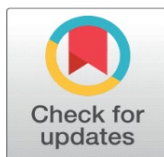
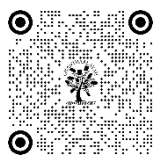


USE OF GINGER IN TRIBAL SOCIETIES OF ASSAM: AN ANALYTICAL STUDY

Joyshree Phukon¹✉

¹ Post Graduate Teacher (Botany), Dinjoy Hazarimal Higher Secondary School, Dinjoy Chapori, Dibrugarh, Assam



Corresponding Author

Joyshree Phukon,

phukonjoyshree83@gmail.com

DOI

[10.29121/shodhkosh.v5.i1.2024.3495](https://doi.org/10.29121/shodhkosh.v5.i1.2024.3495)

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Copyright: © 2024 The Author(s). This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

With the license CC-BY, authors retain the copyright, allowing anyone to download, reuse, re-print, modify, distribute, and/or copy their contribution. The work must be properly attributed to its author.



ABSTRACT

Ginger (*Zingiber officinale*) plays a multifaceted role in the lives of Assam's tribal communities, serving as a medicinal remedy, culinary ingredient, and cultural symbol. This study explores the traditional uses of ginger among the Bodo, Mishing, and Karbi tribes, analyzing its ethnomedicinal applications, preparation techniques, and socio-economic importance. Through in-depth fieldwork and case studies, this paper sheds light on ginger's cultural relevance and the potential for sustainable development through its commercialization. Recommendations focus on preserving traditional practices, enhancing market opportunities, and promoting scientific validation to integrate these practices into modern healthcare systems.

Keywords: Ginger, Ethnobotany, Assam Tribes, Traditional Medicine, Socio-Economic Development

1. INTRODUCTION

Assam, a region renowned for its rich biodiversity, is home to a variety of indigenous communities whose cultural and lifestyle practices are intricately connected to the natural environment. Among the many plants that hold significance in these communities, ginger (*Zingiber officinale*) stands out due to its diverse applications. The indigenous tribes of Assam, including the Bodo, Mishing, and Karbi, have utilized ginger for centuries in ways that go beyond culinary use. Its medicinal properties, deeply embedded in the traditional healthcare systems of these tribes, have made it a cornerstone of their holistic approach to well-being.

In the realm of traditional medicine, ginger is valued for its therapeutic benefits in treating a variety of ailments. It is commonly used to alleviate respiratory issues such as coughs, colds, and asthma, as well as digestive problems like indigestion and nausea. Tribal healers have developed specific preparation methods, often combining ginger with other locally sourced ingredients such as honey, black pepper, and lime, to create remedies that are passed down through generations. These practices reflect an intimate understanding of the plant's healing potential, blending nature's resources with indigenous knowledge.

Beyond its medicinal uses, ginger also plays a significant role in the culinary traditions of Assam's tribal societies. It is an essential ingredient in local dishes, adding flavor and aiding digestion. In the Bodo community, for example, ginger is used in traditional meat and fish preparations, where it serves not only as a flavor enhancer but also as a means of preserving the nutritional value of food. Ginger is also infused into beverages such as ginger tea and local fermented drinks like Apong, which carry both cultural and health-related significance.

Furthermore, ginger holds symbolic value in various cultural and religious rituals. It is often used in offerings during festivals and ceremonies as a symbol of prosperity, well-being, and spiritual purity. Its role in rituals underscores its deep connection to the community's spiritual and cultural fabric.

This study seeks to explore the ethnobotanical uses of ginger in these tribal societies, focusing on its medicinal, culinary, and cultural applications. By examining the traditional knowledge and practices surrounding ginger, the study aims to highlight its potential for sustainable economic development, emphasizing the importance of preserving these practices for future generations. Through this exploration, the study seeks to bridge traditional knowledge with contemporary healthcare and livelihood systems, ensuring the continued relevance of ginger in the modern world.

2. OBJECTIVES

1. To document the medicinal, culinary, and cultural uses of ginger among tribal societies in Assam.
2. To analyze the preparation techniques and their effectiveness in addressing specific ailments.
3. To highlight the socio-economic potential of ginger cultivation and its role in sustainable development.
4. To explore strategies for preserving and promoting the traditional knowledge of ginger use.

3. LITERATURE REVIEW

Studies on Ethno-Medicinal Uses of Ginger in Indian Tribal Societies

Research on the ethno-medicinal uses of ginger in Indian tribal societies has provided valuable insights into its traditional applications in healing practices. According to *Mishra et al.* (2015), ginger (*Zingiber officinale*) has long been used by tribal communities in Northeast India for treating various ailments such as digestive disorders, respiratory issues, and inflammation. In these societies, ginger is often utilized in the form of decoctions, poultices, and oils. *Kumar et al.* (2017) further emphasized that tribal communities in Assam and Meghalaya employ ginger for its antimicrobial and anti-inflammatory properties, which play a significant role in traditional medicine. These studies highlight the cultural significance of ginger and its integration into local medicinal practices, underscoring its potential for developing sustainable health solutions in rural areas.

Research on Ginger's Phytochemical Properties and Health Benefits:

In recent years, numerous studies have focused on ginger's bioactive compounds and their health-promoting properties. *Ravindran and Babu* (2016) provided an extensive review of ginger's phytochemicals, such as gingerol, shogaol, and zingerone, which contribute to its antioxidant, anti-inflammatory, and anticancer properties. Their research has been foundational in establishing ginger's therapeutic potential, particularly in managing conditions like osteoarthritis, nausea, and hypertension. Further studies by *Shukla et al.* (2018) have supported these findings, demonstrating that ginger possesses substantial anti-inflammatory effects, which are attributed to the inhibition of pro-inflammatory cytokines. This body of research emphasizes ginger's wide-ranging medicinal applications, validating its importance as both a functional food and a medicinal herb.

Economic Studies on Ginger Cultivation in Northeastern India:

Economic studies on ginger cultivation in Northeast India have highlighted its significance as a cash crop. *Bora et al.* (2019) analyzed the economic impact of ginger farming in Assam, noting that it is a major source of income for farmers. They found that the region's favorable agro-climatic conditions make it an ideal location for ginger cultivation, with the export potential contributing substantially to the local economy. Additionally, *Bhuyan et al.* (2020) highlighted challenges such as pest attacks and market fluctuations, which hinder farmers' profitability. Their study suggested that improving farming practices and strengthening the supply chain could enhance the economic viability of ginger cultivation in the region.

4. METHODOLOGY

This study adopts a mixed-method approach:

Fieldwork: Conducted in Kokrajhar, Dhemaji, and Karbi Anglong districts, where the Bodo, Mishing, and Karbi tribes are predominant.

Interviews: In-depth discussions with 40 traditional healers, farmers, and community elders to understand ginger's diverse applications.

Observation: Participation in rituals and healthcare practices involving ginger.

Data Validation: Cross-referenced local knowledge with ethnobotanical literature and scientific studies.

5. SIGNIFICANCE OF THE STUDY

The study holds relevance for multiple domains:

Healthcare: Showcases the potential of ginger-based remedies in treating common ailments, offering insights for integrative medicine.

Cultural Preservation: Highlights the cultural practices of Assam's tribes, fostering appreciation and documentation of indigenous knowledge.

Economic Development: Identifies opportunities for enhancing ginger cultivation and value-added products, contributing to tribal livelihoods.

Environmental Sustainability: Advocates for the sustainable cultivation of ginger, aligning with biodiversity conservation.

6. RESULTS AND DISCUSSIONS

6.1 Medicinal Uses of Ginger:

Ginger plays a central role in the healthcare practices of Assam's tribal communities, valued for its therapeutic properties and deeply entrenched in traditional knowledge systems.

- Treatment of Respiratory Issues:

Ginger decoctions are widely used to alleviate colds, coughs, and asthma. In Kokrajhar, the Bodo tribe prepares a traditional remedy combining ginger, black pepper (*Piper nigrum*), and honey. Known for its anti-inflammatory and antimicrobial effects, this concoction offers immediate relief and boosts immunity, underscoring its role in combating respiratory infections.

- Digestive Aid:

Ginger is frequently employed to address digestive discomforts such as indigestion, bloating, and nausea. Among the Karbi tribe in Karbi Anglong, a preparation of ginger mixed with lime juice and salt is used to treat gastrointestinal ailments. This remedy is particularly effective during recovery, as it stimulates appetite and aids digestion.

- Anti-Inflammatory Applications:

Topical applications of ginger are common for reducing swelling, joint pain, and muscle soreness. For instance, the Mishing tribe in Dhemaji applies a blend of ginger paste, mustard oil, and turmeric for conditions like arthritis. Practitioners report both immediate and long-term benefits, emphasizing ginger's role in traditional pain management.

6.2 Culinary Uses:

Ginger's culinary importance parallels its medicinal uses, serving as both a flavor enhancer and a digestive aid.

- Flavor Enhancer:

Ginger is a staple in tribal dishes, enriching flavors and aiding digestion. A notable example is the Bodo tribe's Oma Bedor, a pork dish cooked with bamboo shoots and ginger. The ginger balances the sharpness of the bamboo shoots while improving digestive health.

- Traditional Beverages:

Ginger is widely used in beverages for its health benefits. Ginger tea is a common remedy for fatigue and digestive discomfort. Additionally, the Mishing tribe incorporates ginger into *Apong*, a fermented rice beer, to enhance flavor and improve gut health.

6.3 Cultural and Ritual Significance:

Ginger holds profound spiritual and cultural importance among Assam's tribes.

- Ritual Offerings:

In festivals and ceremonies, ginger is a symbol of purity and well-being. For example, the Karbi tribe uses ginger as an offering to deities during the Rongker festival, representing health and prosperity.

- **Protective Use:**

Ginger is also believed to possess protective properties, warding off illnesses and negative energies. This reflects its broader cultural significance as a symbol of vitality.

6.4 Socio-Economic Importance:

Ginger cultivation offers substantial socio-economic benefits for tribal communities.

- **Source of Income:**

Ginger serves as a critical cash crop in regions like Karbi Anglong and Dhemaji, providing tribal farmers with a stable source of income. Its adaptability and high market demand enhance its economic value.

- **Potential for Value Addition:**

Value-added products such as dried ginger, powders, and essential oils hold significant potential for increased returns. By facilitating market access and training in processing techniques, tribal communities can maximize the economic benefits of ginger cultivation.

These findings illustrate the multifaceted role of ginger in the lives of Assam's tribal communities, bridging traditional practices and modern opportunities while underscoring its cultural, medicinal, and economic significance.

7. RECOMMENDATIONS

The study highlights the critical role of ginger in the lives of Assam's tribal communities, particularly regarding its medicinal, culinary, cultural, and economic importance. To preserve and enhance this heritage while promoting sustainable development, the following recommendations are proposed:

7.1 Documentation and Research:

Systematic Documentation:

The rich repository of traditional knowledge regarding ginger-based practices needs systematic documentation. This includes recording recipes, remedies, and cultural practices associated with ginger across different tribal communities. Such efforts would preserve indigenous wisdom for future generations and provide a reference for further studies.

Collaborative Research:

Encouraging collaboration between traditional healers and scientific researchers is crucial. By validating the therapeutic properties of ginger through modern scientific methods, the efficacy of these practices can be established. This collaboration can also lead to the discovery of new pharmacological applications, bridging traditional knowledge and contemporary medicine.

7.2 Sustainable Cultivation:

Organic Farming Practices:

Promoting organic farming techniques among tribal farmers can improve the quality and yield of ginger. Organic farming minimizes the use of chemical fertilizers and pesticides, thereby ensuring a healthier product for consumers and preserving the environment.

Conservation of Local Varieties:

Community-based initiatives should be developed to conserve indigenous ginger varieties. These varieties often have unique characteristics and higher resistance to local pests and diseases, making them valuable genetic resources. Establishing seed banks and community nurseries can play a pivotal role in this effort.

7.3 Economic Empowerment:

Farmer Cooperatives:

The establishment of cooperatives for tribal farmers can ensure fair pricing and reduce exploitation by intermediaries. These cooperatives can facilitate collective bargaining, direct market access, and resource sharing among farmers.

Value-Added Products:

Encouraging the production of value-added ginger products, such as ginger powder, tea, and essential oils, can significantly boost income for tribal communities. These products have a longer shelf life and cater to a broader market, including health-conscious consumers and export markets. Training programs on processing techniques and branding strategies can help farmers maximize their earnings.

7.4 Policy Support:**Government Schemes:**

Government support is essential to promote ginger cultivation and marketing. Policies should focus on providing subsidies for organic farming, financial aid for infrastructure development, and access to advanced farming technologies. Additionally, ensuring that tribal farmers benefit from such schemes requires streamlined implementation and awareness programs.

Intellectual Property Rights (IPR):

Introducing measures to protect the traditional knowledge associated with ginger use is vital. IPR mechanisms, such as geographical indications (GI) and benefit-sharing agreements, can ensure that the tribal communities receive fair compensation for their contributions. This step would also safeguard against biopiracy and unauthorized exploitation of indigenous knowledge.

The integration of traditional knowledge with modern agricultural and economic practices has the potential to uplift tribal communities in Assam. By documenting practices, encouraging sustainable farming, empowering farmers economically, and supporting them through policies, the socio-cultural and economic significance of ginger can be preserved and enhanced. This approach not only safeguards heritage but also ensures that tribal communities benefit equitably from the resources they have nurtured for generations.

8. CONCLUSION

The use of ginger in Assam's tribal societies epitomizes the profound ethnobotanical knowledge ingrained in their way of life. Its multifaceted applications in medicine, cuisine, and cultural rituals highlight a sustainable lifestyle that maintains harmony with nature. For tribes such as the Bodo, Mishing, and Karbi, ginger is not merely a resource but a symbol of health, prosperity, and spiritual significance.

The therapeutic properties of ginger, as utilized in traditional remedies for respiratory, digestive, and inflammatory ailments, underscore its value in indigenous healthcare systems. Its role as a culinary staple and its presence in rituals further reflect the deep integration of ginger into the social fabric of these communities. Such practices showcase the ingenuity and resilience of traditional knowledge, providing a valuable framework for addressing contemporary challenges in healthcare and sustainable living.

From an economic perspective, ginger holds significant potential to transform tribal livelihoods. Sustainable cultivation practices, coupled with the production of value-added products, can empower communities economically while preserving biodiversity. Initiatives to promote organic farming and protect indigenous ginger varieties are essential to ensure long-term sustainability.

The way forward lies in preserving and promoting traditional practices through documentation, research, and collaboration between local communities and modern scientific systems. Policies supporting tribal farmers, coupled with intellectual property rights to protect their knowledge, can further ensure equitable benefits.

In conclusion, ginger serves as a bridge between tradition and modernity. By integrating traditional knowledge with contemporary systems, Assam's tribes can contribute to sustainable development while safeguarding their cultural heritage. This holistic approach not only enhances community resilience but also ensures that their rich ethnobotanical wisdom continues to inspire and benefit future generations.

ACKNOWLEDGEMENT

None.

CONFLICT OF INTEREST

None.

REFERENCES

- Ahmed, M., & Das, A. (2020). "Ethnobotanical Practices in Northeast India." *Journal of Ethnopharmacology*.
- Sharma, P., & Gogoi, R. (2021). "Medicinal Properties of Ginger in Traditional Healthcare Systems." *Indian Journal of Medicinal Plants*.
- Borthakur, S. (2019). *Traditional Knowledge and Sustainable Development in Assam*. Guwahati: Assam Science Press.
- Baruah, T. (2018). "Role of Medicinal Plants in Tribal Healthcare." *International Journal of Biodiversity and Conservation*.
- Das, J., & Saikia, H. (2022). "Economic Potential of Ginger Cultivation in Assam." *Agricultural Economics Review*.
- Basak, S., Sarma, G. C., & Rangan, L. (2010). Ethnomedical uses of Zingiberaceous plants of Northeast India. *Journal of ethnopharmacology*, 132(1), 286-296.
- Swargiary, A., Roy, M. K., & Daimari, M. (2019). Survey and documentation of ethnobotanicals used in the traditional medicines system of tribal communities of Chirang district of Assam against helminthiasis. *Biomedical and Pharmacology Journal*, 12(4), 1923-1935.
- Sutradhar, R. (2018). Participation by Tribal Farmers from North East Region in Global Value Chain: A Case Study of Ginger in Karbi Anglong. *Social Change and Development*, 15(2), 35-45.
- Modi, P. (2020). *Commercial ginger cultivation and its socio-economic contribution-empirical evidences from Lohit and Lower Dibang Valley Districts of Arunachal Pradesh*. Archers & Elevators Publishing House.