

Ethnobotanical study on the use of plants in selected Festivals of Assam

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ABSTRACT

Assam, a culturally rich state of Northeast India, exhibits strong traditional connections between plant resources and religious festivals. The present study investigates the ethnobotanical dimensions of plant utilization across key Assamese festivals, namely Bihu (Bohag, Magh, and Kati), Baah Puja, Bathou Puja, Tusu Puja, Bwisagu, and Ali-Ai-Ligang. Data compilation was carried out through an extensive review of ethnobotanical literature and secondary scholarly sources. Findings demonstrate that a remarkable range of many species are assigned specific ceremonial roles encompassing ritual worship, food offerings, purification practices, structural decoration, and divine symbolism. The research underscores how indigenous ecological knowledge is sustained through recurring festival-based interactions with the local flora, and draws attention to the pressing need for systematic ethnobotanical documentation as modernization gradually erodes traditional customs.

KEYWORDS: Ethnobotany, Assam festivals, traditional knowledge, medicinal plants, cultural practices, Bihu, Bathou Puja, Baah Puja, sacred plants, biodiversity conservation.

Introduction

Situated in northeastern India, Assam is distinguished by its exceptional ethnic mosaic and centuries-old cultural inheritance. The state is home to several indigenous communities. Among them the Bodo, Mishing, Karbi, Ahom, and tea garden tribes whose varied traditions, dialects, and ritual systems collectively constitute an inclusive and dynamic social identity. This multi-ethnic coexistence has nurtured a cultural milieu that simultaneously preserves age-old practices and adapts to contemporary social transformations.

The way of life in Assam is intricately bound to agrarian rhythms and natural cycles. Art, social ceremony, and daily practice alike are calibrated to the seasons and the demands of cultivation. Indigenous art forms, particularly Bihu and Satriya dance, weaving on traditional looms, and folk crafts. These serve as living repositories of cultural memory. A notable spiritual influence has been the neo-Vaishnavite movement initiated by the 15th-16th century saint-reformer Srimanta Sankardeva, whose institutional legacy through Satras and Naamghars continues to inform the religious and philosophical outlook of Assamese society.

Festivals constitute the most visible and vibrant manifestation of Assamese culture, weaving together devotion, communal solidarity, and celebratory expression. Bihu is the most iconic among them, observed in three seasonal iterations. Rongali (Bohag), Bhogali (Magh), and Kongali. Each marking a distinct phase of the agricultural year. Alongside Bihu, communities such as the Bodo (Baishagu), Mishing (Ali-Aye-Ligang), and Karbi (Rongker) observe their own festivals that reflect particular cosmologies and social values.

In a period of accelerating globalization and urbanization, scholarly inquiry into these festival traditions is vital for safeguarding indigenous knowledge systems, elucidating regional social structures, and fostering broader cultural awareness. Ethnobotany is the scientific study of the relationships between people and plants, especially how different cultures use plants for food, medicine, shelter, rituals, and other purposes. This paper accordingly aims to examine festival practices in Assam through an ethnobotanical lens, exploring the historical roots, socio-spiritual functions, and ongoing relevance of plant use in ritual contexts.

Assam's position within the Eastern Himalayan biodiversity hotspot endows it with a remarkable floristic wealth, much of which is integrated into the ceremonial fabric of its communities. Plants carry layered meanings in Assamese ritual life embodying fertility, purity, divine protection, and ecological interconnectedness. Festivals such as Bohag

Bihu, Magh Bihu, and Kati Bihu provide annual occasions through which this plant-human relationship is enacted and renewed. Bamboo, banana (*Musa* spp.), paddy (*Oryza sativa*), and various edible greens are mobilized for constructing ritual spaces, preparing ceremonial foods, and performing acts of worship.

Floral symbolism is especially prominent the states emblematic orchid *Rhynchostylis retusa* (Kopou Phool) is ceremonially worn by women at Bohag Bihu, while sacred tulsi (*Ocimum sanctum*) is central to numerous religious rites. Beyond their ceremonial significance, these botanicals also serve practical functions in nutrition, traditional medicine, and artisanal production, testifying to the sustainable ecological orientation of Assamese communities. The documentation of such knowledge is therefore imperative not only for cultural continuity but also for the broader conservation of regional plant diversity.

Aim and Scope:

The main aim of this study is to document and analyze the use of plants in selected festivals of Assam and to understand their cultural, religious, and traditional significance in Assamese society. The study focuses on the plants used in some important festivals of Assam, such as Rongali Bihu, Kati Bihu, Bhogali Bihu, Ali-Aye-Ligang, and other traditional community festivals. It examines the different plant species utilized in rituals, worship, decoration, food preparation, and other cultural practices associated with these festivals. The

study is based on secondary sources, including books, research articles, journals, and ethnobotanical literature. It seeks to highlight the relationship between plants and cultural traditions, emphasizing the role of plant resources in preserving the cultural heritage of Assam. The study also contributes to the documentation of traditional ethnobotanical knowledge and promotes awareness regarding the conservation of culturally important plant species.

Methodology:

The present study is based entirely on secondary data. Here we discuss about some festivals of Assam. Information regarding the use of plants in various festivals of Assam was collected from published books, research articles, journals, ethnobotanical studies, theses, dissertations, and other relevant literature. Important sources consulted include studies on ethnobotany, traditional knowledge systems, and Assamese folk culture, as well as standard botanical references. The collected data were carefully reviewed and compiled to identify plant species associated with different festivals of Assam, their local and scientific names, plant parts used, and their cultural, religious, and symbolic significance. Information obtained from different sources was compared and cross-checked to ensure accuracy and consistency. The data were then organized and analyzed descriptively. Plant species were categorized according to the festivals in which they are used and the purposes they serve, such as ritual

worship, decoration, food preparation, cultural practices, and symbolic functions. The findings were interpreted to understand the role of plants in preserving the cultural heritage and traditional practices of Assam.

Plants Used in Bihu

Bihu is the paramount festival of Assam, distinguished by its agricultural character and its pervasive cultural resonance. It is observed in three forms- Bohag (Rongali), Magh (Bhogali), and Kati (Kongali). Each corresponding to a phase of the farming calendar. Bohag Bihu, the most prominent of the three, commences on the final day of the Assamese month of Choat and unfolds over the first seven days of Bohag (mid-April). This festival is the occasion for *Bihu Naas* (dance) and *Bihu Naam* (song), which rank among the most distinctive cultural expressions of the region. Magh Bihu falls in mid-January and Kati Bihu in mid-October.

The opening day of Bohag Bihu, termed *Goru Bihu* (cattle day), is botanically significant: participants traditionally gather 101 plant species collectively called *Axo ata xaak* and prepare a medicinal recipe from them at dusk. This practice is grounded in the belief that consuming this diverse botanical preparation confers protective health benefits throughout the coming year.

Presented below is a comprehensive compiled list of the 101 *xaak* (edible greens and plant species) traditionally gathered during Bohag Bihu, together with their scientific names and principal uses. It should be noted that the precise composition of this list varies by locality; the tradition emphasizes variety and seasonal

availability rather than a fixed universal roster. and connection to the natural world.
Consuming a wide range of *xaak* is culturally understood as an affirmation of health, vitality,

No.	Local Name (Xaak)	Scientific Name	Uses
1	Lai shak	<i>Brassica juncea</i>	Stir-fry, improves digestion
2	Paleng shak	<i>Spinacia oleracea</i>	Rich in iron, curries
3	Dhekia shak	<i>Diplazium esculentum</i>	Fern stir-fry, seasonal delicacy
4	Manimuni	<i>Centella asiatica</i>	Brain tonic, chutney
5	Morisa shak	<i>Corchorus olitorius</i>	Fiber-rich curry
6	Kosu shak	<i>Colocasia esculenta</i>	Leaf curry, good for gut
7	Kosu loti	<i>Colocasia esculenta</i>	Tangy dishes
8	Khutura shak	<i>Amaranthus viridis</i>	Blood purifier
9	Notey shak	<i>Amaranthus spinosus</i>	Fry, improves immunity
10	Pui shak	<i>Basella alba</i>	Cooling vegetable
11	Mitha neem	<i>Azadirachta indica</i> (young leaves)	Detoxifying
12	Neem shak	<i>Azadirachta indica</i>	Bitter tonic
13	Tulsi	<i>Ocimum tenuiflorum</i>	Medicinal tea
14	Podina	<i>Mentha spicata</i>	Chutney, digestion
15	Dhonia shak	<i>Coriandrum sativum</i>	Flavoring herb
16	Patot diya shak	<i>Paederia foetida</i>	Improves appetite
17	Bhedai lota	<i>Clerodendrum colebrookianum</i>	Blood pressure control
18	Houttuynia (Masundori)	<i>Houttuynia cordata</i>	Salad, medicinal
19	Bon jaluk shak	<i>Polygonum chinense</i>	Anti-inflammatory
20	Jilmil shak	<i>Oxalis corniculata</i>	Sour taste, vitamin C
21	Tengesi shak	<i>Hibiscus sabdariffa</i>	Sour curry
22	Ou tenga leaves	<i>Dillenia indica</i>	Flavoring
23	Bor tenga shak	<i>Garcinia spp.</i>	Digestive
24	Kalmou shak	<i>Ipomoea aquatica</i>	Water spinach
25	Soru kosu	<i>Colocasia esculenta</i> (young)	Curry
26	Bor kosu	<i>Colocasia gigantea</i>	Thick curries
27	Posola xaak	<i>Musa balbisiana</i> (banana stem/leaves)	Fiber-rich
28	Mati kaduri	<i>Alternanthera sessilis</i>	Nutritious
29	Bortukola leaf	<i>Musa spp.</i>	Wrapping food
30	Khorisa leaf	<i>Bambusa spp.</i>	Fermented dishes
31	Bon jaluk lota	<i>Persicaria hydropiper</i>	Spicy herb
32	Kulekhara	<i>Hygrophila auriculata</i>	Improves hemoglobin
33	Soru bon shak	<i>Chenopodium album</i>	Rich in vitamins
34	Bathua	<i>Chenopodium album</i>	Leaf curry

Table:01 101 xaak (edible greens and plant species)

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35	Senai shak	<i>Cassia tora</i>	Detox
36	Titaphul shak	<i>Clerodendrum viscosum</i>	Bitter medicinal
37	Kangkong	<i>Ipomoea reptans</i>	Stir fry
38	Malbhog leaf	<i>Musa spp.</i>	Cooking wrap
39	Bon paleng	<i>Rumex nepalensis</i>	Sour leafy veg
40	Luit shak	<i>Alternanthera philoxeroides</i>	Aquatic green
41	Kothal leaf	<i>Artocarpus heterophyllus</i>	Traditional use
42	Bel leaf	<i>Aegle marmelos</i>	Medicinal
43	Aloo leaf	<i>Solanum tuberosum</i>	Used in some dishes
44	Bilahi leaf	<i>Solanum lycopersicum</i>	Flavoring
45	Jolpai leaf	<i>Elaeocarpus floribundus</i>	Medicinal
46	Tita kerela leaf	<i>Momordica charantia</i>	Diabetes control
47	Rajgira shak	<i>Amaranthus gangeticus</i>	Nutritious
48	Kanchan leaf	<i>Bauhinia variegata</i>	Edible flowers/leaves
49	Soru mati shak	<i>Portulaca oleracea</i>	Omega-3 rich
50	Dighloti shak	<i>Litsea monopetala</i>	Aromatic
51	Gamari leaf	<i>Gmelina arborea</i>	Traditional use
52	Tora shak	<i>Cassia tora</i>	Bitter tonic
53	Bihlongoni	<i>Polygonum barbatum</i>	Medicinal
54	Khorika shak	<i>Enhydra fluctuans</i>	Cooling
55	Bon dhonia	<i>Eryngium foetidum</i>	Strong flavor
56	Paan leaf	<i>Piper betle</i>	Digestive
57	Bhedailota	<i>Clerodendrum colebrookianum</i>	Hypertension
58	Manimuni lota	<i>Centella asiatica</i>	Memory
59	Kasundori	<i>Houttuynia cordata</i>	Salad
60	Jati xaak	<i>Jasminum spp.</i>	Medicinal
61	Bogori leaf	<i>Ziziphus mauritiana</i>	Traditional
62	Amlokhi leaf	<i>Phyllanthus emblica</i>	Vitamin C
63	Tezpat leaf	<i>Cinnamomum tamala</i>	Spice
64	Nahar leaf	<i>Mesua ferrea</i>	Traditional
65	Bhomora shak	<i>Leucas aspera</i>	Medicinal
66	Bon tulsi	<i>Ocimum gratissimum</i>	Herbal
67	Soru tengesi	<i>Hibiscus sabdariffa</i>	Sour
68	Gima shak	<i>Clerodendrum glandulosum</i>	BP control
69	Bhedailota	<i>Clerodendrum spp.</i>	Medicinal
70	Koli shak	<i>Brassica oleracea</i>	Nutritious
71	Bandhakopi leaf	<i>Brassica oleracea var. capitata</i>	Fiber
72	Phoolkopi leaf	<i>Brassica oleracea var. botrytis</i>	Edible leaves
73	Mula shak	<i>Raphanus sativus</i>	Digestive

74	Gajor leaf	<i>Daucus carota</i>	Herbal
75	Lau shak	<i>Lagenaria siceraria</i>	Light curry
76	Kumura shak	<i>Cucurbita maxima</i>	Leaf curry
77	Jhinga shak	<i>Luffa acutangula</i>	Fiber
78	Upo shak	<i>Luffa cylindrica</i>	Light food
79	Tita lau leaf	<i>Momordica dioica</i>	Bitter
80	Bor bengena leaf	<i>Solanum melongena</i>	Flavor
81	Soru bengena leaf	<i>Solanum melongena</i>	Curry
82	Kola shak	<i>Musa spp.</i>	Traditional
83	Bamboo leaf	<i>Bambusa spp.</i>	Fermented
84	Khorisa	<i>Bambusa spp.</i> shoots	Pickle
85	Bon kosu	<i>Colocasia spp.</i>	Wild
86	Soru pui	<i>Basella alba</i> (young)	Soft leaves
87	Bor pui	<i>Basella alba</i> (mature)	Thick curry
88	Mati paleng	<i>Spinacia spp.</i>	Wild spinach
89	Bon lai	<i>Brassica spp.</i>	Wild mustard
90	Soru khutura	<i>Amaranthus spp.</i>	Tender greens
91	Bor khutura	<i>Amaranthus spp.</i>	Mature leaves
92	Kanchan lota	<i>Bauhinia spp.</i>	Edible
93	Bon neem	<i>Melia azedarach</i>	Bitter
94	Soru senai	<i>Cassia tora</i> (young)	Detox
95	Bor senai	<i>Cassia tora</i> (mature)	Bitter
96	Mati dhonia	<i>Coriandrum sativum</i> (wild)	Flavor
97	Bon podina	<i>Mentha spp.</i>	Herbal
98	Khorika lota	<i>Enhydra fluctuans</i>	Cooling
99	Bon manimuni	<i>Centella spp.</i>	Medicinal
100	Soru bhedai	<i>Clerodendrum spp.</i>	BP control
101	Mixed wild shak	Various species	Seasonal mix

Source: Edible Bio-Resources & Livelihoods

The 101 *xaak* tradition is valued for its nutritional richness, its medicinal diversity, and its cultural affirmation of human dependence on plant life.

Plants Used in *Goru Bihu*

Goru Bihu, the cattle-worship day of Rongali Bihu, involves the ritual bathing, cleansing, and honoring of bullocks and other farm animals. Selected plant species are used during this ceremony for their protective, medicinal, and symbolic properties, as detailed in the table below.

Table: 02 Plants Used in Goru Bihu

Sl. No.	Local Name	Botanical Name	Use in Goru Bihu
1	Dighloti	<i>Litsea salicifolia</i>	Used for gently beating/touching cattle to symbolize cleansing and driving away evil
2	Makhiyoti	<i>Flemingia strobilifera</i>	Tied or used along with Dighloti during rituals
3	Bihlongoni	<i>Polygonum hydropiper</i>	Applied for its medicinal properties; helps repel insects
4	Manimuni	<i>Centella asiatica</i>	Sometimes fed to cattle for health benefits
5	Neem	<i>Azadirachta indica</i>	Known for antiseptic qualities; used in bathing or near cattle
6	Turmeric (Halodhi)	<i>Curcuma longa</i>	Applied on cattle body for purification and protection
7	Lau (Bottle gourd)	<i>Lagenaria siceraria</i>	Pieces used in bathing rituals of cattle
8	Brinjal (Bengena)	<i>Solanum melongena</i>	Used symbolically in rituals tied around cattle
9	Rice plant (Dhaan)	<i>Oryza sativa</i>	Symbol of prosperity; sometimes used in offerings

Source: Edible Bio-Resources & Livelihoods

These plants collectively perform ritualistic, medicinal, and symbolic functions, facilitating the ceremonial purification of cattle, deterring insects and pathogens, and invoking agricultural abundance for the year ahead.

Ornamental Plants Used in Bohag Bihu

Decorative plants hold a prominent place in the aesthetic and ceremonial landscape of Bohag Bihu. The following species are employed for personal adornment, the preparation of garlands, and the beautification of homes and festival venues.

Table: 03 Ornamental Plants Used in Bohag Bihu

Sl. No.	Local Name	Botanical Name	Uses
1	Kopou Phool	<i>Rhynchosyilis retusa</i>	Worn by women in hair; symbol of beauty and spring
2	Togor	<i>Tabernaemontana divaricata</i>	Used in garlands and home decoration
3	Nahor	<i>Mesua ferrea</i>	Fragrant flowers used in decoration and rituals
4	Keteki	<i>Pandanus odorifer</i>	Aromatic flower used in festive decoration
5	Joba (Hibiscus)	<i>Hibiscus rosa-sinensis</i>	Used in decoration and sometimes in rituals
6	Aparajita	<i>Clitoria ternatea</i>	Decorative flower used in garlands
7	Marigold (Narzi)	<i>Tagetes erecta</i>	Widely used in garlands and decoration
8	Rose (Golap)	<i>Rosa spp.</i>	Used for decoration and gifting
9	Bakul	<i>Mimusops elengi</i>	Fragrant flowers used in traditional decoration

10	Krishnachura	Delonix regia	Adds vibrant color to surroundings during spring
11	Radhachura	Peltophorum pterocarpum	Decorative flowering tree enhancing festive beauty

Source: Edible Bio-Resources & Livelihoods

Of particular significance is *Kopou Phool (Rhynchosytilis retusa)*, worn in the hair by women as an emblem of feminine beauty, cultural belonging, and the arrival of spring.

Plants Used in *Kati Bihu*

Kati Bihu, observed in mid-October, is a contemplative festival centered on the protection of standing paddy crops and the sustenance of hope during a lean agricultural period. Its ritual vocabulary is dominated by the lighting of earthen lamps at fields and *tulsi* shrines. The plants employed reflect this spirit of austerity and agrarian devotion.

Table: 04 Plants Used in *Kati Bihu*

Sl. No.	Local Name	Botanical Name	Uses
1	Rice (Dhaan)	<i>Oryza sativa</i>	Main crop in the field; earthen lamps are lit near paddy for protection and prosperity
2	Tulsi (Holy Basil)	<i>Ocimum tenuiflorum</i>	Worshipped; lamp is lit at the Tulsi plant
3	Banana (Kol)	<i>Musa paradisiaca</i>	Leaves used in rituals and sometimes as offering base
4	Bamboo (Banh)	<i>Bambusa spp.</i>	Used to make 'Akaxbonti' (sky lamp) structures
5	Mustard (Xoriyoh)	<i>Brassica juncea</i>	Mustard oil used for lighting earthen lamps
6	Jute (Mora/Pat)	<i>Corchorus spp.</i>	Fibres sometimes used for making wicks for lamps
7	Sugarcane (Kuhiyar)	<i>Saccharum officinarum</i>	Planted or tied in fields as part of traditional protection rituals
8	Black gram (Mati Mah)	<i>Vigna mungo</i>	Used in simple offerings or traditional food
9	Sesame (Til)	<i>Sesamum indicum</i>	Used in oil and small ritual offerings

Source: Edible Bio-Resources & Livelihoods

The plants associated with *Kati Bihu* predominantly serve the purposes of crop protection, lamp-lighting rituals (*Akashbonti* and *Tulsi Bonti*), and modest ceremonial offerings all reflecting a mood of quiet vigilance and communal hope for a successful harvest.

Plants Used in *Magh Bihu (Bhogali Bihu)*

Magh Bihu, celebrated in mid-January, is Assam's foremost harvest festival. It is the time of communal feasting, bonfire construction (*meji*), and the joyful marking of agricultural completion. Plant use during this festival is overwhelmingly oriented toward food preparation and the erection of

temporary festive structures.

Table: 05 Plants Used in Magh Bihu

Sl. No.	Plant (Local Name)	Botanical Name	Uses
1	Rice	<i>Oryza sativa</i>	Main food crop; used to make pitha, chira, muri, and other traditional dishes
2	Sesame	<i>Sesamum indicum</i>	Used to prepare til pitha and til laru (sweets)
3	Coconut	<i>Cocos nucifera</i>	Used in making laru and other festive sweets
4	Sugarcane	<i>Saccharum officinarum</i>	Eaten raw; also used in meji (bonfire) structure and offerings
5	Bamboo	<i>Bambusa spp.</i>	Used to build meji and bhelaghar (temporary huts)
6	Banana	<i>Musa paradisiaca</i>	Leaves used for serving food; stem/leaves used in meji
7	Black gram	<i>Vigna mungo</i>	Used in preparing traditional pitha
8	Mustard	<i>Brassica juncea</i>	Mustard oil used in cooking and sometimes in lamps
9	Betel leaf	<i>Piper betle</i>	Offered as a sign of respect and hospitality
10	Areca nut	<i>Areca catechu</i>	Used with betel leaf in social customs

Source: Edible Bio-Resources & Livelihoods

Magh Bihu is fundamentally an occasion of harvest celebration and communal bonding; accordingly, its plant use is centered on culinary preparation and the construction of the *meji* bonfire rather than strict ritual observance.

Plants Used in *Ali-Ai-Ligang*

Ali-Ai-Ligang is one of the most significant festivals observed by the Mising community of Assam, held annually between February and March to inaugurate the agricultural season. The festival's very name encodes a botanical philosophy denoting roots or legumes, referring to fruits and seeds. *Ligang* signifies the act of sowing. Together, these terms articulate the Mising people's intimate dependence on plant resources for subsistence, identity, and ritual life.

The table below documents the primary plant species integral to *Ali-Ai-Ligang* celebrations, including their scientific identifications and ceremonial or culinary roles.

Table: 06 Plants Used in Ali-Ai-Ligang

Sl. No.	Local Name	Scientific Name	Uses
1	Ahu Dhaan	<i>Oryza sativa</i>	Main crop sown; symbol of agriculture and prosperity
2	Apong	<i>Oryza sativa</i>	Traditional beverage prepared and consumed during the festival
3	Banana	<i>Musa paradisiaca</i>	Leaves used for serving food; also used in rituals
4	Bamboo	<i>Bambusa spp.</i>	Used for cooking (bamboo tubes), making utensils and structures

5	Turmeric	<i>Curcuma longa</i>	Used in cooking and purification rituals
6	Ginger (Ada)	<i>Zingiber officinale</i>	Used in food preparation and for medicinal purposes
7	Chili (Jaluk)	<i>Capsicum annum</i>	Used in traditional dishes
8	Eggplant (Bengena)	<i>Solanum melongena</i>	Cooked in dishes, often roasted in bamboo
9	Mustard (Xoriyoh)	<i>Brassica juncea</i>	Used for oil and cooking
10	Black gram (Mati Mah)	<i>Vigna mungo</i>	Used in preparing traditional food
11	Sesame (Til)	<i>Sesamum indicum</i>	Used in food and sometimes offerings
12	Yam (Kosu/Kachu)	<i>Colocasia esculenta</i>	Used as vegetable in traditional meals
13	Bottle gourd (Lau)	<i>Lagenaria siceraria</i>	Used in cooking
14	Betel leaf (Paan)	<i>Piper betle</i>	Offered as a sign of respect and hospitality
15	Areca nut (Tamul)	<i>Areca catechu</i>	Used with betel leaf in social customs

Source: Edible Bio-Resources & Livelihoods

Plants Used in *Tusu Puja*

Tusu Puja is a folk harvest celebration observed primarily among tea garden communities and certain rural populations of Assam during the month of *Puh*, culminating on Makar Sankranti in mid-January. The festival revolves around the veneration of Goddess *Tusu*, a deity associated with agrarian fertility and household well-being. Young women take a leading role, fashioning decorated effigies from bamboo, clay, and colorful materials, and gathering to perform traditional *Tusu* songs that give voice to rural aspirations and social themes. On the concluding day, a procession conveys the idols to nearby waterways for immersion. *Tusu Puja* illuminates the distinctive cultural traditions of Assam's tea garden communities and their enduring agrarian ethos.

The table below lists the principal plants employed in *Tusu Puja* along with their scientific names and traditional roles.

Table: 07 Plants Used in *Tusu Puja*

Local / Common Name	Scientific Name	Uses
Paddy (Dhaan)	<i>Oryza sativa</i>	Symbol of prosperity and harvest; used in offerings and decoration
Banana (Kola)	<i>Musa paradisiaca</i>	Leaves used as plates for offerings; plant symbolizes fertility
Turmeric (Halodhi)	<i>Curcuma longa</i>	Considered auspicious; used in rituals and purification
Sesame (Til)	<i>Sesamum indicum</i>	Offered during Makar Sankranti; used in sweets and rituals
Sugarcane	<i>Saccharum officinarum</i>	Represents sweetness and abundance; offered during puja
Bamboo	<i>Bambusa vulgaris</i>	Used to make the framework of <i>Tusu</i> structures and decorations
Marigold (Narji phool)	<i>Tagetes erecta</i>	Flowers used for decoration and puja offerings
Mango leaves	<i>Mangifera indica</i>	Used in decoration
Coconut (Narikol)	<i>Cocos nucifera</i>	Offered as a sacred fruit in rituals

Mustard plant	<i>Brassica juncea</i>	Symbol of the winter harvest; sometimes used in decoration
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Source: Edible Bio-Resources & Livelihoods

Rice and selected herbal starters are additionally employed in the preparation of Apong, the traditional fermented rice beverage of the Mising people. Specialized leaves and roots are incorporated into the fermentation process to impart flavor and enhance preservation.

Plants Used in *Bwisagu*

Bwisagu, the spring new year festival of Assam Bodo community, is organically entwined with nature, agricultural renewal, and the ritual use of plants. Observed to mark the Bodo New Year, the festival celebrates seasonal transition, livestock welfare, and communal solidarity. Plants pervade every dimension of *Bwisagu* from ritual purification and decoration to food preparation and the production of traditional beverages.

Table: 08 Plants Used in *Bwisagu*

Local / Common Name	Scientific Name	Uses
Rice (Dhaan)	<i>Oryza sativa</i>	Staple food; used to prepare traditional dishes and rice beer
Bamboo	<i>Bambusa vulgaris</i>	Used to make musical instruments, fences, and ritual items
Banana	<i>Musa paradisiaca</i>	Leaves used as plates; plant used in rituals and decoration
Turmeric	<i>Curcuma longa</i>	Applied during rituals; considered purifying and auspicious
Neem	<i>Azadirachta indica</i>	Leaves used for purification and protection from diseases
Mango leaves	<i>Mangifera indica</i>	Used in decoration and rituals as a symbol of well-being
Jackfruit	<i>Artocarpus heterophyllus</i>	Fruit consumed during the festival; tree associated with abundance
Betel nut	<i>Areca catechu</i>	Offered in rituals and used in traditional greetings
Betel leaf	<i>Piper betle</i>	Used along with betel nut in rituals and social customs
Mustard	<i>Brassica juncea</i>	Used for oil and sometimes in ritual purification practices
Coconut	<i>Cocos nucifera</i>	Offered in puja and used in food preparation

Source: Edible Bio-Resources & Livelihoods

Sacred usage is particularly prominent: leaves of turmeric (*Curcuma longa*) and neem (*Azadirachta indica*) are infused in water for ceremonial bathing rituals, believed to purify participants and ward off malevolent influences. Fresh foliage, blossoms, and grasses are presented as votive offerings to invoke community welfare, while certain plant species regarded as spiritually potent are cultivated near dwellings.

Plants Used in *Baah Puja*

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Baah Puja is a traditional agricultural rite practiced in Assam in which cultivators express formal gratitude to their bullocks animals without whose labor ploughing and field preparation would be impossible. *Baah* Puja is mainly celebrated by the Sarania Kachari community in the western and north-western parts of Assam. The festival is especially associated with Tamulpur District. The worship is also observed by Sarania Kachari communities living in different areas of Assam, particularly in the Bodoland Territorial Region (BTR), including Tamulpur District, Baksa District, Udalguri District, Kokrajhar District, Chirang District. Typically conducted during the Bihu season, the ceremony involves washing and decorating the animals with garlands, anointing them with turmeric, and offering them specially prepared food. *Baah* Puja encapsulates core Assamese agrarian values: respect for labor, reverence toward nature, and the aspiration for a bountiful harvest.

Table: 09 Plants Used in *Baah* Puja

Common Name (Plant)	Scientific Name	Uses
Banana	<i>Musa paradisiaca</i>	Leaves used as plates for offerings; plant used in decoration
Tulsi	<i>Ocimum tenuiflorum</i>	Considered sacred; used for purification and offerings
Mango Leaves	<i>Mangifera indica</i>	Used in toran (decorative hangings) for auspiciousness
Bamboo	<i>Bambusa vulgaris</i>	Used for making structures, decorations, and ritual items
Betel Leaf	<i>Piper betle</i>	Offered during rituals as a symbol of respect
Areca Nut	<i>Areca catechu</i>	Used along with betel leaf in offerings
Rice Plant	<i>Oryza sativa</i>	Symbol of prosperity; used in offerings to deities and livestock
Turmeric Plant	<i>Curcuma longa</i>	Paste used to purify and decorate cattle
Sugarcane	<i>Saccharum officinarum</i>	Symbol of sweetness and prosperity; used in festive decoration
Marigold	<i>Tagetes erecta</i>	Used as garlands for decoration and offerings

Source: Edible Bio-Resources & Livelihoods

These botanical selections mirror the agrarian character of Assamese culture, in which *Baah* Puja serves as a ceremonial acknowledgment of cattle as indispensable partners in the farming enterprise.

Plants Used in *Bathou* Puja

Bathou Puja is the most sacred religious observance of the Bodo community, dedicated to *Bathoubwrai*; the supreme deity of the *Bathou* faith, revered as the creator and sustainer of all existence. The defining ritual element of *Bathou* Puja is the *Siju* plant (*Euphorbia neriifolia* or allied species), which is venerated as the physical embodiment of *Bathoubwrai*. The plant is cultivated in a consecrated enclosure known as the *Bathou Thansali* and surrounded by a bamboo fence constructed with five symbolic layers, each representing one of the five elemental principles-earth, water, fire, air,

and ether.

The puja is officiated by the village priest (Deuri), who conducts a sequence of ritual offerings including rice, *judima* (traditional rice wine), betel leaf, and prayers. Some traditional communities also include animal sacrifice, though symbolic offerings have become increasingly prevalent. *Bathou* Puja is a powerful affirmation of the Bodo peoples spiritual relationship with the natural world and a vital mechanism for community cohesion and the perpetuation of indigenous faith traditions.

Table: 10 Plants Used in *Bathou* Puja

Common Name (Plant)	Scientific Name	Uses
Siju Plant	<i>Euphorbia neriifolia</i>	Considered the living form of Lord Bathou; central object of worship
Tulsi	<i>Ocimum tenuiflorum</i>	Used for purification and spiritual offerings
Banana Plant	<i>Musa paradisiaca</i>	Leaves used as plates for offerings; plant used in decoration
Mango Leaves	<i>Mangifera indica</i>	Used in sacred decorations and as auspicious symbols
Bamboo	<i>Bambusa vulgaris</i>	Used to fence the sacred Bathou plant and for ritual structures
Durva Grass	<i>Cynodon dactylon</i>	Offered as a sacred grass during rituals
Betel Leaf	<i>Piper betle</i>	Offered as a symbol of respect and devotion
Areca Nut	<i>Areca catechu</i>	Used along with betel leaf in offerings
Rice Plant	<i>Oryza sativa</i>	Symbol of prosperity; used in offerings and prayers
Sugarcane	<i>Saccharum officinarum</i>	Used in offerings symbolizing sweetness and abundance

Source: Edible Bio-Resources & Livelihoods

Within the *Bathou* Puja ritual system, the *Siju* plant holds supreme importance as the living incarnation of *Bathoubwrai* and the primary object of veneration.

Conclusion

The present investigation affirms that plants are not peripheral but foundational to the festival traditions of Assam, constituting an irreplaceable bridge between cultural practice and ecological knowledge. Across diverse ceremonies from Bihu and its three seasonal expressions to *Baah* Puja, *Bathou* Puja, *Tusu*

Puja, *Bwisagu*, and *Ali-Ai-Ligang* botanical species fulfill roles as agents of ritual efficacy, symbolic meaning, nutritional sustenance, and artistic expression. These practices collectively embody a sophisticated indigenous understanding of the natural world, one that has developed over centuries through direct, observant engagement with local plant communities.

At the same time, the study identifies a critical challenge: the gradual attrition of these plant-based traditions under the combined pressures of modernization, urbanization, and

environmental change. Both the loss of native plant habitats and the erosion of intergenerational knowledge transmission threaten to sever the cultural ties that give these traditions their meaning. Systematic ethnobotanical documentation, community-

engaged conservation, and the integration of traditional knowledge into contemporary educational frameworks are therefore urgently needed to ensure that this irreplaceable cultural and ecological heritage is preserved for future generations.

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