

## **A study on the medicinal plants used by the local traditional healers of Dhemaji district, Assam, India for curing reproductive health related disorders**

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### **ABSTRACT**

*The primary objective of this study is to present a database on indigenous knowledge on medicinal plants used for reproductive disease among the local traditional healers of Dhemaji district, Assam. A survey on the plants used for reproductive disease was carried out during the period 2011-2012 and information regarding the different types of plants used, parts of the plants, mode of administration were collected from 16 villages of the district. The present study reveals that the rural tribal people are well versed with the nature and natural resources around them. In the present study, it has been found that about 20 species of plants belonging to 16 different families have been used traditionally by the people of the study area. It is concluded that even though the accessibility of the modern system of medicine for simple and complicated diseases is available, many people in the studied area still continue to depend on medicinal plants, for the treatment of different types of diseases. The need of the hour is to harness this traditional knowledge and preserve this knowledge for the betterment of future mankind.*

**Keywords:** Medicinal Plant, Traditional Healers, Reproductive Health etc.

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### **INTRODUCTION**

Since time immemorial, mankind has used plant extracts from different plants to cure many diseases and thus relieve him from physical agony [1]. In our country, the traditional system of medicine plays an important role in health care of rural people for all types of ailments. The healing power of traditional herbal medicines have been realized and documented since Rigveda and Atharvaveda [2]. Since then plants and their extracts have been used therapeutically and even today plant-based medicines continue to play an essential role in world health care [3]. India has about 45,000 plant species and more than 35,000 plant species have been claimed to possess medicinal properties and are being used in various human cultures around the world for medicinal purposes [4]. Nearly 80% of the world populations rely on traditional medicines for primary health care, most of which involve the use of plant extracts [5]. India is a country inhabited by a large number of people having diverse ethnic group. There are over 400 different tribes & other ethnic groups residing mostly in rural areas in India and most of them are still living in the remote forest areas, who depend to a great extent on the indigenous system of medicines [6]. The knowledge on traditional medicine has been continuing for years and has been transmitted orally from generation to generation. Plants and their parts used by the Thottianaickans of Tamil Nadu [7] Nagas of Nagaland [8], Meitei community in Manipur [9], Nishi tribes of Arunachal Pradesh [10], Monpas of Arunachal Pradesh [11], *Khonds* of Andhra Pradesh, *Bhil* tribe in Madhya Pradesh [12], Apatani tribe of Arunachal Pradesh [13], Miris of Assam [14], Mizo tribes of Mizoram [15], has some or the other relevance with the plants that are found to be in use by these traditional healers residing in this remote part of India. However recently it seems that this type of knowledge on traditional medicine is vanishing from the modern society since younger generations are not interested to carry on

this tradition. In India, it is reported that traditional healers use 2500 plant species and 100 species of plants that serve as regular sources of medicine [16]. Therefore, it is the need of the hour to preserve the traditional knowledge on the use of the medicinal plants. The primary objective of this study is to present a database on indigenous knowledge on medicinal plants used for reproductive disease among the local traditional healers of Dhemaji district, Assam.

## MATERIALS AND METHODS

### Area of study

The study area Dhemaji district is situated in the remote corner of northeast India on the north bank of the river Brahmaputra. Geographically, the district is situated between  $27^{\circ} 05' 27''$  and  $27^{\circ} 57' 16''$  northern latitudes and  $94^{\circ} 12' 18''$  and  $95^{\circ} 41' 32''$  eastern longitudes and covers an area of 3,237 km<sup>2</sup>. The district is in a strategic location where steep slope of eastern Himalayas abruptly drop, forming a narrow valley, which widens towards the western side. The district is divided into two sub-divisions, viz., Dhemaji and Jonai, comprising of five development blocks, viz. Dhemaji, Sissiborgaon, Bordoloni, Machkhowa and Morkongselek (Tribal). (Figure-1)

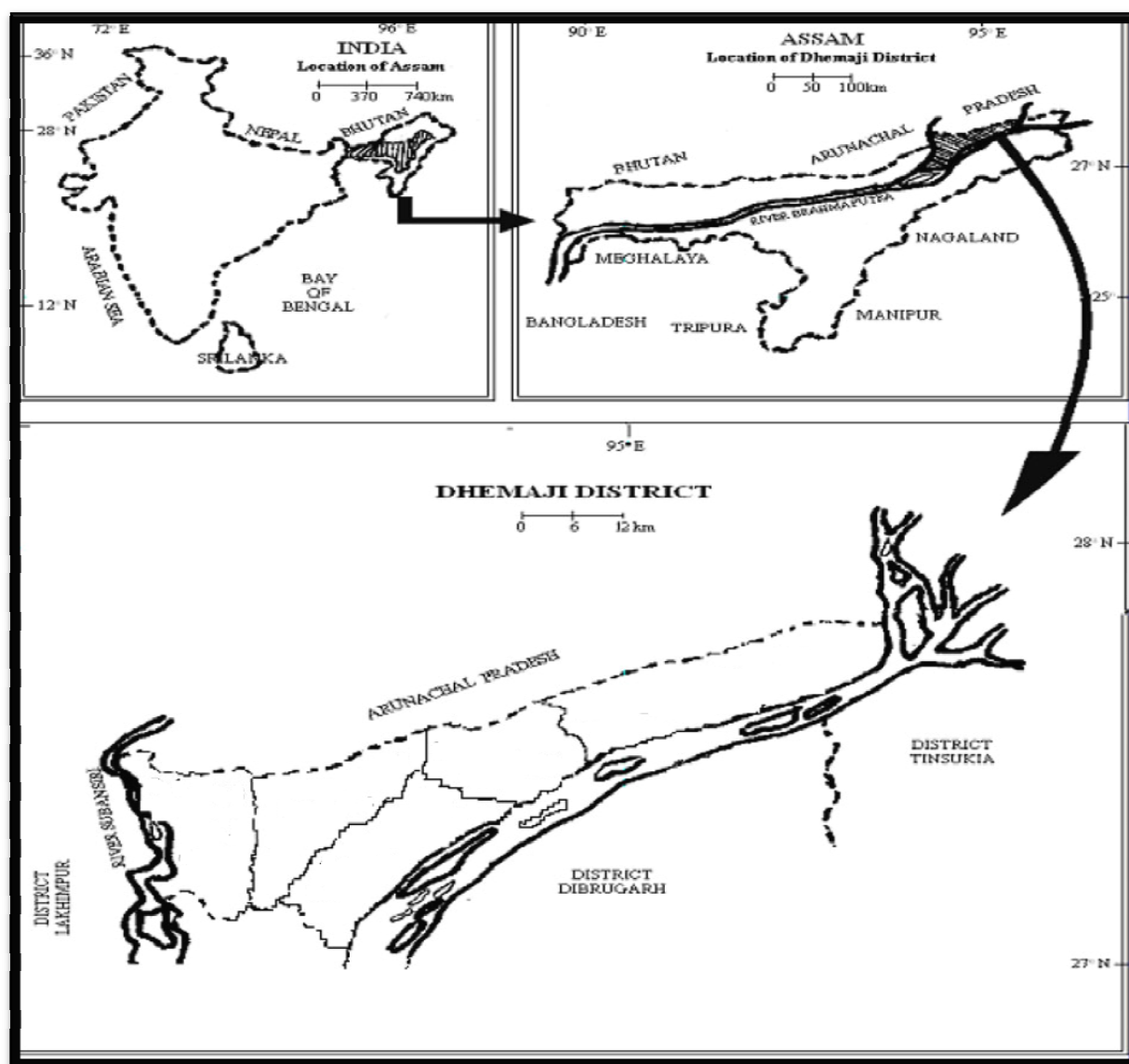


Figure 1 Map of Dhemaji District

As per the 2011 census Dhemaji district has a population of 688,077 with population density of 213 inhabitants per square kilometer (550/sq m). The district is inhabited by Assamese speaking people—Chutia, Ahoms, Koches, Kalitas, Kaibartas and other tribes like Mishings, Sonowal Kacharis, Deoris etc.,. Each tribe has their own customs and tradition, languages & beliefs. They are also known for their knowledge about the use of herbal plants which are

used as medicine. Among these tribal people are also local traditional healers having practical knowledge on medicinal plants, their usage and the types of diseases treated etc.

A survey on the plants used for reproductive disease was carried out during the period 2011-2012. Information regarding the different types of plants used, parts of the plants, mode of administration was collected from 16 villages of the district. While collecting data special care was taken to select such areas, which were most inaccessible to medical institute, non-motorable and where record of use of such traditional plant as medicine has been continuing till date. The different parameters used in methodology includes the participation of the local ethnic people, traditional healers etc. The information on different species of plant was mainly gathered from the village headman (gaon burahs), traditional healers (*Bejs/ bejanis*), local tribal old women and men. Adopting the methods of Jain [17], ethnomedicinal data were collected through general conversations with the informants. These informants were traditional healers themselves or had tradition of healing in their families and had knowledge of the medicinal use of the plants. There were formal discussions, questionnaires and schedule. The women folk are given a significant role in discussion since they are found to possess more information about the utility of local herbs in curing various diseases. The informants about the herbal medicine have been interviewed on random basis. The collected data were analyzed among different age class of the society. Information regarding the plant name, plant parts used, mode of preparation and dose of administration for treatment was collected and analysed accordingly. Standard method was followed with regard to collection of plant materials, and preservation of plant specimens [18]. Voucher specimens of medicinal plants were collected, prepared and identified. Plants with their correct nomenclature were arranged alphabetically by local name, common name, parts used and ethnomedicinal uses.

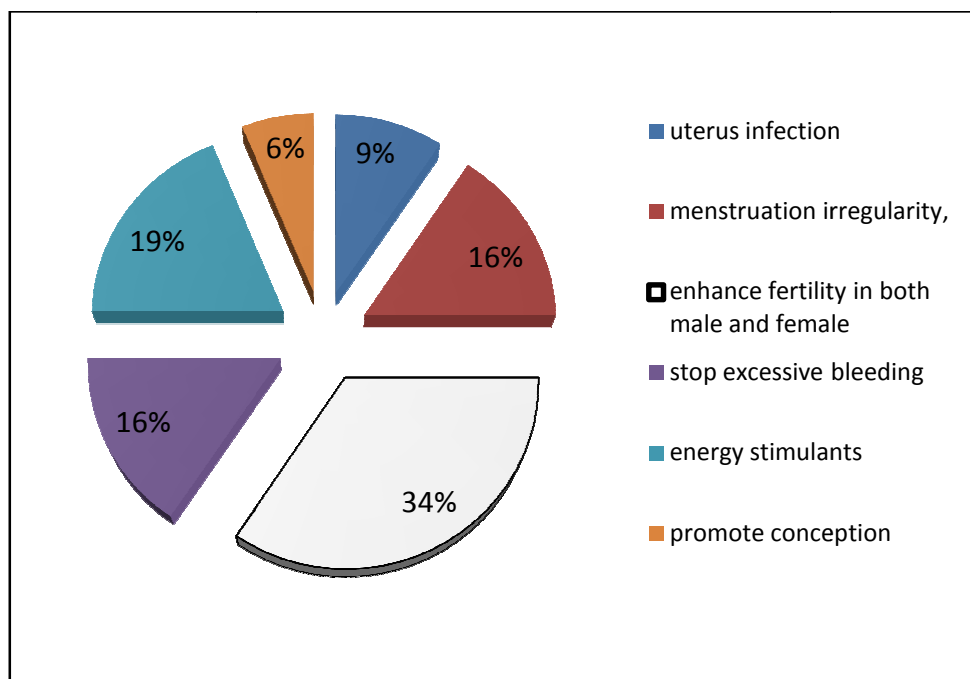
### RESULTS AND DISCUSSION

The Different types of plant species used by the traditional healers of the study area along with the plant parts used, is presented in the tabular form below (Table-1) and the common name of the plants are arranged in alphabetical order. For each species botanical name, family, local name, parts used, methods of preparation, administration and ailments treated are provided.

The present study reveals that the rural tribal people are well versed with the nature and natural resources around them. These people in order to get rid of various problems like abortion, conception, menstrual problems etc., depend on plant products. Such types of plant extracts have also been reported to be used for abortification and reproductive related diseases from other part of the state also. In the present study, it has been round that about 21 species of plants belonging to 16 different families have been used traditionally by these people. Among them 3 numbers of plants are used to help fight uterus infection, 5 numbers are used to restore menstruation irregularity about 11 plants are used to enhance fertility in both male and female, 5 plants are used to stop excessive bleeding during menstruation and wound healing, 6 numbers are used as energy stimulants and 2 numbers are used to promote conception. The figure 2 represents the percentage of plants used for various types of reproductive disorders by the traditional healers of the study area.

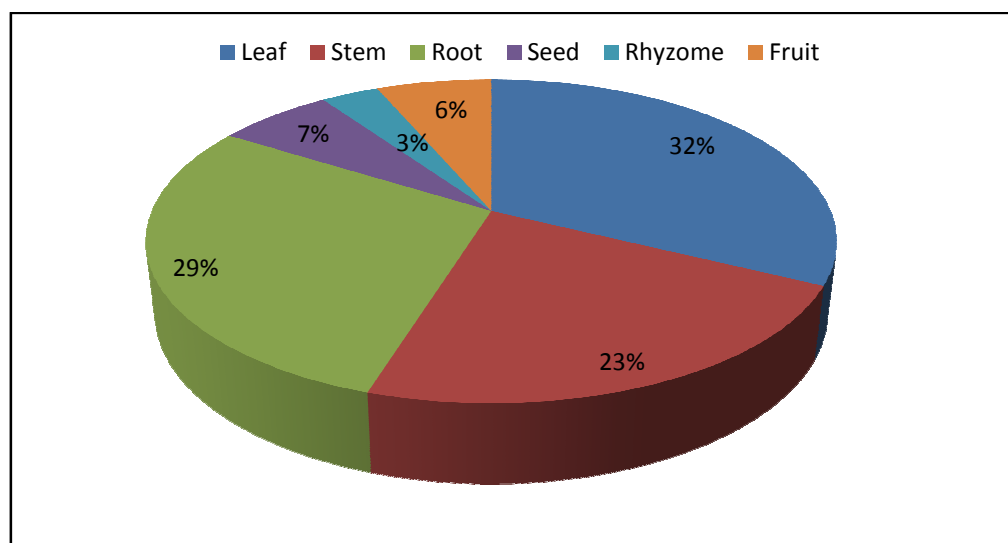
Table 1: Different types of plant species used by the traditional healers of the study area

Sl. No	Assamese name	Common names	Scientific name and Family	Parts used/Preparation	Proposed mode of action/indications
1	Antamul	Jangli pikran	<i>Tylophora aathamatica</i> Wight & Arn Family-Asclepiadaceae	Leaves and roots are boiled and taken in empty stomach.	Enhances fertility in male, helps in the purification of blood, excessive vaginal discharge stops.
2	Amorlota/ Sogoonilota	Guruchi, Gulancha, Amritabillari	<i>Tinospora cordifolia</i> (Willd)Miers Family- Menispermaceae	Leaves and stem are boiled and taken.	In addition to diarrhea and dysentery it used as an energizer and enhances male fertility.
3	Bionisapota	Hoary trick trefoil, Bhuter chira	<i>Desmodium laxiflorum</i> DC. Family- Leguminosae.	Leaves and stem are boiled with water and taken.	Menstrual Cycle irregularity disappears, helps fight Uterus infection.
4	Boga agechita	White lead wort, Sweta chita, Safed chita	<i>Plumbago zeylanica</i> Linn. Family- Plumbaginaceae	Leaf and roots are crushed and boiled.	Excessive bleeding during menstrual cycle stops; helps in terminating/Abortion.
5	Boga bhui kumura (chal kumura)	Ash gourd, Petha, Gol kaddu, Brihatphala	<i>Benineasa hispida</i> (Thunb) Cong. Family- Fabaceae	Fruit to be taken along with honey and ghee.	Enhances male fertility.
6	Bandor kekua	Cowitch, Alkusha, Kawanch	<i>Mucuna prurita</i> Hock. Family- Fabaceae	Root is mixed with honey and milk.	For the treatment of all sorts of Ovary problems, as an energizer and enhancement of male fertility.
7	Boga kash moni (Kaurimoni)	Job's tear, Gurlu, Sankru	<i>Coix lachryma-jobi</i> Linn. Family- Gramineae	Root juice is taken along with milk and honey.	For the treatment of all sort of Ovary problems, and irregular menstrual.
8	Bosh gos	Sweet flag	<i>Acoras calamus</i> Linn. Family- Anaceae	The Rhizome is crushed and the juice is taken.	Irregularity in menstrual cycle disappears, excessive uterine bleeding stops.
9	Chotiana	Devil's tree, Saptaparna, Chatium, Chatwan, Chatri	<i>Alstonia scholaris</i> (L)R.Br. Family- Apocynaceae	Milky juice extract is taken along with <i>Perilla ocimoides</i> in empty stomach.	Enhances fertility in both male and female.
10	Dubori bon	Bermuda grass, Hariali, Durba, Ram ghas.	<i>Cynodon dactylon</i> (L)Pers Family- Gramineae.	Fresh grass is crushed and the juice is taken.	Menstrual bleeding stops, enhances fertility in male, quick healing of wounds.
11	Iswarmool	Indian birth wort, Iswarmul, Iswari	<i>Aristolochia indica</i> Linn. Family- Aristolochiaceae	Root (alu) is grinded and the juice is taken.	Enhances fertility in male, quick healing of wounds.
12	Jutulipoka/ Tachin-tain	Katsol, Anchu, Wild raspberry	<i>Rubus moluccanus</i> Linn. Family-Rosaceae	Fruits, Young shoot (leaves and stem) are taken.	Helps in enhancing fertility in female.
13	Jesto modhu	Common licorice, Madhuka, Korphul, Jathimadh	<i>Glycyrrhiza glabra</i> Linn. Family-Leguminosae	Fresh or dried root are used.	Provides energy, enhances fertility in male.
14	Keheraj	Keysuria, Bhringaraj, Bhangra, Babri	<i>Eclipta alba</i> Hassk. Family-Asteaceae	Leaf and Stem	Irregularity in menstrual cycle disappears, relieves from labor pain.
15	Mithi gooti	Fenugreek, Methi, Methika	<i>Trigonella foenum-graecum</i> Linn. Family- Leguminosae	Seed is grinded and taken along with milk.	Helps fight Uterus infection, provides stamina.
16	Modar	Indian Coral tree, Pangra, Dadap, Palita madar, Coral bean tree.	<i>Erythrina indica</i> Lim. Family- Leguminosae	Root to be grinded and taken along with milk	Helps in Conceiving, provides stamina.
17	Makorighila	Ramjokhola, Gundagila	<i>Bauhinia macrostachya</i> Wall Family- Leguminosae	Leaf and stem to be boiled with Water	Enhances fertility in male, gives stamina.
18	Nilakontho	Changalota, Nil lata	<i>Thunbergia coccinea</i> Wall Family- Acanthaceae	Root juice is taken.	All sorts of Stomach, infection, increase fertility.
19	Sojina	Drum stick tree, Sajna, Sobhanjana	<i>Moringa oleifera</i> Lamk. Family- Moringaceae	Green fruits, Seed and tender leaves are used.	Provides energy, enhances fertility in male.
20	Sotomool	Asparagus, Satamul, Satawar, Halyun	<i>Asparagus racemosus</i> Wild Family-Liliaceae	Root juice is taken along with milk & sugar in empty stomach in the morning.	Gives stamina, enhances fertility in both male and female.
21	Sookloti	Perilla, Bhan jira, Bhasinda	<i>Perilla ocimoides</i> Linn. Family- Labiatae	Leaves and stems are cooked along with pepper.	Helps fight Uterus infection, MC irregularity disappears.



**Figure 2:** The percentage of plants used for various types of reproductive disorders in the traditional healers of the study area

Most of the plants used by these traditional healers are administered orally. Moreover the use of shoot i.e., the upper part of the plant parts (leaf, stem, etc.) have been found to be higher than the root parts. The percentage of whole plants and their parts used for curing different type of reproductive related diseases are given in the Figure 3.



**Figure 3:** The percentage of whole plants and their parts used for curing different type of reproductive related diseases.

It is observed that, most of the remedies consisted of single plant part and more than one method of preparation. However, some of the remedies consisted of different parts of the same plant species to treat single or more diseases. It is also observed that the maximum number of plant species is utilized as a combination of more than one species of plants. Moreover it is also found that a single plant is used to cure more than one type disease.

### CONCLUSION

Many traditional medicines is now an accepted fact because of better cultural acceptability, better compatibility with the human body, lesser side effects and effectiveness. Some of the plants which have medicinal property are used as food by the local community. The efficacy of the traditional medicine cannot be judged properly, although the ethnic tribal people use these plants for curing different type of reproductive ailments. Due importance should be

provided for further research on these medicinal plants for their effectiveness, side effects(complication), mode of action etc.,

This study concluded that even though the accessibility of the modern system of medicine for simple and complicated diseases is available, many people in the studied area still continue to depend on medicinal plants, for the treatment of different types of diseases.

Considering the undisputed role played by these medicinal plants in the modern day world in the health care system, it is of outmost importance that these should be cultivated and propagated. But due to lack of interest among the younger generation as well as their tendency to migrate to cities for lucrative jobs, wealth of knowledge in this the area is declining. The need of the hour is to harness this traditional knowledge and preserve this knowledge for the betterment of future mankind.

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