

CONSERVATION OF SOME PHARMACEUTICALLY IMPORTANT MEDICINAL PLANTS FROM DIMAPUR DISTRICT OF NAGALAND

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ABSTRACT

The areas under study belong to the district Dimapur Nagaland is district Kohima in the East, Karbi Anglong district of Assam in the North and West and Peren district of Nagaland in the South.. The district is located in the geographical coordinates of 93° 44' 30" East longitude and 25° 54' 45" North latitude. According to the census conducted in the 927 square Kilometers with a population of 378,811. The district is chiefly inhabited by the Naga tribes. The paper deals with the important Pharmaceutically important medicinal plants from Dimapur district of Nagaland.

KEY WORDS: Dimapur, *Acorus calamus*, *Curcuma aromatica*, *Sida rhombifolia*.

INTRODUCTION

Nagaland the state of North Easter India located in the middle eastern part of North East Region of India bordering with Myanmar in the East, Part of Assam and Tirap district of Arunachal Pradesh in North, Assam in the West and state of Manipur in the South. It covers an area of hilly tract with forest cover of tropical, sub tropical and temperate hills. The study area the district Dimapur forest division The state is covered with districts of 11 districts namely Dimapur, Kohima, Wokha, Mokokchung, Mon, Tuensang, Kiphire, Peren, Longlen, Phek and Zuenhaboto districts. The areas under study belong to the district Dimapur Nagaland is district Kohima in the East, Karbi Anglong district of Assam in the North and West and Peren district of Nagaland in the South.. The district is located in the geographical coordinates of 93° 44' 30" East longitude and 25° 54' 45" North latitude. According to the census conducted in the 927 square Kilometers with a population of 378,811. The district is

chiefly inhabited by the Naga tribes. Ruins of the Kachari kingdom are reminiscent of the glorious rule of the emperors of Kachari. The district derives its name from the Kachari dialect, where Dimapur refers to the city that rests along the banks of the great river. With the well developed infrastructure, the district forms the gateway to the north eastern states of the country. The district covers the forests belonging to altitudinal range of up to 1450 masl altitude. The entire forest cover belongs to tropical and slightly subs tropical range which occupies vegetation of herbs, shrubs and trees. The paper deals with the distribution of medicinal plants in different areas of the district with GPS readings.

As per the State of Forest Report 2003, published by the Forest Survey of India, Meghalaya has a forest cover of 9,496 km², which is 42.34% of the total geographical area of the state. These forests receive abundant rainfall and support a vast variety of floral and faunal biodiversity.

Exploration of ethno medicinal plants in Nagaland has been made by Rao and Jamir, 1982a, 1982b Jamir, 1989, 1990, 1991, 1997, Jamir and Rao, 1990 a, 1990b, Shankar and Devella, 2012 and others. However, commercial exploration of medicinal plants with GPS location with pharmaceutical potential for conservation and cultivation of important medicinal plants has been described for the first time in the hills of Dimapur district of Nagaland.

Methodology

Extensive exploration of the different districts falling under Naga hills of Nagaland has been made. Records of the collections have been observed with Global Positioning System (GPS) at different places with their distribution has been recorded at different spots. The Herbarium vouchers were made by drying poisoning and mounting on Herbarium sheets and deposited in the Herbarium of Ayurveda Regional Research Institute (Acronym ARRI). Authenticity of Herbarium was made after consulting the Herbarium of Botanical Survey of India, Shillong. During field observation, suitability of medicinal plants with high demand and commercial values as well as methods for conservation and cultivation has been studied by bringing the sufficient germ plasm in the Garden of Ayurveda Regional Research Institute Itanagar.

Observation

Extensive exploration of medicinal plants in Nagaland has been made in different season with an emphasis on pressure of exploitation and status as per GPS records for most of the forest areas in the state. The important medicinal plants distributed in the state are *Acorus*

calamus, Ambroma augusta, Amorphophalus campanulatus, Argyreia nervosa, Asparagus racemosus, Brugmantia suaveioenss, Cissampelos pareira, Coccinia indica, Costus speciosus, Curcuma aromatic, C. longa, Cuscuta reflexa, Datura stramonium, Wrightia antidysenterica, , Melastoma malabathricum, Meremia tridentata, Oroxylum indicum, Paederia scandens, Phyllanthus amarus, Sida acuta, S. cordifolia, S. rhombifolia, Smilax glabra Solanum nigrum, Trichosanthes bracteata, etc. Medicinal plants are widely used by local traditional healers as well as collectors for trade. Cultivation of some of the medicinal plants is also in practice.

Exploration

Exploration of medicinal plants needs the identifying areas for maximum occurrence of commercially viable species of medicinal plants, potential of such species in a particular area for commercial utility, less occurring medicinal plants species whose conservation is the need of time, utilization of medicinally important species under local health practices or other ways of use like food, ornamental or timber etc. and the land suitable for undertaking medicinal plants cultivation. During various explorations in the Dimapur district of Nagaland all such types of status has been recorded. During course of exploration it was observed that local traditional healers are undertaking treatment of liver disorders, malarial and other fever, cancer by the use of locally available herbs like *Acorus calamus, Crasocephalum cripioides, Phyllanthus amarus, Oroxylum indicum, Terminalia chebula,* etc. People are collecting plants in unplanned and non scientific manner. Distribution of medicinal plants in different forest areas as per GPS markings is described in table-1.

Conservation

Plants conservation areas should be demarcated with identified gate with a small nursery at the entry point of the area with raised planting materials of the plants identified for conservation of the species in the identified area.

Systemic collection of the medicinal plants in the areas is the measure to enhance the quantity of new plants. It is dependent upon the parts to be collected. In case of root collection as drug there is need of leaving more than 50% of entire root in case of tree and shrubs whereas same percentage of herbs are required to be uprooted to keep the potential of plant in the area as balanced for forthcoming year. In case of leaf collection too the practice must be for protection of plants in the area for further propagation and making balance in the vicinity. In case of flower fruit and seed collection drug part must be left in the required proportion intact

with the mother plant for maturation and germination of the seeds on maturity in the natural field.

Wherever, root, stem leaf are the drug part part it is unscientifically uprooted from the vicinity similarly, where flowers, fruits and seeds are the drug part young immature part is harvested just to increase the quantity of drug which ultimately results insufficient active constituents turning to ineffective or less effective medicine. Further, this collection practice ultimately cause the reduction of new plants in the vicinity by leaving less seeds as propagule in the vicinity for further or death of plant particularly for those where maximum root, stem, bark and leaves have been harvested and resulting declaration as threat or endangered. To protect from this loss there is need of systemic harvesting, regular quantity assessment in the field, taking advance raising of seedlings as planting materials.

Conservation through Cultivation

Conservation through cultivation of medicinal plants is a trial and error practice methods for cultivation which needs acclimatization. As per various level trial made in different climatic zones cultivation of *Embelia ribes*, , *Oroxylum indicum*, *Rauvolfia serpentina*, *Saraca asoca*, *Smilax* species, *Writia antidysenterica* etc. where seeds are used as propagules, the seeds are germinated in nursery beds and seedlings are transplanted in the field. Vegetative propagation through root and stem cuttings is another practice where cultivation is made by taking vegetative parts as propagule like rhizome in case of *Acorus calamus*, *Costus speciosus*, *Curcuma* species, tubers for *Smilax glabra* and other species, *Stephania japonica*, stem cuttings for, *Tinospora cordifolia*, *Woodfordia fruticosa*, etc. This practice needs High grade caring of young propagules before plantation to the field.

Through cultivation plants are collected from one climatic area and transported to another like introduction of any required plant for the area in the areas where it is not recorded in the Natural field. This practice is named Ex- situ propagation. This practice needs thorough testing at different level i.e. level of cultivation, quality of growth, quality of drug and percentage of active principles viz. alkaloid, flavonoids etc.

Cultivation of Medicinal Plants

Practice of medicinal plants cultivation is the need of time as there is acute pressure over the wild sources of crude drugs which are depleting from their natural habitat. Suitability for cultivation of medicinal plants in Dimapur district of Nagaland goes for *Acorus calamus*,

Aristolochia indica, *Centella asiatica*, *Cryptolepis buchhanani*, *Curcuma aromatica*, *Embelia ribes*, , *Oroxylum indicum*, *Paederia scandens*. Besides cultivation of *Mesua ferrea*, *Terminalia chebula*, *T. citrine*, *T. bellerica*, can also be made in Jayantiya and Khasi hills. This type of cultivation may be fruitful for economic upliftment of people in Nagaland. In the Garo Hills cultivatuion of *Amorphophalus campanulatus*, *Oroxylum indicum*, *Holarrhena antidysenterica* can be made to fulfill the needs of drugs for the Indian pharmaceutics.

DISCUSSION

The chapter deals with the medicinal plants distribution in different parts of Dimapur Forest Division of Nagaland which are used by different communities in India and neighbouring countries like China and Bangla desh. As per topography and distributin of tribal communities in Dimapur district is found distributed in Nagaland and Manipur state and Rao and Jamir, (1982a, 1982b) Jamir, (1997 a, 1997b) has descried ethnobotanical knowledge of Naga tribes and Shankar and Devalla has emphasized on conservation aspects of traditional healing practices used by Nag tribes. Whereas they have described the plants having commercial trade value out of drugs widely sold in crude drug markets as well as plants available in Nagaland and other part of the Country in natural habitat like *Acorus calamus*, *Solanum nigrum*, *S. torvum*, Various conservation and cultivation aspects of high value pharmaceutically important medicinal plants have been studied by Shankar et al., 2012; Shankar and Rawat; 2013a, 2013b etc. which covers the plants of *Embelia ribes*, *Oroxylum indicum*, *Woodfordia fruticosa* etc.

Table-1. Showing distribution of medicinal plants in Dimapur district of Nagaland

S. No.	FB No.	Botanical name	Vern. name	Use	Locality	GPS Data
1.	7190	<i>Acalypha ciliata</i> Forsk.	Kuppi	Worm	Dimapur- Chmukduma Soxavi	25 ⁰ 45.420 93 ⁰ 42.274
2.	7060	<i>Achyranthus aspera</i> L.	Apamarg	Pain, leucodema	Dimapur- Meziphema	25 ⁰ 48.614 93 ⁰ 47.278
	7045	<i>Achyranthus bidentata</i> Blume	Apamarga Bheda	Pain, leucodema	Dimapur Kohima	25 ⁰ 55.041 93 ⁰ 46.962
	7217	<i>Acorus calamus</i> L.	Vach	Cough, hypertension	Dimapur Golaghat Road	25 ⁰ 06.236 93 ⁰ 43.844
3.	7152	<i>Adhatoda zeylanica</i> Medic.	Vasaka	Cough, rheumatism	Dimapur –Angami	25 ⁰ 45.269 93 ⁰ 53.352
4.	7194	<i>Aegle marmelos</i> Correa ex Roxb.	Bilva	Dysentery	Dimapur	25 ⁰ 52.929 93 ⁰ 45.488
5.	7136	<i>Ageratum conyzoides</i> L.	Sahadevi Bheda	Cough	Dimapur – Piphema	25 ⁰ 44.440 93 ⁰ 53.663
6.	7103	<i>Albizia stipulata</i> Boiv. .	Sirisa Bheda	Cough	Dimapur – Piphema	25 ⁰ 45.482 93 ⁰ 57.029
7.	7160	<i>Albizia lebbeck</i> Benth.	Siris	Cough	Dimapur –Angami	25 ⁰ 42.175 93 ⁰ 52.450
8.	7102	<i>Alstonia scholaris</i> R. Br.	Saptaparna	Malaria	Dimapur – Piphema	25 ⁰ 45.482 93 ⁰ 57.029
9.	7065	<i>Amaranthus spinosus</i> L.	Kanta chaulai	Blood purifier	Dimapur- Meziphema	25 ⁰ 55.041 93 ⁰ 46.962
10.	7220	<i>Aquilaria malaccensis</i> Lam.	Agaru	Tonic	Nagephi Dimapur	25 ⁰ 54.301 93 ⁰ 41.208
11.	7098	<i>Asparagus recemosus</i> Willd.	Satawari	Tonic	Dimapur – Piphema	25 ⁰ 45.482 93 ⁰ 57.029
12.	7213	<i>Averrhoa carambola</i> L.	Carambola	Jaundice	Old Shoibuba	25 ⁰ 31.883 93 ⁰ 46.337
13.	7183	<i>Azadirachta indica</i> A. Juss.	Neem	Skin, diabetes	Dimapur- Chmukduma	25 ⁰ 46.433 93 ⁰ 43.320

					Jaluki	
14.	7225	<i>Bauhinia purpurea</i> L.	Kovidar	Cough, throat sour	Selephi-Dimapur	25 ⁰ 50.846 93 ⁰ 43.826
15.	7089	<i>Blechnum orientale</i> L.		Cough	Dimapur-Meziphema	25 ⁰ 46.566 93 ⁰ 55.296
16.	7192	<i>Boerhavia diffusa</i> L.	Punarnava	Jaundice, spleen	Dimapur-Chmukduma Soxavi	25 ⁰ 52.929 93 ⁰ 45.488
17.	7107	<i>Callicarpa arborea</i> Roxb.	Priyangu	Fever, blood dysentery	Dimapur piphema	25 ⁰ 45.482 93 ⁰ 57.029
18.	7180	<i>Calotropis procera</i> (Ait.) R.Br.	Arka	Cough, leprosy	Dimapur-Chmukduma Jaluki	25 ⁰ 48.429 93 ⁰ 45.178
19.	7177	<i>Canna indica</i> . Rosc.	Kalvajjhahi	Diuretic	Dimapur-Chumukduma Jaluki	25 ⁰ 46.433 93 ⁰ 43.320
20.	7197	<i>Cannabis sativa</i> L.	Bhangera	Dysentery	Patkai Ed. Center	25 ⁰ 48.116 93 ⁰ 47.977
21.	7151	<i>Cassia fistula</i> L.	Aragvadhya	Heart disease, liver	Dimapur –Angami	25 ⁰ 45.269 93 ⁰ 53.352
22.	7149	<i>Cassia occidentalis</i> L.	Kasondi	Skin diseases	Dimapur –Angami	25 ⁰ 45.269 93 ⁰ 53.352
23.	7100	<i>Cassia tora</i> L.	Chakramarda	Skin disease	Dimapur – Piphema	25 ⁰ 45.482 93 ⁰ 57.029
24.	7162	<i>Cassytha filiformis</i> L.	Akashvalli	Dysentery	Dimapur –Angami	25 ⁰ 43.575 93 ⁰ 52.550
25.	7047	<i>Catharanthus roseus</i> (L.) G.Don	Sadanpuspi	Cancer, diabetes	Dimapur Kohima	25 ⁰ 55.041 93 ⁰ 46.962
26.	7212	<i>Catharanthus roseus</i> (L.) G.Don (Flower white)	Sadanpuspi	Cancer, diabetes	Old Shoibuba	25 ⁰ 31.883 93 ⁰ 46.337
27.	7134	<i>Chenopodium ambrosoides</i> L.	Vastuka Bheda	Worm	Dimapur –	25 ⁰ 45.041

					Piphema	93 ⁰ 53.427
28.	7153	<i>Citrus maxima</i> (Burm.) Merrill	Jambura / Madhukarkati	Cough, heart disorder	Dimapur –Angami	25 ⁰ 45.269 93 ⁰ 53.352
29.	7071	<i>Coccinia indica</i> W. & A.	Kundru	Cough, diabetes	Dimapur- Meziphema	25 ⁰ 48 614 93 ⁰ 47 278
30.	7147	<i>Coix lachrymal jobi</i> L.	Gavedhuka	Urinary disease	Dimapur –angami	25 ⁰ 43.575 93 ⁰ 52.550
31.	7057	<i>Costus speciosus</i> (Koeng.) Sm.	Kebuk	Digestve, blood purifier	Dimapur- Meziphema	25 ⁰ 49 247 93 ⁰ 49 247
32.	7157	<i>Crassocephalum crepidioides</i> (Benth.) S. Moore	Parvati	Cough, tonsil	Dimapur –Angami	25 ⁰ 42.546 93 ⁰ 52.338
33.	7145	<i>Crinum asiaticum</i> L.	Shudarshan	Malaria	Dimapur – Piphema	25 ⁰ 44.440 93 ⁰ 53.663
34.	7115	<i>Crotalaria spectabilis</i> Roth	Jhunjhuni	Skin disease, worm	Dimapur – Piphema	25 ⁰ 45 .482 93 ⁰ 57.029
35.	7104	<i>Croton sparciflorus</i> L.		Kills mosquitoes	Dimapur – Piphema	25 ⁰ 45 .482 93 ⁰ 57.029
36.	7083	<i>Cryptolepis buchanani</i> Roem. Schult.	Krishna Sariva	Blood purifier, fever, arthritis	Dimapur- Meziphema	25 ⁰ 46 566 93 ⁰ 55 296
37.	7139	<i>Curcuma aromatica</i> Salisb.	Vana Haridra	Leucoderma, arthritis	Dimapur – Piphema	25 ⁰ 44 .440 93 ⁰ 53.663
38.	7126	<i>Curcuma longa</i> L.	Haridra	Cough, allergy	Dimapur – Piphema	25 ⁰ 44 .672 93 ⁰ 58.695
39.	7137	<i>Cuscuta reflexa</i> Roxb.	Amarbel	Liver disorder, worm	Dimapur – Piphema	25 ⁰ 44 .440 93 ⁰ 53.663
40.	7218	<i>Cynodon dactylon</i> Pers.	Durva	Blood clotting	Dimapur Golaghat Road	25 ⁰ 54.243 93 ⁰ 40.859
41.	7163	<i>Delonix regia</i> Rafin	Krishna Chura	Arthritis	Dimapur –Angami	25 ⁰ 45.420 93 ⁰ 42.274
42.	7075	<i>Dendrobium nobile</i> Lindle	Jivanti Bheda	Tonic	Dimapur- Meziphema	25 ⁰ 48 614 93 ⁰ 47 278

43.	7062	<i>Desmodium gangeticum</i> DC.	Salaparni	Tonic	Dimapur-Meziphema	25 ⁰ 46 082 93 ⁰ 49 247
44.	7116	<i>Desmostachya bipinnata</i> Stapf	Kusha	Urinary disease	Dimapur Piphema	– 25 ⁰ 45 .482 93 ⁰ 57.029
45.	7088	<i>Dicranopteris liniaris</i> (Burm. f.) Underwood	Coral fern		Dimapur-Meziphema	25 ⁰ 56 079 93 ⁰ 55 296
46.	7122	<i>Drymaria cordata</i> (L.) Willd ex Roem. & Schult.	Avijola	Cough, skin disease	Dimapur Piphema	– 25 ⁰ 45 .482 93 ⁰ 57.029
47.	7131	<i>Eclipta prostrata</i> Roxb.	Bhringaraja	Jaundice, diabetes	Dimapur Piphema	– 25 ⁰ 45 .503 93 ⁰ 51.159
48.	7201	<i>Eichornia crassipes</i> Solms	Jalkhumbhi	Skin disease	Patkai Ed. Center	25 ⁰ 48.116 93 ⁰ 47.977
49.	7150	<i>Emilia sonchifolia</i> DC.	Shashruti	Fever, stomach disease	Dimapur –Angami	25 ⁰ 45.269 93 ⁰ 53.352
50.	7112	<i>Eucalyptus globulus</i> Labil	Tailparni	Cough, diarrhea	Dimapur Piphema	– 25 ⁰ 45 .482 93 ⁰ 57.029
51.	7221	<i>Euphorbia ligularia</i> Roxb.	Snuhi	Jaundice	Nagephi Dimapur	25 ⁰ 54.271 93 ⁰ 42.091
52.	7175	<i>Evolvulus alsenoides</i> L.	Sankhpushpi	Nervine tonic	Dimapur-Chumukduma Jaluki	25 ⁰ 47.724 93 ⁰ 44.317
53.	7051	<i>Euphorbia hirta</i> L.	Laghu Dugdhika	Cough, worm	Dimapur Kohima	25 ⁰ 46 223 93 ⁰ 48 524
54.	7230	<i>Euphorbia neriifolia</i> L.	Snuhi	Piles, leucoderma	Dimapur Bank Road	25 ⁰ 53.970 93 ⁰ 53.938
55.	7125	<i>Euphorbia pulcherrima</i> Wild ex Klotz.		Anti oxidant	Dimapur Piphema	– 25 ⁰ 45 .054 93 ⁰ 58.124
56.	7221	<i>Euphorbia royleana</i> Boiss.	Snuhi	Piles, cough	Nagephi Dimapur	25 ⁰ 54.271 93 ⁰ 42.091
57.	7114	<i>Ficus hispida</i> L.f.	Falgu		Dimapur Piphema	– 25 ⁰ 45 .482 93 ⁰ 57.029

58.	7046	<i>Ficus recemosus</i> L.	Udhmbara	Jaundice, skin disease	Dimapur Kohima	25 ⁰ 55 041 93 ⁰ 46 962
59.	7214	<i>Gardenia jasminoides</i> Ellis	Gandharaj	Cough, rheumatism, urinary disorder	Old Shoibuba	25 ⁰ 49.274 93 ⁰ 48.219
60	7199	<i>Gossypium herbaceum</i> L.	Karpasa	Weakness, rheumatism, ear disease	Patkai Ed. Center	25 ⁰ 48.116 93 ⁰ 47.977
61.	7198	<i>Hedychium coronarium</i> Koenig	Sate phul	Cough, tooth ache	Patkai Ed. Center	25 ⁰ 48.116 93 ⁰ 47.977
62.	7135	<i>Heliotropium indicum</i> L.	Hashtisunda	Fever, pain	Dimapur – Piphema	25 ⁰ 44 .440 93 ⁰ 53.663
63.	7210	<i>Hibiscus esculentus</i> L.	Bhini, Okra	Tonic, spermatorhoea	Sithekhema	25 ⁰ 31.803 93 ⁰ 46.337
64.	7121	<i>Hydrocotyle javanica</i> Thunb.	Mandukaparni Bheda	Nervine tonic	Dimapur – Midziphema	25 ⁰ 46 .566 93 ⁰ 55.296
65.	7216	<i>Ipomoea carnea</i> Jacq.	Beheya	Antioxidant	Old Shoibuba	25 ⁰ 31.883 93 ⁰ 46.337
66.	7211	<i>Ixora coccinea</i> L.	Rukmini	Dysentery	Old Shoibuba	25 ⁰ 49.274 93 ⁰ 48.219
67.	7141	<i>Jasminum sambac</i> (L.) Ait.	Mallika	Eye disease, fever	Dimapur – Piphema	25 ⁰ 44 .440 93 ⁰ 53.663
68.	7073	<i>Jasminum flexile</i> Vahl	Bela	Eye disease	Dimapur- Meziphema	25 ⁰ 48 614 93 ⁰ 47 278
69.	7110	<i>Jatropha curcas</i> L.	Byaghreranda	Digestive	Dimapur – Piphema	25 ⁰ 45 .482 93 ⁰ 57.029
70.	7154	<i>Jatropha gossypifolia</i> L.	Rakta Byaghreranda	Skin disease, leucoderma	Dimapur – Angami	25 ⁰ 43.575 93 ⁰ 52.550
71.	7196	<i>Lagenaria siceraria</i> (Mol.) Standl.	Lauki	Jaundice, digestive	Dimapur	25 ⁰ 52.929 93 ⁰ 47.977
72.	7128	<i>Lagerstroemia speciosa</i> (L.) Pers.	Ajar/ Siddhak	Hypertension	Dimapur – Piphema	25 ⁰ 45 .041 93 ⁰ 53.427

73.	7106	<i>Lantana camara</i> L.	Chaturangi	Malaria, arthritis	Dimapur Piphema –	25 ⁰ 45 .482 93 ⁰ 57.029
74.	7172	<i>Leucas lavandulaefolia</i> Rees	Dronpuspi	Sinusitis, digestive	Dimapur-chmukduma Jaluki	25 ⁰ 47.724 93 ⁰ 44.317
75.	7095	<i>Lygodium flexuosum</i> (L.) Sw.	Rudra Jata, Kali Jhanta	Asthma, cough, arthritis	Dimapur Piphema –	25 ⁰ 45 .482 93 ⁰ 57.029
76.	7044	<i>Maesa chisia</i> Buch.-Ham. ex D. Don,	Vidang , Binauni	Worm, digestion	Dimapur Kohima	25 ⁰ 55 262 93 ⁰ 42 844
77.	7189	<i>Melia azadarach</i> L.	Maha Nimba/ Bakain	Skin diseases	Dimapur-Chmukduma Soxavi	25 ⁰ 46.433 93 ⁰ 43.320
78.	7209	<i>Merremia tridentata</i> (L.) Hf.	Prasarini Bheda	Arthritis, digestion	Sithekhema	25 ⁰ 49.274 93 ⁰ 48.219
79.	7193	<i>Mesua ferrea</i> L.	Nagkesar	Piles, tonic	Dimapur	25 ⁰ 52.929 93 ⁰ 45.488
80.	7227	<i>Mimusops elengi</i> L.	Bakul	Mouth wash	Selephi-Dimapur	25 ⁰ 50.846 93 ⁰ 43.826
81.	7120	<i>Momordica dioica</i> Roxb. Will.	Bhat karela, Bandhya Karkati	Diabetes, piles	Dimapur – Midziphema	25 ⁰ 46 .268 93 ⁰ 55.296
82.	7203	<i>Momordica charantia</i> L.	Karvalli, Karela	Diabetes, worm	Patkai Ed. Center	25 ⁰ 52.929 93 ⁰ 45.488
83.	7200	<i>Murraya koenigii</i> (L.) Spreng.	Saurabh Nimba	Tasty, rheumaism	Patkai Ed. center	25 ⁰ 48.116 93 ⁰ 47.977
84.	7087	<i>Myrica nagi</i> Hook. f. non Thunb.	Katphala	Dysentery, piles	Dimapur-Meziphema	25 ⁰ 56 079 93 ⁰ 55296
85.	7204	<i>Nerium indicum</i> Mill.	Karvira	Poisonous, snake bite	Sithekhema	25 ⁰ 49.077 93 ⁰ 48.121
86.	7130	<i>Ocimum sanctum</i> L.	Tulsi	Cough, diabetes, fever, worm	Dimapur Piphema –	25 ⁰ 45 .269 93 ⁰ 53.352
87.	7086	<i>Osmanthus suavis</i> King ex Clark.	Vasuk Bhed	Spermatorhoea, leprosy,	Dimapur-Meziphema	25 ⁰ 46 082 93 ⁰ 49 247

88.	7093	<i>Paederia foetida</i> L.	Prasarini	Arthritis, tonic	Dimapur – Piphema	25 ⁰ 45 .054 93 ⁰ 57 .619
89.	7169	<i>Perilla frutiscens</i> (L.) Britton	Vana Tulasi		Dimapur-Jaluki	25 ⁰ 48.429 93 ⁰ 45.178
90.	7176	<i>Peristrophe bicayiculata</i> Nees	Kakajanghi	Fever, snake poison	Dimapur-chumukdumA Jaluki	25 ⁰ 47.724 93 ⁰ 44.317
91.	7048	<i>Philadelphus coronarius</i> L.	False jasmine	Essence, rheumatism	Dimapur Kohima	25 ⁰ 48614 93 ⁰ 48 278
92.	7231	<i>Phlogacanthus thyrsiflorus</i> Nees	Tita vasak	Cough, arthritis	Dimapur Bank Road	25 ⁰ 53.938 93 ⁰ 46.866
93.	7170	<i>Physalis minima</i> L.	Tankari	Stoach diseases	Dimapur-jaluki	25 ⁰ 48.429 93 ⁰ 45.178
94.	7056	<i>Piper betle</i> L.	Nagvalli, Tambula	Digestion, mouth weakness	Dimapur-Meziphema	25 ⁰ 46 082 93 ⁰ 49 247
95.	7224	<i>Plumeria acuminata</i> Ait.	Kshir Champaka	Fever,	Nagephi Dimapur	25 ⁰ 51.748 93 ⁰ 43.578
96.	7166	<i>Polyalthia longifolia</i> Thw.	Deodaru, Kashth daru,	Fever	Dimapur –Angami	25 ⁰ 52.512 93 ⁰ 46.514
97.	7133	<i>Polygonum plebejum</i> R. Br.	Raniphul	Cough, worm	Dimapur – Piphema	25 ⁰ 44 .440 93 ⁰ 53.663
98.	7127	<i>Polypodium vulgare</i> L.	Bisphage	Tonic, arthritis	Dimapur – Piphema	25 ⁰ 44 .672 93 ⁰ 58.695
99.	7234	<i>Portulaca oleracea</i> L.	Lonica	Worm, blood purifier	Dimapur Bank Road	25 ⁰ 53.938 93 ⁰ 46.866
100.	7215	<i>Pouzolzia indica</i> (L.) G.Benn	Oyek	Digestion	Old Shoibuba	25 ⁰ 31.883 93 ⁰ 46.337
101.	7188	<i>Psidium guajava</i> L.	Peruk, Madhuri	Tonic, tasty	Dimapur-Chmukduma	25 ⁰ 46.433 93 ⁰ 43.320

					Soxavi	
102.	7167	<i>Putranjiva roxburghii</i> Wall.	Putrajivaka	Fever, fertility	Dimapur –Airport road	25 ⁰ 52.512 93 ⁰ 46.514
103.	7178	<i>Ranunculus sceleratus</i> L.	Kandir, Jaldhaniya	Warm,	Dimapur- Chumukduma Jaluki	25 ⁰ 46.433 93 ⁰ 43.320
104.	7159	<i>Ricinus communis</i> L.	Eranda	Rheumatism, pain	Dimapur –Angami	25 ⁰ 45.269 93 ⁰ 53.352
105.	7144	<i>Rubus rugosus</i> Sm.	Hinsalu	Tonic	Dimapur – Piphema	25 ⁰ 43.575 93 ⁰ 52.550
106.	7067	<i>Scoparia dulcis</i> L.	Mithipatta	Diabetes	Dimapur- Meziphema	25 ⁰ 48 614 93 ⁰ 47 278
107.	7168	<i>Sesbania sesban</i> Merrill.	Agasti	Dysentery, spleen enlargement	Dimapur –Airport road	25 ⁰ 54.776 93 ⁰ 49.025
108.	7179	<i>Sida acuta</i> Burm. f.	Bala	Tonic, cooling	Dimapur- Chmukduma Jaluki	25 ⁰ 46.433 93 ⁰ 43.320
109.	7055	<i>Sida rhombifolia</i> L.	Bala	Tonic, cooling,	Dimapur- Meziphema	25 ⁰ 49 247 93 ⁰ 48 576
110.	7111	<i>Smilax aristolochifolia</i> Millar	Chobchini	Tonic	Dimapur – Piphema	25 ⁰ 45 .482 93 ⁰ 57.029
111.	7064	<i>Solanum kurzii</i> Jacq.	Kantakari	Cough, worm, edible	Dimapur- Meziphema	25 ⁰ 55 262 93 ⁰ 43 844
112.	7182	<i>Solanum nigrum</i> L.	Kakmachi	Digestive	Dimapur- Chmukduma Jaluki	25 ⁰ 46.433 93 ⁰ 43.320
113.	7082	<i>Solanum torvum</i> Sw.	Brihati bhed	Liver, spleen enlargement	Dimapur- Meziphema	25 ⁰ 48 614 93 ⁰ 47 278
114.	7129	<i>Solanum viarum</i> Dunal	Kantakari bheda	Cough, worm	Dimapur – Piphema	25 ⁰ 45 .269 93 ⁰ 53.352

115.	7143	<i>Sphaeranthus indicus</i> L.	Munditika	Tonic	Dimapur Piphema	–	25 ⁰ 43.575 93 ⁰ 52.550
116.	7091	<i>Spilanthes paniculata</i> Wall. ex DC.	Akarkara	Toothache, body ache, dysentery, piles	Dimapur- meziphema		25 ⁰ 45 503 93 ⁰ 56 154
112.	7226	<i>Syzygium cumini</i> (L.) Skeels	Jamun	Diabetes, dysentery	Selephi-Dimapur		25 ⁰ 50.846 93 ⁰ 43.826
113.	7229	<i>Tabernaemontana divaricata</i> R.Br. ex Roem. and Schult.	Tangari	Worm, toothache	Dimapur Bank Road		25 ⁰ 53.973 93 ⁰ 47.363
114.	7138	<i>Tagetis erecta</i> L.	Zanlu	Fever, piles	Dimapur Piphema	–	25 ⁰ 44 .440 93 ⁰ 53.663
115.	7053	<i>Tamarindus indica</i> L.	Amlika, Tenduli, Imli	Diabetes, fever	Dimapur- Meziphema		25 ⁰ 46 176 93 ⁰ 48 576
116.	7156	<i>Tectona grandis</i> L.f.	Shaka, Sagaun	Urogenital, skin disease	Dimapur –Angami		25 ⁰ 42.546 93 ⁰ 52.338
117.	7140	<i>Thevetia peruviana</i> (Pers.) Merrill.	Karvira, Pita Kaner	Poisonous, malaria	Dimapur Piphema	–	25 ⁰ 44 .440 93 ⁰ 53.663
118.	7049	<i>Thunbergia grandiflora</i> Roxb.	Loyga	Leucorrhoea	Dimapur Kohima		25 ⁰ 55 041 93 ⁰ 46 962
119.	7054	<i>Vernonia cinerea</i> Less.	Sahadevi	Cough, fever, worm	Dimapur- Meziphema		25 ⁰ 49 247 93 ⁰ 48 576
120.	7148	<i>Wrightia antidysenterica</i> (L.) R. Br.	Indrayava/ Kutaj	Dysentery	Dimapur –Angami		25 ⁰ 44.884 93 ⁰ 53.462
121.	7105	<i>Wallichia disticha</i> T. And.	Tase	Trunk edible	Dimapur Piphema	–	25 ⁰ 45 .482 93 ⁰ 57.029
122.	7142	<i>Xanthium strumarium</i> L.	Artagal, Kacchak	Eye disease, diuretic	Dimapur Piphema	–	25 ⁰ 43 .575 93 ⁰ 52.550
123.	7207	<i>Zea mays</i> L.	Mahakay, Makai, Bhutta	Nutritious, diuretic	Sithekhema		25 ⁰ 49.274 93 ⁰ 48.219

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