)	Tree	Twigs, Stems	Twigs used in healing practices, branches used in various socio-religious rituals	<i>Nepali</i>
55.	<i>Pterocarpus santalinus</i> L.f. (Fabaceae)	<i>Rato Chandan</i> (N) <i>Marpu Chandan</i> (B)	Tree	Wood	Socio religious rituals of Hindus and Buddhists. <i>Nepali</i> Hindus offer wood paste to God during religious rituals and put on forehead as <i>tilak</i> while performing the ritual	<i>Bhuita Nepali</i>
56.	<i>Rhododendron anthopogon</i> D. Don (Ericaceae)	<i>Sunpati</i> (N) <i>Salu</i> (B)	Shrub	Leaves	Burnt as incense by Buddhists in their religious rituals to purify their worship place. Also burnt every morning and evening making fragrant fumes around their houses to purify the surrounding and to create tranquility	<i>Bhuita Lepcha</i>
57.	<i>Rhododendron lepidotum</i> Wall. ex G. Don (Ericaceae)	<i>Bhaley sunpati</i> (N)	Shrub	Leaves	Burnt as incense by Buddhists in their religious rites. They burnt it every morning and evening and walk around their houses with the fumes to purify the surrounding and to create tranquility	<i>Bhuita Lepcha</i>
58.	<i>Rhododendron setosum</i> D. Don (Ericaceae)	<i>Sunpati</i> (N) <i>Salu</i> (B)	Shrub	Leaves	Burnt as incense by Buddhists during their religious rituals. They burn it every morning and evening and move around their houses carrying the fragrant fumes to purify the surroundings	<i>Bhuita Lepcha</i>
59.	<i>Saccharum officinarum</i> L. (Poaceae)	<i>Ukhu</i> (N) <i>Pa-aam</i> (L)	Herb	Whole plant	Used in religious and social rituals by all communities from offering to God/Goddesses and making prayer altars using entire plants along with leaves	<i>Bhuita Lepcha Nepali</i>
60.	<i>Santalum album</i> L. (Santalaceae)	<i>Seto Chandan</i> (N) <i>Karpu Chandan</i> (B)	Tree	Wood	Used in different socio religious rituals of Hindus and Buddhists. <i>Nepali</i> Hindus offer wood paste to God during religious rituals and put on forehead as <i>tilak</i> while performing the ritual.	<i>Bhuita Nepali</i>
61.	<i>Schima wallichii</i> Choisy (Theaceae)	<i>Chilauney</i> (N) <i>Sungbrangkoong</i> (L)	Tree	Whole plant	Offered puja annually below the tree on the day of Sunday ( <i>Aitabarey Puja</i> ) for wellbeing of the society	<i>Lepcha</i>
62.	<i>Sesamum indicum</i> L. (Pedaliaceae)	<i>KaloTil</i> (N) <i>Tilnaku</i> (B)	Herb	Seeds	Socio religious rituals of Hindus and Buddhists, part of <i>Hawan</i> ingredients	<i>Bhuita Nepali</i>
63.	<i>Shorea robusta</i> Gaertn. (Dipterocarpaceae)	<i>Saal/Sakhuwa</i> (N)	Tree	Leaves, Resins	Leaves for making disposable plates ( <i>Doona, Tapari</i> ) for using in religious rituals. Resin used as incense ( <i>Saal Dhup</i> )	<i>Nepali</i>
64.	<i>Syzygium aromaticum</i> (L.) Merr. & L.M. Perry (Myrtaceae)	<i>Lwang</i> (N) <i>Lishe</i> (B)	Tree	Flower buds	Buddhists religious rituals, socio-religious rituals of Hindus for offering to God	<i>Bhuita Lepcha Nepali</i>

65.	<i>Tagetes erecta</i> L. (Asteraceae)	<i>Saipatri</i> (N)	Herb	Flowers	Flowers are used to decorate houses during Diwali and offer garlands to brothers by the sisters on occasion of <i>Bhaitika</i> ( <i>Bhaituj</i> ) for health and long life of their brothers	Nepali
66.	<i>Terminalia bellirica</i> (Gaertn.) Roxb. (Combretaceae)	<i>Barra</i> (N) <i>Bharup</i> (B) <i>Kuinaompaot</i> (L)	Tree	Fruits	Buddhists used fruits in <i>Nagpuja</i> , Hindus used as part of <i>Hawan</i> ingredients	<i>Bhutia</i> Nepali
67.	<i>Terminalia chebula</i> Retz. (Combretaceae)	<i>Arup</i> (B) <i>Harra</i> (N) <i>Salimpaot</i> (L)	Tree	Fruits	Buddhists use fruits in <i>Nagpuja</i> , Hindus use as part of <i>Hawan</i> ingredients	<i>Bhutia</i> Nepali
68.	<i>Thysanolaena latifolia</i> Roxb. ex Hornem.) Honda (Poaceae)	<i>Amliso</i> (N) <i>Pasyor</i> (L) <i>Khemfak</i> (B)	Herb	Leaves, Inflorescence	Leaves used in healing rituals, inflorescence used at the top of Buddhist's prayer flags	Nepali <i>Bhutia</i> <i>Lepcha</i>
69.	<i>Toxicodendron hookeri</i> (K.C. Sahni & Bahadur) C.Y. Wu & T.L. Ming (Anacardiaceae)	<i>Kaag-Bhalayo</i> (N)	Tree	Twigs	Used by faith healers while performing healing rituals bunch of its twigs used as broom and shaken the bundle over and around sick person, chanting mantras to wipe away the evil spirits from her/his body	Nepali
70.	<i>Urtica dioica</i> L. (Urticaceae)	<i>Sisnu</i> (N) <i>Kuzoo</i> (L)	Herb	Aerial parts	Used during marriage ceremony of Buddhists. In <i>Lepcha</i> tradition people from bridegroom side when arrived to bride's house in marriage day they are welcomed by touching with nettles ( <i>Kuzoo</i> ) to free them from evil spirits if any, came along with them while crossing streams and forests on the way	<i>Bhutia</i> <i>Lepcha</i>
71.	<i>Vigna mungo</i> (L.) Hepper (Fabaceae)	<i>Kalo dal</i> (N)	Herb	Seeds	Used in death and <i>shradh</i> rituals	Nepali
72.	<i>Zea mays</i> L. (Poaceae)	<i>Makai</i> (N) <i>Kenchong</i> (B) <i>Kuchung</i> (L)	Herb	Fresh corn/ seeds	Offered to God after harvesting during <i>Ubhaulti puja</i>	<i>Bhutia</i> <i>Lepcha</i> Nepali
73.	<i>Zingiber officinale</i> Roscoe (Zingiberaceae)	<i>Adruwa</i> (N) <i>Gae</i> (B) <i>Heng</i> (L)	Herb	Rhizomes	Used in traditional rituals and healing practices, <i>Bhutias</i> use rhizomes in <i>Ajyu</i> and <i>Aneu puja</i> ( <i>Pitri puja</i> )	<i>Bhutia</i> <i>Lepcha</i> Nepali
74.	<i>Zingiber zerumbet</i> (L.) Roscoe ex Sm. (Zingiberaceae)	<i>Phachyang</i> (N) <i>Salek</i> (L)	Herb	Rhizomes	Used by Lepcha healers ' <i>Bungthings</i> / <i>Muns</i> during healing practices and given to the sick to consume after chanting their divine mantra making it more powerful to heal the sick	<i>Lepcha</i>

\*B: *Bhutia*; L: *Lepcha*; N: *Nepali*



**Plate 1.** Some important plants used by ethnic communities of the study areas in their socio-cultural and religious rituals; **A.** *Eleusine coracana* (L.) Gaertn.; **B.** *Ficus benghalensis* L.; **C.** *Ficus benjamina* L.; **D.** *Maesa chisia* Buch.-Ham. ex D. Don; **E.** *Buddleja asiatica* Lour. **F.** *Mahonia napaulensis* DC



**Plate 2.** Usages of different plants and plant parts in various socio-religious rituals of ethnic communities in study areas; **A.** Performing religious ritual using leaves of bamboo, banana etc., at river bank by *Nepali* community during the occasion of *Makar sankranti*; **B.** *Artemisia vulgaris*, *Oryza sativa* and other plants used during *shradh* ritual of *Nepali* community; **C.** Bamboos being used as Buddhists prayer flag poles by *Bhutias*; **D.** Uses of different plant species by *Lepcha* priest *Bungthing* during religious ritual; **E.** *Hordeum vulgare*, *Sesamum indicum* and *Oryza sativa* important ingredients for every socio-religious rituals of *Nepali* community; **F.** Pieces of banana culms used while performing death rituals of *Bhutias*



## 4. Conclusion

The study on socio-religious plants used by ethnic people of Darjeeling and Sikkim Himalayas revealed that the plant resources are not only important as food, shelter and medicine but are equally important for completing any socio-cultural or religious rites, without which such cultural heritage is incomplete. Hence such beliefs are contributing towards the conservation of plants for safeguarding their inherent customs which in turn contribute towards biodiversity conservation. However, age old traditional practices by indigenous communities are considered to be full of superstitions or unscientific ethos but they always have immense value in respect of cultural heritage. During this study, one indigenous critically endangered species *i.e. Nardostachys jatamansi* (D. Don) DC. (Mehta *et al.*, 2020) is found to be utilized by the communities for socio-religious practices in a sustainable way without disturbing its existence in wild and it was also observed that local communities have started cultivating this species with proper guidance from conservation authorities like state forest department. Furthermore, in the global scenario of climate change and rapid depletion of biological diversity due to process of modernisation, diverse uses of plant resources in socio-cultural or socio-religious practices can be a major step for their safeguard and conservation.

## Acknowledgements

We are thankful to Dr. R S Rawal, Director, Dr. R C Sundriyal, Scientist G and Principal Investigator, NMSHE-05, GBPNIHESD, Kosi Katarmal, Almora and Dr. R Joshi, Centre Head, GBPNIHESD, Sikkim Regional Centre, Gangtok for providing necessary facilities and constant support. Co-operation and guidance of the local people including religious heads and faith healers during the field survey is deeply acknowledged. We extend our gratitude towards the local folk mass for sharing their precious knowledge. The support of Department of Science and Technology, Govt. of India is highly acknowledged for financial assistance to carry out this work under the project *National Mission for Sustaining the Himalayan Ecosystem, Task Force 5*.

## References

- Arya M 2015. Religious plants of Uttarkashi District. M.Sc. Dissertation. Dept. Botany, R.C.U. Govt. P.G. College, Uttarkashi.
- Badola H K and Pradhan B K 2013. Plants used in healthcare practices by Limboo Tribe in South-West of Khangchendzonga Biosphere Reserve, Sikkim, India. *Indian J. Trad. Knowle.* 12(3): 355-369.
- Bantawa P and Rai R 2009. Studies on ethnomedicinal plants used by traditional practitioners, Jhankri, Bijuwa and Phedangmain Darjeeling Himalaya. *Nat. Prod. Rad.* 8: 537 – 541.
- Chhetri G and Rai Y K 2018. Ethno-medicinal practices of the Lepcha tribe in Kalimpong district of West Bengal, India. *NeBIO, Intern. J. Environ. Biodiv.* 9 (1): 158 – 167.
- Dwivedi J 2016. Ethnoecological studies on tribal communities of Sikkim, *Toxicol. Food. Technol.* 10(1): 15 – 24. DOI: 10.9790/2402-10121524
- Jain S K 2005. Dynamism of Traditional Knowledge. *Indian J. Trad. Knowle.* 4(2): 115-117.
- Lepcha L D, Shukla G, Pala N A, Vineeta, Pal P K and Chakravarty S 2018. Contribution of NTFPs on Livelihood of forest-fringe communities in Jaldapara National Park, India. *J. Sust. Forest.* <https://doi.org/10.1080/10549811.2018.1528158>
- Mehta P, Sekar K C, Bhatt D, Tewari A, Bisht K, Upadhyay S, Negi V S and Soragi B 2020. Conservation and prioritization of threatened plants in Indian Himalayan Region. *Biodivers. Conserv.* 29: 1723 – 1745. <https://doi.org/10.1007/s10531-020-01959-x>
- Mukherjee B 1995. Some aspect of Bhutia culture in Sikkim (A case study), *Bull Tibetol.* pp 82–87.
- Panda A K and Mishra S 2012. Some belief, practices and prospects of folk healers of Sikkim, *Indian J. Trad. Knowle.* 11(2): 369 – 373.
- Rai A, Rai S and Yonzon R 2013. Ethnomedicinal plants used by the people of Darjeeling Hills in the Eastern Himalaya of India, *Univ. Journ. Pharm.* 2(1): 122-134. [www.ujponline.com](http://www.ujponline.com)
- Rai S K and Bhujel R B 2011. Some less known ethno-medicinal plants of Darjeeling Himalayan region, medicinal plants of Darjeeling Himalayan region, India, In: Ghosh C and Das A P (Eds) *Recent studies in Biodiversity and Traditional Knowledge in India.* Gaur Mahavidhyalaya, Malda. pp 321- 327.

- Ravishankar B, Shukla V J 2007. Indian system of medicine: A brief profile. *African J. Trad. Compl. Altern. Med.* 4: 319: 337.
- Robinson C and Cush D 1997. The sacred cow: Hinduism and ecology, *J. Beliefs Values* 18(1):25 – 37.
- Roy D C 2011. Lepcha-Nature Relation. *Aachuley. A Bilingual Journal illustrating the Lepcha way of life.* file:///F:/New%20folder%20(2)/Lepcha/LEPCHA/Lit/Aachuley%20.%20A%20Bilingual%20Journal%20illustrating%20the%20Lepcha%20way%20of%20life%20%20LEPCHA%20-%20NATURE%20RELATION.htm
- Sarma J and Devi A 2015. Study on traditional worshipping plants in Hindu religion from Nalbari and Sonitpur districts of Assam. *Intern. J. Sci. Res. Pub.* 5 (5):1 – 5.
- Sherpa M T, Mathur A and Das S 2015. Medicinal plants and traditional medicine system of Sikkim: A review. *World J. Pharm. Pharmaceu. Sci.* 4 (2): 161: 184.
- Singh H B, Prasad P and Rai L K 2002. Folk medicinal plants in the Sikkim Himalayas of India. *Asian Folk Stud.* 61: 295 – 310.
- Sood S K, Thakur B and Lakhanpal T N 2005. Sacred and magico-religious plants of India. Scientific Publishers, Jodhpur, India.
- Subba J R 2008. History, Culture and Customs of Sikkim. Gyan Publishing House, New Delhi.
- [https://shodhganga.inflibnet.ac.in/bitstream/10603/149379/8/08\\_chapter\\_02.pdf](https://shodhganga.inflibnet.ac.in/bitstream/10603/149379/8/08_chapter_02.pdf) <http://www.theplantlist.org>.