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## Use of medicinal plants in traditional health care practices by tribes of Dhemaji district, Assam, India

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### Abstract

Dhemaji district of Assam is very rich in plant biodiversity and has a great traditional knowledge based in plant resources. The various tribes inhabiting in Dhemaji district has some traditional health care practices. Therefore, a survey on traditional medicinal plants available in Dhemaji and its uses should be conducted. The present study was taken up to understand and find the use of plants as a source of medicine in their own medicine lore. Information was collected based on questionnaire and field walk. Identification of medicinal plants was done by local healers and senior persons. We were able to explore 64 indigenous plants used by various tribes in treatment of various common illness. From the study we can conclude that although Dhemaji district was prone to flood every year and faces severe loss, it is very rich in plant diversity as well as indigenous health care practices. Different parts of plants are used by local inhabitants for treating illness. The data includes list of such medicinal plants along with their scientific name, habit, local name, parts used and disease cured. Though some people are access to the medical healthcare services yet they prefer traditional methods in curing common illness.

**Keywords:** Medicinal plants, traditional healthcare practice, traditional knowledge, local healers

### 1. Introduction

Dhemaji is the district of Assam, Northeast, India which covers an area of 3237 sq.km and total population is 686,133 [4]. It is located to the north of the river Brahmaputra. It has many big and small rivers flowing through it. Some of them are *jiadhal*, *gainodi* and *cemen*. *Subansiri* flows by its western border. Therefore, the district is prone to flood every year and faces severe loss. It may be the most important factor for lagging behind on various development in comparison to other districts of Assam. As we know, North east India is very rich in plant diversity and in case of Assam also largest numbers of tribes are inhabiting who use traditional plants as a folklore medicines [3]. It is worth mentioning that among all the districts of Assam, Dhemaji districts also contain huge number of tribes. Their main occupation is agriculture [7]. So most of the people are cultivator. *Ahom*, *bodo*, *deori*, *hajong*, *mishing*, *rabha*, *rajbongshi*, *sonowal kachari*, etc. are the tribes which are inhabitant of this district. They are known to be highly passionate for cooking traditionally unique food items as well as for various folklore medicines by using several locally available medicinal plants [1]. Peoples are mostly depending on plant resources for their day to day life. They have close association with it and good knowledge about it. As this district is flood affected and backward, peoples live isolated with traditional beliefs and modernization has practically left almost untouched in many aspects [2]. Therefore, herbs plays a great role in the life right from the primitive period till date. Most of the people use various indigenous plants as a source of medicine for healing some common illness. Use of this traditional knowledge of medicinal plants is not only useful for conservation of biodiversity and traditions but also for community health care system.

In consideration of above, the present study entitled "Use of medicinal plants in traditional health care practice by tribes of Dhemaji district, Assam, India" is taken up to understand and find the use of plants which are available in Dhemaji as a source of medicine in their own medicine lore.

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Fig 1: Map of India showing Assam

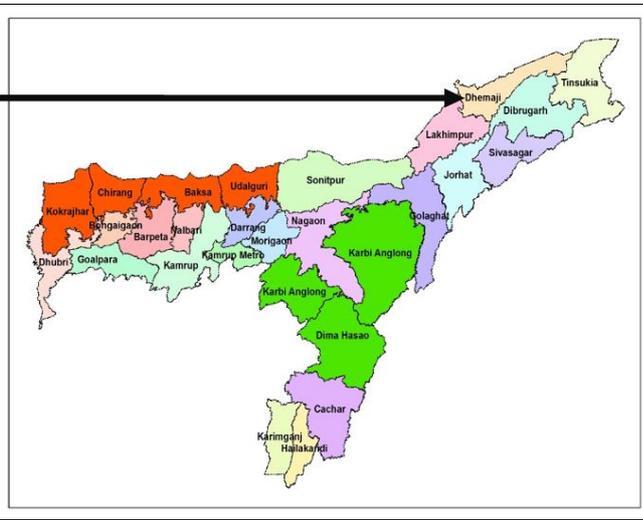


Fig 2: Map of Assam showing district Dhemaji

## 2. Materials and methods

The present study was undertaken in the selected villages (Sissiborgaon hapekhati, Bamgaon, Betonipam, 1 nong Baruati gaon, 2 nong Baruati gaon, Sripani Bankamchi, Kamchinagaon,) of Dhemaji district, Assam, Northeast India. Dhemaji is located at 27.48°N 94.58°E. The information was accrued after discussions with village local healers (*kobiraj*) and some senior person of village who has knowledge on medicinal plants. During the course of research work healers were visited several times for collecting data by using semi-structured questionnaire and field walks method of Martin (1995) [5] and Maundu (1995) [6] and were asked several questions related to their knowledge. The study was further preceded with literature review, collection of important medicinal plants and identification of collected specimens.

## 3. Results and discussion

During the study, 64 different plant species were found to use as traditional health care practices by the inhabitant of Dhemaji district. Table: 1 enlist the medicinal plant species commonly used by the people of the study area. Though some people are access to the medical healthcare services yet they prefer traditional methods of using medicinal plants in curing various common illness as immediate and effective measures. Some of the plants like *Litsea salicifolia*, *Naravelia zeylanica*,

*Baccupa monnieri*, and *Costus speciosus* are not found easily in those areas where the research work has been carried out. Previously, these plants were said to be found abundant, but now they are in very rare condition. The conservation of the plants is very important before its extinction. The young generations are not at all interested in learning the uses of indigenous plants. They must be encouraged to learn so that the traditional uses of such plants will not get extinct. Moreover the recent trends of habitat destruction and decrease in the forest area has rendered many species to disappear from environment so the local healers and some senior people who have traditional knowledge on use of such plant species, they collect the plants from the forest and transplanted in the backyard of their house in order to achieve their immediate needs.

The analysis of data reveals that out of 64 plants, highest number of plants i.e. 12 plants are used as digestive to treat indigestion. 11 plants are used to treat dysentery. 9 plants for diarrhea and 7 plants for curing cold and cough. In this way 64 plants have different medicinal properties and used to treat various common illness (given in table: 2). Most of the plants found during the study were herbs. Nonetheless the, knowledge of herbal use is so deeply rooted in society that there are still number of women and men in the villages who knows the healing properties of many medicinal plant species.

**Table 1:** List of plants documented along with their scientific name, habit, local name, part used and medicinal use

Sl. No.	Scientific name	Habit	Local name	Parts used	Uses
1.	<i>Acorus calamus</i> Linn.	Herb	Bos	Rhizome	Decoction of rhizome is given in abdominal pain during menstruation cycle of women.
2.	<i>Caesalpinia crista</i> Linn.	Shrub	Letaguti	Fruits	Cold and cough. Whooping cough.
3.	<i>Curcuma longa</i> Linn.	Herb	Halodhi	Rhizome	Swelling of fingers of hands and legs.
4.	<i>Drymaria cordata</i> Linn.	Herb	Laijabori	Leaves	Stomach disorder and hairfall.
5.	<i>Phyllanthus emblica</i> Linn.	Tree	Amlokhi	Fruit	Dysentery, diarrhea, piles,
6.	<i>Hydrocotyle sibthorpioides</i> Lam.	Herb	Horumanimuni	Leaves, Roots	Rheumatism, menstrual Problem and also used as Digestive.
7.	<i>Centella asiatica</i> Urb.	Herb	Bor manimuni	Whole plant	Used as digestive, heals Dysentery, diarrhea.
8.	<i>Litsea salicifolia</i> (Roxb. Ex Nees) Hook. F.	Tree	Dhiglotti	Leaves	Leaf paste is taken twice a day with lukewarm water to cure loose motion
9.	<i>Leucas aspera</i>	Herb	Durunbon	Leaves, roots	Lack of appetite, sinusitis, Stomach complaints, headache, roots are used to treat ringworms, boils, swellings, Pneumonia and also in relief of snakebite.
10.	<i>Macrothelypteris 2quati</i> (Wall. Ex Bedd.) Ching	Shrub	Bihlongoni	Leaves	Tender leaves are cooked With chicken to feed mother to increase the milk production for newborn baby.

11.	<i>Mangifera indica</i> Linn.	Tree	Aam	Leaves, ba	Decoction made of leaves and bark is taken in empty stomach in treatment of dysentery
12.	<i>Mimosa pudica</i> L.	Herb	Nilaji bon	Roots	Tooth worm, menstrual problem.
13.	<i>Ocimum sanctum</i> Linn.	Herb	Kola tulokhi	Leaves, flowers	Cold and cough.
14.	<i>Bambusa balcooa</i> Roxb	Shrub	Bholuka bah	Shoots	Pain killer in insect bites and menstrual problem.
15.	<i>Musa balbisiana</i> Colla	Tree	Bhinkol	Fruit, root	Dysentery and other Stomach problems. Roots are used to treat pneumonia.
16.	<i>Piper nigrum</i> Linn.	Climber	Jaluk	Fruits	Indigestion, body-ache, also in post labour ailment and in bone fracture and pneumonia.
17.	<i>Ageratum conyzoides</i> L.	Herb	Gendhalibon	Leaves	Stops bleeding.
18.	<i>Ananas comosus</i> L.	Herb	Matikothal	Tender leaves	Leaf base is crushed and extract is given one time daily for amoebic dysentery and intestinal worms.
19.	<i>Bambusa tulda</i> Roxb.	Shrub	Jatibah	Root	Promote flow of urine.
20.	<i>Cinnamomum tamala</i> (Nees and Eberm)	Tree	Tezpat	Leaves	Rheumatism, gonorrhoea, Diarrhoea, diabetes
21.	<i>Clerodendrum colebrookianum</i> Walp.	Shrub	Nephaphu	Tender leaves	Kills intestinal worms, reduce blood pressure.
22.	<i>Dillenia indica</i> L.	Tree	Outenga	Sepal of fruit	Fleshy calyx is used for stomach disorder. Jelly like pulp of fruit is applied to scalp for curing dandruff and falling hair.
23.	<i>Ficus racemosa</i> L.	Tree	Dimaru	Leaves and latex	Latex is used for piles and diarrhoea.
24.	<i>Paederia foetida</i> L.	Shrub	Bhedailota	Leaves	Malaria.
25.	<i>Naravelia zeylanica</i> L.	Climber	Gopsori	Leaves	Wounds and ulcer.
26.	<i>Oldenlandia corymbosa</i> L.	Herb	Bonjaluk	Whole plant	Plant is diuretic, stomachic and used as liver tonic. It is also used in jaundice.
27.	<i>Psidium guajava</i> L.	Tree	Modhuriam	Tender leaves	Amoebic dysentery.
28.	<i>Sarcochlamys pulcherrima</i> (Roxb.) Gaud.	Shrub	Mesaki	Leaves	Consumption of young leaves is believed to be protective measure from the tapeworm and fat minimizes agent when cooked with pork. Also leaves are useful for diarrhea, dysentery and also used as digestive.
29.	<i>Scoparia dulcis</i> L.	Herb	Senibon	Leaves	Fever, cough, diabetes.
30.	<i>Zanthoxylum nitidum</i> (Roxb.)DC	Shrub	Tejmooi	Leaves, stem, bark	Toothache or gum problem. It is stomachic.
31.	<i>Alocasia cuminata</i> Schott	Shrub	Dalkochu	Leaves, stems	Prevents anaemia.
32.	<i>Amaranthus spinosus</i> L.	Shrub	Hatikhutura	Leaves, stems	Constipation
33.	<i>Azadiracta indica</i> A. Juss	Tree	Mohaneem	Leaves, stem	Skin itching, boil, pimples.
34.	<i>Corchorus capsularis</i> L.	Shrub	Titamora	Leaves	Good digestion and get rid of intestinal worms.
35.	<i>Diplazium esculentum</i> (Retz.)SW	Herb	Dhekia	Leaves	Useful for good vision (eye).
36.	<i>Garcinia cowa</i> Roxb	Tree	Kujithekera	Tender leaf	Dysentery, reduce blood pressure
37.	<i>Hibiscus subdarifa</i> L.	Shrub	Boga Tengamora	Leaves	Dysentery, diarrhea.
38.	<i>Houttuynia cordata</i> Thunb	Herb	Mosundari	Fruit, Leaves	Diarrhoea, dysentery.
39.	<i>Nyctanthus arbor-tristis</i> L.	Tree	Hewali	Leaves	Malaria, diabetes and cough
40.	<i>Oxalis corniculata</i> L.	Herb	Horutengesi	Flowers, Leaves	Indigestion.
41.	<i>Basella rubra</i>	Herb	Bortengesi	Whole plant	Indigestion.
42.	<i>Spinacia oleracealeracea</i>	Herb	Pirali paleng	Whole plant	Stomach trouble.
43.	<i>Chenopodium</i> L.	Shrub	Jilimili	Whole plant	Anaemia.
44.	<i>Aloe barbadensis</i>	Herb	Sal kuwari	Leaves	Genital herpes, burns, wounds, skin Infection.
45.	<i>Ageratum conyzoides</i>	Herb	Huhonibon	Whole plant	Red spots on tongue. Apply and rub on affected area.
46.	<i>Eclipta prostrate</i>	Herb	Keharaj bon	Leaf	Dysentery.
47.	<i>Bryophyllum calycinum</i> Salisb.	Herb	Dupor tenga	Flower	Menstrual pain.
48.	<i>Terminalia chebula</i>	Tree	Hilikha	Tender leaves	Jaundice, indigestion.
49.	<i>Alternanthera sessilis</i> L.	Shrub	Matikanduri	Leaves	Jaundice, indigestion.
50.	<i>Murrya koenigil</i>	Tree	Narasingha	Leaves	Stomach trouble.
51.	<i>Mentha arvensis</i>	Herb	Pudina	Whole plant	Indigestion.
52.	<i>Baccupa monnieri</i> L.	Herb	Brahmi	Tender leaf	Improvement of memory and eye power.
53.	<i>Citrus limon</i> L. Burm	Tree	Nemu	Leaves	Black spot in face, indigestion.
54.	<i>Cajanus cajan</i>	Tree	Rahar dali	Fruit and tender leaves	Jaundice.
55.	<i>Sponolias mangifera</i>	Tree	Amora	Tender leaves, Seed	Tonsilitis.
56.	<i>Ipomea 3quatic</i>	Shrub	Pani kolmou	Leaves	Urinary disorder.
57.	<i>Clerodendron colebrookianum</i> L.	Tree	Dhopat tita	Leaves	Malaria, hypertension.
58.	<i>Cannabis sativa</i>	Shrub	Bhang	Tender leaves	Body ache.
59.	<i>Catharanthus roseus</i> L.	Shrub	Nayantora	Flower, Leaves	Diabetes.
60.	<i>Costus speciosus</i>	Herb	Jomlakhuti	Rhizome	Burning, Snakebite.
61.	<i>Ocimum gratissimum</i> L.	Shrub	Ram tulsi	Leaves	Cough, asthma.
62.	<i>Phlogocanthus thyrsi florus</i>	Shrub	Titaphul	Leaves, Flower	Indigestion.
63.	<i>Pogostemon benghalensis</i> (Burm.)Kuntze	Tree	Sukloti	Leaves	Diabetes, liver problems, wounds.



**Fig 3:** Madhuriam



**Fig 4:** Nemu



**Fig 5:** Bormanimuni



**Fig 6:** Narasingha



**Fig 7:** Nayantora



**Fig 8:** Titaphul



**Fig 9:** Kola tulokhi



**Fig 10:** Dupor tenga



**Fig 11:** Lajabori

**Table 2:** Indigenous plants used for various diseases

Diseases	Number of plants	Percentage %
Menstrual problem	5	7.69
Cold and cough	7	10.7
swelling of fingers of hands and legs	1	1.5
Preventing hairfall	2	3.07
stomach disorder	5	7.69
Dysentery	11	16.9
Diarrhoea	9	13.8
Piles	2	3.07
Rheumatism	2	3.07
Indigestion	12	18.4
Sinusitis	1	1.5
Lack of appetite	1	1.5
Headache	2	3.07
Ringworm	1	1.5
Boil	2	3.07
Pneumonia	3	4.6
Snakebite	2	3.07
Increase milk production of mother for newborn baby	1	1.5
Tooth problem	2	3.07
Pain killer in insect bites	1	1.5
Body ache	2	3.07
Bone fracture	1	1.5
stops bleeding	1	1.5
Intestinal worms	3	4.6
Promote flow of urine	1	1.5
Gonorrhea	1	1.5
Diabetes	4	6.15

Reduce blood pressure	2	3.07
Malaria	3	4.6
heal wounds and ulcer	3	4.6
Jaundice	4	6.15
kills tapeworm	1	1.5
Fever	1	1.5
Anaemia	2	3.07
Constipation	1	1.5
heals pimples and skin itching	2	3.07
Genital herpes	1	1.5
Burns	2	3.07
Red spot on tongue	1	1.5
Improve eye and memory power	2	3.07
Black spot in face	1	1.5
Tonsilitis	1	1.5
Urinary disorder	1	1.5
Asthma	1	1.5
Liver problems	1	1.5

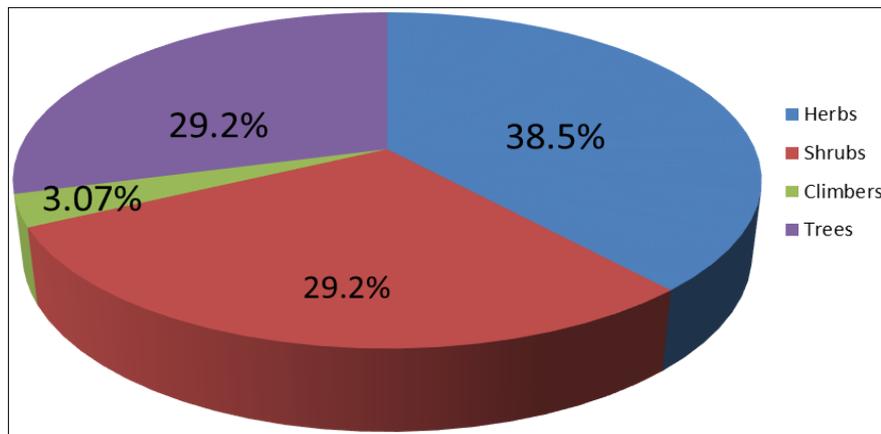


Fig 12: Percentage of plants in terms of its habits out of 64 numbers of plants.

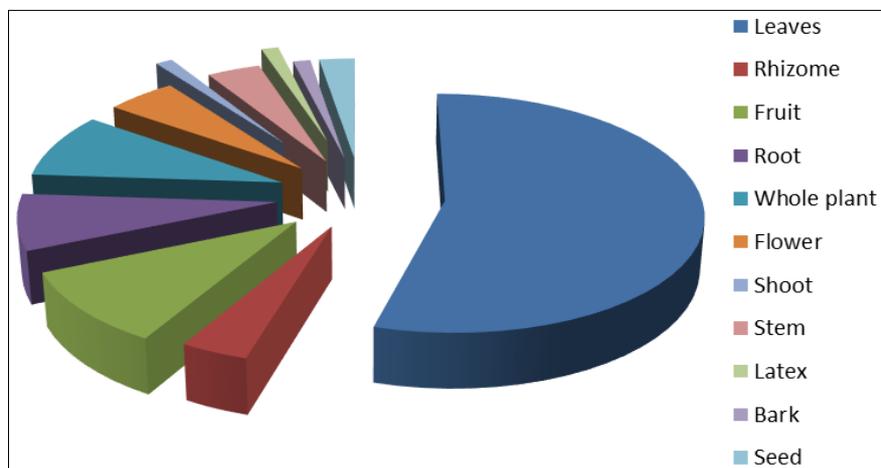


Fig 13: Percentage of plant parts used

#### 4. Conclusion

Several medicinal plants is now accepted and used for traditional health care practices because of cultural acceptability and lesser side effects. Some plants which have medicinal property are used as food by local communities (*mesaki, panikolmou, ram tulokhi* etc.). The efficacy of traditional medicine cannot be judged properly, although the ethnic tribes use these plants for healing common illness. This study concluded that many ethnic people in the studied area still continue to depend on medicinal plants, for treatment of different types of disease even though the less amount modern health care system of medicines are available in PHC, sub centres and also hospital. It is because Dhemaji district is

flood affected area. Every year area faces a huge loss due to flood. There for, to some extent it remains untouched to modernization.

Thus considering the crucial role played by these medicinal plants in healthcare system, it is most importance that these should be cultivated and propagated. But due to lack of interest in traditional medicinal plants among young generation as well as their tendency to migrate to cities for wealth of knowledge, job etc. in this area is declining<sup>[7-8]</sup>. The need is to encourage the young people to preserve this traditional knowledge for betterment of future mankind in this district.

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