



**ETHNOBOTANICAL STUDY ON THE MEDICINAL PLANTS USED IN
NAOBOICHA SUB-DIVISION, LAKHIMPUR DISTRICT, ASSAM.**

A thesis submitted to

**Assam Science & Technology University,
Tetelia Road, Jalukbari, Guwahati, Assam**

**in partial fulfillment of the requirements for the award of the degree of
Master of Science in BOTANY.**

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This is to certify that this thesis entitled "**Ethnobotanical Study on The Medicinal Plants used in Naoboicha Sub-division, Lakhimpur District, Assam**" submitted to Assam Science and Technology University, Guwahati for the award of the degree of Master of Science in Botany is a bonafide research work carried out by the student **Ms. Priyanka Gogoi** (Roll No.: **202820047017** & Reg. No.: **449928220**) under my Guidance and supervision during the period between April 2022 to August, 2022. I further certify that no part of this thesis has been submitted anywhere else for the award of any Degree, Diploma, Associateship, Fellowship or other similar titles.

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CERTIFICATE

The is to certify that the thesis entitled "Ethnobotanical Study on The Medicinal Plants used in Naoboicha Sub-division, Lakhimpur District, Assam" submitted to the Assam Science & Technology University, Guwahati, for the award of the degree of Master of Science in Botany is a bonafide research work carried out by Student **Ms. Priyanka Gogoi** (Roll No.: 202820047017 & Reg. No.: 449928220) under my guidance and supervision during the period between April 2022 to August 2022 in the Department of Botany. I further certify that no part of this thesis has been submitted anywhere else for the award of any Degree, Diploma, Associateship, Fellowship or other similar titles.

(Prof. Sumpam Tangjang)

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I hereby declare that the work embodies in this thesis entitled “ETHNOBOTANICAL STUDY ON THE MEDICINAL PLANTS USED IN NAOBOICHA SUB-DIVISION, LAKHIMPUR DISTRICT, ASSAM”, is a research work done by me under the supervision and guidance of Dr. M. Mathiyazhagan, Associate Professor of Botany, Silapathar Science College, Silapathar. I further declare that this work has not been submitted earlier in full or in parts to any other university for the award of any other Degree, Diploma, Associateship, Fellowship or other similar titles.

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1. INTRODUCTION

People have been relying on plants since generations. Discussions with the older people revealed that people have been treating various types of diseases by using plants extensively. The local communities use plants with medicinal value as first aid. According to them, the treatment done by medicinal plants is better than the doctor's treatments. Several medicinal plants are traditionally being used as medicines against many diseases. According to FAO, "Medicinal plants may be defined as those plants that are commonly used in treating and preventing specific ailments and diseases and are generally considered to have a beneficial role in healthcare".

An Ethno botanical study of medicinal plants was carried out from 4th April, 2022 to 31st August, 2022 in Naoboicha sub-division, Lakhimpur district, Assam. The objectives of the study were to identify medicinal plant species and to know their medicinal value. All the relevant data were collected through personal interviews with a total of 103 informants including 46 men and 57 women. A total of 65 plant species belonging to 41 taxonomic families were recorded to have medicinal values. These medicinal plants were used to treat 77 human ailments in the study area. The most commonly used plant families of the present study were Lamiaceae represented by 6 species, Malvaceae represented by 4 species, Zingiberaceae represented by 3 species and Musaceae represented by 1 species.

1.1 IMPORTANCE OF THE STUDY

- ❖ Ever since the early times, the use of herbs, shrubs or trees in India has been going on.
- ❖ People have been curing diseases since then using the plants around us.
- ❖ Older people are often seen, making a variety of medicines from plants known to us or unknown plants, using for healing with a kind of diseases.
- ❖ Some plants are not known to us which the older people have been treating in the right way and curing diseases.
- ❖ There are some people in the villages locally known as “Bez” who treat people using such plants.
- ❖ People in the rural villages can be treated at low cost with no side-effects by using such medicinal plants properly.
- ❖ Through the words of mouth, vast knowledge on the traditional uses of medicinal plants is conveyed from generation to generation.
- ❖ So, there is an importance for the indigenous traditional ethno botanical knowledge.

1.2 OBJECTIVES

The study deals with the following objectives.....

- ❖ To investigate and record the medicinal plant species used by the indigenous people and their associated traditional knowledge in Naoboicha Sub-division, Lakhimpur District, Assam.
- ❖ To obtain brief insight of the medicinal plants with their taxonomic aspect with emphasis on parts used, mode of preparation, dosage and the disease cured and the associated indigenous knowledge.

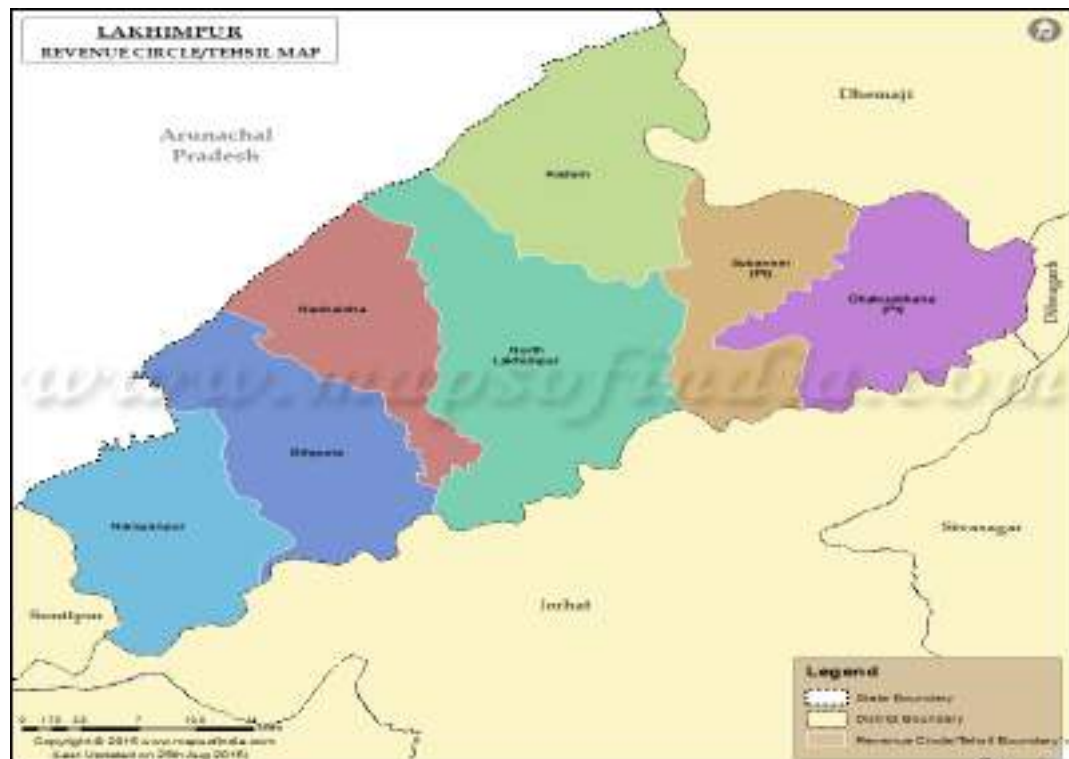
2. REVIEW OF LITERATURE:

- ❖ Review of the ethno-botanical uses of medicinal plants showed that some species of plants identified in this ethno-botanical study have been previously documented as being used in herbal medicines in Lakhimpur District, Assam.
- ❖ Similar to our study, an ethnobotanical survey of certain medicinal plants used by local people in Lakhimpur district was carried out during the year 2013-2014 by Pronob Gogoi, which revealed 21 plant species belonging to 17 families against 19 ailments.
- ❖ In another study, ethno-medicinal plants used for the treatment of common diseases by the people of Lakhimpur district, Assam was reported by Anil Bora *et al.* during the year 2012-2014, which revealed 58 plant species belonging to 39 families.
- ❖ Bharat Hazarika and Debajit Dutta gave an account of ethnomedicinal studies of Deori tribes of Bihpuria sub-division, Lakhimpur district, Assam during the year 2013-2014, which revealed 60 plant species belonging to 40 families.
- ❖ Dilip Kalita and Bikash Deb described folk medicines for some diseases prevalent in Lakhimpur district of Brahmaputra valley, Assam during the year 2004-2005.
- ❖ An ethnomedicobotanical survey against gastro-intestinal diseases in the Dhakuakhana area of Lakhimpur district, Assam was reported by Gaottham Gogoi and Arup Kumar Das.
- ❖ In this ethnobotanical study, some of the reported uses of medicinal plants are similar to those previously documented while other reported uses are new report.
- ❖ There is no ancient literature tap for the information on medicinal plants in Naoboicha sub-division.

3.MATERIALS AND METHODS:

3.1 STUDY AREA

Naoboicha (at 94.68402°E longitude and 27.41535°N latitude) is a subdivision of Lakhimpur, a district is located in a diverse natural environment in the North-Eastern corner of Assam. The district lies on the North bank of the river Brahmaputra. There are about 148 villages in Naoboicha subdivision. The total land area of Naoboicha subdivision is 255 kilometers square. The climate of Naoboicha is humid and subtropical. The temperature is moderate. Different types of plants are found based on rainfall, air temperature and soil quality. The subdivision has grassland, wetlands along with evergreen, semi-evergreen and deciduous forests.



3.2 METHODS

- ❖ Ethno-botanical data were collected through field observation with the help of indigenous people of the study area.
- ❖ During the course of ethno-botanical study, various common ethno-botanical methodologies and techniques were applied.
- ❖ All the relevant data were collected through personal interviews from a total of 103 informants.
- ❖ Information of each informant was carefully recorded during interviews.
- ❖ Identification of the plants was done by the reference book of Dutta [1975], Hooker [1872-97] and Kanjilal *et al.* [1937-40].
- ❖ The data containing taxonomic family, scientific name, local name, habit, part used, mode of preparation, dosage and ailments and enlisted in **Table 1**.

3.3 ETHNOBOTANICAL DATA COLLECTION

- ❖ Ethno botanical data were collected from 4th April, 2022 to 31st August, 2022.
- ❖ Field observations were performed with the help of local people.
- ❖ The knowledge on the traditional uses of herbs, shrubs or trees as a medicine were gathered.
- ❖ Some people know very well about the medicinal plants and they can also perform the various role to treat all kind of diseases.
- ❖ Experienced adults, patients and local healers were the main source of information about local names, parts of plants used, dosages, methods of preparation and ailments treated.
- ❖ Out of the 103 informants, the highest numbers of informants were recorded from Haribor Doloni and Haribor Naharani villages.
- ❖ In our survey, we found that 48.54% of the informants were not traditional healers but possesses the knowledge.

**IMAGE 1. SOME MEDICINAL PLANT COLLECTED FROM
NAOBOICHA SUBDIVISION**



1. *Kalanchoe pinnata* (Lam.) Pers.



2. *Catharanthus roseus* (L.) G. Don



3. *Ananas comosus* (L.) Merr.



4. *Paederia foetida* L.



5. *Citrus limon* (L.) Osbeck



6. *Curcuma longa* L.



7. *Colocasia esculenta* (L.) Schot



8. *Tagetes* spp.



9. *Hibiscus rosa-sinensis* L.



10. *Houttuynia cordata* Thunb.



11. *Bacopa monnieri* (L.) Pennell



12. *Centella asiatica* (L.) Urban



13. *Psidium guajava* L.



14. *Carica papaya* L.



15. *Ocimum sanctum* L..



16. *Hibiscus sabdariffa* L.



17. *Mentha spicata* L.



18. *Pogostemon benghalensis* (Burm.f.) Kuntze



19. *Hibiscus acetosella* Welw. ex Hiern. 20. *Corchorus capsularis* L.



21. *Persicaria chinensis* L. H. Gross 22. *Vitex negundo* L.



23. *Murraya koenigii* (L.) Sprengel 24. *Tinospora cordifolia* (Thunb) Miers

4. RESULTS AND DISCUSSION:

- ❖ A total of 65 medicinal plant species belonging to 41 taxonomic families were used by the local people to treat 77 human ailments in the study area [**Table 1**].
- ❖ Among the families that contributed more medicinal plant species were 'Lamiaceae', represented by six species. 'Malvaceae' took the second place with four species.
- ❖ The ethno-botanical study revealed the application of 11 different plant parts used in various ailments.
- ❖ It was found that the people basically used the 'Leaves' for their medicines as found in 37 species to treat 50 ailments.
- ❖ Grinding was the most widely used method of preparation for remedy in the study area.
- ❖ The flower of *Musa balbisiana* Colla., was found to be the most popular homemade medicine used for the treatment of low blood pressure which are finely chopped and cooked with the meat of pigeon and then taken.

TABLE 1.**LIST OF MEDICINAL PLANTS:**

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
1.	Acoraceae	<i>Acorus calamus</i> L.	Boch	Herb	Rhizome	Rhizomes are cut into pieces and made garland. And garlands are worn around the neck of newly born baby.	5 pieces.	Cold and Cough, Fever.
					Rhizome	Rhizomes are grinded with <i>Allium sativum</i> and put on the infected area.	As much as you need.	Toothaches, Dental caries.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
2.	Amaranthaceae	<i>Alternanthera sessilis</i> (L.) R. Br. Ex DC.	Matikaduri	Herb	Leaves	Leaves are cooked with <i>Oxalis corniculata</i> and <i>Oldenlandia corymbosa</i> and then taken.	½ hand palm.	Indigestion, Dysentery.
	Amaranthaceae	<i>Spinacia oleracea</i> L.	Paleng	Herb	Leaves	Finely chopped the leaves, <i>Daucus carota</i> and <i>Solanum lycopersicum</i> . Add salt and mixed the ingredients well and then taken.	½ hand palm from the mixture.	Anaemia.
3.	Amaryllidaceae	<i>Allium sativum</i> L.	Nohoru	Herb	Bulb	Raw garlic is eaten with rice.	3 cloves.	High blood pressure.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Bulb	Bulbs are grinded and applied to the infected area.	3 cloves.	Alopecia.
					Bulb	Bulbs are grinded with <i>Curcuma longa</i> , and then applied to the infected area.	As much as you need.	Skin disease.
					Bulb	Bulb are cut into pieces and made garland. And the garlands are worn around the neck of newly born babies.	5 pieces.	Cold and Cough.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Bulb	Juice of the bulb is applied to the infected area.	1 clove.	Ringworm.
					Bulb	Bulb are fried with mustard oil and massaged.	3 cloves.	Cold.
					Bulb	Juice of the bulb are mixed with butter and then taken.	2tsp.	Rheumatoid arthritis.
	Amaryllidaceae	<i>Allium cepa</i> L.	Piyaj	Herb	Bulb	Bulb is eaten.	1 bulb.	Low blood pressure.
					Bulb	Bulb is grinded and applied to hairs.	1 bulb.	Alopecia, Pediculosis.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
4.	Anacardiaceae	<i>Mangifera indica</i> L.	Aam	Tree	Fruit (ripe)	Ripe fruits are grinded and mixed with milk and applied to face.	1 fruit.	Reduce facial glow.
					Fruit (ripe)	Ripe fruits are grinded and mixed with milk and then taken.	1 fruit.	Weak.
5.	Apiaceae	<i>Centella asiatica</i> (L.) Urban	Bor mani muni	Creeping herb	Leaves	Juice of the leaves is taken.	25 ml.	Constipation.
					Leaves	Grinded the leaves with the leaves of <i>Hydrocotyle sibthorpioides</i> . And the juice is taken.	½ cup.	Dementia , Dysentery , Diarrhoea .

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Leaves are cooked with the leaves of <i>Paederia foetida</i> , fish, ginger, garlic and black pepper and then taken.	½ bowl from the curry.	Body pain.
6.	Apocynaceae	<i>Alstonia scholaris</i> (L.) R. Br.	Chotiona	Tree	Latex	Latex is applied to the infected area.	2 drops.	Abscess, Toe crack.
	Apocynaceae	<i>Catharanthus roseus</i> (L.) G. Don	Nayantora	Shrub	Leaves	Juice of the leaves is taken. (Daily)	3 leaves.	Diabetes.
					Leaves	Leaves are grinded and applied to the infected area.	1-2 leaves.	Toothaches.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
7.	Araceae	<i>Colocasia esculenta</i> (L.) Schott	Kochu	Herb	Leaves	Leaves are cooked with meat (add red chilly) and then taken.	½ bowl.	Anaemia.
					Leaf stalk	Juice of the leaf stalk is applied to the infected area.	2 drops.	Cuts and Wounds.
8.	Araliaceae	<i>Hydrocotyle sibthorpioides</i> Lam.	Horu manimuni	Creeping herb	Leaves	Leaves are grinded with <i>Centella asiatica</i> , <i>Oldenlandia corymbosa</i> and <i>Piper nigrum</i> . Add small amount of salt and then taken.	2 tsp.	Pneumonia, Cold and Cough.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Leaves are grinded with <i>Oldenlandia corymbosa</i> and the juice is taken.	2 tsp.	Stomach ache.
					Leaves	Juice of the leaves is taken.	2tsp.	Irregular menstruation, Menstruation pain.
					Leaves	Leaves are grinded and applied to the infected area.	20-25 leaves.	Cuts and Wounds.
					Leaves	Leaves are cooked and then taken.	½ bowl from the curry.	Dysentery.
9.	Asteraceae	<i>Ageratum conyzoides</i> L.	Gundhua bon	Herb	Leaves	Leaves are grinded and put on the infected area.	5 leaves.	Cuts and Wounds.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
10.	Bromeliaceae	<i>Ananas comosus</i> (L.) Merr.	Anarokh	Herb	Leaves (tender)	Juice of the leaves is taken on an empty stomach. (3 days)	2tsp.	Thread worm.
					Fruit (ripe)	Juice of the fruit is taken.	½ cup.	Indigestion, Jaundice.
11.	Caricaceae	<i>Carica papaya</i> L.	Amita	Shrub	Flowers	Flowers are fried with mustard oil and then taken.	15 flowers	Thread worm.
					Fruit (ripe)	Fruits are grinded and applied to the face.	As much as you need.	Reduce facial glow.
					Fruit	Fruits are eaten.	1 piece.	Indigestion.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Latex	The latex should be applied to the infected area.	2-3 drops.	Ringworm.
12.	Clusiaceae	<i>Garcinia morella</i> (Gaertn.) Desr.	Kujithekera	Tree	Fruit	Preserved the fruit by slicing into thin pieces and then drying under sun. The dry slices are cooked with red lentil and then taken.	2 pieces.	Dysentery, Gastritis, Obesity.
13.	Combretaceae	<i>Terminalia chebula</i> Retz.	Hilikha	Tree	Fruit	Fruits are eaten.	2 fruits.	Constipation, Thread worm, Indigestion.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
14.	Commelinaceae	<i>Commelina benghalensis</i> L.	Konahimolu	herb	stem	Stem is squeezed. The Juice come out should be applied to the infected area.	1 drop.	Eye sore.
15.	Crassulaceae	<i>Kalanchoe pinnata</i> (Lam.) Pers.	Durotenga	Herb	Leaves	Sugar candy is soaked at night. In the morning, Leaves are grinded and mixed with the sugar candy and then taken.	3tsp.	Leucorrhoea, Urinary tract infection.
					Leaves	Juice of the leaves is taken.	2-3 leaves.	Anuria.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Juice of the leaves is mixed with small amount of sugar and then taken.	9 leaves.	Stone disease.
					Leaves	Leaves are grinded and applied to hairs.	3-4 leaves.	Pediculosis.
					Leave	Leaves are grinded and applied to the infected area.	2 leaves.	Abscess.
16.	Cucurbitaceae	<i>Cucumis sativus</i> L.	Tiyoh	Creeping vine	Fruit	Fruits are grinded and applied to the skin.	As much as you need.	Reduce facial glow, Blemished skin.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Fruit	Fruits are eaten. (daily)	1 fruit.	Stone disease.
					Fruit	Placed a slice of cucumber on closed eyes.	1 piece in each eye.	Eye wrinkles.
	Cucurbitaceae	<i>Momordica charantia</i> L.	Tita kerela	Climbing herb	Leaves	Juice of the leaves is taken and eaten on an empty stomach in the morning. (7 days)	3 leaves.	Thread worm.
					Leaves	Juice of the leaves are boiled with little water and then taken.	3 leaves.	Rheumatoid arthritis.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Fruit	Juice of the fruit is taken.	25 mL	Diabetes.
					Fruit	Juice of the fruit is taken.	3tsp.	Pain.
					Gelatinous pulp	Gelatinous pulp is used as shampoo in hairs.	Inside of one fruit.	Dandruff, Alopecia.
17.	Dilleniaceae	Dillenia indica L.	Ou-tenga	Tree	Fruit	Fruits are placed under the bed in spring season can prevent small pox illness.	1 fruit.	Small pox.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Fruit	Fruits (fleshy sepals) are cooked with red lentil and then taken.	2 pieces.	Diabetes, Indigestion.
18.	Euphorbia ceae	<i>Manihot esculenta</i> Crantz.	Himolu	Woody shrub	Root	Roots are boiled with water and then roots are eaten.	2 pieces.	Leucorrhoea.
	Euphorbia ceae	<i>Ricinus communis</i> L.	Era	Small shrub	Leaves	Leaves are grinded and boiled with coconut oil. After cool down applied to the infected area.	3-4 leaves.	Pain.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
19.	Fabaceae	<i>Erythrina orientalis</i> Murr.	Modar	Tree	Leaves (tender)	Juice of the leaves is taken.	1 drops.	Thread worm.
	Fabaceae	<i>Tamarindus indica</i> L.	Teteli	Tree	Fruit	Fruits are eaten.	1 fruit.	High blood pressure.
20.	Lamiaceae	<i>Clerodendrum glandulosum</i> Lindl.	Nefaru	Shrub	Leaves	Leaves are grinded with three cloves of raw garlic and tied to a bundle of banana leaves and heated on fire heat and then taken after cooling down.	3 leaves.	High blood pressure.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
	Lamiaceae	<i>Leucas aspera</i> (Willd.) Link	Durun	Herb	Bud	Juice of the bud is taken and used orally on the nose.	1 drop.	Nose bleeding.
					Leaves	Leaves are cooked and then taken.	½ hand palm.	Tonsillitis (during pain), Fever, Dyspepsia
					Leaves	Juice of the leaves is placed on the nose.	Very small amount.	Sinus infection.
	Lamiaceae	<i>Mentha spicata</i> L.	Podina	Herb	Leaves	Leaves are grinded with raw mango and then taken.	10-12 leaves.	Indigestion, Anorexia.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Juice of the leaves is mixed with honey and then taken.	2 tsp from the mixture.	Diarrhoea .
					Leaves	Juice of the leaf is mixed with the juice of lemon and then taken.	2 tsp from the mixture.	Vomiting.
	Lamiaceae	<i>Ocimum sanctum</i> L..	Tulokhi	Shrub	Leaves	Juice of the leaves is mixed with honey and then taken.	2 tsp from the mixture.	Cold and Cough.
					Leaves	Leaves are grinded with <i>Leucas aspera</i> and then taken.	2 tsp from the mixture.	Pneumonia.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Leaves are chewed. (OR) Juice of the leaves is used as gargle.	2-3 leaves. Or As much as you need.	Bad breath, Dental caries.
	Lamiaceae	<i>Pogostemon benghalensis</i> (Burm.f.) Kuntze	Hukloti	Shrub	Leaves	Leaves are cooked and then taken.	½ hand palm.	Swelling.
	Lamiaceae	<i>Vitex negundo</i> L.	Pochotia	Shrub or Small tree	Leaves	The leaves are crushed and tied to a bundle of banana leaves and heated on fire heat and baked in the area of pain.	1 hand palm.	Pain, Rheumatoid arthritis.

						(OR) Leaves are grinded and put on the infected area.		
					Leaves	Juice of the leaves are boiled with water and used for bath after cooling down.	1 cup from the mixture.	Skin disease.
					Leaves	Juice of the leaves is taken.	¼ cup.	Cough.
					Leaves	Juice of the leaves is boiled with water and used as gargle.	½ cup from the mixture.	Neck pain and Cough.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
21.	Lythraceae	<i>Lawsonia inermis</i> L.	Jetuk a	Shrub	Leaves	Leaves are grinded with <i>Phyllanthus emblica</i> and applied to hairs.	1 hand palm.	Premature grey of hair.
					Leaves	Leaves are grinded and applied to the infected area.	As much as you need.	Nail disease, Toe crack, Skin disease.
					Leaves	Leaves are grinded and applied to hairs.	1 hand palm.	High blood pressure.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
22.	Malvaceae	<i>Corchorus capsularis</i> L.	Morapat	Shrub	Leaves	Leaves are dried under sun and preserved. This is known as 'Hukuta' in Assamese. The 'Hukuta' is cooked with rice powder and then taken.	½ hand palm.	Thread worm.
	Malvaceae	<i>Hibiscus acetosella</i> Welw. ex Hiern.	Rang a tenga mora	Shrub	Leaves	Leaves are cooked and then taken.	½ hand palm.	Dysentery , Diarrhoea , indigestion.
	Malvaceae	<i>Hibiscus rosa-sinensis</i> L.	Joba	Shrub	Leaves	Leaves are grinded and applied to the hairs.	5-6 Leaves.	Alopecia, Dandruff.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Leaves are grinded with the fruit of <i>Phyllanthus emblica</i> and the juice is applied to the hairs.	5-6 Leaves.	Premature gray of hair.
					Flower	Juice of the flower is taken.	2 tsp.	Irregular menstruation.
					Leaves and Flower	Grinded leaves and flowers are applied to the infected area.	As much as you need.	Cuts and Wounds.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
	Malvaceae	<i>Hibiscus sabdariffa</i> L.	Tengamora	Shrub	Leaves	Leaves are cooked and then taken.	1 hand palm.	Dysentery, Diarrhoea, Loss of appetite, Indigestion, High blood pressure.
23.	Marsileaceae	<i>Marsilea minuta</i> L.	Panintengi	Creeping herb	Leaves	Leaves are cooked with fish and then taken.	1 hand palm.	Constipation, Anorexia,
24.	Meliaceae	<i>Azadirachta indica</i> A. Juss.	Nee m	Tree	Leaves	Leaves are boiled with water and used for bath.	1 cup from the mixture.	Scabies, Prickly heat.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Juice of the leaves is taken.	2 tsp.	Thread worm.
					Leaves	Leaves are grinded and applied to the hairs.	½ hand palm.	Pediculosis.
					Leaves	Leaves are fried with Mustard oil and then taken.	¼ hand palm.	Diabetes, Small pox, Alargy.
					Leaves	Leaves are boiled with water and used as gargle after cooling down.	½ cup from the mixture.	Toothaches.
					Leaves	Leaves are placed under bed.	Carry the leaves with branches.	Small pox.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
25.	Menispermaceae	<i>Tinospora cordifolia</i> (Thunb) Miers	Amorlota	Climbing vine	Stem	Stem is soaked at night. In the morning, water is used for drink.	1 piece.	Pain.
26.	Musaceae	<i>Musa balbisiana</i> Colla.	Bhimkol	Herb	Flower (known as "Koldil" in Assamese)	Flowers are finely chopped and cooked with the meat of pigeon and then taken.	½ bowl.	Low blood pressure.
					Bark of fruit or Banana peel	Banana peel are dried in the sun and burnt in the fire and soaked in water. The water extract from are poured into curry and then taken.	4 tsp.	Gastritis.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Banana peel	Banana peel are dried in the sun and burnt in the fire and soaked in water. The water extract from there is used to wash hairs.	As much as you need.	Alopecia, Premature grey of hair, Dandruff.
					Inner stem	Finely chopped and cooked and then taken.	½ bowl.	Anaemia.
27.	Myrtaceae	<i>Psidium guajava</i> L.	Modhuriam	Tree	Leaves	The leaves are crushed and boiled with water and then taken.	2 leaves in a cup of water.	Pain, Anaemia.
					Leaves	Juice of the leaves is taken.	2tsp.	Dysentery, Diarrhoea.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Leaves are chewed.	3 leaves.	Toothaches.
					Leaves	Juice of the leaves are applied to the hairs and washed after drying.	As much as you need.	Premature grey of hairs.
	Myrtaceae	<i>Syzygium cumini</i> (L.) Skeels.	Kola jamu	Tree	Fruit	Fruits are eaten.	7 fruits.	Anaemia.
28.	Oxalidaceae	<i>Averrhoa carambola</i> L.	Kordoi	Tree	Fruit	Fruits are cooked and then taken.	1 fruit.	Jaundice.
	Oxalidaceae	<i>Oxalis corniculata</i> L.	Tengesi	Creeping herb	Leaves	Juice of the leaves is taken.	½ cup.	Dementia.
					Leaves	Juice of the leaves is taken.	5 tsp.	Stomach ache, Anorexia.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Leaves are cooked and then taken.	½ bowl.	Dysentery , Diarrhoea .
29.	Phyllanthaceae	<i>Phyllanthus emblica</i> L.	Amla khi	Tree	Fruit	Fruits are grinded and mixed with coconut oil and applied to the hairs.	5-6 fruits.	Alopecia, Premature grey of hairs.
					Fruit	Fruits are eaten.	2 fruits.	Vomiting, Dyspepsia , Anorexia.
					Fruit	Juice of the fruits is taken. (Daily)	3 fruits.	Loss of vision, Deficiency of Vitamin C.
30.	Piperaceae	<i>Piper betle</i> L.	Pan	Climbing vine	Leaves	Leaves are grinded and applied to the hairs.	3 leaves.	Pediculosis.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
	Piperaceae	<i>Piper nigrum</i> L.	Jaluk	Climbing vine	Fruit	Fruits are grinded with <i>Syzygium aromaticum</i> and then put on the infected area.	1 fruit.	Toothaches, Dental caries.
					Fruit	The leaves of <i>Colocasia esculenta</i> are cooked and pepper powder is given there and then taken.	It will depend on the amount of curry.	Body aches after having a baby.
					Fruit	Fruits are grinded with three front leaves and three flowers of <i>Leucas aspera</i> and then taken on an empty stomach.	1 fruit.	Dysmenorrhoea.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Fruit	Local chicken is cooked with pepper and then taken.	2 tsp.	Cold, Low blood pressure.
31.	Plantaginaceae	<i>Bacopa monnieri</i> (L.) Pennell	Brahmi	Herb	Leaves	Leaves are cooked and then taken.	½ hand palm.	Dementia, Nervous debility.
32.	Poaceae	<i>Cynodon dactylon</i> (L.) Pers.	Duboribon	Perennial creeping herb	Leaves	The squeezed leaves put on the cut area.	10-15 leaves.	Cuts and Wounds.
					Leaves	Leaves are grinded with Turmeric and put on the infected area.	20 gm from the mixture.	Alargi, Prickly heats.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Juice of the leaves is taken.	1tsp.	Abnormal uterine bleeding, Menstruation pain.
	Poaceae	<i>Saccharum officinarum</i> L.	Kuhiyar	Perennial grass	Stem	Juice of the stem is taken.	1 glass.	Urinary tract infection, Jaundice, Anuria, Stone disease.
33.	Polygonaceae	<i>Persicaria chinensis</i> L. H. Gross	Madhuhuleng	Herb	Leaves	Leaves are cooked with red lentil and then taken.	1 hand palm.	Indigestion.
34.	Rosaceae	<i>Rosa</i> spp.	Gulap	Shrub	Flower	Flowers are soaked at night and then the rose water is applied to eye in the morning.	1 flower.	Eye irritation, Reddish eyes.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Flower	Juice is placed on the nose.	1 drop.	Headache .
35.	Rubiaceae	<i>Oldenlandia corymbosa</i> L.	Bonjaluk	Herb	Leaves	Leaves are cooked with <i>Centella asiatica</i> , <i>Leucas aspera</i> , Fish, Black Pepper and Garlic and then taken.	½ hand palm.	Indigestion.
		<i>Paederia foetida</i> L.	Bhedailota	Climber herb	Leaves	The leaves are crushed and mixed with rice powder and slowly adding water and make dough. After these, fried with Mustard oil and then taken.	½ hand palm.	Diarrhoea , Dysentery .

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Juice of the leaves is taken.	½ cup.	Body pain.
					Leaves	Leaves are grinded with <i>Allium sativum</i> and then taken.	5-6 leaves (twice daily).	Rheumatoid arthritis.
36.	Rutaceae	<i>Citrus aurantiifolia</i> (Christm.) Swingle	Gul nemu	Shrub	Seed	Juice of the seeds are mixed with little water and then taken on an empty stomach.	3 seeds.	Thread worm.
					Fruit	Juice of the fruits are mixed with water and used for bath.	1 cup from the mixture.	Skin disease, Prickly heats, Body odor.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Fruit	Juice of the fruit is taken.	½ cup.	High blood pressure, Pimples.
					Fruit	Fruits are kept in salt and stored for a few days and it is eaten when needed.	2 tsp.	Diarrhoea , Dysentery , Anorexia, Dyspepsia .
					Fruit	Juice of the fruit is applied to the eye after adding same amount of water.	1 drop.	Eye irritation, Cataract, Reddish eyes.
	Rutaceae	<i>Citrus limon</i> (L.) Osbeck	Kaji nemu	Shrub	Seed	Seeds are grinded and mixed with water and eaten on an empty stomach.	3 seeds.	Thread worm.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Fruit	Juice of the fruits are mixed with water and then taken.	1 cup from the mixture.	Anorexia, Diarrhoea, Dysentery.
					Fruit	Juice of the fruits are mixed with water and used as gargle.	1 cup from the mixture.	Bad breath.
					Fruit	Juice of the fruits are mixed with Mustard oil and small amount of salt and used as toothpaste.	2 drops.	Tooth disease.
	Rutaceae	<i>Murraya koenigii</i> (L.) Sprengel	Naras ingha	Shrub	Leaves	Leaves are chewed and eaten on an empty stomach.	2 leaves.	Gastritis.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Leaves	Juice of the leaf is taken.	2 tsp.	Abdominal gripes.
					Leaves	Leaves are cooked and then soup is taken.	½ cup.	Diabetes.
					Leaves	Leaves are boiled with Coconut oil and after cooling down it is applied to the hairs.	5-6 leaves.	Alopecia, Premature grey of hair, Dandruff.
37.	Sapotaceae	<i>Mimusops elengi</i> L.	Bokul	Tree	Bark	Juice of the bark are mixed with water and used as gargle.	1 cup from the mixture.	Toothache, Pyrrhoea, Dental caries.
					Flower	Dry flowers are sniffed with noses.	3 flowers.	Headache.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
38.	Saururaceae	<i>Houttuynia cordata</i> Thunb.	Machandari	Herb	Leaves	Leaves are cooked and then taken.	1 hand palm.	Dysentery , Diarrhoea , Indigestion, Anorexia, Abdominal gripes.
39.	Solanaceae	<i>Cestrum nocturnum</i> L.	Xewali	Tree	Flower	Flowers are fried with Mustard oil and then taken.	½ hand palm.	Thread worm, Fever.
					Leaves or Seed	Leaf or seed is grinded and applied to the infected area.	5-6 leaves or seeds.	Baldness.
		<i>Solanum lycopersicum</i> L.	Bilahi	Herb	Fruit	Juice of the fruits are mixed with small amount of black pepper powder and salt and eaten on an empty stomach.	½ cup.	Thread worm.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Ripe fruit	Fruits are grinded and applied to the face.	As much as you need.	Reduce facial glow, Acne or Pimples.
40.	Vitaceae	<i>Cissus quadrangularis</i> L.	Harjura lota	Creeping herb	Creeper part	Creeper part is grinded and put on the infected area.	As much as you need.	Bone fracture.
41.	Zingiberaceae	<i>Curcuma caesia</i> Roxb.	Kolahodhi	Herb	Rhizome	Juice of the rhizome is put on the infected area.	2 drops.	Toothache.
					Rhizome	Rhizomes are grinded and applied to the infected area.	1 rhizome.	Skin disease, Pain.

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
	Zingiberaceae	<i>Curcuma longa L.</i>	Halodhi	Herb	Rhizome	Rhizomes are grinded and mixed with milk and eaten before bedtime.	1 cup from the mixture.	Body pain.
Rhizome					A little salt is mixed with Turmeric juice and eaten on an empty stomach.	2 tsp (7 days).	Thread worm	
Rhizome					Turmeric juice can be applied to the face.	As much as you need.	Acne or Pimples, Reduce facial glow.	
Rhizome					Rhizomes are grinded with <i>Cynodon dactylon</i> and the juice is taken.	3 tsp from the mixture.	Leucorrhoea.	

Sl No.	Family	Scientific name	Local name	Habit	Part used	Mode of preparation	Dosage	Ailment
					Rhizome	Rhizomes are grinded with <i>Azadirachta indica</i> and applied to the infected area.	As much as you need.	Skin disease.
					Rhizome	Rhizome is chewed.	1 piece.	Dental caries.
	Zingiberaceae	<i>Zingiber officinale</i> Roscoe.	Ada	Herb	Rhizome	Rhizomes are grinded with <i>Ocimum sanctum</i> and mixed with honey and then taken.	2 tsp from the mixture.	Cold and Cough.
					Rhizome	Juice of the rhizomes is taken.	2 tsp.	Vomiting, Dyspepsia .
					Rhizome	Rhizome is grind and put on the infected area.	As much as you need.	Toothaches.

TABLE 2.**MEDICINAL PLANTS DISTRIBUTION ACROSS TAXONOMIC FAMILIES:**

Sl No.	Family	No. of spp.	Sl No.	Family	No. of spp.
1.	Acoraceae	1	11.	Caracaceae	1
2.	Amaranthaceae	2	12.	Clusiaceae	1
3.	Amaryllidaceae	2	13.	Combretaceae	1
4.	Anacardiaceae	1	14.	Commelinaceae	1
5.	Apiaceae	1	15.	Crassulaceae	1
6.	Apocynaceae	2	16.	Cucurbitaceae	2
7.	Araceae	1	17.	Dilleniaceae	1
8.	Araliaceae	1	18.	Euphorbiaceae	2
9.	Asteraceae	1	19.	Fabaceae	2
10.	Bromeliaceae	1	20.	Lamiaceae	6

Sl No.	Family	No. of spp.	Sl No.	Family	No. of spp.
21.	Lythraceae	1	32.	Poaceae	2
22.	Malvaceae	4	33.	Polygonaceae	1
23.	Marsileaceae	1	34.	Rosaceae	1
24.	Meliaceae	1	35.	Rubiaceae	2
25.	Menispermaceae	1	36.	Rutaceae	3
26.	Musaceae	1	37.	Sapotaceae	1
27.	Myrtaceae	2	38.	Saururaceae	1
28.	Oxalidaceae	2	39.	Solanaceae	2
29.	Phyllanthaceae	1	40.	Vitaceae	1
30.	Piperaceae	2	41.	Zingiberaceae	3
31.	Plantaginaceae	1	Total no. of spp.		65

TABLE 3.**PLANT PARTS USED FOR THE PREPARATION OF REMEDIES:**

Sl No.	Parts used	No. of species	Disease treated
1.	Bark	2	7
2.	Bud	1	1
3.	Bulb	2	10
4.	Flower	7	12
5.	Fruit	15	35
6.	Latex	2	3
7.	Leaf	37	50
8.	Rhizome	4	13
9.	Root	1	1
10.	Seed	3	2
11.	Stem	5	5

TABLE 4.
DISTRIBUTION OF ETHNIC INFORMANTS:

Sl. No.	Age	Male	Female	No. of persons
1	15-19	1	1	2
2	20-29	7	3	10
3	30-39	7	9	16
4	40-49	10	11	21
5	50-59	9	8	17
6	60-69	5	14	19
7	70-79	6	8	14
8	80-89	1	3	4
Total		46	57	103

Table 5.
Educational status of the informants:

Sl. No.	Educational status	No. of persons
1	Illiterate	28
2	Primary	15
3	Middle	11
4	Secondary	29
5	University	20

Figure 1. Number of medicinal plants species across botanical families.

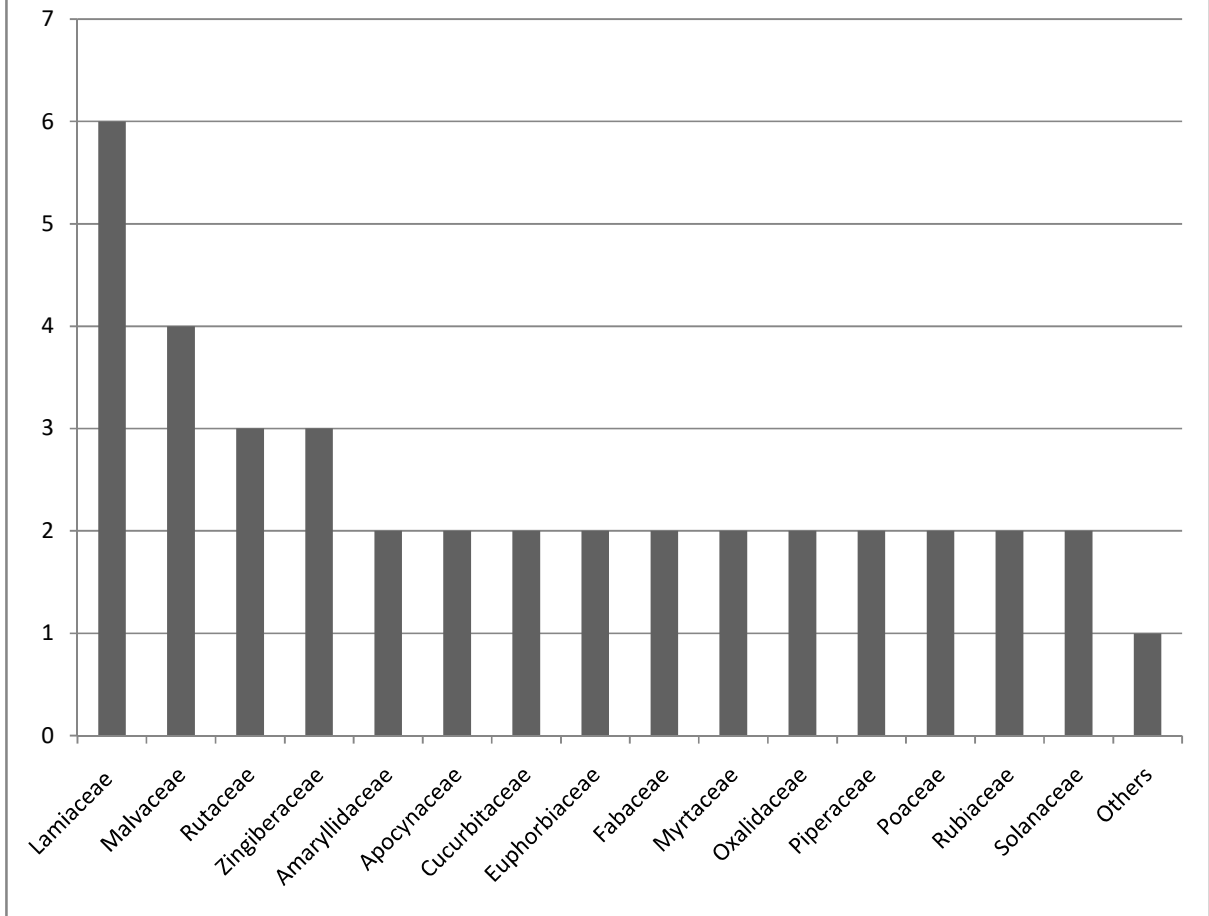


Figure 2. Number of plant species per part of medicinal plants used by the local people.

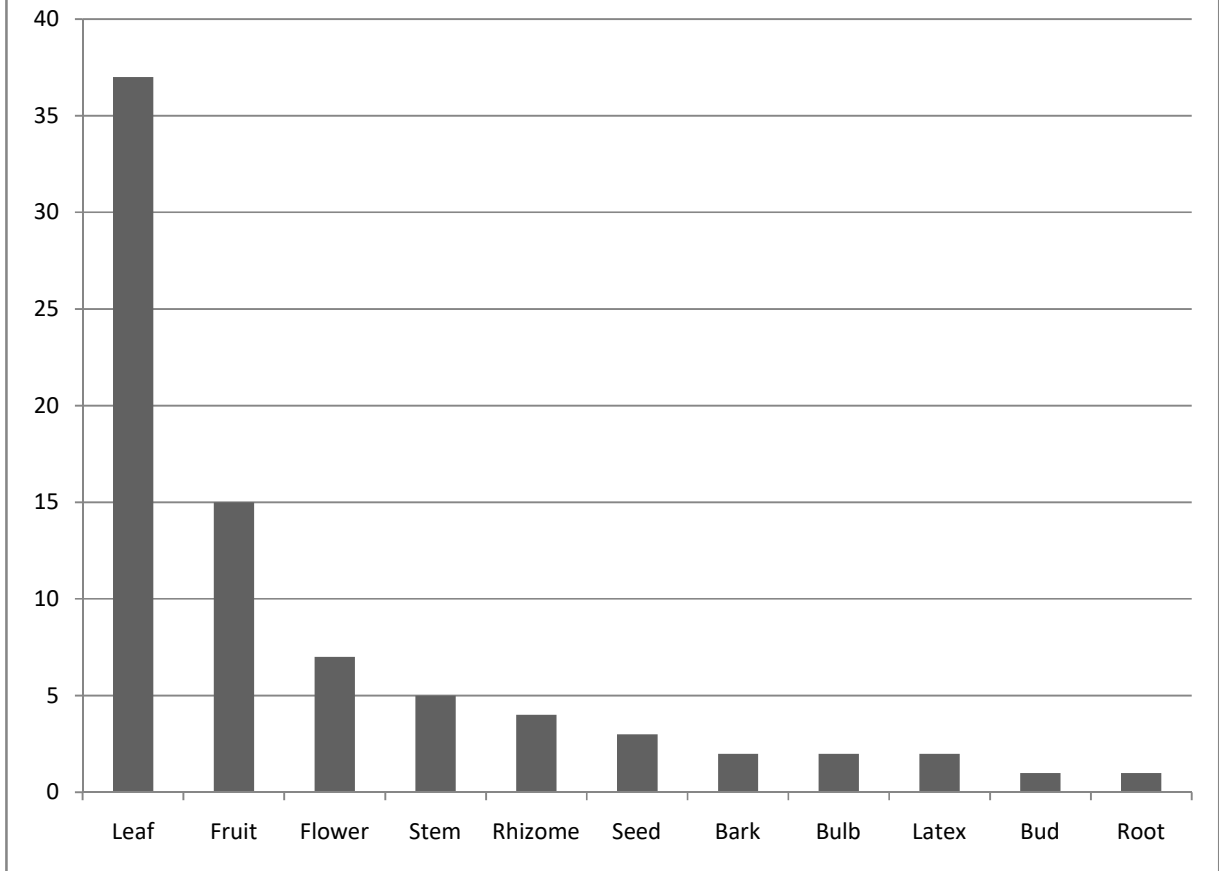
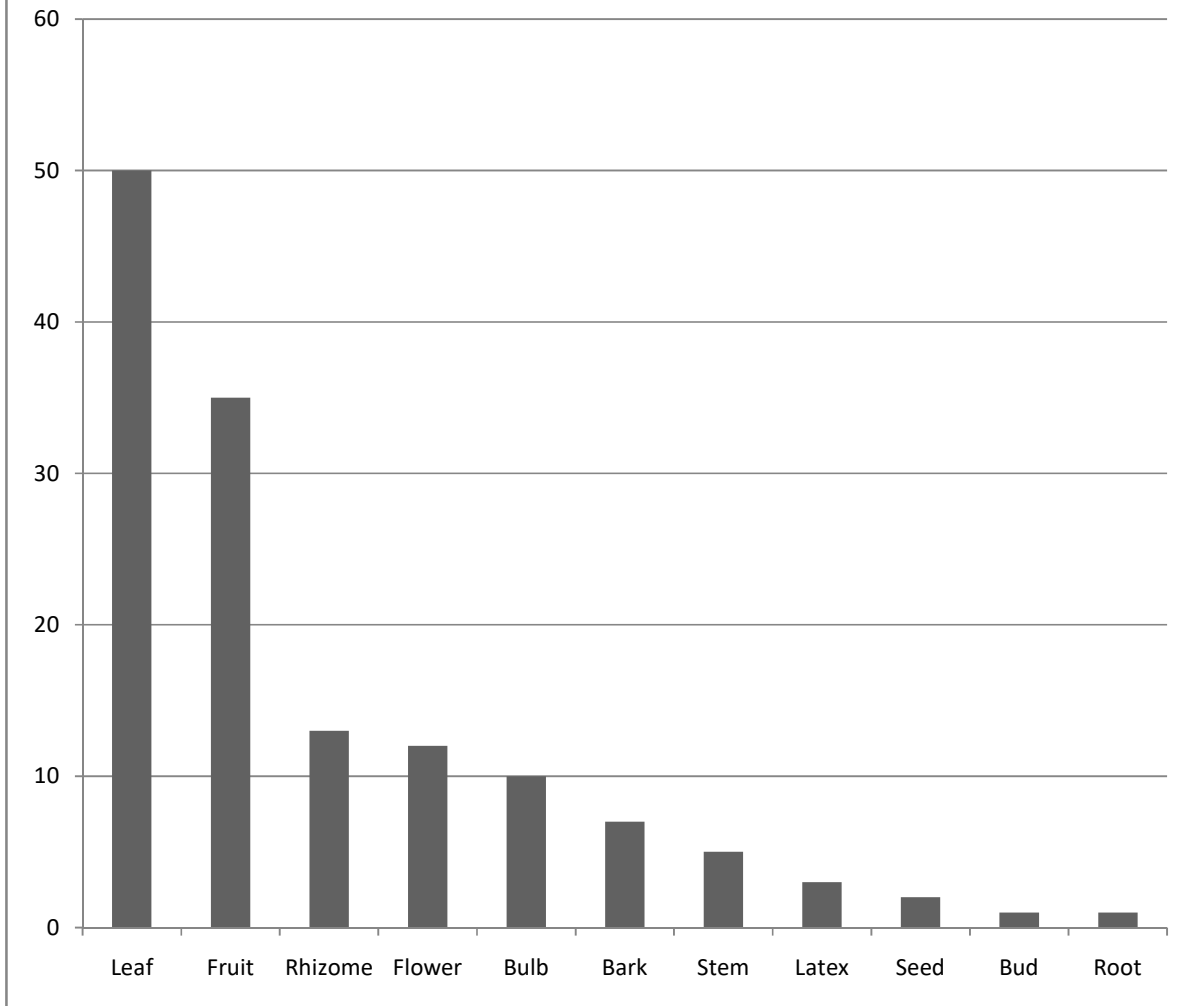


Figure 3. Total No. of disease cured per parts of medicinal plants used by the local people.



5. SUMMARY AND CONCLUSION

- ❖ A total of 65 medicinal plants species, belonging to 41 taxonomic families were recorded.
- ❖ The medicinal plants were used to treat 77 human ailments in the study area.
- ❖ The plant family with the highest medicinal plants in the study area used for diseases treatment was Lamiaceae.
- ❖ People in Naoboicha sub-division hold valuable knowledge about the use of medicinal plants.
- ❖ Traditional knowledge about the use, preparation and application of these medicinal plants is usually passed verbally from one generation to the next generation.
- ❖ It is, therefore, necessary to preserve this indigenous knowledge on traditional medicine by proper documentation and identification.
- ❖ It is absolutely necessary to know exact use and the exact quantity of the traditional medicine.
- ❖ There has been increasing demand for the use of medicinal plants due to the low cost, easy availability and lesser side-effects.
- ❖ There is a world-wide common major problem in exploring ethno-botanical knowledge on medicinal plant is that traditional healers were not willing to disclose the name of plant.

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