

## Ethnomedicinal Plant Resources of Lamdeng forest Area under Langol Reserve Forest, Manipur, India

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### ABSTRACT

The present study was undertaken at Lamdeng forest area under Langol reserve forest, Manipur, India which was once highly degraded forest area but now restored back to its past glory days. The highly sensitive area is inching towards a self-sustaining forest and started providing many important ethnomedicinal plants to the nearby inhabitants. Altogether 32 species under 29 genera and 17 families have been recorded from the study. The true essence of losing ecological services from a forest is realised by the inhabitants of the area. This recently found value ingrained into people is an important lesson to be learned by the generations to come.

**Keywords:** Lamdeng, Ethnomedicine, ecological service

### I. INTRODUCTION

It is as old as human wisdom as the question comes when humans did start using the medicine. The first food he took from the forest started teaching his body about nurturing his requirements. The moment he embarked on treating several ailments through trial and errors pave the way for ethnomedicine which later on passed from one generation to another generation. Ethnomedicine may be broadly referred to as the traditional medical practices concerned with the cultural interpretation of health, diseases and illness that addresses the healthcare process and healing practices<sup>1</sup>. Majority of the world's population (80%) still relies on traditional plants for medicine<sup>2,3</sup> as also in India by various rural and tribal communities of North eastern states<sup>4,5</sup>. Manipur being located in the Indo-Myanmar biodiversity hotspot<sup>6</sup>, is blessed with rich biodiversity and its inhabitants have profound knowledge of ethnomedicine practices<sup>7-9</sup>. Globally, deforestation has caused severe consequences on the

environment on many fronts; ethnomedicine practices being one of them. This is again more severe in the remote areas in terms of economic and environmental loss. Manipur can be highlighted in this notes as there is rapid degradation of forest. According to the ISFR 2019 report, Manipur suffered the highest loss of forest cover with 499 square km. Through conservation programmes at various levels, some areas could be reshaped and reverted back to a sustainable environment though it requires maximum effort. It is important to understand and document how a community or its safeguard keepers approach to such a fragile environment while still extracting the benefits from the forests. Keeping this in mind the present ethnomedicinal study was taken in Lamdeng area under Langol Hill reserve forest of Manipur, India.

### II. MATERIALS AND METHODS

Lamdeng is located in the Imphal West district under Lamsang sub division. The village is situated around 11km away from the city centre. It lies between 24°83' N, and 93°87' E with an altitude range from 600m at the foothill to 1050m at the peak. The Langol Hill Range area towards Lamdeng was highly degraded once due to various factors. The local people suffered the consequences of the damages to the forest caused by felling of trees. Mudslide, water shortage and rise in temperature are some of the problems faced by the people due to deforestation. Today, with the help of state forest department under the flagship plan of National Afforestation Programme and constant efforts by local communities, the forest area is rejuvenated. A total area of 360 hectares of forest area has been restored and renewed so far. From Lamdeng Mayai Leikai, the area recovered is 140 hectares, Lamdeng

Awang Leikai is 110 hectares and Lamdeng Makha Leikai is 110 hectares<sup>10</sup>.

The present study was based on the ethnomedicinal data collected through semi-structured interview conducted during February 2022 to April 2022. With the help of local healers also known as ‘Amaiba’ (male) and ‘Amaibi’ (female) and other people from the study area, ethnomedicinal plant were collected and processed for herbarium. Preliminary identifications were done on the basis of vernacular names and the identities of the specimens were determined by referring to regional floras and published literature<sup>11-13</sup>.

### III. RESULT AND DISCUSSION

The present study documented 32 plant species belonging to 29 genera represented by 17 families. They are enumerated alphabetically with scientific name, family, habit, local name (Manipuri) and parts and their associated medicinal use (Table no. 1). All the collected species were Angiosperm. Astraceae (6) represented as the most dominant family followed by Lamacieae (4), Apiceae, Fabaceae (3 each), Solanaceae, Apocynaceae, Zingiberaceae (2 each), Acanthaceae, Annonaceae, Poaceae, Umbellifer, Piperaceae, Protulacaceae, Anarcadiceae, Cyperaceae, Maliaceae and Linderniaceae (represented by 1 each) (Fig.No. 2). From the study, it revealed that

leaves in the form of extracts and decoction were most abundantly used among other methods namely roots, tubers, rhizomes and seed etc. (Table no.1). This is similar to the other findings from different regions of ethnomedicinal studies<sup>14-16</sup>.

On the basis of habit of the plants, herb forms the most dominant habit (62.5%) followed by shrub, climbers (15.6%) each and least by tree (6.2%). The reason may be attributed to the early selective plantation for afforestation and the study site is relatively in the early succession stage<sup>17</sup>. These findings are further supported by the various workers from different parts of the world<sup>18-20</sup>.

### IV. CONCLUSION

Through the present study it can be concluded that the true value of a forest can be realised as the inhabitants of the area have already suffered after completely losing it for a decade and halve. The newly rejuvenated forest started to give spring water on its foothill which was lost three decades ago. The highly sensitive area is inching toward a self-sustaining forest and started providing many important ethnomedicinal plants to the nearby inhabitants. The true essence of losing ecological services from a forest is realised by the inhabitants of the area. This recently found value ingrained into people is an important lesson to be learned by the generations to come.

**Table no. 1. List of the ethnomedicinal plants recorded from Lamdeng forest area**

Sl. No.	Scientific name	Family	Habit	Local name	Parts and medicinal use
1	<i>Adhatoda vasica</i> Nees.	Acanthaceae	Shrub	Nongmakha-angouba	Leaf parts are used in treatment of cough, bronchitis, tuberculosis and other lung and bronchiole disorders.
2	<i>Artabotrys hexapetalus</i> (L.F.) Bhandhari	Annonaceae	Scandent shrub/climber	Chini-champa	Leaf parts are used in antimicrobial, antibacterial and antifungal treatments
3	<i>Artemisia nilagirica</i> L.	Asteraceae	Shrub	Leibak-ngou	Leaf extract is used in treatment of various disorders including coughs, colds, influenza, irregular menstrual cycle and digestive disorders
4	<i>Azadirachta indica</i> L.	Maliaceae	Tree	Neem	Leaf decoction is used in the treatment of all

					kind of skin problems and also application is farm is also done as a biopesticide
5	<i>Bonnaya brachiata</i> Link & Otto	Linderniaceae	Herb	Kihommaan	Decoction of whole plant is used in treatment of kidney stone formation
6	<i>Bauhinia purpurea</i> L.	Fabaceae	Tree	Chingthraoangangba	Flower extract is used as an antibacterial, antidiabetic, analgesic, anti-inflammatory, and thyroid hormone regulating activity.
7	<i>Carthamus tinctorius</i> L.	Asteraceae	Herb	Kumsu-lei (Kusum)- lei	Flower is use in treating abdominal pain, trauma and pain of joints, helps in lowering of blood cholesterol and inflammation
8	<i>Clerodendrum siphonanthus</i> L.	Lamiaceae	Shrub	Charai-utong	Root is used as an expectorant, antiinflammatory, anti-bronchitis, also useful for asthma and cough.
9	<i>Clerodendrum viscosum</i> L.	Lamiaceae	Shrub	Kuthab	Leaf extract is used as analgesic, antipyretic and treatment of skin diseases
10	<i>Curcuma caesia</i> Roxb.	Zingiberaceae	Herb	Yaimu	Rhizome is used in the treatment of leukoderma, asthma, tumours, piles, and bronchitis
11	<i>Cyperus rotundus</i> L.	Cyperaceae	herb	Sembang- kokthum	Leaves and tubers are used for treating fevers and digestive system disorders (diarrhea, vomiting, indigestion, etc.)
12	<i>Dactyloctenium aegyptium</i> (L.)	Poaceae	Herb	Pungphai	Decoction of whole plant is used to relieve pains in the region of the kidney; stems and leaves applied externally for treatment of ulcers.

13	<i>Datura stramonium</i> Linn.	Solanaceae	Herb	Sagoi-hidak / Sagol-hidakamuba	Leaf extract is used in treating ulcers, wounds, inflammation, rheumatism, gout, bruises and fever
14	<i>Eclipta alba</i> L.	Asteraceae	Herb	Uchisumban	The whole plant is used as antiseptic, febrifuge, tonic, deobstruent in hepatic and spleen enlargement, leave extract is applied in the hair scalp to promote hair growth
15	<i>Eryngium foetidum</i> L.	Apiaceae	Herb	Awa phadigom	Whole plant is use in treatment of burns, hypertension and constipation
16	<i>Eupatorium birmanicum</i> DC	Asteraceae	Herb	Langthrei	Leaf extract with milk is given as a remedy for leucorrhea and served with honey for treating stomach ulcers
17	<i>Eupatorium cannabinum</i>	Asteraceae	Herb	Langthrei-manbi	Leaf and flower extract are used in treatment of liver
18	<i>Foeniculum vulgare</i> Mill.	Umbellifer	Herb	Pakhon	Leaf extracts used in helping digestive disorders and belief of having aphrodisiac properties
19	<i>Gynura cusimbua</i> (D.Don)S. Moore	Asteraceae	Herb	Terapaibi	Flower is use for controlling wound bleedings and cuts, expediting wound healing, relief of common headache, decreasing inflammation. And also use as treatment of stomach disorders.
20	<i>Hydrocotyle asiatica</i> L.	Apiaceae	Herb	Peruk	Whole plant boiled or as fresh leaves is taken as a treatment of neuromuscular disorders, and to boost general brain function and memory along with increase in

					immune system of our body
21	<i>Hydrocotyle sibthorpioides</i> Lam.	Apiaceae	Herb	Lei-peruk	Paste made from the whole plant is applied in external wounds and boils. Helps in reducing fever
22	<i>Hedychium coronarium</i> J.Koenig.	Zingiberaceae	herb	Takhellei-angouba	Extract of rhizomes is given in bronchitis. Decoction of rhizomes is used for gargling in oral disorders The herb is also used for anti-rheumatic
23	<i>Nerium indicum</i> Mill.	Apocynaceae	Shurb	Kabirei-angouba	the flowers and leaves have been used to treat ulcer, stimulate cardiac muscles and relieve pain
24	<i>Mimosa pudica</i> Linn.	Fabaceae	Herb	Lam ekaithabi	Roots are used for treating Dysentery, small pox, fever, ulcer, jaundice, leucoderma, inflammations, and leaves are used for treating rheumatism and conjunctivitis
25	<i>Ocimum basilicum</i> L.	Lamiaceae	Herb	Naosheklei	Leaves are used in treatment of headaches, coughs, diarrhea, constipation and warts
26	<i>Piper longum</i> L.	Piperaceae	Climber	Tabopi	Leaves extract is use in treatment of jaundice
27	<i>Portula caoleracea</i> L.	Portulacaceae	Herb	Leibak-kundo	Whole plant extract including its flower is used as antiseptic, analgesic, antioxidant and in treatment of kidney problems
28	<i>Sesbania sesban</i> (L.) Merr.	Fabaceae	Shrub	Chu-churangmei	Roots and leaves are used medicinally for boils, and abscesses. In addition, the leaves are used in the treatment of sore throat,

					gonorrhoea and jaundice.
29	<i>Solanum xanthocarpum</i> Schrad.	Solanaceae	Herb	Nongmakha	Fruit decoction is used in the treatment of cough and fever
30	<i>Spondias pinnata</i> (Linn.f.) Kurz.	Anacardiaceae	Tree	Heining	Fruit is occasionally used as antimicrobial, anti-diabetic, ulcer-protective, medicine
31	<i>Thevetia peruviana</i> (Pers.) K. Schum.	Apocynaceae	Tree	Utonglei	Leaf extract is used for relieving headache and healing wounds
32	<i>Vitex negundo</i> L.	Lamiaceae	Tree	Urik-Shibi	Whole plant extracts and decoction are used in treatment of toothache and relieving muscle pain

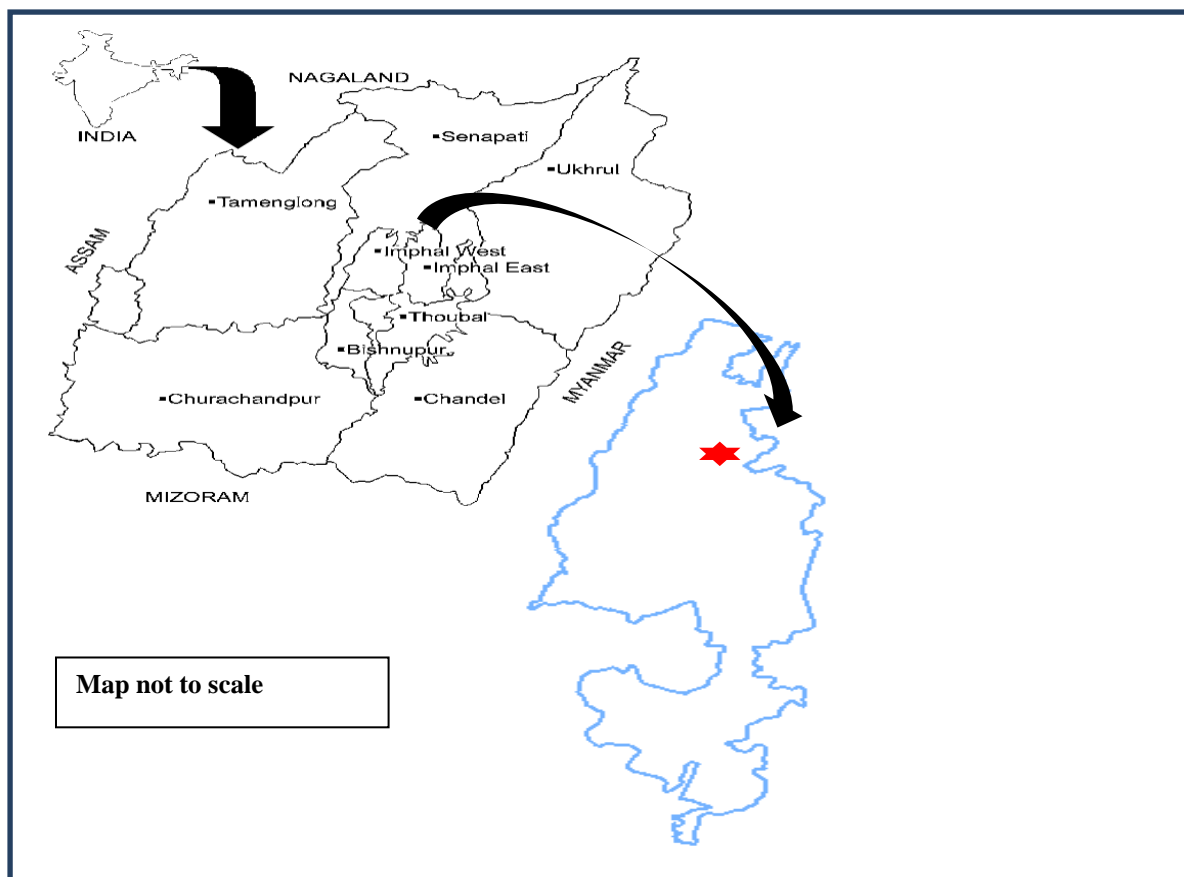


Fig. no. 1. Map showing study area

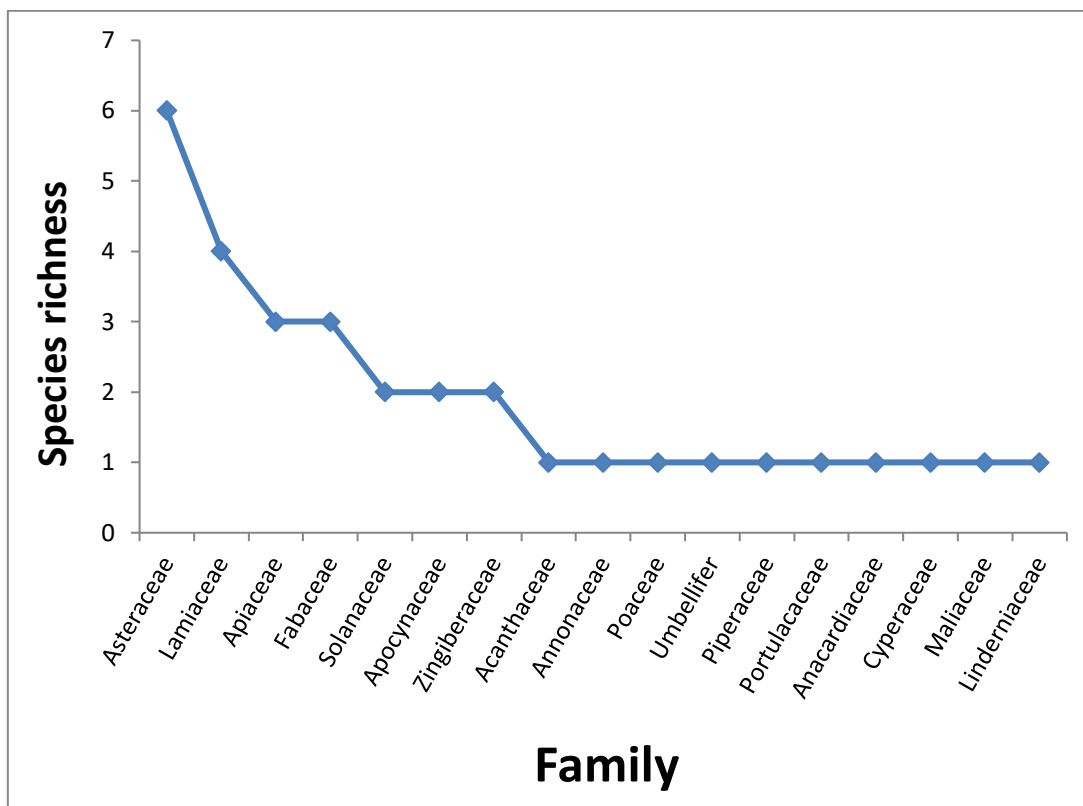


Fig. no.2 Family dominance curve of ethnomedicinal plants

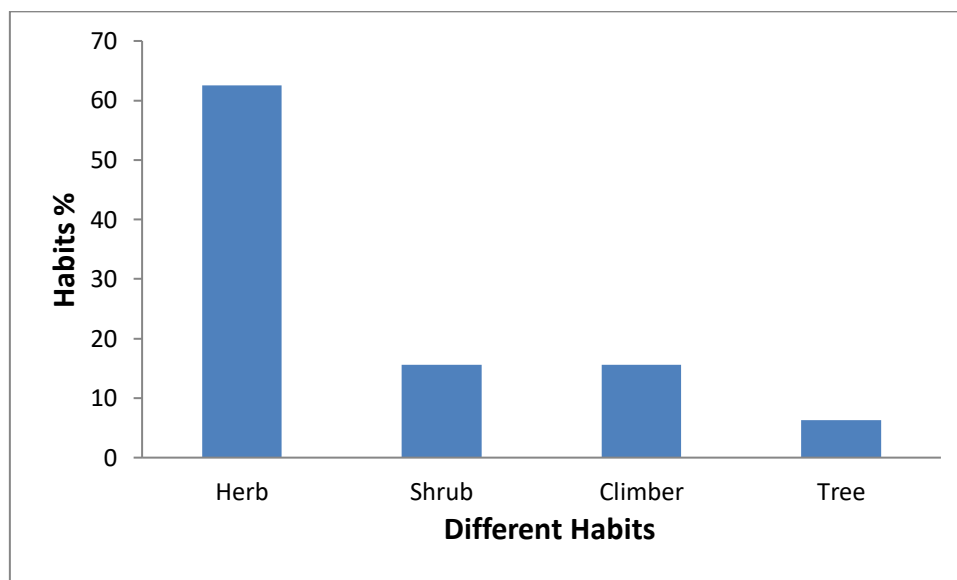


Figure no. 3. Percentage of different habits of ethnomedicinal plants

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