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## Documentation of medicinal plants and its uses by Chang tribe in Tuensang District, Nagaland

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### Abstract

The present study was carried out in the district of Tuensang, Nagaland which lies at 94.83° East Longitude and 26.28° North Latitude covering a total area of 4228 square kilometres. The study was conducted during July 2015 to June 2016. The distribution and abundance of these indigenous medicinal plants were recorded through consultation of the villagers and local traditional healers of Chang tribe of Tuensang District. In the present study, a total of 33 medicinal plants were documented and further the scientific names, common names, local names, family, habitat and medicinal uses were given.

**Keywords:** Chang tribe, medicinal plants, uses

### Introduction

India is considered as one of 17 mega biodiversity centres in the world comprising of two hotspots regions viz; Western Ghats and Eastern Himalayas. The rich and diverse flora and fauna of India is an indication of the country's wide range of environmental regimes. The country has wide ranging ecosystem from hot and humid tropics to alpine meadow. The total flora comprises over 45,000 species in the region. Out of which, 15000 are flowering plants having medicinal values and the rest non-flowering plants. The North-East India comprises of 50% of the India's large biodiversity. The region is considered as the centre of speciation and is also the main centres for the origin of cultivated crops. This region has diverse natural resources which are useful to the people of the region and also serve as a platform for biodiversity interaction at different levels. Nagaland is the sixteen state of India and it borders the state of Assam to the west, Arunachal Pradesh and part of Assam to the north, Burma to the east and Manipur to the south. The state capital is Kohima and the largest city is Dimapur. It has an area of 16,579 square kilometres with a population of 1,980,602 per the 2011 Census of India. The state is inhabited by 16 major tribes – Ao, Angami, Chakhesang, Chang, Khamniungan, Konyak, Lotha, Phom, Pochury, Rengma, Sangtam, Sumi, Yimchunger, Zeliang, Kuki and Kachari. Each tribe is unique in character with its own distinct customs, language and dress. Nagaland has basically an agricultural economy. Over 70% of the population is dependent on agriculture. The main crops are rice, millet, maize and pulses. Rice is the dominant crop and also the staple diet of the people. Of the gross cropped area under food grains, rice accounts for about 84.4%. The two methods of cultivation among the Naga tribes are jhuming and terrace cultivation. The area under jhum cultivation is about 87,339 hectares and under terraced cultivation is about 62,091 hectares. Nagaland with its varied agro-climatic conditions has several types of forest and is covered with coniferous trees, numerous broad leaved varieties of flora, medicinal plants, bamboos and it is therefore has immense potential to utilize and cultivate almost all varieties of medicinal and aromatic plants. The indigenous

people of the state have vast knowledge of their plant resources as medicine and have been using over the years. However, very few studies were made available on the uses of medicinal plants from Tuensang district. In this regard, the present study is to document the information about the uses of medicinal plants by the Chang tribe of Tuensang district.

### Materials and Methods

#### Study site

The present study was carried out in the district of Tuensang, Nagaland which lies at 94.83° East Longitude and 26.28° North Latitude covering a total area of 4228 square kilometres.

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The two locations were; lower altitude of 800 metres above sea level at Noksen Block and the higher altitude of 1371 metres above sea level at Tuensang Sadar. The villages selected under Noksen Block were: Noksen and Litem and the villages selected under Tuensang Sadar were: Tuensang and Helipong. Comparing the two locations, the vegetation was sparse at Noksen Block due to frequent human activities and interference while the Tuensang Sadar has rich vegetation and denser forest.

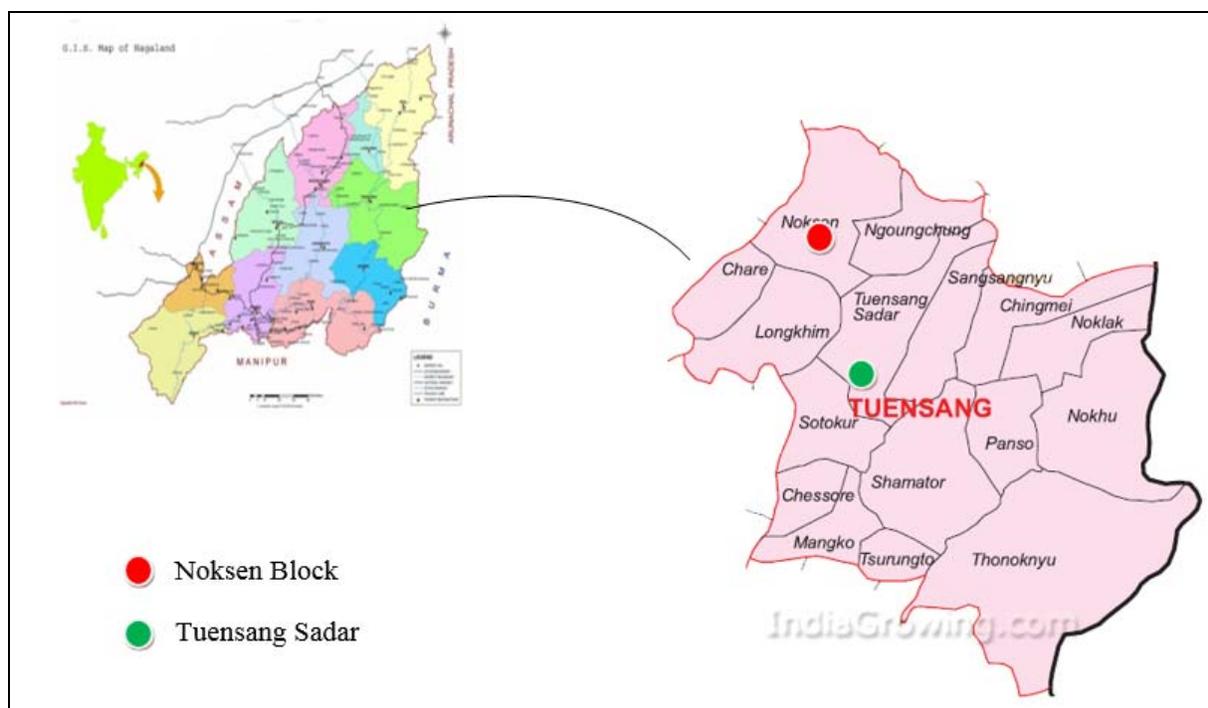
### Method

The survey was conducted in July 2015 to June 2016 in the selected villages through personal interviews and interaction about collection practices to ensure long-term survival of wild

populations and their associated habitats. The information regarding the use of medicinal plants by the local traditional healers were recorded during the period. The medicinal plants were observed in the natural habitats in both the two locations and simultaneously the plants were collected for herbarium records.

### Result

A total of 33 medicinal plants having 31 genera and 26 families were recorded in the present study. The information regarding the scientific names, common names, local names, families, habits, parts used and the therapeutic uses of the plants recorded were given in the Table -1.



**Fig 1:** Map of Tuensang district, Nagaland.

**Table 1:** List of medicinal plants and its uses by the Chang tribe of Tuensang district, Nagaland.

S. No	Scientific name	Common name	Local name	Family	Habit	Part used	Uses
1	<i>Allium Chinense</i>	Japanese scallion	Lasing	Liliaceae	Herb	Bulbs and leaves	Stomachache, reduces cholesterol.
2	<i>Amaranthus spinosus</i>	Prickly amaranth	Pathak shik	Amaranthaceae	Herb	Whole plant	Laxative, antipyretic and pile problems.
3	<i>Averrhoa carambola</i>	Star fruit	Naleshik	Oxalidaceae	Tree	Fruits	Jaundice and astringent.
4	<i>Begonia palmata</i>	Begonia	Ampushik chipen	Begoniaceae	Herb	Roots	Astringent, haematemesis.
5	<i>Cinnamomum camphora.</i>	Camphor	Phoulu	Lauraceae	Tree	Whole plant	Muscular pain, rheumatism.
6	<i>Centilla asiatica.</i>	Indian pennywort	Sangkhaio	Umbelliferae	Herb	Whole plant	Rheumatism, skin disorder, Syphilis,
7	<i>Colocasia esculenta</i>	Cocoyam	Dongeik	Araceae	Herb	Corms	Insect sting, burns, injuries, internal haemorrhages.
8	<i>Curcuma augustifolia</i>	Hidden ginger	Thutdi	Zingiberaceae	Herb	Rhizomes	Fever, jaundice, stomach ulcer.
9	<i>Discentra scandens</i>	Yellow bleeding heart	Phubai	Fumariaceae	Climber	Tubers	High blood pressure, diabetes, malaria, dysentery.
10	<i>Dolichos lablab</i>	Hyacinth bean	Nyapashik	Fabaceae	Climber	Whole plant	Fever, abdominal pain, antiseptic.
11	<i>Eryngium foetidum</i>	Long coriander	Tathonha	Apiaceae	Herb	Leaves	Jaundice, Liver disorders, skin diseases, condiments.

12	<i>Ficus semicordata</i>	Drooping fig	Teed	Moraceae	Tree	Fruits	Diarrhea.
13	<i>Hodgsonia heteroclite</i>	Oil nut	Pee	Cucurbitaceae	Climber	Leaves and nuts	Fever, Diarrhea, dysentery.
14	<i>Ipomoea batata</i>	Sweet potato	Khedam	Convolvulaceae	Herb	Leaves and tubers	Burns, diarrhea.
15	<i>Litsea citrata</i>	litsea	Ishou	Lauraceae	Tree	Bark and seeds	Pain reliever, astringent, antiseptic.
16	<i>Luffa cylindrical</i>	Sponge gourd	Shangjeep	Cucurbitaceae	Climber	Fruits and seeds	Liver diseases, menstruation problems, Anemia, Anthelmintic.
17	<i>Lycopersicum esculentum</i>	Cherry tomato	Pegama	Solanaceae	Herb	Fruits	Skin irritation, gastric problems Antiseptic.
18	<i>Mahonia nepalensis</i>	Barberry	Saipatbu	Berberidaceae	Shrub	Roots, bark and fruits	Duoretic, dysentery.
19	<i>Manihot esculenta</i>	Tapioca	Bulikhe	Euphorbiaceae	Shrub	Tubers and leaves	Headache, diarrhea, malaria, fodder
20	<i>Melissa officinalis</i>	Lemon balm	Nonem	Lamiaceae	Shrub	Whole plant	Mosquito repellent, de-worming.
21	<i>Mentha spicata</i>	Garden mint	Nang parang	Lamiaceae	Herb	Leaves	Stimulant, jaundice, toothache, de-worming, food beverages.
22	<i>Momordica balsamina</i>	Balsam apple	Kora	Cucurbitaceae	Climber	Leaves, fruits and seeds	Diabetes and vegetable.
23	<i>Momordica foetida</i>	Spiny gourd	Kumsing	Cucurbitaceae	Herb	Roots	Headache, insect sting.
24	<i>Moringa oleifera</i>	Drumstick tree	Shopi	Moringaceae	Tree	Root, bark, leaves, flowers and fruits.	Urinary problems, rheumatism, laxative and tonic.
25	<i>Parkia roxburghii</i>	Tree bean	Bukhup nyabashik	Mimosaceae	Tree	Tender pods and bark	Diarrhea and dysentery.
26	<i>Phyllanthus acidus</i>	Star goose berry	Aoulo lakan	Euphorbiaceae	Tree	Fruits and leaves	Antipyretic, jaundice.
27	<i>Plantago asiatica</i>	Chinese plantain	Thongpon--glishik	Plantaginaceae	Herb	Whole plant	Expectorant, laxative, anti-septic.
28	<i>Prunus cerasoides</i>	Wild Himalayan cherry	Nyengsa	Rosaceae	Tree	Bark and fruit	Bodyache, astringent.
29	<i>Rhododendron arboretum</i>	Rhododendron	Aongji sakbou	Ericaceae	Tree	Flowers	Diarrhea, dysentery.
30	<i>Rhus semialata</i>	Nutgall	Aou	Anacardiaceae	Tree	Fruits	Headache, fever, indigestion, stomachache, vomiting, food poisoning.
31	<i>Solanum indicum</i>	Indian nightshade	Khokshou hanbou	Solanaceae	Shrub	Fruits and roots	Asthma, cough, bronchitis, constipation, dropsy.
32	<i>Solanum melongena</i>	Eggplant	Longkok	Solanaceae	Herb	Leaves and bark	Hemorrhage, asthma, dysentery.
33	<i>Zanthoxylum armatum</i>	Toothache tree	Jakshik	Rutaceae	Shrub	Leaves and fruits	Fish poison, condiments, Toothache.

During the study period, it was observed that the herbs are the most important medicinal plants which are used in large

number by the local people, followed by the trees, shrubs and climbers (Figure-2).

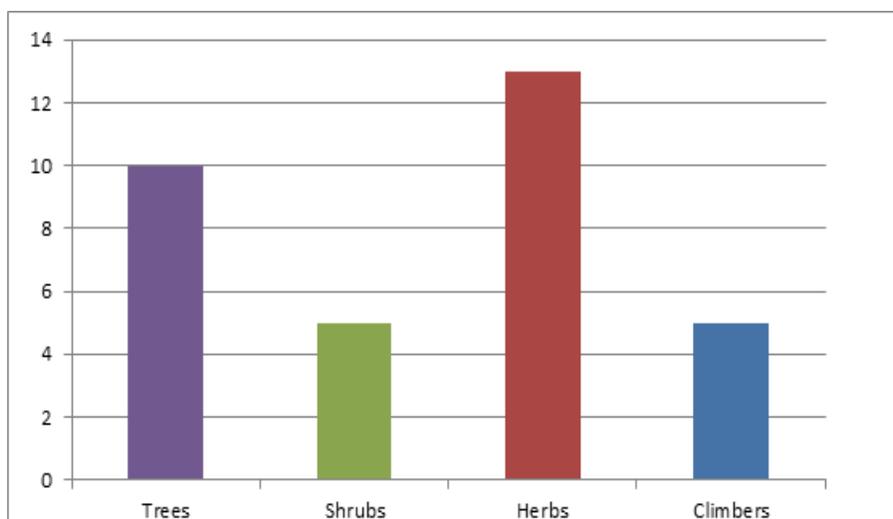


Fig 2: Bar diagram showing the uses of different medicinal plants.

Almost all the plant parts are used as medicine by the local traditional healers and the parts used are the fruits followed by

leaves, whole plant, barks, roots, seeds, tubers, flowers, rhizomes, corms, nuts, bulbs and pods (Figure- 3).

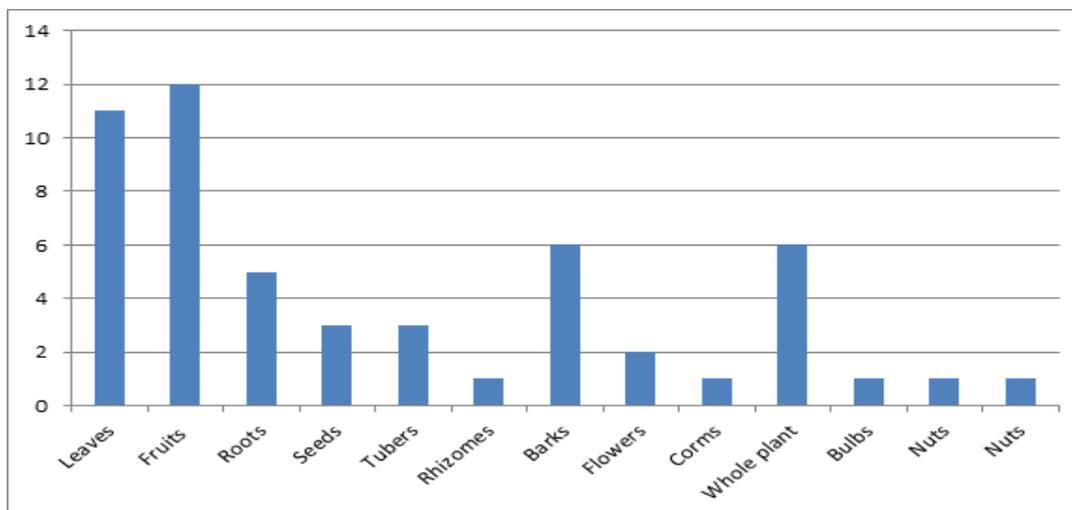


Fig 3: Bar diagram showing different parts used for medicinal purpose from medicinal plants.

The medicinal plants are used to cure different ailments ranging from fever to de-worming. The maximum number of plants used for curing ailments are the dysentery, diarrhoea,

jaundice, astringent, antiseptic, de-worming, laxative, headache, diabetes, stomach-ache, rheumatism, abdominal pain to food poisoning (Figure-4).

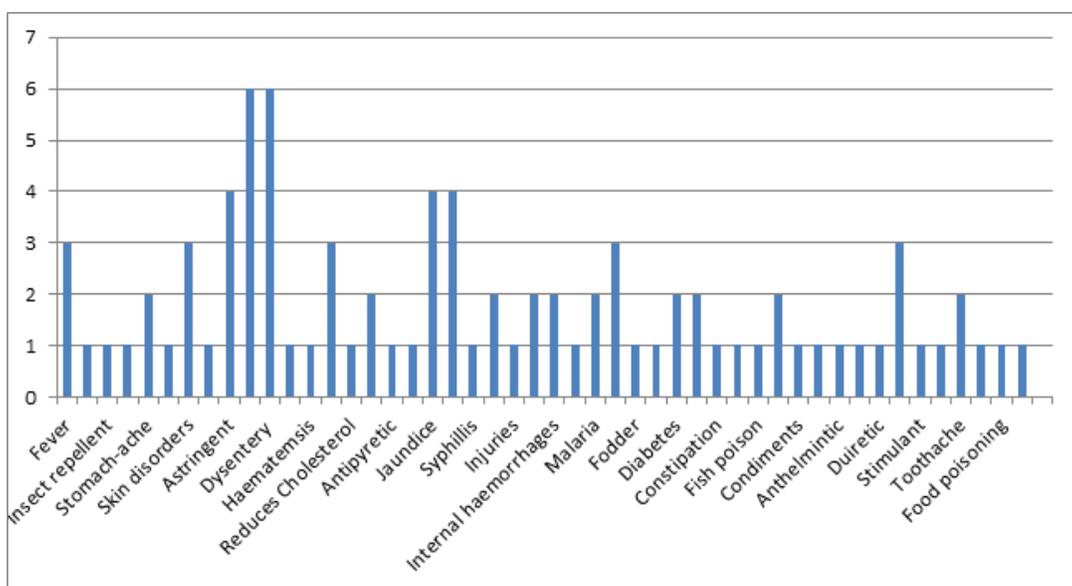


Fig 4: Bar diagram showing different ailments from the uses of medicinal plants.

**Discussion and Conclusion**

The investigation revealed that the Chang tribe of Tuensang district depend on the uses of medicinal plants for treatment of many common health problems. A total of 33 medicinal plants having 31 genera and 26 families were recorded in the present study. The study showed that herbs are more frequently used by the indigenous population at remote areas even within the district. With development and modernization taking place at a fast pace, the old traditional knowledge that have been so valuable guarded and practised once are now losing its place to the more reliable and trusted scientific approach associated with modern medicine. The younger generation do not favour the value placed by their ancestors about the herbal use in lesser common diseases like fever, stomach ache, sprains, minor injuries etc. However, the old traditional practices about the uses of medicinal plants still

exist in the district and the medicinal plants used are found in the wild. The wild species of these medicinal plants are slowly declining due to rampant destruction of forest, unsustainable exploitation, climate changes and bio-piracy. Out of the total listed medicinal plants, 1(one) species – *Discentra scandens* (Yellow bleeding heart) has been considered as most valuable in term of its uses and trade. Therefore, it is now felt that these rich species of medicinal plants found in the district are invaluable to the Chang tribe and as such, promotion and development of these medicinal plants is the need of the hour.

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