



“Ecological Survey And Documentation Of Traditional Plant Knowledge In Jeram And Patum Villages Of Daporijo, Arunachal Pradesh”

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Abstract

This article presents the results of an ecological field survey conducted by undergraduate students of Environmental Studies from Government Model Degree College, Daporijo. The survey was carried out in Jeram and Patum villages of Upper Subansiri District, Arunachal Pradesh, on 21 April 2025. The main objectives of survey were to identify local plant species, document their traditional and medicinal uses, and understand how indigenous communities utilize and conserve plant resources in their daily life. Data were collected through direct field observation, informal interviews with villagers, and participatory documentation. The study revealed that the two villages possess a rich diversity of plant species that are deeply integrated into the community’s culture, food habits, and health practices. The findings highlight the value of traditional ecological knowledge (TEK) in biodiversity conservation and the need for preserving this knowledge among future generations.

Keywords: Ecological Survey, Traditional Knowledge, Medicinal Plants, Biodiversity, Arunachal Pradesh

1. Introduction

The biodiversity of the North-East region of India represents one of the most ecologically rich and culturally diverse zones of the country. The people of this region have maintained a long-standing relationship with their natural surroundings, depending heavily on plant resources for food, medicine, shelter, and cultural practices.

To explore and document of this connection, an ecological survey was conducted by students of Government Model Degree College, Daporijo, under the supervision of Dr. Akash Keyang, Environmental Studies Subject Teacher. The study was designed to identify local plant species and record their traditional and medicinal uses as shared by the villagers of Jeram and Patum.

Jeram and Patum villages, located in the Upper Subansiri district, Daporijo of Arunachal Pradesh, is blessed with lush forests, rich soils, and favourable climatic conditions that support diverse vegetation. However, this biodiversity and traditional knowledge are under pressure from urbanization and changing land use pattern by the locality. Therefore, it becomes essential to record such knowledge system through scientific and community-based documentation for future generation.

2. Objectives of the Study

The study was guided by the following objectives:

1. To identify and classify the local plant species found in Jeram and Patum villages.
2. To record the traditional and medicinal uses of these plants as known to the local community.
3. To understand how indigenous ecological knowledge contributes to sustainable living.
4. To promote field-based environmental learning among students.

3. Methodology

3.1 Study Area

The survey was conducted in Jeram and Patum villages, located near Daporijo town in Upper Subansiri district. Both villages are surrounded by green hills, agricultural lands, and small streams. The local inhabitants mainly belong to indigenous communities engaged in agriculture, traditional healing, and forest-based activities.

3.2 Data Collection

The data were collected on 21 April 2025 by students divided into small groups. Each group covered specific ecological zones such as paddy fields, forest edges, riverbanks, and home gardens.

Information was gathered through:

- Direct observation of plants in their natural habitats.
- Interviews with villagers, especially elders and herbal healers, to collect information on plant uses.
- Recording and photography of plants for identification.
- Preparation of a hand-drawn route map from the college to the survey area, showing vegetation zones and sampling points.

3.3 Data Documentation

The collected data were classified based on:

- Local and scientific names of plants
- Plant type (herb, shrub, tree, climber, fern)
- Traditional uses (food, ritual, domestic)
- Medicinal applications (diseases treated, parts used)

The authenticity of the information was verified through cross-discussion among community members and reference to local botanical guides.

4. Findings and Results

The ecological survey revealed that Jeram and Patum villages have a rich diversity of useful and medicinal plants. The local community possesses remarkable knowledge about their ecological importance and practical applications.

4.1 Major Plants Species were Identified as:

S.No	Local Name	Scientific Name	Traditional Use	Medicinal Application
1	Tulsi	<i>Ocimum sanctum</i>	Sacred plant used in prayers	Leaf juice used for cold and cough
2	Neem	<i>Azadirachta indica</i>	Used as pesticide, purifier	Treats skin infections and fever
3	Bamboo	<i>Bambusa vulgaris</i>	Used for house building, tools	Shoots eaten; aids digestion
4	Ginger	<i>Zingiber officinale</i>	Used as spice	Cures sore throat, nausea
5	Turmeric	<i>Curcuma longa</i>	Used in rituals and food	Antiseptic and wound healing
6	Tapen	<i>Physalis peruviana</i>	Edible berries	Controls blood pressure
7	Humiya	<i>Houttuynia cordata</i>	Eaten raw as salad	Used for fever and infection
8	Pakofiya	<i>Diplazium esculentum</i>	Wild fern eaten as vegetable	Improves blood health
9	Kibukang	<i>Megaphrynium macrostachyum</i>	Leaves used to wrap food	For making mats and baskets
10	Jaanu Jabi	<i>Ricinus communis</i>	Oil extracted for daily use	Relieves skin rashes, urinary pain
11	Rucah	<i>Nephrolepis exaltata</i>	Used for decoration	Leaf paste for skin care
12	Tayim	<i>Eleusine coracana</i>	Used in food and drink	Source of calcium, improves strength
13	Oxalis	<i>Oxalis corniculata</i>	Used in chutney and salads	Improves digestion, vitamin C source
14	Bake Senge	<i>Solanum macrocarpon</i>	Used as vegetable	Reduces swelling and body pain

The study recorded more than 30 plant species, of which several are of ethnomedicinal importance. Villagers reported using roots, leaves, fruits, and barks for preparing home remedies against fever, stomach pain, wounds, and infections.

5. Discussion

The findings show that traditional knowledge of plants in Jeram and Patum villages is both scientific and sustainable. The community's plant use is based on observation, experience, and spiritual respect toward nature.

For instance, villagers know that harvesting too many roots of medicinal plants may kill the species, so they often collect only leaves or parts that can regrow. Sacred trees like Banyan and Tulsi are protected near homes as symbols of purity and life.

The traditional healers ("village doctors") play a vital role in preserving this heritage. Their methods involve combining local herbs, roots, and fruits to treat ailments naturally. Modern science can learn from such indigenous wisdom to discover new herbal medicines and conservation strategies.

The ecological survey also provided a valuable educational experience for students to gain traditional knowledge. They learned to identify plants, record field data, and appreciate Traditional Ecological Knowledge (TEK) as part of environmental science which is useful for man daily life.

However, some challenges were noted — such as difficulty in identifying certain plants, limited time, and changing weather conditions. Despite these, the study successfully achieved its objectives and inspired greater awareness among students about ecological system of the villages.

6. Conclusion

The ecological survey conducted in Jeram and Patum villages highlights the richness of plant biodiversity and the deep relationship between the local community and their natural environment. The traditional knowledge system of these villagers plays a key role in biodiversity conservation, sustainable resource use, and local health care.

Field-based studies like this not only help document valuable information but also teach students to respect and preserve indigenous knowledge. The people of Jeram and Patum serve as real guardians of ecological wisdom, demonstrating that science and tradition can coexist in protecting our natural world.

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