



International Conference on Indian Knowledge Systems
(ICIKS 2026)



The Sal Leaf Plate Craft: An Indigenous Knowledge and Economic Practice

Swati Mahato

Department of Indian Languages and Literary Studies
University of Delhi

Abstract

Traditional Indian food cultures have long served food prepared with plant-based materials, which shows ecologically friendly and deeply ingrained community practices. Throughout our country across various regions, locally available natural resources have historically been used in ways that reduce waste and maintain ecological balance. Across the forest regions of Eastern and central India, sal leaves have long served as the material for dona and pattal, biodegradable bowls and plates frequently used during festivals, religious ceremonies and community gatherings. These utensils are usually prepared by gathering Sal leaves that have fallen to the forest floor and stitching them together using simple techniques passed down through generations. The manufacturing of plates from sal leaves has consistently played a significant part in the economic well-being of tribal communities, especially among women involved in collecting, stitching and preparing the leaves through small home industries and self-help groups. The traditional practice of serving food on banana leaves in South India is representative of the use of natural materials in everyday food culture. These traditions, irrespective of their regional variations, highlight the historical impact of ecological understanding on sustainable practices across India.

This paper explores the traditional method of manufacturing plates from sal leaves as an example of India's Indigenous Knowledge Systems and discusses its relevance for modern sustainable business. It highlights the way the traditional ecological knowledge embedded in these practices can support eco-friendly business models while at the same time strengthening sustainable livelihood for rural and tribal communities.

Keywords: Indigenous Knowledge System, Sal Leaf Plates, Tribal Livelihoods, Sustainable Enterprise, Traditional food practices.

Introduction

Ecological sensibility and a deep connection to the natural environment have been an integral part of Indian food cultures since pre-modern times, when locally available plants were used. Leaf usage for food service throughout the subcontinent speaks to a lifestyle that was sustainable in nature, being interdependent with the natural world but not wasteful. One such environment-friendly practice of this kind is the making of dona and pattal, which are biodegradable bowls and plates, using the Sal leaves in this eco-cultural context.

This craft is made from Sal tree (*Shorea Robusta*) which grows in deep forest areas of eastern

and central India including Jharkhand, Odisha, Chhattisgarh, Bihar and West Bengal. The leaves of these trees are famous for their durability and heat resistance, and have traditionally been used by collecting fallen leaves, cleaning, stitching and shaping them. Importantly, it does not involve the destruction of the tree, and so represents not only an efficient way to use the resource, but also a sustainable approach that allows for ecological balance to be maintained in addition to the provision of resources. Sal leaves plates are part of the daily life of the tribal community and it is part of a massive Indigenous Knowledge System, where knowledge is passed on generationally through practice, not documentation. Here tribal women play a key role in the leaf collection and processing which are small-scale community-based enterprises and self-help groups. Not only a cultural tradition, this craft is also a livelihood source, which is linked to community economies.

The production of leaf-based plates is an essential part of a larger 'tribal knowledge system' in which knowledge is passed down from one generation to the next through practice and application, but not through formal documentation. The tribal women are an essential part of the context with the involvement in tasks of collecting and processing of these leaves in small scale community-based enterprises and self-help groups. As an outcome, this craft not only serves as a cultural form but as a means of income strengthening community-based enterprises.

The current state of environmental issues is concerning and single use plastics are omnipresent, making the traditional methods more relevant than ever. People want something to decompose easily which makes plates made from sal leaves an ideal choice for sustainable business. This paper evaluates the correlation among traditional indigenous knowledge, preservation of environment and local economy in production of sal leaf plates. It presents different pathways for achieving green development.

1. Indigenous Knowledge Systems and Ecological Practices

Indigenous knowledge is the lived knowledge that local people have acquired, maintained and transmitted from one generation to the next due to their close association with nature. This is old local knowledge, not institutional science, with its rules and formal documents. It develops over time and adapts to new challenges, always keeping in mind ecological equilibrium and natural conditions.

This traditional knowledge is now recognized by experts and even in government policy making as useful to address modern issues such as resource management, mitigating climate change and protecting the environment. The most distinguishing feature of this knowledge is the perception of nature as an animate organism and a source of wisdom, not to be exploited, but treated with respect. This concept aligns modern green objectives that emphasize on reviving nature as opposed to destroying it. Indian thinkers have traditional knowledge about conservation of wildlife, generation of minimum waste and sharing of resources as a living community. These ideas are in contrast to the way buildings and development is done in the present, and they reflect the fact that conservation and preservation of nature have been an integral part of the life of the region for centuries.

The root of Indian Knowledge System is Collectiveness. It is not formally recorded but it is passed on from one person to the next by practice, observation and participation. This is a good means of transmitting traditional knowledge, at the same time it is suitable for adjustment to the new socio-economic and environmental issues. It is also gender based in some tribal communities as the women play the main role for its conservation and promotion of ecological practices. They have a deep connection with natural resources that gives them a deeper understanding of sustainability that is based in daily life. Also, there are the problems of neglecting the Indigenous Knowledge Systems in the mainstream systems of knowledge. Although they are useful, they are not given a great deal of significance in economic and policy contexts. Hence, it is important that people have a way of thinking to understand IKS, that is to see the importance and authenticity of community knowledge.

Therefore, Indigenous Knowledge Systems offer us a unique approach to sustainable life, deeply seated in ecological balance, a lived experience, and a sense of community. One can easily

notice in the above view that the making of Sal leaf plates and bowls may be regarded as not only a tradition, but a worthy example of sustainability. Hence, this illustrates that IKS are not only cultural practices, but strategies that are used and work that are already linked to prevailing environmental paradigms.

2. The Sal Leaf Plate Craft: Material, Process, And Practices

The Materiality of Sal Leaves: Why Sal?

The use of Sal leaves (*Shorea Robusta*) in the production of leaf bowls (dona) and plates (pattal) is considered highly significant due to their unique properties. This tree is predominantly found in the forests of eastern and central India. Its leaves are thick, fibrous and sturdy, qualities that render them more durable compared to other types of leaves. It is for this reason that leaves are capable of withstanding heat, moisture and weight, thereby serving as useful vessels.

From a material perspective, sal leaves possess a robust structure and low permeability, enabling them to hold semi-solid and moist-foods without decomposing soon. Studies on non-timber forest products suggest that such leaves possess natural tensile strength and resistance to heat, making them suitable for eco-friendly packaging and food use (Berkes 112). Even though other leaves are found in similar environmental areas, the continuous preference for Sal leaves indicates their choice is based on long experience, observation and adaption to the environment. Additionally, the biodegradability of Sal leaves makes them part of the ongoing debates regarding sustainable materials. As noted in ecological studies, “plant-based disposables decompose within weeks, in contrast to synthetic alternatives that persist for centuries” (Gadgil and Guha 145). But it is not the case that sal leaves are always superior, rather it is better to know that their use is determined by the context, the situation, the cultural context and the utility. While some sal leaves are clearly better than others, their appropriateness for use should be considered in relation to specific regional requirements, cultural context and utility.

Process and Practice: Technique of Production

The process of making dona and pattal is not only simple but also reflects a technical understanding. It starts with the gathering of fallen leaves, which won't harm trees and will assist in ecological balance. This approach aligns with the concept of “sustainable harvesting” wherein resource utilization is regulated based on traditional knowledge rather than through formal systems (Berkes 98). The leaves are collected, cleaned, sorted and dried to enhance the durability. The leaves are layered over each other and sewn with natural fibres or small wood, typically bamboo, in the sewing process. This method distributes weight throughout multiple layers, increasing their strength and stability.

Plates are also formed and reinforced under certain conditions with the aid of machines (presses). It does indicate involvement with technology, but not the removal of the knowledge-based aspect of this craft. Rather, it demonstrates that Indigenous Knowledge Systems can still uphold their foundational principles of environment, albeit with some innovations.

Historical, Cultural and Religious Continuities

The use of leaf plates and bowls has been a traditional custom of the Indian subcontinent for generations, particularly in the regions where forests are prevalent. Although there is limited detail on the history of use of sal leaves, their continued use demonstrates both the strength and adaptability of a tradition that is continually shaped by both practical needs and the environment. According to anthropological studies, such practices continue because they are a part of the community's knowledge and activities and not formalised structures (Gadgil and Guha). This makes the visibility of sal leaf utensils at local markets, festivals and communal events important to note, as they have a practical purpose and also have a cultural meaning.

In addition to its everyday use, sal leaf plates also have a profound religious value. Natural materials are chosen to be offered at festivals in the past, as historical traditions regard them to be pure. It is a symbolic selection of the natural and ritual purity. In general, cultural aspects, organic materials are considered valuable because they are temporary, utilized and discarded according to the cyclicity of religion. These interpretations will vary from place to place, but

they all reveal the sal leaf as a cultural medium that is more than just an object.

Towards A Critical Understanding of Material Practice

The combination of leaf plate material properties, manufacturing techniques and cultural backgrounds clearly indicates that the art of creating leaf plates from Sal leaves is not just for practical use. It is, in fact, a knowledge-based system, using ecological consciousness and materials, and continuity of culture. Furthermore, it is crucial that such practices shouldn't be wishful thinking. They are helpful in some situations and social contexts. The analysis of such practices, however, provides us with some clues to viable alternatives modes of production, decentralized, flexible and environment friendly. In this context Sal leaf plates and the bowls are a representation of Indigenous Knowledge Systems (IKS) and a lived reality of sustainability.

3. Tribal Women, Livelihood and Community-Based Enterprise

The everyday interaction between the tribal communities and the natural world forms the source of traditional practise of using sal leaves to make dona and pattal. They gathered this knowledge through hands-on experience rather than reading books. By living day-to-day in the forest, tribal women learned that fallen sal leaves are strong, bendable and work well for holding food. This wasn't a sudden realization; it emerged from years of observation, experimentation and repetition of the process within their daily lives. Women in these communities managed the collection, sorting and stitching the leaves, thereby making this craft a regular part of household chores. As they only use leaves that have already fallen, their method reflects the responsibility towards nature, making use of the forest's resources without harming them.

As local trade began to expand, this craft began to have a real economic value, providing tribal women with a new source of income. No longer were they producing leaf plates for their own houses, but were now selling them in the village markets. Nevertheless, despite their hard work which stimulated the local economy, their efforts were largely unnoticed. This is now known as a community-based enterprise, and is often handled by a self-help group or local production network. This provides women with a higher income and recognition, but also creates a new market system where their traditional knowledge is somehow put to use that in practice does not affect the inequality that has existed for long. Despite being heralded as "sustainable" and "community-based," tribal women's work is still viewed as "women's work" and thereby, underpaid. These Sal leaf artisans reflect the difficult equation that these women have to strike; the struggle to survive, maintain their dignity and to cope with the changes in the economy, while being kept on the margins of society.

For tribal communities in Eastern and central India, making dona and pattal from sal leaves it's not just a work; it's connected to the environment and community life. In states like Jharkhand, Odisha, Chhattisgarh, groups like Santhals, Mundas, Oraons, Hos and Gonds have always relied on forest for their livelihood. Within this system, women primarily handle the sgathering, joining and preparation of leaf plates and bowls. Despite playing the backbone of the entire industry, they are still considered as informal chores, not valued properly and remain completely outside the mainstream economy. Despite the fact that it is a small-scale industry, managed by families and self-help groups, these women still have to cope with a lot of problems. They have very limited access to formal markets, bank loans and government support. Consequently, while the production of these handicrafts generates income, it also shows the serious inequalities built into the rural economy.

We can better understand this connection between women and the forest through ecofeminism, particularly the ideas of Vandana Shiva, who argues that "women's connection to nature is rooted in nurturing, conservation and long-range planning (Shiva, 1998). The relationship between women and nature has been a recurring theme in Vandana Shiva's work, and this captures a fundamental truth of the way women have long been interconnected with nature. From ancient times women have engaged directly with the ecosystem, gradually building up their sustainable livelihoods out of the natural resources without degrading them. Financial viability has become a primary concern in today's socio-economic realities but this relationship has not been severed. Rather, women persist in their need to reconcile economic requirements with

their fundamental concern for protecting the environment.

Field-Based Reflection

This becomes evident when we take a look at daily life in those regions where plates and bowls made from sal leaves are a common sight. I grew up in a place where sal trees are abundant, and I have often observed local street food vendors serving meals on these leaf plates. On one occasion, a vendor told me that these plates come from nearby villages, where women craft them as part of their daily household chores. He also pointed out that while these plates are inexpensive and convenient, the extensive hard work that goes into making them is often overlooked.

4. From Tradition to Sustainable Enterprise: Market, Marketing and Contemporary Relevance

Emerging Market Demand and Value Perception

Traditional craft like Sal Leaf Plates is now being revived in economy owing to the concern about environment. With the countries starting to take plastic and its impact on the environment seriously, the demand for eco-friendly plastics is increasing and biodegradable plastics are outnumbering them. The use of sal leaves for plate production is a good option because of its natural attributes, its low cost of production and minimal impact on the environment in the evolving market. Maybe these products can be introduced into a market niche rather than replacing the current material in the expanding sustainable and useful consumer market.

Local production to market production raises the question on the perception of Sal leaf plates in larger economic contexts. They are often sold at low prices, have a utility function and a minimal marketing push, typically local markets, which make them appear as low-cost products. However, there are opportunities to re-brand them as products that are environmentally friendly, ethically sourced, and culturally relevant. One of the repositioning strategies is "Communicate value of the product." Emphasis on one or more of the following, such as biodegradability, handmade and its connection to Indigenous Knowledge systems, can help with the perception of value. It is important to recognize at the same time, however, that the changes of perception are not a result of consumption but are a reflection of consumer awareness and market dynamics.

Supply Chain and Value Chain Considerations

The Sal leaf plates business can be seen as a value chain where the resources are collected from the forest, produced in the household/community level, sold to the local level market and even to the distribution network. The system enables local output and engagement but also raises concerns about the efficiency of the supply chain, pricing models and profit sharing. The role of the intermediaries, the lack of standardisation and access to formal markets may affect the economic returns of the producers. It is often suggested that enhancing logistics coordination and strengthening and continually improving quality of products and services, as well as facilitating direct market linkages are possible areas of intervention, but this may differ between regions.

Marketing, Branding and Digital Market Expansion

A key part of that in today's markets is marketing - how such products are received. Many times, a customer's choice is determined not just on the usefulness of a product, but also the associated story. For example, the craftsmanship of sal leaves can be introduced in the context of sustainability, ethical production and livelihoods of the community. The involvement of tribal women, traditional techniques and use of forest resources can be used to ensure that a product is included in the ethical consumption category. But there are problems with this type of story marketing, particularly the representation and objectification of rural and Indigenous practices in urban and global markets.

The increasing influence of digital platforms provides fresh avenues for expanding market reach. The e-commerce and social media platforms enable producers and self-help groups to reach out to consumers beyond their local areas, enhancing their visibility and demand. There is also, however, unequal access to digital infrastructure, technical knowledge and technical and

logistic support, which can inhibit the use of these opportunities. Therefore, the potential of the digital platforms can be seen as opportunities for expansion, but they need a lot of infrastructure and institutional support.

Institutional Support and Market Linkages with Limitations

Institutional activities could also be essential for the integration of sal leaf products into a wider market framework. Raising production, improving standards and access to markets is frequently cited as a way of doing this, as is developing new skills, or working in partnership with green businesses or new businesses, and sometimes it is perceived that government initiatives have the same effect. Such interventions can help build capacity and economic security, but outcomes are not always predictable, and can be affected by implementation as well as location, accessibility and availability of local communities to such interventions.

Although the sal leaf plate enterprise has great potential, there are problems in the enterprise, including fluctuations in the quality of the product, limited access to technology, and fragmentation of the value chain. Some of the reasons it may be hard to compete with industrial alternatives on a larger scale. These problems can be addressed by increases in output. However, these changes must be approached carefully because over-standardization or mechanisation may result in the loss of the labour systems and knowledge that are vital to the craft.

Conclusion

The manufacturing of dona and pattal from sal leaves showcases the potential of traditional knowledge to provide genuine and sustainable solutions to the current environmental and economic challenges. An ideal example of using resources without destroying them, directly from the daily lives of local people. This is done by the tribal women, thus highlighting the close linkage of traditional knowledge with tribal families' livelihood and their business. This craft has a vast potential in today's eco-conscious era as an alternative and sustainable craft. For large-scale growth of the sal leaf industry, it is necessary to have effective marketing and use the appropriate pricing system that can sustain nature. It is simply a blend of ancient wisdom and contemporary market. The value of intrinsic products is not limited to the final product; it also provides an opportunity to educate us on more sustainable and local production and consumption practices. Hence, making the plates from sal leaves is not just a demonstration of an old practice but also provides effective approaches on how to integrate sustainability, employment, and commerce into a paradigm that modern development is defined by.

Works Cited

- ♦ Berkes, Fikret. Sacred Ecology. Routledge, 2012.
- ♦ Gadgil, Madhav, and Ramchandra Guha. This Fissured Land: An Ecological History of India. Oxford University Press, 1992.
- ♦ Gregore, Thomas. Anxious Pleasures: The Sexual Lives of an Amazonian People. University of Chicago Press, 1985.
- ♦ Government of India. Report on Non-Timber Forest Products (NTFPs) And Tribal Livelihoods. Ministry of Tribal Affairs.
- ♦ Shiva, Vandana. Staying Alive: Women Ecology and Development. Kali For Women, 1988.

Unpublished interviews

- ♦ Ekka, Laxmi. Personal Interview. Conducted by Swati Mahato. Domicile: Oraon community, Jharkhand, Age 37. 17th February 2026.
- ♦ Mahato Swati. Personal Observation on Local Practices. Jharkhand, 2026.
- ♦ Tudu, Reena. Personal Interview. Conducted by Swati Mahato. Domicile: Santhal community, Jharkhand, Age 42. 16th February 2026.