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Ethnobotanical Insights into Traditional Food Practices and Medicinal Herbs of the Mising Community in Majuli, Assam

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Abstract: Assam, a state in Northeast India, is rich in biodiversity and traditional food culture, emphasizing fresh, organic, and nutrient-rich ingredients. The local diet, shaped by the region's climate and agricultural abundance, includes a variety of immunity-boosting foods that contribute to overall health and disease resistance. The traditional Assamese diet, with its balance of fermented foods, herbal ingredients, and protein sources, serves as a natural immunity booster. These foods form an integral part of the diet of tribal and indigenous communities in the region and are closely linked to strong gut health. Both tribal and non-tribal populations in Assam have their own unique cooking styles. The Misings are the second-largest scheduled tribe of Assam, most of whom live in the plains near the banks of the Brahmaputra River. The Mising community is culturally rich, with traditional food habits that rely heavily on indigenous plants and herbs. It has been reported that they use various herbs and plant-based items that are not only nutritious but also enhance immunity. Their cooking style is simple, with little or no use of spices, and often involves boiling, which helps preserve nutritional components.

In this study, we documented the vegetables, fruits, and beverages used by the Mising community of Majuli District and their associated health benefits. The research was carried out through direct interaction with local Mising people and supported by documentation. Findings revealed that food items such as Namsing and Pinkang Apin, as well as herbs like Pakhom, Nekung Marsong, and Nekung, provide various health benefits ranging from boosting immunity to improving gut health. The study suggests that further qualitative and quantitative nutritional and phytochemical analyses of these plants and food products are needed to better understand their relationship with gut health.

Keywords: Mising community, immunity, gut health, herbs, nutritional

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1. Introduction

The Mising (Miri) people, belonging to an Indo-Mongoloid and East Asian group, originally migrated long ago from Tibet's eastern Himalayan regions. They eventually settled in the fertile

Brahmaputra Valley of Assam, India. During their migration, they primarily followed the Brahmaputra River, gradually spreading to lands along its tributaries such as the Dihing, Disang, Dikhow, Subansiri, Ranganadi, Dikrong, and others. Today, their settlements are distributed across eight districts of Assam, including Tinsukia, Dibrugarh, Dhemaji, Lakhimpur, Sivasagar, Jorhat, Golaghat, and Sonitpur. However, frequent floods and soil erosion have caused significant displacement and property loss, worsening their already difficult socio-economic situation. Under more favorable conditions, their population expanded further, inhabiting districts such as Dhemaji, Lakhimpur, Tinsukia, Dibrugarh, Sivasagar, Jorhat, Golaghat, Sonitpur, Darrang, and Kamrup.

Within the Mising community, there is a strong preference for healthy eating. Understanding their perception of healthy eating requires examining two aspects: the factors shaping their eating behaviors and the influences on their dietary habits. The Misings have a distinctive cultural identity, and their food practices are closely tied to nature, reflecting their deep reliance on it. Food holds symbolic importance in their community, adding to its unique cultural significance (Kuli, 2015).

The Mising community has successfully preserved its traditional dress code, with the renowned Miri Mekhela Sador gaining popularity in the market. This demonstrates how their culture blends with the dominant local culture. As food is a symbolic element, every community, including the Misings, has unique food-related cultural practices. For the Mising community, food serves as identity, process, and cultural expression. It acts as a metaphor, bridging nature and culture, and highlights the universal connection between the two in human thought. Healthy eating is a significant aspect of their lifestyle, and their diet is widely recognized for being balanced, nutritious, diverse, and rich in food value. Medicinal plants are a staple of their diet, reflecting their reliance on forest resources (Indris, 2003). The local communities of Northeast India possess exceptional knowledge about plant resources and their practical uses (Doley, 2014).

The livelihood system of the Mising community emphasizes their expertise in health practices and the use of local plants. They often rely on home-based treatments to address various diseases such as malaria, smallpox, skin ailments, diarrhea, vomiting, cough, gastric issues, blood purification, urinary problems, jaundice, dysentery, fever, bronchitis, stomach disorders, blood pressure, nerve-related conditions, menstrual issues, asthma, and epilepsy. Medicinal plants play a central role in these treatments (Kanjilal et al., 1992). For instance, ornamental plants like Chalkunwuri (aloe vera) are used for cuts and burns, Betgaaj (rattan shoot) for deworming, and Herhurua lata (Cissus quadrangularis L.) for treating fractures. To soothe burning eyes, they use Doron leaves. Primarily agriculturalists, the Misings derive most of their income from cultivating paddy fields (Kuli, 2003).

In this study, an attempt has been made to document the food habits and herbs used by the Mising community of Assam). The study will help identify the scope, style, and utility of the food habits of the Mising people. Literature on food studies has established the accurate connection between food and foodways.

2. Methodology

Majuli is a largest river island in Assam, India. It is bordered by the Brahmaputra River to the south and east, the Subansiri River to the west and an anabranch of the Brahmaputra River.

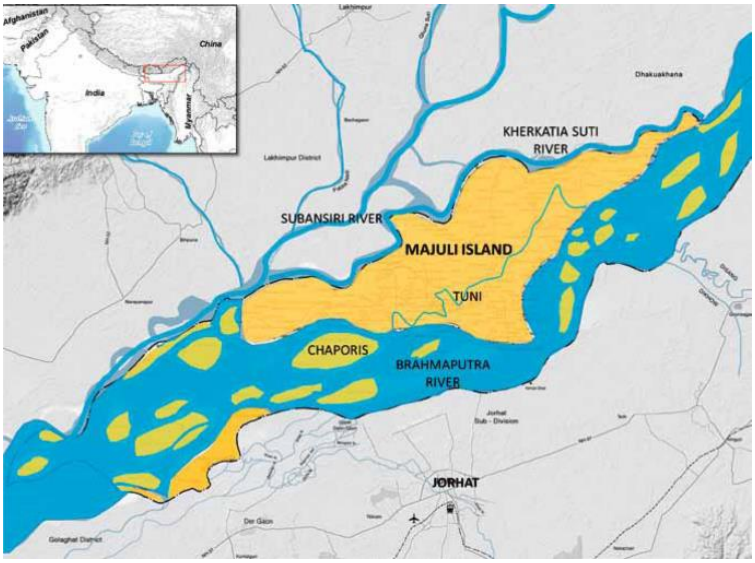

Figure 1. Study Area: Majuli District, Assam

This study relied on fieldwork and data collected through observation and interviews. The interviews primarily focused on food habits in the villages surveyed. Visits were conducted in three villages of Majuli district—Namoni Kalia Gaon, Gereki Mising Gaon, and Chikari Gaon—where approximately 45 families were interviewed. Participants from various age groups were included, and efforts were made to trace the historical and cultural connections within the community.

The Mising people exhibit a profound bond with nature, which is evident in their practices. To gather data, significant attention was given to observing food habits and related cultural practices. However, engaging with women proved challenging, as they were deeply occupied with their daily tasks. The interviews aimed to capture their experiences and perspectives in their own words.

Figure 2. Photograph was taken during an interview with a family from Nam-kalia Gaon of Majuli

During the fieldwork, careful observation was emphasized as a reliable method for gaining a deeper understanding of society. Respondents were encouraged to freely share their experiences and emotions without restriction. Despite their demanding daily schedules, they enthusiastically engaged in discussions, which proved to be a gratifying experience. It became evident that they took great pride in their Mising heritage and demonstrated a strong awareness of their cultural identity.

3. Results

After interviewing families and collecting data on the food habits of the Mising people, it was found that they prefer boiled foods, which help retain nutritional value. The use of little to no oil in their dishes contributes to protection against cholesterol-related diseases. They incorporate various herbs into their cooking, often adding them to fish and meat dishes.

The Mising community possesses extensive knowledge of food, particularly regarding dietary practices during the prenatal and postnatal periods. After childbirth, mothers are advised to consume chicken soup infused with Bihlangani leaves, a medicinal plant. Kochu or Ange (taro, scientifically known as Alocasia acuminata Schott) is a staple food in their diet. During puberty, girls are encouraged to avoid certain foods, such as pineapple and banana flowers. Bihlangani, a type of fern, is also used as a remedy for rheumatic pain. Their diet commonly includes shoots, leaves, and tubers, often cooked with acidic fruits like owetenga (elephant apple), bilahi (tomato), and nemu tenga (lemon), which are believed to aid in blood purification (Chungkrang, 2015).

In the fifth month of pregnancy, it is customary for a woman's parents to provide her with pajap (duck meat). Pigeon meat and phapuk (banana flower) are considered essential for both men and women, as they help increase hemoglobin levels in the blood. Additionally, spadin of banana is used as a natural remedy for accidentally ingesting hair while eating, since stray hairs may occasionally remain in the stomach. To prevent this, it is recommended to consume spadin (banana flower) at least once or twice a year. Furthermore, a combination of phapuk (banana flower) and pigeon meat is regarded as highly nutritious, contributing to overall blood health.

Residents of Gereki Mising Gaon expressed support for the nutritional benefits of apong (rice beer), highlighting its usefulness for urinary and gall bladder issues. Its higher alkali content aids in dissolving stones, adding to its medicinal value. Consuming it on

an empty stomach in the morning is believed to alleviate gastric problems. Additionally, po:ro apong is thought to prevent kidney stone formation. The Mising community regards apong as both a tonic for physical labor and a refreshing beverage.

Table 1 presents data on herbs, plants, roots, and stems used by the Mising people in their diet, collected through interviews. These plants and herbs provide various health benefits and are useful in treating different diseases.

Table 1: Plant species used by the Mising tribe as vegetables.

Sl No	Botanical Name	Family	Vernacular name	Medicinal uses	Cooked with
1	*Sarcoclamis pulcherrima Roxb.*	Urticaceae	Ombe/Notke	Used to treat diarrhea and dysentery	Tender leaves cooked with pork meat
2	*Solanum indicum L.*	Solanaceae	Bangko	Used to treat respiratory issues and skin probles	Roasted, fried with namsing, fried with potato.
3	*Solanum torvum Sw.*	Solanaceae	Sita-Bangko	Fruits used in diabetes and hypertension	Roasted, Fried with namsing, fried with potato.
4	*Phlogacanthus curviflorus (Wall.) Nees.*	Acanthaceae	Konë-oying	Tender leaves use to treat cold and cough	Cooked with meat and fish
5	*Clerodendrum colebrookianum Walp.*	Lamiaceae	Pakkom	Tender leaves are use to treat diarrhea and dysentery	Roasted or fried with naming and with potatoes also
6	*Meliosma pinnata (Roxb.)*	Sabiaceae	Gurban- ʊsing	Leaves are used to treat jaundice, biliary disorder	Cooke with fish and pork

7	*Dillenia indica L..*	Dilleniaceae	Sompa	Fruits are used in Fever, diarrhea	Mostly cooked with fish and pork meat
8	*Musa sapientum*	Musaceae	Kopak	Shoots are used to treat diabetes and dysentery	Chopped shoot fried with chicken only in the ritual practices.
9	*Polygonum assamicum*	Polygonaceae	Pinkër/Nëkung	Leaves are used to reduce inflammation	Cooked with fish
10	*Calamus tenuis Roxb.*	Arecaceae	Jeying/Jejing	Tender shoots are used to treat cardiovascular diseases	Roasted tender shoots are mixed with namsing
11	*Spilanthes acmella*	Asteraceae	Marsang	Tender leaves are used to relieve body pain	Roasted with naming
12	*Curcuma longa L.*	Zingiberaceae	Alodi	Rhizome and leaves are used to treat Digestive issues, skin problems	Rhizome powder use as spice, leaves are use as wrapper for the roasted of fish and meat.
13	*Polypodium vulgare L.*	Polypodiaceae	Bilongoni	Tender leaves are used in Skin tumors, and inflammatory disorders	With chicken for enhance milk of the newborn baby's mother

14	*Eryngium foetidum L.*	Apiaceae	Yumrang- Ori	Leaf and inflorescence are used in the treatment asthma and malaria	Leaf and inflorescence powder or paste used as spice.
15	*Phrynium pubinerve Blume*	Marantaceae	Kou-pat	Leaves are used in cough and fever	Used as wrapper for the religious traditional food items.
16	*Albizia lucida (Jacq.) Benth.*	Fabaceae	Tage- ύsing	Tender leaves are used in inflammation and anxiety	Cooked with fish and meat.

Figure 3. Photographs of plants/ herbs listed in the Table -1

Sarcoclamis pulcherrima Roxb.

Solanum indicum L

Solanum torvum Sw

Phlogacanthus curviflorus

Clerodendrum colebrookianum Walp.

Meliosma pinnata (Roxb.)

Dillenia indica L

Musa sapientum

Polygonum assamicum

Calamus tenuis Roxb.

Spilanthes acmella

Curcuma longa L.

Polypodium vulgare L.

Eryngium foetidum L.

Phrynium pubinerve Blume

Albizia lucida (Jacq.) Benth

Different types of foods used by Mising People

Apong: The Mising people enjoy fermented foods, and their traditional fermented rice beer, Apong, is believed to have antioxidant properties and to boost immunity. It is also beneficial for gut health. Apong holds significant cultural value, serving as a prestigious drink for welcoming guests and relatives. It comes in two primary types: Po:ro and Nogin Apong, commonly known as black and

white rice beer (Loying & Manna, 2024). Traditionally, the preparation of this beverage is entrusted to the women of the family. The brewing process begins with cooking rice varieties such as Hali, Bora, or Joha, which are then cooled and mixed with medicinal plants known as E'pob. The mixture is wrapped in polythene or plant leaves and left for one or two days before being transferred to a large pot. The fermentation process lasts between 3 to 7 days, after which Apong is ready to be consumed, either washed or mixed with water. Often enjoyed as a relaxing beverage after strenuous work, it is an essential element of traditional fairs, festivals, and religious ceremonies such as Ali-Aye' Lígang and Po:rag (Doley, 1997).

Namsing: This fermented dry fish chutney, locally known as Namsing, is a favorite food item of the Mising people. It is packed with essential minerals such as phosphorus, zinc, and potassium. It strengthens the immune system and is believed to help in treating diseases such as malaria.

Pitang Oying: This dish is prepared by mixing rice flour with chicken. It is low in fat and cholesterol and is believed to help keep the Mising people healthy and physically active.

Peret Oying: This traditional dish is prepared by mixing pork, fish, or chicken meat with baking soda and pulses. It is alkaline in nature and considered good for immunity.

Purang Apin: This dish is prepared by wrapping sticky rice in tora leaves. It is specially prepared and eaten during the Ali-Aye Ligang festival. It is thought to help regulate blood sugar levels and provide protection against diabetes.

Ye'kkad Oying: This traditional food is made from rice powder, pork blood, and meat. These ingredients are fried or roasted with mustard oil.

Rasor/Lasor Oying: The Mising people prefer boiled food. This dish is prepared by boiling different vegetables in water. This boiled curry is nutrient-rich and helps maintain strong gut health.

I-kung Oying: I-kung Oying, or bamboo shoot, is a favorite food item of the Mising people. They use bamboo shoots to prepare different dishes with fish and meat, and also make pickles from them.

Ngeyyin Oying: Ngeyyin Oying, or the flower of arum, is mixed with khar (alkaline water) and pork or fish. This dish is also believed to boost immunity.

Eg Adin and Sanne Ongo: The Mising people prefer to eat different types of meat (Adin) such as pork, chicken, wild bird, wild buffalo, and duck in barbecue style. Likewise, they enjoy different varieties of fish (Ongo) such as Limar, Lingum, Liyong, Ngobi Magur, and Borali, often roasted or barbecued

Figure 4. Documented Culinary Practices of the Mising Tribe

Namsing

Eg adin and Sanne ongo

Nogin apong

Pitang Oying

Purang aping

4. Discussion

Several varieties of rice are cultivated in the region, including Ahu, Sali, Bora, and Joha. Agricultural fields are primarily suited for Ahu paddy, which forms the staple food of the community. Alongside Ahu rice, farmers grow mustard, sweet potatoes, pulses, cotton, maize, bananas, and other supplementary crops. From Bora rice, they prepare traditional rice cakes such as Purang, Pitang, Ambug, and Sira. To meet daily food needs, households maintain kitchen gardens, a long-standing cultural practice. Rice is consumed three times a day—morning, midday, and evening. In the mornings, some elderly people drink Apong (rice beer), while others prefer tea or cold rice (Pin-kang Apin). Meals typically include rice (Apin) accompanied by lentils (Dayil), vegetable curries, fresh fish (Ongo), dried fish (Ngosan/Sanne Ongo), preserved fish powder (Namsíng), pork (Eg Adin), chicken (Porog Adin), duck (Pe'jab Adin), and snails (Nobílíng). Boiled vegetables are also common, reflecting the community's reliance on simple yet diverse food traditions (Doley, 2014). The Misings occasionally prepare special pork curries such as I-Pitang or Ye'kkad Oying, made with rice powder, soft banana stem (Posola), pork blood, and pork meat. Another dish, Jabor Adin Oying, is prepared with pork blood or meat and green vegetables. Seasonal cultivation further enriches their diet. In winter, they grow cabbage, carrot, beet, water gourd, coriander, and chili. During summer, crops include palak (Paleng), Jika, and Bhul. Food practices are deeply tied to cultural identity. Apong, for example, is not only a fermented rice beer with antioxidant and gut-health benefits but also a prestigious drink offered to guests and relatives. It is central to festivals and ceremonies such as Ali-Aye' Lígang and Po:rag. Preparation is traditionally entrusted to women, who cook rice varieties like Hali, Bora, or Joha, mix them with medicinal plants (E'pob), and allow fermentation for several days. Other dishes highlight nutritional and medicinal values. Namsing, a fermented dry fish chutney, is rich in minerals and believed to help treat malaria. Pitang Oying, made from rice flour and chicken, is low in fat and cholesterol. Peret Oying, prepared with meat, baking soda, and pulses, is alkaline and supports immunity. Purang Apin, sticky rice wrapped in tora leaves, is eaten during Ali-Aye Ligang and thought to regulate blood sugar. Ngeyyin Oying, made from arum flower with alkaline water and meat, is valued for boosting immunity.

Together, these food traditions illustrate the Mising community's reliance on indigenous crops, seasonal produce, and medicinal plants, reflecting a diet that is both culturally symbolic and nutritionally rich.

5. Conclusion

Food studies are as diverse as food itself. Food holds more than just physical value—it also carries deep cultural meaning and symbolic significance (Mitra, 1974). Therefore, the importance of food studies cannot be denied. Food as a methodological tool paves the way to share stories of migration and serves as evidence of how society has been changing. It is also an expression of personal and ethnic identity (Kleiman, 2009).

The present investigation indicates that the Mising (Miri) tribe is blessed with a remarkable diversity of leafy vegetable plants. The community utilizes and preserves various plant species for wide-ranging purposes. The documented list of plants reveals that they rely on these species not only for nutrition but also for traditional medicinal applications.

At present, science and technology are increasingly influencing the food habits of the Mising society. The necessity to produce vegetables and other items has reduced considerably due to the easy availability of diverse vegetables in the market. Nevertheless, the traditional food habits of the Misings remain important elements of their folk culture. The fading of these practices represents a significant cultural loss—not only for their own community but also for the broader Assamese heritage. Preserving them is an urgent need.

Most of their food traditions are rich in protein, vitamins, and other nutrients essential for strong health. These practices require scientific and in-depth study and hold potential for commercialization. Therefore, it is essential for Mising organizations, NGOs, and the Food and Supply Department of Assam to actively engage in preserving and promoting this rich culinary heritage.

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