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Research Article

Integrative Study of Traditional Medicinal Flora in Jorhat West

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Abstract— The project examines the various use of these traditional medicinal plants in different fields and societies. For centuries, these plants have been used in traditional medicine, which is strongly influenced by cultural heritage, to heal various illnesses. These plants are essential for the primary healthcare systems in several parts of the world, particularly in countries such as India, Africa, and China. The research emphasizes how ethnobotany combines traditional knowledge with modern science, demonstrating its interdisciplinary nature and providing understanding on the creation of innovative pharmaceuticals. Furthermore, it explores the cultural importance and conservation of indigenous herbal remedies, stressing the need to uphold this ancestral knowledge for upcoming generations. For centuries, medicinal plants from traditional sources have been essential in healthcare for various cultures, serving as both remedies and key elements of cultural identity. These plants play a crucial role in the customs of native medicinal traditions such as Ayurveda, traditional Chinese medicine, and African traditional medicine. Preserving and documenting this knowledge is crucial, as it helps with biodiversity conservation and protecting cultural heritage.

Keywords— Medicinal, Flora, Traditional, disease, anti-oxidant, anti-inflammatory, cultural practices

1. Introduction

1.1 Background

The study of traditionally used medicinal plants has been associated with our society since ancient times, and it's forming a backbone of traditional medical cultures worldwide. The utilization of plants for therapeutic or healing purposes can be drawn back to the rising of civilization, where some indigenous communities discovered the medicinal properties of various plants worldwide. Over the times, this knowledge has been passed through generations, often integrated into our cultural practices, but this occurs orally and does not have any documentation of the records. Now, there has been a renascence of interest in traditionally used medicines that provide effective, sustainable, and accessible healthcare, particularly in rural and under granted areas.

Jorhat West, located in Assam, India, is a region rich in its biodiversity, especially in medicinal flora. The geographical location and favorable climate have allowed a variety of medicinal plants to grow there. The traditional ethnobotanic knowledge associated with these medicinal plants is deeply engrafted in the cultural significance of the local communities, who have localized these resources for centuries to treat various kinds of ailments. However, the rapid flow of modern civilization and urbanization is threatening this wealth of knowledge among people. Younger generations are gradually moving away from these traditional practices, leading to a gentle but rapid erosion of this cultural heritage.

In this paper, the study aims to collect and examine the uses of these plants used by the local communities in Jorhat West. By analyzing this ethnobotanical knowledge with scientific research, the study highlights the importance of these medicinal plants not only for the local community but also for the extensive field of medicine [1]. The research also aims to address the gap in documentation and conservation of this wealth, which is crucial for preserving it for the future generations.

1.2 Scope of Study

The object of the study is miscellaneous, covering collection, documentation, examination, and evaluation of traditionally used medicinal plants in Jorhat West. The research is interdisciplinary, involving studies such as ethnobotany, pharmacology, agriculture, anthropology, botany and environmental science. By accepting an integrated approach, this research aims to provide a brief understanding of the traditionally used medicinal plants in this region, their specific medicinal uses, and their potential for an extensive range of applications.

The geographical focus of the study is limited to Jorhat West, a region known for its rich biodiversity and cultural heritage. The study involves various fieldworks, including surveys and interviews with local healers and other knowledge holders.

And also, it will be accompanied by a review of literature on the medicinal plants present. The research involves the identification of plant species, with the assistance of botanists and some other experts, to ensure accuracy of it.

The study also searches the socio-economic implications of traditionally used medicinal plants in Jorhat West. This includes analyzing the role of these plants in the economy, their potential for commercialization, and the challenges faced in sustainable, eco-friendly use and conservation of these resources. The study also considers the role of environmental changes on the availability, quantity and quality of these medicinal plants, which is an important issue in climate change and habitat degradation.

1.3 Objectives

- To collect a comprehensive list of medicinal plants used in Jorhat West, along with their local names, scientific name, and traditional uses.
- To study the ethnobotanical knowledge of the local communities, focusing on the methods of preparation, and the ailments treated with these plants.
- To propose the strategies for conservation of the plants and associated knowledge with them, considering the challenges aroused by modernization and environmental changes.

2. Related Work

Medicinal plants have played a crucial role in healthcare systems around the world for centuries [2]. Their use predates recorded history and remains a vital component of health practices, particularly in rural and indigenous communities. These plants are not only a source of primary healthcare but also a valuable reservoir for pharmacological research and drug development.

The literature on traditional medicinal plants is vast and diverse, with numerous researchers contributing to the understanding of their uses, cultural significance, and potential for modern medicine. Traditional medicinal plants have been used by indigenous communities for a decade, particularly in rural and remote areas, where access to modern healthcare is limited [3]. Researchers such as Dr. P. K. Warrier and Dr. Mahipal S. Singh have highlighted the importance of documenting and preserving this knowledge, emphasizing its role in maintaining biodiversity and supporting sustainable health care [4]. Several studies, like those by Dr. V. Singh and Dr. R. P. Pandey, explore the ethnobotanical aspects of medicinal plants, focusing on the traditional practices of various communities. These researchers argue that such knowledge not only contributes to cultural heritage but also provides a foundation for new drug discoveries [5]. The work of Dr. P. K. Mukherjee, for instance, integrates traditional uses with modern pharmacological validation, bridging the gap between ancient practices and contemporary science. The economic value of medicinal plants is also a recurring theme in the literature [6]. Researchers like Dr. N. S. Chauhan emphasize the potential for medicinal plants to contribute to local economies through sustainable harvesting and trade [7]. Similarly, some work underscores the need to protect ethnobotanical knowledge as it faces threats from urbanization and environmental changes. The literature reveals a consensus on the importance of traditional medicinal plants as a resource for health care, cultural heritage, and economic development. Researchers advocate for the integration of this traditional knowledge into broader conservation and health strategies, recognizing its enduring value in a rapidly modernizing world.

3. Experimental Method/Procedure/Design

3.1 Research design

The mode of this research design on the traditionally used medicinal plants of Jorhat West is descriptive and exploratory, applying a qualitative access to document and analyzes the use of these plants within the community. This scheme is chosen and taken because it admits for an in-depth description of the indigenous knowledge and traditional practices related to traditional medicinal plants [8].

The primary objective of the research project is to catch the traditional uses of these medicinal plants, recognize the cultural context in which they are applied, and evaluate their tendency for a wide medicinal discipline [9].

A descriptive entrance helps in listing and documenting the existing indigenous knowledge on medicinally used plants in Jorhat West, while the exploratory appearance allows for unmasking new data, especially regarding lesser-known species and their uses. This approach is directly relevant with the active and verbal transmitted nature of indigenous knowledge, which is often unrecorded, and at risk of missing or being lost. The study is signified to serve as a basic regard to promote scientific enquiry and conservation attempt. The study is constituted mainly as a documentation project, focusing on Sutar Gaon in Jorhat West. The research design includes extensive fieldwork, ethnobotanical surveys and local interviews with knowledge holders, particularly the elders and traditional healers such as Mrs. Sarumai Boruah.
Here's how we approached it-

1.Extensive Fieldwork: We spent significant time in the field, directly observing and documenting medicinal plants in their natural habitats across Sutar Gaon, Jorhat West. This hands-on approach helped us accurately identify plant species and understand their traditional uses in the community. During these visits, we photographed and collected plants, noted their habitats, and mapped the areas where they were commonly found. This allowed us to see how local biodiversity supports traditional medicinal practices. Fieldwork also gave us valuable insights into the practical aspects of plant use, such as how they are harvested and prepared.

2.Ethnobotanical Surveys and Studies: To gather detailed information on the cultural significance, preparation, and use of medicinal plants, we conducted structured surveys and guided plant talks with community members. This method helped us capture both well-known and lesser-known plant uses, creating a comprehensive picture of traditional

medicinal practices. By focusing on key species essential to the community's healthcare system, we highlighted the close relationship between local biodiversity and indigenous knowledge. This documentation not only preserves oral knowledge but also lays the groundwork for deeper analysis.

3.Interviews with Local Knowledge Holders: We conducted semi-structured interviews with local experts, including villagers well-versed in traditional plant use. These conversations offered a deeper understanding of the medicinal properties of various plants and the cultural beliefs associated with them. Through these interactions, we captured personal stories and experiences that enriched our data, revealing how knowledge is passed down through generations and how plant-based remedies play a crucial role in daily healthcare.

4.Talks with Elders and Traditional Healers: Engaging with elders and traditional healers like Sarumai Boruah was a key part of our study. These discussions, often informal and relaxed, allowed them to share their knowledge freely. Healers provided insights into preparation methods, dosages, and the effectiveness of treatments, often demonstrating techniques that have been used for generations. These conversations also uncovered the spiritual and cultural aspects of plant use, including rituals and taboos. The knowledge shared by elders and healers gave us a unique glimpse into the rich tradition of medicine in Jorhat West.

This design ensures that the data collected is comprehensive and reflects the authentic practices of the community. The study also integrates a comparative aspect, where findings from Jorhat West are compared with existing literature on traditional medicinal plants in similar geographical and cultural settings. This helps in identifying unique practices and common trends, thereby enriching the understanding of the broader ethnobotanical landscape. By combining direct field observations with secondary data from books, scholarly articles, and previous studies, the research design ensures a holistic view of the traditional use of medicinal plants in Jorhat West.

3.2 Collection of Data

The method for this research is a combination of qualitative and sharing modes, mainly focusing on ethnobotanical surveys, interviews, and direct observations. The primary collection of data involved field visits to Sutar Gaon, where the study was assembled. The choice of Sutar Gaon is based on its rich biodiversity and the presence of a community that actively involves in traditional medicinal practices.

1. Ethnobotanical Surveys: Ethnobotanical surveys were directed to identify, collect and document the various medicinal plants used by this local community. These surveys involved precise walks through the fields, gardens, and forests of Sutar Gaon, guided by the locals, including Mrs. Sarumai Boruah, a respected elder with encompassing knowledge of traditional plant use. During these, plants were identified and listed in situ, and samples were collected for further analysis and documentation.

2. Semi-Structured Interviews: These interviews were conducted with traditional healers, elders, and other community members who holds indigenous knowledge of medicinal plants. These interviews were arranged to be simple and flexible, allowing participants to share information freely. We discussed topics like plant identification, traditional uses, preparation methods, dosages, and perceived effectiveness. The open-ended questions encouraged participants to share detailed narratives and personal experiences, enriching our qualitative data.

3. Literature Review: To complement our field data, we conducted a comprehensive literature review, examining scholarly articles, books, and other documented sources on medicinal plants in Assam and similar regions. This helped cross-reference the traditional knowledge gathered from the field with existing scientific data, validating our findings and highlighting gaps in the current understanding of medicinal plant use.

4. Direct Observations: Engaging the local community was crucial throughout the data collection process. Involving community members not only granted access to valuable knowledge but also ensured that our research was respectful and culturally sensitive.

5. Data Analysis: The data collected from these processes were analysed thematically. This systematic approach allowed to draw meaningful conclusions about the traditional medicinal practices in Jorhat West.

3.3 Study area

The research was conducted in Sutar Gaon, a village located in Jorhat West, Assam, famous for its diverse ecosystem and lively cultural legacy. This village is known for its traditional culture variety of medicinal plants that have been used by the locals, making it a spot for ethnobotanical research. Located in the Brahmaputra Valley in the northeastern part of India, Sutar Gaon, Jorhat has a humid moderate, subtropical climate with rainfall. The different types of environments created by this climate, like marshes, woods, and farmlands, support diverse plant species that are essential in local traditional medicine. This weather allows for various microhabitats, such as wetlands, forests, and agricultural lands, which nurture a wide variety of plant species that play an crucial role in traditional medicine in the area [10].

The residents of Sutar Gaon, mostly from tribal backgrounds, share a deep bond with the surrounding nature. To meet their healthcare needs, they incorporate medicinal plants into their daily routines by relying on knowledge passed down through generations. The cultural heritage of Sutar Gaon makes it a perfect place for research because the community values and actively utilizes its medicinal plants.

The choice to pick Sutar Gaon as the research site was also impacted by the ease of reaching the village and the community's willingness to participate in research. Local transportation makes it easy to access the village, enabling frequent field trips necessary for thorough data gathering. The

friendly reception and willingness to share knowledge from the local community fostered an environment perfect for thorough research. Their collaboration not just helped with the research but also enhanced it with genuine local viewpoints, leading to a true investigation of the connection between biodiversity and indigenous wisdom.

3.4 Ethical considerations

Ethical concerns played a key role in this research, especially given the delicate task of recording traditional knowledge and interacting with indigenous groups. The study adhered to ethical standards uphold the rights, dignity, and cultural background of participants, with various ethical practices in place during the research. Prior to conducting any interviews or collecting data, we obtained informed consent from all participants.

The research objectives, data application, and possible advantages were clearly outlined. Participants were guaranteed that their participation was optional, and they had the freedom to withdraw at any point without fear of repercussions.

Protecting the confidentiality of participants was a top concern. All personal information was stripped from the data in order to safeguard privacy, with the sole purpose of utilizing the collected information for research. The careful handling of sensitive data ensured that the trust was respected, with deep regard for the community's indigenous knowledge during the study. Our method guaranteed that the recording of customary rituals did not take advantage of or distort the cultural background of those involved. The study sought to underscore the importance of this knowledge while promoting its conservation and appropriate acknowledgment.
The research highlighted the importance of sharing benefits with the community. Results will be presented to the community, along with suggestions on how to protect and responsibly utilize medicinal plants.

This method guarantees that the research benefits the community and acknowledges their contributions. The study was culturally sensitive, considering the significance of traditional beliefs and practices. We respected local traditions and interacted with participants in a respectful manner, making sure to uphold their cultural values.

Fig 1: A collaboration in the Field

Fig 2: Meeting with Sarumai Boruah, Traditional Healer, at her Home

4. Results and Discussion

4.1 Documentation of Medicinal plants

In Sutar Gaon, Jorhat West, documentation showed that 62 plant species are used by locals for medicinal reasons. These plants come from different families and have played a key role in the community's healthcare traditions for many years. The process of documenting included detailed recordings of the local name, scientific name, family, plant part utilized, preparation techniques, and the medical conditions they are employed for. The results emphasize the community's extensive ethnobotanical knowledge, especially among the older members, and stress the significance of safeguarding this ancestral wisdom.

Multiple uses were discovered among documented plants, showcasing their versatility and importance in traditional medicine. This variety highlights the ways in which the community has created adaptive strategies to address various health conditions with resources found within the local area.
The documentation process offered insights into the medicinal uses and traditional knowledge systems guiding the application of these plants. The methods of plant preparation and administration are clearly influenced by cultural practices, ranging from basic decoctions and infusions to elaborate preparations with many ingredients. Typically, this knowledge is orally transmitted, highlighting the importance of documenting it for conservation purposes. The research highlights the importance of conducting more studies, but mainly on the pharmacological properties of the medicinal plants to confirm their traditional uses and investigate their potential for wider use in modern medicine [11]. The documentation acts as a crucial tool for upcoming work in conserving, sustainably using, and possibly commercializing medicinal plants in Jorhat West, thus aiding in the protection of biodiversity and cultural heritage.

The plants studied for their traditional medicinal uses are listed below and categorized based on their growth form as herbs, shrubs, or trees –

HERBS

4.1.1 TURMERIC

Common name: Turmeric (Halodhi or Haldi in Assamese)

Scientific name: *Curcuma longa*
Family: Zingiberaceae
Medicinal properties:

- Turmeric has antibacterial properties.
- Consuming a mixture of turmeric juice with 1 teaspoon of honey can help alleviate burning sensations during urination.
- Consuming 1 teaspoon of turmeric juice mixed with a little honey for liver issues.
- Consuming 2-3 grams of turmeric powder roasted in small amount of ghee can help reduce stammering or lisping.
- Applying a heated mixture of lime, turmeric, and salt to the affected area can reduce pain in case of insect bites.
- Drinking a warm solution of 2 grams of turmeric powder mixed with sugar can be very effective in Hoarseness of voice.
- A mixture of turmeric powder and butter to the affected area can provide good results in skin diseases.

4.1.2 CUMIN
Common name: Cumin (Jira in Assamese)
Scientific name: *Cuminum cyminum*
Family: Apiaceae
Medicinal properties:

- 400 mg of crushed Cumin mixed in hot water can help alleviate gastritis, heartburn, bloating, and indigestion.
- Soak 1-2 grams of Cumin in a cup of warm water for 10-15 hours. Drink this after straining, preferably daily, for better health.
- Mix Cumin powder with honey and consume it. This can help reduce swelling.
- If the patient suffers from chronic dysentery, they should consume 500 mg of crushed Cumin powder twice in a day, on an empty stomach, for 8-10 days.
- Boil 3-4 grams of Cumin in 2 cups of water. Drink this daily, especially for typhoid.
- Regular consumption of Cumin can boost immunity and help in the treatment of other disorders.

4.1.3 FENUGREEK
Common name: Fenugreek (Mithi in Assamese)
Scientific name: *Trigonella foenum - graecum*
Family: Fabaceae
Medicinal properties:

- Fenugreek is used in the treatment of acidity, and indigestion.
- It is highly beneficial in weakness. In fever caused by bile-related disorders, consuming 3 grams of fenugreek powder soaked in a cup of warm water helps reduce fever and alleviates bile and discomforts such as high blood pressure, indigestion, palpitations, and general uneasiness.
- In cases of irregular menstruation, and hair fall, consuming fenugreek powder provides positive results. Specifically, for menstrual problems, mixing 3 grams of fenugreek powder with 3-4 grams of coriander in a glass of cold water and consuming it in the morning and evening provides good results.
- In case of chickenpox, soaking 5-6 grams of fenugreek powder in a glass of cold water for 10-12 hours and consuming this water several times throughout the day is recommended.

4.1.4 CLOVE
Common name: Clove (Long in Assamese)
Scientific name: *Syzygium aromaticum*
Family: Myrtaceae
Medicinal properties:

- Cloves are beneficial in treating diarrhea, dysentery, and vomiting during pregnancy.
- Clove oil can be used effectively for rheumatic pain, headaches, and toothaches.
- For bad breath, keeping a clove in the mouth, helps to eliminate mouth and breath odor.
- For eye disorders, grinding cloves in a copper vessel, and mixing with honey to make a kajal (eyeliner), provides relief when applied to the eyes.

4.1.5 CARDAMOM
Common name: Cardamom (ilaichi or ilachi in Assamese)
Scientific name: *Elettaria cardamomum*
Family: Zingiberaceae
Medicinal properties:

- Consuming two small cardamoms with their peel, boiled in a cup of water in the morning provides relief from indigestion.
- Individuals suffering from mild colds can alleviate symptoms by mixing 2-3 small cardamoms in water and consuming it as a juice.
- For respiratory distress, boil 4 cardamoms in a cup of water, strain and drink for relief.
- In case of nausea, mixing 2 large cardamoms in cold water and consuming it with honey, helps prevent vomiting.
- Applying crushed cardamom on the affected areas provides relief from itching.
- Applying crushed cardamom on the body, helps eliminate body odor.
- If one experiences constant body aches, consuming two large cardamoms mixed in warm water twice a day, can help to resolve the issue.
- For cramps caused by lifting heavy objects, consuming 2 cardamoms with warm water provides relief.

4.1.6 MUSTARD
Common name: Mustard (Soriyoh in Assamese)
Scientific name: *Brassica nigra*
Family: Brassicaceae
Medicinal properties:

- Mustard oil is used for massaging to relieve muscle pain and arthritis due to its warming and anti-inflammatory properties.
- Mustard seeds can be boiled and used to relieve from cough, and cold.
- Consuming mustard seeds reduces the digestive system, and can aid in relieving indigestion.
- Mustard oil is used externally for skin related conditions like rashes and minor skin infections, because of its antibacterial and antifungal properties.

4.1.7 BUTTERFLY PEA
Common name: Butterfly pea (Aparajita in Assamese)
Scientific name: *Clitoria ternatea*
Family: Fabaceae
Medicinal properties:

- Consuming tea made from its flowers can help boost brain activity due to its antioxidant properties.
- The flowers are used to make tea that acts as a natural relaxant, reducing anxiety and stress, promoting calmness and better sleep.
- Butterfly pea helps increase blood circulation, strengthening hair follicles, and promoting hair growth. It is also beneficial for the skin, helping to reduce wrinkles and improve skin conditions.

4.1.8 HENNA
Common name: Henna (Jetuka in Assamese)
Scientific name: *Lawsonia inermis*
Family: Lythraceae
Medicinal properties:

- Henna is commonly used as a natural dye for hair.
- Henna leaves have antimicrobial and antifungal properties, making it useful for treating minor wounds, cuts, and skin infections.
- Henna paste is applied to the skin to reduce heat, burns, relief from headaches and fevers because of its cooling properties.
- Henna is used to reduce joint pain and muscle pain due to its anti-inflammatory effects.
- Henna leaves are used in traditional medicine for treating mouth ulcers, and other oral health issues, due to their astringent and healing properties.

4.1.9 DATURA
Common name: Datura (Dhatura in Assamese)
Scientific name: *Datura stramonium*
Family: Solanaceae
Medicinal properties:

- Datura leaves and seeds contain alkaloids. So they are used in traditional medicine to alleviate pain, especially in conditions like neuralgia and rheumatism.
- The smoke from burning Datura leaves has been traditionally inhaled to relieve asthma, bronchitis, and other respiratory issues.
- Datura is used to calm the nervous system, reduce muscle spasms, and manage symptoms of motion sickness.

4.1.10 BERMUDA GRASS
Common name: Bermuda grass (Dubori bon in Assamese)
Scientific name: *Cynodon dactylon*
Family: Poaceae
Medicinal properties:

- The juice of Bermuda grass is consumed as a natural blood purifier. It helps to detoxify the body, supports liver function, and is believed to improve overall health.
- Bermuda grass juice helps to regulate blood sugar levels, thus beneficial for managing diabetes.
- Bermuda grass is known for its digestive properties. It is used to treat constipation, acidity, and other gastrointestinal issues.
- Bermuda grass holds a place in Hindu rituals also. It is offered to Hindu Gods during prayers as a symbol of purity, devotion, and prosperity. The grass is believed to have protective and auspicious qualities, making it a staple in various religious ceremonies.

4.1.11 ALOEVERA
Common name: Aloevera (Aloevera in Assamese)
Scientific name: *Aloevera*
Family: Asphodelaceae
Medicinal properties:

- Aloe vera juice is used to improve digestion due to its mild laxative effect. It helps to clean the digestive tract and supports gut health.
- Aloe vera contains vitamins, antioxidants, and polysaccharides that help to boost immune system, and protecting the body against various infections.
- Aloe vera is used in hair for its ability to reduce dandruff and also they promote hair growth. It nourishes hair follicles and helps in maintaining healthy, shiny hair.

4.1.12 GARLIC
Common name: Garlic (Nohoru in Assamese)
Scientific name: *Allium sativum*
Family: Amaryllidaceae
Medicinal properties:

- Garlic is known for its immune-boosting capacities. It helps our body to fight against common illnesses like colds and flu due to its antimicrobial and antioxidant compounds.
- Regular consumption of garlic helps to lower the blood pressure, reduce cholesterol, and improve overall the heart, by reducing the risk of heart disease.
- Garlic is used to treat various infections due to its antimicrobial and antifungal properties, making it useful in treating infections like athlete’s foot and other fungal skin conditions.
- Garlic helps in digestion, helping alleviate digestive issues like bloating, indigestion, and intestinal infections.

4.1.13 HOLY BASIL
Common name: Holy Basil (Tulosi or Tulsi in Assamese)
Scientific name: *Ocimum sanctum*
Family: Lamiaceae
Medicinal properties:

- Holy Basil is known for adaptogenic properties, which help to reduce stress, anxiety by balancing cortisol levels in the body, promotes mental clarity and emotional well-being.
- Holy Basil helps in regulating blood pressure, cholesterol levels, thus improve overall cardiovascular health.
- Holy Basil supports digestive health by stimulating the secretion of digestive enzymes. It helps in alleviating indigestion, bloating, and gastric disorders, making it a key herb for digestive wellness.
- Holy Basil holds a sacred place in Hindu culture and is often worshipped in homes and temples as a symbol of purity and protection. It is believed to bring peace, harmony, and spiritual cleansing, and is used in various rituals to purify the environment.

4.1.14 TOUCH-ME-NOT
Common name: Touch-me-not (Lajuki bon in Assamese)
Scientific name: *Mimosa pudica*
Family: Fabaceae
Medicinal properties:

- The roots of the Touch-Me-Not plant are traditionally used in the treatment of piles and fistula due to their astringent and anti-inflammatory properties, which help to reduce swelling and bleeding.
- The plant's roots and leaves are used traditionally to relieve joint pain and inflammation associated with inflammatory conditions.
- The roots and leaves of the plants are known for their antimicrobial properties and are used to treat gastrointestinal issues like diarrhea and dysentery.

4.1.15 GINGER
Common name: Ginger (Aada in Assamese)
Scientific name: *Zingiber officinale*
Family: Zingiberaceae
Medicinal properties:

- Ginger is commonly used to relieve nausea, motion sickness, and digestive discomfort. It promotes a healthy digestion and can help to alleviate the symptoms of indigestion and bloating.
- Ginger contains compounds like gingerol that have anti-inflammatory and antioxidant properties, can help to reduce inflammation and pain associated with conditions such as arthritis.
- Ginger is effective in reducing menstrual pain and may help in managing headaches and migraines due to its anti-inflammatory effects.

4.1.16 MARIGOLD
Common name: Marigold (Naarji in Assamese)
Scientific name: *Targetes erecta*
Family: Asteraceae
Medicinal properties:

- It helps to reduce inflammation and can be beneficial in some conditions like arthritis.
- Marigold is used to alleviate gastrointestinal issues like indigestion.
- It may help to regulate menstrual cycles and reduce the pain associated.
- Marigold flowers are used in various cultural and religious rituals, symbolizing purity and often used in decorations.

4.1.17 CHINESE CHASTE TREE
Common name: Chinese chaste tree (Posotiya in Assamese)
Scientific name: *Vitex negundo*
Family: Lamiaceae
Medicinal properties:

- It is used to regulate menstrual cycles and help to alleviate the symptoms of premenstrual syndrome (PMS).
- It is used to treat digestive problems, including indigestion and diarrhea.
- Chinese chaste tree can help to manage respiratory conditions, such as coughs and bronchitis.

4.1.18 ASIATIC PENNYWORT
Common name: Asiatic pennywort (Manimuni in Assamese)
Scientific name: *Centella asiatica*
Family: Apiaceae
Medicinal properties:

- It accelerates wound healing and promotes skin regeneration due to its ability of collagen production.
- Asiatic pennywort is used to improve cognitive function and memory, and may help in managing symptoms of anxiety and depression.
- The plant aids in digestion and can help in treating gastrointestinal issues such as ulcers and indigestion.
- It is used in skincare, to improve skin elasticity.

4.1.19 GILOY
Common name: Giloy (Gilooy in Assamese)
Scientific name: *Tinospora cordifolia*
Family: Menispermaceae
Medicinal properties:

- Giloy boosts the immune system and helps in fighting with infections and illnesses.
- Giloy is used to improve the digestion and alleviate gastrointestinal issues, like indigestion and acidity.
- It regulates the blood sugar levels, thus used in managing diabetes.

4.1.20 MALABAR SPINACH
Common name: Malabar spinach (Kolmou in Assamese)
Scientific name: *Basella alba*
Family: Basellaceae
Medicinal properties:

- It aids digestion and helps alleviate gastrointestinal issues such as constipation and stomach ulcers.
- It contains antioxidants that reduces oxidative stress and may help to prevent chronic diseases.
- The plant boosts the immune system, supporting overall health and resistance to infections.

4.1.21 BLACK CUMIN
Common name: Black cumin (Kaaljira in Assamese)
Scientific name: *Nigella sativa*
Family: Ranunculaceae
Medicinal properties:

- Black cumin enhances immune function and helps in fighting with infections due to its antimicrobial properties.
- Black cumin aids digestion and can help to relieve from symptoms such as bloating, gas, and indigestion.
- It is used to treat respiratory conditions, including asthma and coughs.
- Black cumin may help in managing sugar levels in blood, improve insulin sensitivity, thus beneficial for diabetes management.

4.1.22 PERIWINKLE
Common name: Periwinkle (Noyontora in Assamese)
Scientific name: *Catharanthus roseus*
Family: Apocynaceae
Medicinal properties:

- It is used in the production of chemotherapy drugs, for treating various types of cancer.
- Periwinkle helps to regulate blood sugar levels and is used in managing diabetes.
- Periwinkle may help in managing high blood pressure due to its vasodilatory effects.

4.1.23 ROSELLE
Common name: Roselle (Saalkumura in Assamese)
Scientific name: *Hibiscus sabdariffa*
Family: Malvaceae
Medicinal properties:
- It helps to lower blood pressure and is often used to manage hypertension.
- It aids digestion and can help to relieve from the symptoms of constipation and indigestion.
- Roselle can help to reduce inflammation and pain associated with it.

4.1.24 FALSE DAISY
Common name: False daisy (Bhringaraaj in Assamese)
Scientific name: *Eclipta prostrata*
Family: Asteraceae
Medicinal properties:
- It supports liver function and is used to treat liver disorders and detoxify the liver.
- False daisy is commonly used in hair care products that promote hair growth, reduce hair loss.
- It aids digestion and can help alleviate gastrointestinal issues such as dyspepsia and diarrhea.
- The plant treats skin conditions such as wounds, rashes, and eczema due to its healing properties.

4.1.25 TREE TURMERIC
Common name: Tree turmeric (Daruhridra in Assamese)
Scientific name: *Berberis aristata*
Family: Berberidaceae
Medicinal properties:
- It aids digestion and can helps to relieve from the symptoms of indigestion, bloating, and gas.
- Tree turmeric help to reduce inflammation and pain in conditions like arthritis.
- It is rich in antioxidants that helps to reduce stress and improve overall health.

4.1.26 POINTED GOURD
Common name: Pointed Gourd (Potol in Assamese)
Scientific name: *Trichosanthes dioica*
Family: Cucurbitaceae
Medicinal properties:
- It aids digestion and can helps to relieve from gastrointestinal issues.
- It may help in managing sugar levels of blood and can be beneficial for diabetic patients.
- Pointed gourd has diuretic properties, which helps to promote urine production and support kidney function.

4.1.27 FENNEL
Common name: Fennel (Paanmouri in Assamese)
Scientific name: *Foeniculum vulgare*
Family: Apiaceae
Medicinal properties:
- Fennel aids digestion and helps to relieve from symptoms such as bloating, gas, and indigestion.
- Fennel protects the cells from oxidative stress.
- It may help to balance hormones and alleviate symptoms of hormonal imbalance, such as menstrual cramps.
- Fennel helps in relieve respiratory issues, such as coughs and bronchitis.

4.1.28 SESAME
Common name: Sesame (Til in Assamese)
Scientific name: *Sesamum indicum*
Family: Pedaliaceae
Medicinal properties:
- Sesame seeds are rich in calcium and other minerals that supports bone health and helps to prevent osteoporosis.
- They contain healthy fats that helps to lower the cholesterol, reduce the risk of heart disease.
- Sesame aids digestion and helps to alleviate constipation due to its high fiber content.
- Sesame can help to reduce inflammation and its associated pain.
- It is used in skin for its moisturizing and anti-aging properties, and helps to treat skin conditions like dry skin.

4.1.29 CORIANDER
Common name: Coriander (Dhaniya in Assamese)
Scientific name: *Coriandrum sativum*
Family: Apiaceae
Medicinal properties:
- Coriander aids digestion and helps to relieve from symptoms such as bloating, gas, and indigestion.
- Coriander is rich in antioxidants, which helps to reduce oxidative stress and promote health.
- It may help to lower blood sugar levels and improve the insulin sensitivity.

4.1.30 BRAHMI
Common name: Brahmi (Brahmi in Assamese)
Scientific name: *Bacopa monnieri*
Family: Phantaginaceae
Medicinal properties:
- Brahmi is known to enhance memory, concentration, and overall cognitive function.
- It has anxiolytic properties that help to reduce stress and anxiety levels.
- It helps to protect cells from damage and improve mental and physical health.

SHRUBS
4.1.31 ASHOKA TREE
Common name: Ashoka tree (Ashok in Assamese)
Scientific name: *Saraca asoca*
Family: Fabaceae
Medicinal properties:

- Ashoka is commonly used to treat menstrual disorders, including dysmenorrhea (painful periods) and menorrhagia (heavy bleeding).
- It helps to reduce inflammation and pain.
- Ashoka can aid digestion and help in managing gastrointestinal issues such as dyspepsia and abdominal pain.
- It is used in treating various skin conditions due to its antimicrobial and anti-inflammatory effects.

4.1.32 NIGHT FLOWERING JASMINE
Common name: Night flowering jasmine (Xewali or Sewali in Assamese)
Scientific name: *Nyctanthes arbor-tristis*
Family: Oleaceae
Medicinal properties:
- It has calming and sedative properties that help to alleviate insomnia and reduce anxiety.
- The plant is used to treat respiratory conditions.
- Night-flowering jasmine can aid in digestion and help in relieving from gastrointestinal issues such as bloating and indigestion.
- It is used in traditional medicine to manage pain, inflammation, particularly in conditions like arthritis.

4.1.33 MALABAR NUT
Common name: Malabar nut (Jomlakhuti in Assamese)
(Although present in various parts of India, but it is closely associated with Assam and nearby areas of Northeast.)
Scientific name: *Justicia adhatoda*
Family: Acanthaceae
Medicinal properties:
- It helps to treat respiratory conditions such as coughs, asthma, and bronchitis.
- Malabar nut helps to reduce inflammation and pain.
- It can aid in digestion and helps in managing gastrointestinal issues such as dyspepsia and ulcers.

4.1.34 CURRY LEAF
Common name: Curry leaf (Narasinha in Assamese)
Scientific name: *Murraya koenigii*
Family: Rutaceae
Medicinal properties:
- Curry leaves aid digestion and can help to alleviate gastrointestinal issues such as nausea, indigestion, and diarrhea.
- They help reduce inflammation and pain.
- Curry leaves help to reduce oxidative stress and support the overall health.
- They may help in managing the sugar levels of blood and improve insulin sensitivity, suitable for diabetes management.
- Curry leaves are used in hair, that promote healthy hair growth and reduce premature graying due to their nutrient content.

4.1.35 CASTOR PLANT
Common name: Castor plant (Eragos in Assamese)
Scientific name: *Ricinus communis*
Family: Euphorbiaceae
Medicinal properties:
- Castor oil, derived from the seeds, is commonly used as a powerful medicine to relieve constipation.
- It helps to reduce pain and inflammation in conditions such as arthritis.
- Castor oil is used to treat skin conditions, such as dry skin, acne, and minor wounds, due to its moisturizing and healing properties.
- It promotes hair growth and improves scalp health by nourishing and conditioning the hair.

4.1.36 BETEL LEAF
Common name: Betel leaf (Paan in Assamese)
Scientific name: *Piper betle*
Family: Piperaceae
Medicinal properties:
- It aids digestion and helps to alleviate gastrointestinal issues such as indigestion and bloating.
- Betel leaf help to reduce inflammation and pain.
- It has antimicrobial properties that help to reduce infections and support in treating mouth ulcers.
- Betel leaf can be used to relieve respiratory conditions.

4.1.37 CHINA ROSE
Common name: China rose (Joba in Assamese)
Scientific name: *Hibiscus rosa-sinesis*
Family: Malvaceae
Medicinal properties:
- It can aid digestion and help alleviate gastrointestinal issues such as stomach discomfort.
- China rose help to reduce inflammation and associated pain with it.
- The plant is used in hair care to promote hair growth, reduce dandruff.
- It is used to treat various skin conditions, due to its antimicrobial properties.

4.1.38 PHYSIC NUT
Common name: Physic nut (Bongali era in Assamese)
Scientific name: *Jatropha curcas*
Family: Euphorbiaceae
Medicinal properties:
- The seeds are used as a natural laxative to relieve constipation.
- It help to reduce inflammation and pain.
- Physic nut contains compounds with antimicrobial properties that can help to reduce infections.
- Oils extracted from seeds are used to promote wound healing and treat skin conditions.
- The plant's extract or oils applied to the affected area to alleviate toothache and other dental issues.

TREES

4.1.39 BAY LEAF
Common name: Bay leaf (Tejpaat in Assamese)
Scientific name: *Laurus nobilis*
Family: Lauraceae
Medicinal properties:

- Bay leaf mixed with water helps to regulate excessive bile secretion.
- Boil 1/3 piece of Bay leaf in 3/4 cups of water. Drinking this 3/4 times a day, or at least once in the morning and evening, helps to alleviate swelling.
- Drinking 5/7 grams of Bay leaf water regularly, it strengthens memory.
- Applying a Bay leaf paste helps to reduce pain and provides relief.
- Consuming Bay leaf paste mixed with honey for 2 hours provides effective relief.
- Boil 4/5 pieces of Bay leaf in 3 cups of water with some sugar candy. Drinking this mixture daily, helps significantly in increasing beauty.

4.1.40 CINNAMON
Common name: Cinnamon (Dalcheni in Assamese)
Scientific name: *Cinnamomum verum*
Family: Lauraceae
Medicinal properties:
- Cinnamon is beneficial for digestion, appetite, bloating, and also has aromatic properties.
- Consuming 1 gram of cinnamon boiled in warm water regularly, can be very effective.
- It helps in relieving headaches, toothaches, and tongue sores when applied externally.

4.1.41 NEEM
Common name: Neem Tree (Neem in Assamese)
Scientific name: *Azadirachta indica*
Family: Meliaceae
Medicinal properties:
- Neem help to fight with infections and bacteria, making it useful for treating skin conditions and wounds.
- It reduces inflammation and is used to alleviate symptoms, such as arthritis and skin inflammations.
- Neem aids digestion and can help to treat gastrointestinal issues such as ulcers and indigestion.
- It helps in managing the sugar levels of blood and insulin sensitivity.
- Neem is used in oral care to prevent gum disease, reduce plaque, and maintain overall oral hygiene.

4.1.42 JUJUBE
Common name: Jujube (Bogori in Assamese)
Scientific name: *Ziziphus jujuba*
Family: Rhamnaceae
Medicinal properties:
- Jujube helps in improving digestion and relieving gastrointestinal issues like constipation and indigestion.
- It has calming properties, that can help improve sleep quality and reduce insomnia.
- Jujube boosts the immune system and has antioxidant properties that help to protect against infections and support overall health.
- It helps to treat skin conditions and promote healthy, glowing skin.

4.1.43 PAPAYA
Common name: Papaya (Omita in Assamese)
Scientific name: *Carica papaya*
Family: Caricaceae
Medicinal properties:
- Papaya contains enzymes like papain that aid digestion and help in relieving from symptoms such as bloating and constipation.
- It helps to reduce inflammation and its associated pain.
- Papaya is rich in vitamins A and C, which boost the immune system of body and help to protect against infections.
- The fruit is used to improve skin health, including treating acne and promoting wound healing.

4.1.44 ARJUNA TREE
Common name: Arjuna tree (Arjun gos in Assamese)
Scientific name: *Terminalia arjuna*
Family: Combretaceae
Medicinal properties:
- Arjuna is commonly used to support heart health, including managing conditions such as angina and hypertension.
- It has anti-inflammatory effects that helps to reduce inflammation, improve joint health.
- Arjuna protects our cells from oxidative damage and support overall health.
- It aids digestion and alleviate gastrointestinal issues such as ulcers and dyspepsia.

4.1.45 MANGO
Common name: Mango (Aam in Assamese)
Scientific name: *Mangifera indica*
Family: Anacardiaceae
Medicinal properties:
- Mangoes are rich in dietary fiber and enzymes, that aid digestion and alleviate constipation.
- They are high in vitamins A and C, which strengthen the immune.
- Mangoes support skin health due to their high vitamin A, which help to reduce signs of aging and promote a healthy complexion.
- The vitamins and antioxidants in mangoes, particularly vitamin A, supports eye health and can help to prevent vision-related issues.

4.1.46 INDIAN GOOSEBERRY
Common name: Indian Gooseberry (Aamlokhi in Assamese)
Scientific name: *Phyllanthus emblica*
Family: Phyllanthaceae
Medicinal properties:
- Rich in vitamin C, it enhances the immune function and helps it to protect against infections.
- It aids digestion, alleviates constipation, and helps in managing gastrointestinal issues.
- It helps to reduce inflammation and pain associated with it.
- Indian Gooseberry helps to reduce oxidative stress and protect cells from damage.

- It promotes healthy skin, and helps in reducing signs of aging, supports wound healing due to its high vitamin C content and other beneficial compounds.

4.1.47 BANANA
Common name: Banana (Kol in Assamese)
Scientific name: *Musa acuminata*
Family: Musaceae
Medicinal properties:
- Bananas are rich in fiber, thus improve digestion and alleviate constipation.
- They contain potassium, which helps to regulate blood pressure and improves the overall cardiovascular health.
- Bananas provide a quick source of energy due to their sugars and carbohydrates, making them a good choice for energy.
- The vitamins and minerals in bananas, including vitamin C and vitamin B6, help to maintain healthy skin and may aid in treating minor skin conditions.

4.1.48 STAR FRUIT
Common name: Star fruit (Kordoi in Assamese)
Scientific name: *Averrhoa carambola*
Family: Oxadilaceae
Medicinal properties:
- Star fruit is rich in fiber and helps to improve digestion, alleviate constipation, and support overall gut health.
- It contains high levels of vitamin C, that boosts the immune function and helps to fight off infections.
- The fruit is packed with antioxidants that helps to reducing oxidative stress and protect cells from damage.

4.1.49 DATE PALM
Common name: Date palm (Khejur or Khajuri in Assamese)
(While found in various parts of India, it has a special prominence in North East India for traditional uses.)
Scientific name: *Phoenix dactylifera*
Family: Arecaceae
Medicinal properties:
- Dates are high in fiber, that aids digestion, alleviates constipation, improves overall gastrointestinal health.
- They contain natural sugars and carbohydrates, provide a good source of energy.
- Dates contain essential minerals, that support the bone health and help to prevent conditions like osteoporosis.

4.1.50 BOTTLE GOURD
Common name: Bottle gourd (Panilaau in Assamese)
Scientific name: *Lagenaria siceraria*
Family: Cucurbitaceae
Medicinal properties:
- Bottle gourd aids digestion and helps to relieve from the symptoms such as constipation and indigestion.
- It is an excellent hydrating food, which helps in maintaining proper fluid in the body.
- These help with weight management by promoting a feeling of fullness, reducing overall calorie intake.

4.1.51 TAMARIND
Common name: Tamarind (Teteli in Assamese)
Scientific name: *Tamarindus indica*
Family: Fabaceae
Medicinal properties:
- Tamarind aids digestion and can alleviate constipation and indigestion due to its high fiber content and mild laxative properties.
- It helps to reducing inflammation and associated pain.
- Tamarind helps reduce oxidative stress and improve overall health.
- It contains vitamins and minerals, including vitamin C, that supports the immune function and help to protect the cells against infections.

4.1.52 CHICK PEA
Common name: Chick pea (Boot in Assamese)
Scientific name: *Cicer arietinum*
Family: Fabaceae
Medicinal properties:
- Chickpeas aids digestion, helps to alleviate constipation, and supports overall gastrointestinal health.
- They contain nutrients, that help to regulate the blood pressure levels and support overall the cardiovascular health.
- Chickpeas help to stabilize the sugar levels, and making them beneficial for diabetes management.
- Chickpeas are a good source of protein, vitamins, and minerals, which contribute to overall health and energy levels.

4.1.53 BAMBOO
Common name: Bamboo (Baah in Assamese)
Scientific name: *Bambusa vulgaris*
Family: Poaceae
Medicinal properties:
- Bamboo shoots are used to aid digestion and help in relieving from symptoms such as constipation.
- Bamboo help to reduce inflammation and associated pain with it.
- Bamboo contains minerals, that improve bone health and may aid in the prevention of bone-related conditions.
- Bamboo extracts are used in skincare, and have potential to improve skin elasticity and hydration.

4.1.54 POMEGRANATE
Common name: Pomegranate (Daalim in Assamese)
Scientific name: *Punica granatum*
Family: Lythraceae
Medicinal properties:
- Pomegranates help in reducing stress and protect cells from damage.
- They support cardiovascular health by reducing the blood pressure levels, lowering cholesterol, and overall heart function.
- Pomegranates help to reduce inflammation and its symptoms.

4.1.55 SILK TREE
Common name: Silk tree (Sirish in Assamese)
Scientific name: *Albizia lebbeck*

Family: Fabaceae
Medicinal properties:
- Silk tree is used to alleviate symptoms of anxiety and stress.
- It is used to improve sleep quality and help with insomnia.
- The plant help to reduce inflammation and pain.
- Silk tree is used in traditional medicine to support liver function and detoxification.

4.1.56 BURFLOWER TREE
Common name: Burflower tree (Kodom in Assamese)
Scientific name: *Neolamarckia cadamba*
Family: Rubiaceae
Medicinal properties:
- The tree's bark and leaves help to reduce inflammation and pain.
- It is used to treat gastrointestinal issues, including indigestion and stomach ulcers.
- The plant help alleviate infections and support overall health.

4.1.57 FIG
Common name: Fig (Dumur in Assamese)
Scientific name: *Ficus carica*
Family: Moraceae
Medicinal properties:
- Figs are high in dietary fiber, that aids digestion and helps to alleviate constipation.
- They are rich in calcium and other minerals that support bone health and help to prevent osteoporosis.
- Figs protects cells from oxidative stress.

4.1.58 MORINGA
Common name: Moringa (Sojina in Assamese)
Scientific name: *Moringa oleifera*
Family: Moringaceae
Medicinal properties:
- Moringa leaves are packed with vitamins, minerals, and antioxidants, supporting overall health and boosting immune function.
- Moringa helps to reduce inflammation and manage symptoms of inflammatory conditions.
- It may help in lowering blood sugar levels, which is beneficial for managing diabetes.
- Moringa aids digestion and can help to alleviate gastrointestinal issues such as constipation and bloating.

4.1.59 GUAVA
Common name: Guava (Modhuri in Assamese)
Scientific name: *Psidium guajava*
Family: Myrtaceae
Medicinal properties:
- Guava is high in dietary fiber, that aids digestion and helps to alleviate constipation.
- It is rich in vitamin C, which boosts the immune system.
- Guava help to reduce inflammation and may relieve symptoms of inflammatory conditions.
- The reducing oxidative stress and protect cells from damage.
- Guava may help to regulate blood sugar levels, making it beneficial for diabetic patients.

4.1.60 ELEPHANT APPLE
Common name: Elephant apple (Outenga in Assamese)
(Native to Assam and neighboring North East states, it is not commonly found in other parts of India.)
Scientific name: *Dillenia indica*
Family: Dilleniaceae
Medicinal properties:
- It is used to improve digestion and treat gastrointestinal issues like constipation and diarrhea.
- The fruit and its extracts help to reduce inflammation and its associated pain.
- Elephant apple helps in reducing stress and protect cells from damage.
- It is used traditionally to treat various skin conditions, including wounds and rashes, due to its antimicrobial properties.
- The fruit supports the immune system and enhance overall health.

4.1.61 COCONUT
Common name: Coconut (Narikol in Assamese)
Scientific name: *Cocos nucifera*
Family: Arecaceae
Medicinal properties:
- Coconut provides dietary fiber, which aids digestion and helps to alleviate constipation.
- Coconut water is a natural electrolyte-rich beverage that helps to maintain hydration and replenish fluids.
- Coconut oil is used for its moisturizing properties to treat dry skin, and it can also be used for wound healing and treating skin conditions.
- Coconut oil supports heart health by improving cholesterol levels.
- Coconut help to alleviate infections and support overall immune health.

4.1.62 SACRED FIG
Common name: Sacred fig (Aahot gos in Assamese)
Scientific name: *Ficus religiosa*
Family: Moraceae
Medicinal properties:
- The leaves and bark are used to treat gastrointestinal issues like constipation, diarrhea.
- Sacred fig helps to reduce inflammation and pain.
- Extracts from the plant are used to treat skin conditions, such as wounds and infections.

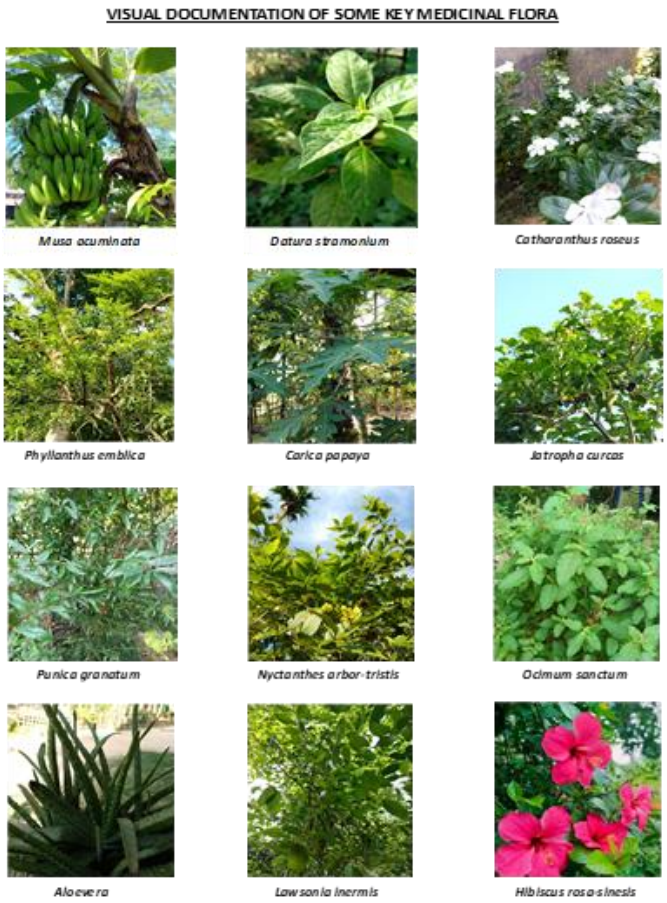

Fig 3: Visual Documentation of some key medicinal flora

Table 1: List of plants native to Assam or North-East India and also found in other parts of India

Commonn name	Scientific name	Native
Butterfly pea	*Clitoria ternatea*	North-East India
Night flowering jasmine	*Nyctanthes arbor-tristis*	South-Asia, including Assam
Malabar nut	*Justicia adhatoda*	Assam, North-East India
Giloy	*Tinospora cordifolia*	North-East India
Moringa	*Moringa oleifera*	Assam
Betel leaf	*Piper betle*	Assam, North-East India
Sacred fig	*Ficus religiosa*	North-east India
Asiatic pennywort	*Centella asiatica*	Assam, North-East India

Table 2: List of plants native to Assam or North-East india and not found widely in other parts of India

Common name	Scientific name	Native
Elephant Apple	*Dilenia indica*	Assam
Malabar spinach	*Basella alba*	Assam, North-East India
Castor plant	*Ricinus communis*	Assam, North-East India

4.2 Applications in various Disciplines

Medicinal plants have been inherent to human health and cultural practices, especially in regions like Assam and North East India, where traditionally used knowledge and biodiversity intersect. Their applications provide multiple disciplines, from medicine and pharmacology to anthropology and botany, showing their multidisciplinary importance. This section explores the roles of these traditionally used plants, and highlighting their contributions to healthcare purposes, scientific research sectors, cultural uses, preservation, and ecological studies.

Medicine- Medicinal plants are basics in both traditional and modern medical practices, providing natural remedies and therapeutic compounds. For example,
Turmeric is used for its wound-healing properties, essential in treating skin conditions, digestive disorders, and joint pain. Holy Basil is employed in managing respiratory disorders, stress, and infections, and shows their potential role in healthcare. Plants like, Malabar Nut are utilized in treating respiratory ailments. While Aloe vera serves in dermatology for burns, cuts, and skin issues. These plants not only add as common ailments but also used to preventative healthcare, demonstrating their wide therapeutic relevance.

Pharmacology- Pharmacology draws the bioactive compounds and properties found in medicinally used plants to develop drugs and study their mechanisms.
Periwinkle is an example, which providing alkaloids used in cancer treatment, particularly for leukemia and lymphoma. Garlic is applied for its cardiovascular properties, including lowering cholesterol and blood pressure. Again, Moringa is studied for supporting in managing chronic diseases. The pharmacological research of these plants helps in identifying new drug and developing new therapeutic agents.

Anthropology- These plants play a crucial role in cultural and traditional practices in Assam and North East India. They are deeply embedded in local customs, rituals, and traditions, such as the use of Night Flowering Jasmine in traditional healing practices and Touch Me Not in folk medicine. These plants are not only categorized for their medicinal properties but also for having their ritual significance, reflecting an approach to health and nature.
Anthropological studies of these practices provide the ethnomedicinal heritage of the region, helping to preserve the traditional knowledge and inform sustainable conservation strategies.

Botany- In botany, medicinally used plants are studied for their economic value, their morphological, anatomical and physiological characteristics, ecological adaptations, and their chemical compositions. Species like Brahmi are examined for their growth in wetland ecosystems and their neuroprotective compounds. While Sacred Fig is studied for its ecological importance and cultural symbolism.

4.3 Comparison with previous studies

This section critically evaluates how the findings of this study on medicinal plants in Jorhat West align with, differ from, and contribute to existing literature. It highlights unique discoveries, regional specificity, and the methodological strengths of this research compared to prior studies.

Alignment with Previous Findings: This study reaffirms the common use of medicinal plants like Holy Basil, Neem, and

Turmeric for their anti-inflammatory, antimicrobial, and health-promoting properties, as documented in previous studies on the medicinal flora of Assam and North East India. The consistent mention of these plants across various studies highlights their established medicinal value and cultural importance in the region.

Differences in Plant Uses and Significance: While many uses documented in this study are consistent with existing literature, some unique local practices were uncovered. For example, *Jatropha curcas* (Physic Nut) is used in Jorhat West to treat toothaches, a use not widely reported in other regions. Similarly, *Dillenia indica* (Elephant Apple) seeds are traditionally used as a hair conditioner, a novel application seldom mentioned in previous ethnobotanical research. These findings highlight the richness of localized knowledge and suggest that plant uses can be highly specific to particular communities.

Novel Contributions: This research documents specific plants and uses underrepresented in previous studies. For instance, *Dillenia indica* is noted for its medicinal properties related to digestive issues and hair care, contributing new insights to the understanding of regional flora. By documenting these lesser-known uses, the study fills gaps in existing ethnobotanical literature and underscores the importance of exploring traditional medicinal practices unique to Assam.

Regional Specificity and Ethnobotanical Knowledge: The study highlights the distinct medicinal knowledge of Assam and North East India. Plants like *Dillenia indica* and *Phoenix sylvestris* (Date Palm) are native to this region and rarely appear in studies from other parts of India. Their documented uses reflect the rich ethnobotanical heritage of the area and emphasize the need to preserve this unique cultural knowledge.

Methodological Comparison: Unlike many previous studies that rely on secondary data or focus on well-known species, this research employs a comprehensive ethnographic approach involving direct engagement with local healers, elders, and extensive field surveys in Sutar Gaon, Jorhat West. This approach provided more authentic and community-based insights, contrasting with the broader, less specific methodologies seen in earlier studies.

Implications for Future Research: The novel uses of plants like *Dillenia indica* and *Jatropha curcas* identified in this study point to opportunities for further pharmacological validation and broader applications. The emphasis on regional specificity also calls for conservation efforts to protect these plants from overharvesting. Future research could explore the socio-cultural factors influencing plant use, further integrating traditional knowledge with scientific study.
Overall, this comparison demonstrates the value of localized ethnobotanical knowledge, contributing uniquely to the broader field by aligning with, differing from, and expanding upon existing literature. It underscores the need for ongoing exploration and conservation of traditional medicinal practices in Jorhat West.

4.4 Interdisciplinary connections

Research on medicinal plants in Jorhat West demonstrates the strong link between traditional knowledge and contemporary scientific disciplines. This part delves into how these plants intersect with medicine, pharmacology, anthropology, environmental science, botany, and ecology, revealing their wider influence beyond ethnobotany.

Medicine and healthcare: The plants identified in this research are essential in community healthcare, providing easily available and conventional treatments. *Dillenia indica*, also known as Elephant Apple, is used for treating digestive issues and as a traditional hair conditioner, demonstrating its various uses in cultural practices. Similarly, Holy Basil (*Ocimum sanctum*) and Neem (*Azadirachta indica*) are known for frequently used in home remedies. These plants provide cost-effective, organic alternatives for conventional medicine, especially crucial in isolated and underserved areas, enhancing community health with easily accessible treatments.

Pharmacology and Drug Discovery: Bioactive compounds found in plants such as *Jatropha curcas* (Physic Nut) and *Moringa oleifera* (Drumstick Tree) have great potential for drug discovery. For example, Physic Nut is commonly used for alleviating toothaches, while Elephant Apple seeds serve as a natural hair conditioner, indicating potential medicinal advantages that have not been fully examined. These findings highlight the importance of native plants in providing new drugs, connecting traditional and modern medicine development.

Medicinal plants in Jorhat West are not only utilized for health purposes, but also play a significant role in shaping the cultural identity of the region [10]. Plants like *Phoenix sylvestris* (Date Palm) is integral to local rituals, daily life, and community traditions, reflecting a blend of medicinal, spiritual, and cultural significance. These cultural aspects provide anthropologists with insights into how traditional plant use shapes community identity, social practices, and cultural preservation.

Environmental Science: Preserving medicinal plants like *Dillenia indica* is crucial for maintaining ecological distribution and balance in the area. These plants are not just important for their medicinal perspective, but also crucial for ecosystems by providing support for life, ensuring soil health, and adding to biodiversity. The research emphasizes the importance of sustainable harvest and preservation, in line with environmental science objectives of safeguarding natural habitats and enhancing biodiversity, especially in Assam's distinct ecological terrain.

Botany and Ecology: Documenting plants enriches botanical knowledge by detailing their morphology, habitat, and traditional uses. This study emphasizes the significance of plant variety for ecological stability and stresses the importance of safeguarding these species to preserve well-functioning ecosystems.

This research demonstrates the connections between medicinal plants and various scientific disciplines, showcasing their influence goes beyond conventional applications. The research combines traditional plant knowledge with modern science to promote a comprehensive understanding of the plants, pushing for their incorporation into healthcare, conservation, cultural preservation, and sustainable development. These connections between different fields promote a wider understanding and ethical utilization of plant resources within diverse communities and areas of study.

4.5 Cultural and scientific significance

1. Cultural significance:

Traditional Healing: These practices hold cultural importance, as medicinal plants like Holy Basil and Neem are seen as symbols for spiritual cleansing and protective ceremonies. The plants are commonly utilized in homemade cures, showing a strong cultural link to nature and traditional healing techniques that have been handed down through the years.

Cultural Identity and Continuity: These plants support the preservation of indigenous wisdom and cultural customs. Elders and traditional healers play a role in preserving this heritage by passing the knowledge about the uses and importance of these plants to the next generations. Sharing this knowledge strengthens connections within the community and promotes a feeling of cultural pride.

Festivals and Rituals: Plants like *Nyctanthes arbor-tristis* (Night Flowering Jasmine) are essential in religious works and festivities, symbolizing health, and prosperity. So, they serve not only as just medicine, they represent spiritual and social symbols of the community, enhancing their cultural importance also.

2. Scientific significance:

Importance in Science: Medicinal plants like Periwinkle and Moringa are valuable sources of bioactive compounds necessary for creating medications for conditions such as cancer, heart diseases, and immune system disorders. Studying medicinal plants for scientific research is essential for isolating active ingredients and driving innovation in modern medicine. Biodiversity conservation is also promoted through this research, especially in ecologically sensitive regions such as North East India. Research emphasizes the need to prevent the excessive harvesting and destruction of habitats of these species, ensuring they will be accessible for future generations.

Recognizing Ecosystem Dynamics: Medicinal plants play an important role in their ecosystems by offering services like food and shelter for wildlife, as well as helping maintain ecological distribution and balance. *Dillenia indica*, also known as Elephant Apple, is an example of a plant that supports local wildlife and maintain overall health of an ecosystem, providing valuable information for sustainable ecosystem.

Ethnobotanical studies: Ethnobotanical research, like this work in Jorhat West, confirms traditional uses and can uncover scientific findings missed by typical research methods. Medicinal plants serve as vital links between traditional practices and modern scientific studies.

Acknowledging and maintaining their dual importance is essential for promoting sustainable utilization and protection, which has positive impacts on both local populations and the wider scientific community.

5. Conclusion and Future Scope

5.1 Summary

This research described the extensive ethnobotanical customs of Jorhat West, recording 62 medicinal plant types utilized by indigenous groups for their medicinal qualities. By conducting hands-on fieldwork and consulting with local elders and traditional healers, we discovered plants that are specifically connected to Assam and the wider Northeast area. Significant therapeutic roles were observed in notable species like *Dillenia indica* (Elephant Apple), and *Phoenix sylvestris* (Date Palm) showcasing the region's unique biodiversity. Other well-known plants such as Holy Basil, Neem, and Turmeric were also highlighted in the research, reaffirming their ongoing significance in traditional medicine. The study revealed new uses for certain plants, like using *Jatropha curcas* for treating toothaches and *Dillenia indica* seeds for conditioning hair, which are not commonly noted in current literature. These findings highlight the unique ethnobotanical knowledge in the area, illustrating a longstanding practice of plant-derived treatments that are connected to cultural traditions.

The study was notable for its ethnographic method, documenting a wide variety of plant uses that extend beyond the usual medicinal plants. This method not only enhanced the data but also guaranteed an authentic portrayal of local knowledge. The research emphasized the wider significance of these healing plants, covering areas like medicine, pharmacology, anthropology, environmental science, botany, and ecology. The research highlights the significance of these plants as crucial healthcare resources and key components of cultural and ecological systems by combining traditional practices with scientific knowledge.

5.2 Significance of Traditional Knowledge

Ancient wisdom passed down through generations holds invaluable insights about plant use that are frequently ignored by contemporary science. The results highlight the importance of indigenous knowledge in preserving community health, particularly in rural and remote areas with limited access to modern healthcare services. For instance, the medicinal application of Phoenix sylvestris shows a strong and lasting bond between indigenous populations and their environment, with plants offering low-cost and easily obtainable healing solutions.

The significance of traditional knowledge extends beyond just healthcare, encompassing a complete perspective on

nature that combines healing methods with cultural, spiritual, and ecological aspects. Plants such as Holy Basil are cherished not only for their medicinal properties but also incorporated into the local culture through their presence in diets and rituals. This combination of medicinal and cultural traditions demonstrates how plant wisdom is ingrained in the community, transmitted through generations as a dynamic tradition that changes and grows.

Preserving traditional knowledge is important for the protection of biodiversity. Local communities are frequently the first to observe changes in the environment that impact the availability of plants, thus making them important partners in conservation initiatives. The research's emphasis on flora found only in Assam and the Northeast, like *Dillenia indica*, highlights the pressing importance of safeguarding these plants from excessive harvesting and habitat destruction. Acknowledging and incorporating traditional knowledge into scientific research can result in improved management of natural resources, ensuring the longevity of these plants for future generations.

Moreover, ancient wisdom offers unused opportunities for contemporary pharmaceutical research and development. Numerous plants featured in the research, such as *Jatropha curcas* and *Dillenia indica*, possess distinctive purposes that may spark the development of novel medications. This study emphasizes the significance of recording and verifying cultural customs, connecting old knowledge with contemporary scientific investigation

5.3 Implications

The outcomes of this research have important consequences. First and foremost, they emphasize the critical importance of conservation strategies for the protection of medicinal plants that are exclusive to Assam and the Northeast. Certain species are at high risk due to their regional uniqueness, emphasizing the need for focused conservation efforts that engage local communities as essential partners in order to protect them from environmental changes and overuse.

The research promotes the integration of traditional knowledge into primary healthcare services in rural areas, where these practices are already integral to everyday life. Acknowledging and confirming traditional cures can improve healthcare services by offering affordable and accessible treatment choices, leading to better community health results.
The significance of interdisciplinary collaboration is emphasized by the research for the scientific community. The plant species described here provide a foundation for future pharmacological studies, which could lead to the development of innovative medications. The research also highlights the importance of conducting additional ethnobotanical studies in unexplored regions, where valuable knowledge can support different scientific disciplines.

Finally, the research highlights the importance of traditional knowledge for its socio-cultural significance. As indigenous practices are being increasingly endangered, it is vital to record, protect, and respect the knowledge of local communities. Maintaining this information guarantees that it continues as a dynamic practice, able to adjust to the requirements of upcoming generations and an essential element of cultural heritage.

5.4 Recommendations

The study's results and potential impact lead to the proposal of a number of recommendations -
1. Conservation Initiatives: Implement conservation programs involving local communities to safeguard rare medicinal plants found only in Assam and the Northeast. It is essential to involve local communities in these activities, as their indigenous wisdom and customs are indispensable for the sustainable conservation and maintenance of these natural resources.

2. Incorporation into Healthcare: Support the inclusion of traditional medicine methods in public healthcare systems, especially in rural and underserved regions. Educating healthcare professionals on how to identify and integrate traditional remedies can enhance access to care, offer affordable treatments, and guarantee culturally appropriate healthcare services.

3. Pharmacological Research: Promote studies on the medicinal properties of less familiar plants like *Jatropha curcas* and *Dillenia indica*. Assistance and finances should be focused on verifying the effectiveness of traditional practices and researching bioactive substances that may result in novel drug findings.

4. Documentation and Education: Implement programs to record indigenous wisdom, safeguarding it for upcoming generations. Educational initiatives need to be created to educate the youth on the significance of medicinal plants and traditional customs, promoting cultural pride and heritage.
These suggestions aim to protect the valuable ethnobotanical heritage of Jorhat West by combining ancient knowledge with modern science and sustainable methods for the welfare of the community.

Conflict Of Interest

The authors declare no conflict of interest

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Authors' Contributions

Author-1 researched medicinal plants, collected information about the, and wrote first draft of the manuscript.
Author-2 was responsible for obtaining ethical approval, conducting data analysis, rearranging the drafts.
Both authors reviewed, edited and approved the final version of the manuscript.

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References

[1] P. Saha, A. D. Talukdar, S. S. Ningthoujam, M. D. Choudhury, et al., "Chemical composition, antimicrobial and antioxidant properties of seed oil plants of North-East India: A review," *TANG [Humanitas Medicine]*, Vol**.5,** Issue**.2,** pp**.1-9, 2015**.

[2] D. Ghosh, P. K. Mukherjee, "Natural Medicines – Clinical Efficacy, Safety and Quality," *CRC Press*, USA, **2025**.

[3] C. Iwaka, E. V. B. Azando, T. D. Hourhanou, S. Kora, et al., "Ethnoveterinary survey of trypanocidal medicinal plants of the Beninese pharmacopoeia in the management of bovine trypanosomosis in North Benin (West Africa)," *Heliyon*, Vol**.9,** Issue**.10, e11384, 2023**.

[4] P. K. Warrier, "Indian Medicinal Plants: A Compendium of 500 Species," *Orient Blackswan Publisher*, India, Vol**.1, 1994**.

[5] V. Singh, R. P. Pandey, "Ethnobotany of Rajasthan," *Scientific Publishers*, India, **1998**.

[6] P. K. Mukherjee, "Quality Control of Herbal Drugs," *Elsevier*, Netherlands, **1st ed., 2019**.

[7] N. S. Chauhan, "Medicinal and Aromatic Plants of Himachal Pradesh," *Indus Publishing*, India, **1999**.

[8] S. Vidyarthi, S. S. Samant, P. Sharma, "Traditional and indigenous uses of medicinal plants by local residents in Himachal Pradesh, North Western Himalaya, India," *International Journal of Biodiversity Science, Ecosystem Services & Management*, Vol**.9,** Issue**.1,** pp.**34-40, 2013**.

[9] S. Abidullah, A. Rauf, S. W. Khan, S. Mehnaz, A. Bibi, A. Rauf, S. Fazal, "Traditional uses of medicinal plants and their conservation in Charmang village, Bajaur, KP, Pakistan," *International Journal of Bioorganic Chemistry*, Vol**.4,** Issue**.2,** pp.**12-20, 2019**.

[10] L. M. L. Nollet, J. Ahmad, "Bioactive Compounds from Food – Benefits and Analysis," *CRC Press*, USA, **pp.1-500, 2024**.

[11] "Nutraceuticals in Veterinary Medicine," *Springer Science and Business Media LLC*, USA, **pp.1-300, 2019**.

[12] V. Kuete, "Ethnopharmacology, Phytochemistry, and Pharmacology of Potent Antibacterial Medicinal Plants from Africa," *Elsevier BV*, Netherlands, **pp.1-600, 2022**.

[13] J. Dlugosz, P. Staszczak, P. Smuszkiewicz-Rozanski, G. Rozanska-Smuszkiewicz, et al., "Impact of using superfood products on a sporty lifestyle," *Quality in Sport*, Vol**.10, Issue.2, pp.1-8, 2024**.

[14] H. N. Murthy, "Genetic Diversity of Fruits and Nuts – Sustainable Utilization," *CRC Press*, USA, **pp.1-400, 2025**.

[15] M. C. Gessler, D. E. Msuya, M. H. H. Nkunya, L. B. Mwasumbi, A. Schar, M. Heinrich, M. Tanner, "Traditional healers in Tanzania: the treatment of malaria with plant remedies," *Journal of Ethnopharmacology*, Vol**.50,** Issue**.3,** pp.**179-186, 1995**.

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