

FROM HOMESTEAD TO HOPE: HOW BETEL VINE IS TRANSFORMING RURAL LIVES IN WEST BENGAL



Betel vine cultivation offers a high-return, small-scale farming option for small and marginal farmers. In this blog, Anindita Bhattacharya highlights how homestead betel farming is enhancing rural livelihoods in West Bengal, while also discussing its challenges and untapped potential.

CONTEXT

A walk through the rural landscapes of India, especially in the coastal belts of West Bengal, Odisha, Andhra Pradesh, Tamil Nadu, Kerala, and Maharashtra, reveals something that is often overlooked in broader agricultural discussions: the humble *Boroj* (a small, enclosed bamboo structure) or betel vine yards. Amidst the challenging farming conditions, this hidden treasure quietly growing in homestead backyard lands, commonly known as *Pan*, is a vital means of livelihood for small and marginal farmers in India. It is not just a crop, but a lifeline. Although cultivated on a small scale, this simple yet high-value crop plays a vital role in the rural economy. The potential is significant.



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Betel vine cultivation is relatively resource and labour-intensive, yet well-suited for small-scale farmers, providing a steady source of employment and income. From an agro-ecological perspective, states like West Bengal, Odisha, Andhra Pradesh, Tamil Nadu, Kerala, and Maharashtra are highly favourable for its cultivation, with West Bengal occupying the leading position. The state contributes about 66 per cent of the country's betel leaf production. Around 20,000 hectares of land support an estimated 4–5 *borojs* (betel vineyard), providing livelihoods for nearly 5 million farming families.

WHY BETEL VINE?

Small and marginal farmers, who constitute nearly 86 per cent of India's agricultural workforce, face persistent challenges such as unpredictable weather, land scarcity, and limited farming alternatives—all of which undermine their livelihood security. In coastal regions of West Bengal, for instance, low returns from traditional crops often enforce migration in a context of economic and environmental uncertainty. In such situations, where every fraction of land matters, homestead-based cultivation of betel vine emerges as a critical lifeline. It is well-suited to small farmers, as it thrives on marginal lands with suitable microclimates, producing high-value crops and providing a stable source of income.

The harsh reality is that, even in these predominantly agricultural coastal villages, most farmers earn very little from conventional farming, approximately Rs 70,000 annually from an average holding of one hectare (10,000 sq. m or 2.5 acres). In contrast, the substantial income generated from a small *boraj* is unmistakably evident, providing a more reliable and significantly higher return compared to most other agricultural activities. Nearly a quarter of the households engage in its cultivation, as it offers significant financial security, generating approximately Rs75,000 annually from a single plot of about 300 square meters (0.03 hectares or 0.07 acres). This results in an impressive benefit-cost ratio ranging between 2.4 and 2.7. Despite regional variations, where the benefit-cost ratio drops to 2.3, betel vine cultivation remains a powerful tool for poverty reduction. Its exceptional productivity transforms small, scarce homestead lands into vital economic assets capable of supporting entire families. It directly addresses the root cause of poverty by generating significant income from minimal resources. Simultaneously, its role as a diversified, year-round cash crop builds resilience, creating a vital buffer against common agrarian risks.



While a high benefit-cost ratio alone is not a sufficient reason for promotion, it provides a compelling economic rationale for increased investment and institutional support. This demonstrated viability proves the crop's efficiency for land-scarce smallholders. Furthermore, the growing global market, evidenced by India's export of 1,620.06 metric tonnes of Betel leaves worldwide, worth US\$5.18 million in 2023–24 alone, led by West Bengal, provides a stable and expanding foundation for its promotion. Together, these factors underscore the significant potential of betel vine cultivation to strengthen and secure rural livelihoods.

CHALLENGES IN BETEL VINE FARMING

Given its substantial impact on rural incomes, one might wonder—why has betel vine farming not spread even further? Because, despite its value, betel vine farming comes with several challenges.

- **Frequent disease outbreaks:** The biological vulnerabilities, such as bacterial infections, could destroy an entire *Boroj* in just a few days. The fear of such sudden losses discouraged many from expanding their cultivation.
- **Unstable market prices:** Prices for betel leaves often changed without warning. Transport problems could cause sudden drops, leaving farmers with little income despite months of hard work.
- **Infrastructural gaps:** Betel leaves are delicate and spoil easily. Without proper cold storage or reliable transport, farmers were often forced to sell immediately, even at low prices, to avoid total loss.

That is why, although betel vine cultivation promises considerable profitability, the significant risks associated with it discourage many farmers from adopting it. This highlights the central paradox of betel vine farming: its promising economic returns are substantially undermined by production and market vulnerabilities. As a result, a potentially transformative livelihood opportunity for small and marginal farmers remains critically underutilised.

SYSTEMIC INTERVENTIONS FOR SCALING BETEL VINE FARMING

Transforming betel vine cultivation into a reliable income source for more rural families and unlocking its full potential requires a coordinated and strategic approach. Although multiple actors, including government agencies, NGOs, and cooperatives, are already engaged in providing support, their efforts often remain inadequate in meeting the specific needs of betel vine farmers. The issue is not a complete absence of support, but the lack of targeted, integrated, and sustained interventions that holistically address the challenges of this high-value crop.

To effectively bridge this gap, there is a need to strengthen collaboration among existing stakeholders and synergistic attention on five key areas:

- research and training,
- post-harvest infrastructure,
- market and price stability,
- credit support and
- extension services

Only through such a coordinated effort can betel vine farming evolve from a high-risk venture into a cornerstone of sustainable rural livelihoods. These are discussed in detail below:

To transform betel vine cultivation from a high-risk enterprise into a foundation of sustainable rural livelihoods, a focused strategy is required. The following five pillars outline the key areas for integrated intervention to ensure long-term growth and stability for farmers.

Pillar 1: Strengthening Foundations through Research & Training: The agronomic requirements for crops vary by location and season, but currently, a lack of scientific data prevents farmers from receiving practical guidance. Targeted research is urgently needed to identify pest- and disease-resistant varieties suited to local conditions, which will mitigate the high risk of crop devastation. Complementing this research, the development of a farmer-friendly mobile application for disease identification would enable farmers to take action early and prevent spoilage. Furthermore, achieving cost-effective production requires training farmers on pest management techniques. Therefore, it is

essential to organise comprehensive training programs that can equip the farmers with the necessary skills for betel vine cultivation. The horticulture department and various agricultural institutions should take the initiative in implementing this research and training sessions to update and encourage farmers to adopt the cultivation.

Pillar 2: Building Resilience with Post-Harvest Infrastructure: To enhance the resilience and market access of betel vine farmers, significant investment in post-harvest infrastructure is crucial. It is recommended that the government construct and operate at least two cold storage facilities in each block of the district under a Public-Private Partnership (PPP) model. These facilities should be offered to farmers at a subsidised rate to protect their produce. Simultaneously, investment in improving transportation networks is essential. This would provide farmers with reliable access to more lucrative distant markets, thereby mitigating local selling challenges.



Pillar 3: Ensuring Prosperity via Market and Price Stability: The growth of the betel vine industry can be encouraged by ensuring stable prices, which can be achieved through mechanisms such as Minimum Support Prices (MSP). To standardise the marketing process and improve negotiation strategies, it is necessary to promote federations like Farmer-Producer Organisations (FPOs). Furthermore, developing a digital marketplace would provide real-time market information, empowering farmers to negotiate better and make timely decisions. This fosters greater transparency and efficiency, helping to stabilise incomes, prevent price crashes, and reduce dependence on intermediaries. It is recommended that FPOs and state governments work together to create a Betel Vine Development Board. This board would improve export-oriented activities by ensuring they meet international standards, reducing the number of intermediaries in the marketing chain, and stabilising the price of betel leaves.

Pillar 4: Mitigating Risk with Tailored Credit & Insurance: Small and marginal farmers often face severe financial difficulties and struggle to secure crop loans due to their limited access to formal credit. This struggle is compounded by the exclusion of betel vine from government schemes like the Pradhan Mantri Fasal Bima Yojana (PMFBY), primarily because of the crop's perishable nature. To address this, [it is essential to introduce tailored micro-credit schemes and betel vine-specific insurance through banks and Primary Agricultural Cooperative Societies \(PACS\) at concessional rates at the earliest. Additionally, officially recognising betel vine as a priority crop and including it under credit and insurance schemes](#) would enable farmers to recover from losses and secure their livelihoods.

Pillar 5: Empowering Farmers with Knowledge & Extension Services: To enhance the profitability and resilience of betel vine cultivation, farmers require easy access to real-time information and market intelligence. Reorienting public extension programs to deliver continuous, crop-specific advisory services is vital to address this need. [A crucial step is to establish direct communication channels between farmers and support agencies.](#) This can be achieved through a collaborative consortium of government bodies, research institutions, Krishi Vigyan Kendras (KVKs), and NGOs, tasked with setting up a farmer resource centre in each block. Acting as a central hub, these centres would facilitate access to subsidies and production guidance, provide market forecasts, explore export opportunities, and offer immediate support during emergencies.

These are not luxuries; they are essentials. If we genuinely want to support small and marginal farmers, especially in fragile regions, these steps can significantly help make betel vine a safer and more profitable choice.

CONCLUSION

A journey through the *Borojs* of West Bengal reveals a profound truth: Betel vine farming is more than just cultivating a crop; it is about nurturing opportunity, generating sustainable income, and upholding dignity. The demand for betel leaves is already significant and continues to grow steadily in both domestic and international markets. [With an estimated 15–20 million users in India alone, it is clear that it is not a fleeting trend.](#) What makes betel vine cultivation particularly remarkable is its efficiency. A modest plot of land, as small as a few decimals (approximately 300 square metres), can sustain a family, empower women by providing a source of income, and help reduce economic migration. Despite its promise, challenges like perishable leaves, poor infrastructure, and unstable prices remain. However, these are precisely why betel vine should be commodified. It offers excellent returns per unit of land and supports millions of small and marginal farmers. Commodification can help stabilise prices, attract investment in storage and transport, and encourage value-added products.

Therefore, in the quiet corners of rural homesteads, these modest vines represent far more than leaves; they are robust livelihoods in the making. This humble crop has the power to transform simple backyard plots into vibrant centres of hope, and it could play a vital role in transforming rural India.

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