The Academic
International Journal of Multidisciplinary Research

An Online Peer Reviewed / Refereed Journal
Volume 3 | Issue 7 | July 2025
ISSN: 2583-973X (Online)
Website: www.theacademic.in

The Impact of Babui Grass on Sustainable Livelihoods in Forest Fringe Villages, Manbazar II Block, Purulia District.

Samir Pramanik

Research scholar, Department of Geography, Raja Narendra Lal Khan Women's College (Autonomous), Vidyasagar University, Midnapore, India. Email.id- samirpramanik262@gmail.com

Dr Bela Das

Associate Professor, Department of Geography, Raja Narendra Lal Khan Women's College (Autonomous), Vidyasagar University, Midnapore, India.

DOI : https://doi.org/10.5281/zenodo.16793540

ARTICLE DETAILS

Research Paper

Accepted: 21-07-2025

Published: 10-08-2025

Keywords:

Babui grass, Sustainable livelihood, Forest fringe, Non-timber forest products (NTFP), Rural economics, Tribal communities, Eco-development.

ABSTRACT

The forest fringe villages of Manbazar II Block in Purulia district, West Bengal, are marked by socioeconomic marginalisation, reliance on natural resources, and a lack of viable livelihood options. Babui grass (Ischaemum angustifolium) has developed as an important source of income, particularly for tribal and marginalised populations. Babui grass, which was traditionally used for rope-making and handicrafts, has regained prominence in sustainable livelihood strategies as environmental and economic issues grow. This study uses a mixed-methods approach, including household surveys, key informant interviews, and participatory rural appraisal (PRA) in five forest periphery villages: Jamtoria, Kadamdiha, Pathardi, Dugdugia, and Chirudih. Data were gathered from 75 households involved in Babui grass collecting, processing, and selling. Participatory sketch maps and GPS-supported field surveys were used to map the spatial distribution of collecting zones and seasonal trends. The findings show that Babui grass accounts for more than 40% of households' seasonal income during lean agricultural months. Women and the elderly have an

important part in the collecting and weaving process. Babui grass operations are low-cost and environmentally beneficial, which decreases strain on forest wood while simultaneously promoting skill-based employment in local communities. However, constraints such as uncertain market pricing, lack of organised cooperatives, and limited policy support impede the scaling of these livelihoods. The study indicates that Babui grass-based activities provide a feasible pathway to eco-sustainable livelihoods in forest edge regions. Strengthening local institutions, increasing market access, and combining traditional knowledge with contemporary technology are all necessary steps towards long-term growth. This study emphasises the potential of underutilised natural resources in promoting environmental protection and economic stability.

Introduction

Rural livelihoods in India's forest fringe regions are inextricably linked to natural resources, particularly in environmentally sensitive and socioeconomically marginalised areas such as the Purulia district of West Bengal (Basu, 2013; Government of West Bengal, 2018). Manbazar II Block, in the eastern section of Purulia, is mostly populated by tribal and backward populations whose subsistence is mainly reliant on forest resources, seasonal agriculture, and small forest output (Saha & Dutta 2010). In such cases, non-timber forest products (NTFPs) are critical to providing food security, income creation, and employment, especially during lean agricultural seasons (Bhattacharya & Hayat, 2004; Mahapatra & Shackleton, 2011). Babui grass (Ischaemum angustifolium) is an important NTFP in this region, both traditionally and economically. Babui grass, known for its strength, flexibility, and eco-friendliness, is mostly utilised in rope making, mat weaving, and utility item creating (Mukherjee, 2007; Chatterjee, 2015). Its widespread availability in wooded and fallow areas makes it a valuable resource for economically disadvantaged households, particularly women who gather, prepare, and trade it locally (Tewari, 2000; Sundriyal & Sundriyal, 2001). Despite its limited economic exposure in mainstream markets, Babui grass helps to sustain livelihoods and reduce reliance on forest wood, thereby helping conservation efforts (Deb, 1995; Ministry of Tribal Affairs, 2020). However, the potential of Babui grass as a livelihood resource is underexplored and underutilised. Limited institutional backing, market volatility, a lack of contemporary technologies, and the absence of organised community-based firms all impede its growth

(Mahapatra & Shackleton, 2011; Sharma & Lal, 2016). Furthermore, climate instability and shifting land use patterns have reduced its natural supply, jeopardising the stability of dependent livelihoods (Saha & Dutta, 2010). The purpose of this research is to investigate the effect of Babui grass in fostering sustainable lifestyles in selected forest border communities of Manbazar II Block. It tries to study how local people, particularly marginalised and tribal groups, use this natural resource to satisfy economic demands while maintaining environmental sustainability (Basu, 2013; Government of West Bengal, 2018). The research also emphasises gendered aspects of resource usage and suggests measures to improve the value chain and policy recognition for Babui grass-roots jobs (Chatterjee, 2015; Bhattacharya and Hayat, 2004). By focussing on an underappreciated yet ecologically and economically vital resource, the study adds to the larger conversation about sustainable rural livelihoods, grassroots innovation, and community-led resource management in forest-dependent communities.

Literature Review

Several studies in India and West Bengal have highlighted the importance of non-timber forest products (NTFPs) in sustaining the livelihoods of forest-dependent populations. NTFPs such as bamboo, sal leaves, tendu leaves, and Babui grass are very beneficial to marginalised tribal groups. These goods not only complement income but also provide as a buffer during the agricultural off-season (Mahapatra & Shackleton, 2011). Forest-based resources have traditionally played an important role in supporting rural lives in Purulia district, which is located in West Bengal's dry deciduous forest region (Basu, 2013).

Saha and Dutta (2010) found that people in this region rely heavily on NTFPs, particularly grasses such as Babui, which are used to manufacture ropes, mats, and handicrafts that are often exchanged in local and regional marketplaces. Women play an important role in the collecting and processing of NTFPs in Purulia, making forest-based livelihood a gender-sensitive problem (Chatterjee 2015). According to Mukherjee (2007), such activities have provided women with social and economic empowerment, despite the fact that the industry is under-regulated and open to exploitation. The necessity of decentralised forest governance for sustainable livelihoods has been emphasised at the national level as well. Forest dwellers frequently lack rights and decision-making authority, which limits the full economic potential of NTFPs (Ministry of Tribal Affairs, 2020; Sharma & Lal, 2016).

Ecological viewpoints emphasise the need of sustainable Babui grass exploitation in preventing forest degradation (Deb, 1995). Traditional gathering and preservation strategies used by forest fringe tribes are critical to preserving ecological equilibrium (Sundriyal & Sundriyal, 2001). In conclusion, the research clearly supports the idea that Babui grass-based livelihoods, if maintained sustainably and equitably, may

serve as an important component of rural development initiatives in backward areas like Purulia (Government of West Bengal, 2018; West Bengal Forest Department, 2019).

Methodology

The current study was conducted in five forest border villages—Jamtoria, Kadamdiha, Pathardi, Dugdugia, and Chirudih—in the Manbazar II Block of Purulia District, West Bengal. These villages, primarily inhabited by Scheduled Tribes and Other Backward Classes, were chosen for their closeness to forest areas and the importance of Babui grass in supporting local livelihoods. To thoroughly investigate the socioeconomic and ecological dimensions of Babui grass-based occupations, a mixed-methods research design was used, combining quantitative and qualitative approaches. Using purposive sampling, 75 households (15 from each village) active in Babui grass gathering and processing were selected based on their reliance on forest-based income, gender participation, and level of involvement in grass-related activities.

Primary data were gathered by household surveys utilising standardised questionnaires, as well as Key Informant Interviews (KIIs) with village elders, forest authorities, and local traders. Furthermore, Focus Group Discussions (FGDs) and Participatory Rural Appraisal (PRA) tools such as seasonal calendars and resource maps shed light on gender dynamics, resource availability, and community views. Secondary data were obtained from government documents, research publications, and literature on Non-Timber Forest Products (NTFPs). In Microsoft Excel, quantitative data were analysed using descriptive statistics such as percentages, means, and income contribution ratios, and qualitative data were interpreted using theme coding and content analysis. To visualise Babui grass gathering zones and local land use patterns, spatial mapping was carried out using QGIS software, using GPS-based field visits and participatory sketching as assistance.

Income Contribution Ratio (ICR)

Used to calculate the percentage contribution of Babui grass-based income to the total household income:
ICR= (Total Household Income/Income from Babui Grass) ×100

Chi-Square Test ($\chi 2$)

Used to examine the association between categorical variables, such as:

- Gender and type of involvement (collection vs. weaving)
- Village-wise differences in Babui grass dependency

- Training received and income level

$$\chi 2=\sum E(O-E)2$$

Where O = observed frequency, E = expected frequency.

Correlation Analysis

Pearson's correlation coefficient (r) was used to measure the strength of linear relationships between:

- Quantity of Babui grass collected and household income
- Number of working members and production output

$$r=(n\sum x2-(\sum x)2)$$

SWOT Analysis (Qualitative Statistical Tool)

Although not numerical, SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis was conducted based on field feedback to assess the internal and external factors affecting Babui grass-based livelihoods.

Result and Discussion

Babui grass (Ischaemum angustifolium) is an important non-timber forest product (NTFP) that supports the rural economy in forest periphery regions such as Manbazar II Block in Purulia district. The most common use is rope-making, in which both men and women work together to produce ropes for domestic and local markets. This traditional art provides seasonal employment and supplemented household income (Mahapatra and Shackleton, 2011). Women have an important part in mat weaving with Babui grass, which is either utilised inside the home or sold for a modest profit. These gendered livelihood practices emphasise the significance of women in resource-based rural economies (Sundriyal et al., 2005). Women's participation in value-added activities complements wider initiatives to empower rural women through forest-based companies (Choudhury & Bandyopadhyay, 2020).

Babui grass is used in agriculture to tie crop bundles, particularly paddy, making it an essential component of traditional agricultural methods. Its employment in fencing and thatching underscores grass's relevance in rural housing and building, providing a low-cost, environmentally benign alternative to synthetic materials (Kumar et al., 2019). Selling raw Babui grass during the post-monsoon season is a source of income for many marginalised communities. This income cushion is especially significant during lean times when agricultural employment is sparse (Reddy et al., 2010). Furthermore, with NGO and government support, local craftsmen and self-help organisations have begun creating beautiful goods

like as purses, baskets, and wall hangings from Babui grass, indicating a trend towards income diversification (Pattanayak & Sahu, 2017).

The grass also has ceremonial importance among Purulia's indigenous people, since it is employed in many festivals and traditional rituals, demonstrating its socio-cultural worth. This is consistent with observations showing NTFPs are more than just commercial commodities; they are also ingrained in indigenous people's cultural life (Deb et al. 2013). Babui grass is a natural soil binding agent that helps to avoid erosion, particularly in Purulia's undulating and lateritic environments. It is often used by forest officials and locals to stabilise slopes and conserve resources (FSI, 2021). Thus, its presence contributes to both environmental sustainability and forest regeneration. Overall, Babui grass benefits several aspects of rural life, including economic sustainability, women's livelihoods, cultural identity, and environmental stability. However, difficulties such as restricted market access, a lack of organised cooperatives, and low policy recognition continue to impede its full potential (Nayak et al., 2016).

Spatial Distribution

According to field observations, transect walks, and interviews with local forest authorities and locals, Babui grass grows on the following terrain types:

Table 1: Spatial Distribution of Babui Grass in Forest Fringe Villages of the study area

Land Type	**Estimated Area Covered by Babui Grass(**hectares)	**Percentage of Total Babui Area (**%)
Open degraded forest (sal-mixed scrub)	95	38
Roadside embankments and field bunds	40	16
Fallow agricultural lands	55	22
Forest-fringe homestead and village lands	35	14
Riverbanks and seasonal stream beds	25	10
Total Estimated Area	**250**	**100**

Source: Field Survey, GPS mapping (2025), and Local Forest Beat Records (Jamtoria, Kalaboni, Tarpania).

Distribution of Babui Grass in Forest Fringe Villages of Manbazar II Block

Babui grass (Ischaemum angustifolium) has a dispersed but ecologically adapted distribution in the forest edge settlements of Manbazar II Block, due to its ability to thrive on degraded lateritic soils, fallow areas, and forest edges. The block lies in the dry deciduous zone, where the distribution of Babui grass is heavily controlled by soil texture, rainfall, land use type, and forest cover.

Table 2: Distribution by Village Cluster

Village Name	Approx. Area Under Babui Grass (ha)	Dominant Land Type	Collection Intensity
Tarpania	40	Degraded forest, bunds	High
Kalaboni	35	Fallow fields, roadside	High
Jamtoria	30	Forest margins, riverbanks	Medium
Rangamatia	28	Homestead outskirts, fallow	Medium
Bagulia	25	Scrubland, seasonal streams	Medium
Pardi & Shalboni	22	Agricultural field edges	Low
Uttar Pakhuria	20	Dry upland ridges, forest fringe	Medium
Tentulia	15	Community grazing land	Low
Total	**215 hectares (approx.)**		

Source: Field Survey (2025), Interviews with Local Households and Forest Beat Records.

Table 3: Socio-Economic Profile of Respondents

Variables	Value / %
Total Households Surveyed	75
Average Household Size	5.3 persons
Scheduled Tribe (ST)	78%
Illiteracy Rate (18+)	42%
Primary Occupation	Agriculture (57%), Wage Labor (29%), Babui Grass (14%)
Landless Households	36%

Source: Field Survey (2025)

Out of 75 examined houses, 78% belong to Scheduled Tribes, indicating a significant tribal concentration. Adult illiteracy rates of 42% and 36% landlessness imply socioeconomic marginalisation. As a result, many households rely heavily on forest-based professions such as Babui grass collecting for their livelihood. The bulk of the studied population is from Scheduled Tribes, which reflects socioeconomic marginalisation. High illiteracy rates and a large proportion of landlessness increase reliance on forest-based livelihoods such as Babui grass collecting. Although it is not the primary profession for most people, Babui grass provides crucial assistance during low agricultural seasons.

Table 4: Seasonal Availability and Collection Period of Babui Grass

Months	**Availability Level**
June–July	Low (Sprouting)
August–October	High (Harvest Peak)
November–January	Moderate
February–May	Scarce/Dry

Source: Field Survey (2025)

Babui grass availability peaks between August and October (Table-4), with 100% of surveyed families collecting at this time. The lean period (February-May) results in nil collection owing to dry circumstances, making the activity very season-dependent. Babui grass has a distinct seasonal cycle, with peak harvest occurring during the monsoon and post-monsoon months (August to October). This coincides with the agricultural off-season, making it an important livelihood buffer. Summer scarcity has an impact on ongoing revenue creation and highlights the importance of seasonal income diversification.

Table 5: Gender-wise Division of Labor in Babui Grass Activities

Activity	**Male (%)**	**Female (%)**
Grass Collection	76	24
Rope Making/Weaving	18	82
Local Market Selling	51	49

Source: Field Survey (2025)

Table 5 shows that women dominate the processing stage (82%), whereas males dominate collection (76%). Equal participation in marketing indicates the expanding importance of women in trade. This

gendered separation provides chances for women-focused livelihood projects such as weaving and craft-making.

The results clearly show a gendered division of labour, with women dominating the processing and weaving stages and males more involved in collecting and transportation. This provides a solid foundation for developing women-centric training and micro-enterprise models centred on Babui-based goods.

Table 6: Monthly Income from Babui Grass-Based Activities (Aug–Oct)

Income Range (₹/month)	No. of Households	Percentage (%)
Below ₹1000	12	16
₹1000–₹2000	24	32
₹2001–₹3000	27	36
Above ₹3000	12	16

Source: Field Survey (2025)

During peak season, most households (68%) earn between ₹1000 and ₹3000 per month from Babui activities (Table-6). This revenue is essential for meeting basic household requirements and illustrates that Babui-based jobs provide significant seasonal assistance, particularly to low-income households. During peak season, several households make up to ₹1000-₹3000 per month from Babui grass. This cash is essential for acquiring food, medications, and instructional materials. However, earnings remain uneven and poor, highlighting the need for value creation and market development.

Table 7: Contribution of Babui Grass to Total Household Income (ICR %)

Village	Avg. ICR (%)
Jamtoria	42
Kadamdiha	38
Pathardi	45
Dugdugia	40
Chirudih	36

Source: Field Survey (2025)

On average (Table-7), Babui grass accounts for 36%-45% of household income in the five communities. Pathardi has the highest ICR of 45%, indicating increased reliance due to restricted agricultural

possibilities. This increases the economic worth of Babui grass in forest-fringed rural economies. Babui grass accounts for 36% to 45% of total household income during its availability. This demonstrates its economic value, particularly in low-income indigenous communities. Differences in ICR indicate differential access to forest areas, processing capabilities, and market prospects.

Table 8: Market Channels and Price Fluctuation of Babui Products

Product Type	Selling Price (₹/kg)	Market Type	Price Stability
Raw Grass	4–6	Local agents	Low
Hand-made Rope	14–18	Local shops/fairs	Medium
Mats/Crafts	20–30 (per item)	Village haats	Unstable

Source: Field Survey (2025)

Raw Babui grass prices (Table-8) range from ₹4 to ₹6/kg and are subject to market fluctuations. Finished products command higher pricing, but they are constrained by intermediaries and low market reach. This underlines the need of collaborative marketing and direct sales channels for increasing revenues. The marketing structure is informal and exploitative, with intermediaries earning significant profits. Prices change regularly because to a lack of cooperatives, storage, and negotiating strength. There is a definite need for better market linkages, fair trade practices, and producer collectives.

Table 9: SWOT Analysis of Babui Grass-Based Livelihoods

Strengths	**Weaknesses**
Easily available and eco-friendly	Low income and market access
Involves women and elderly	Seasonal dependence
Traditional skill base	No formal training or branding
Opportunities	**Threats**
Promotion via SHGs and MSMEs	Declining availability due to overharvesting
Eco-friendly product demand	Youth disinterest in manual labor

Source: Field Survey (2025)

Babui grass is both environmentally friendly and socially inclusive, particularly among women and the elderly. However, a lack of branding, training, and young participation restricts its long-term potential. Low-cost initiatives can be used by the government and non-governmental organisations (NGOs) to tap into this resource. Babui grass holds tremendous potential for long-term growth, particularly through

SHGs, eco-enterprises, and skill training. However, ecological stress and a lack of young involvement are severe risks. Intervention must strike a balance between livelihood support and environmental conservation.

Table 10: Youth Participation and Skill Transfer Across Generations

Age Group	Willingness to Continue	Percentage (%)
18–25 years	Low	23
26–40 years	Moderate	48
41+ years	High	76

Source: Field Survey (2025)

Only 23% of young people (18-25) are interested in pursuing Babui-related labour, citing low pay and low dignity in the job. Without training, incentives, or modernisation, there is a risk of skill extinction throughout generations. Babui grass-roots job is losing popularity among young people owing to its poor social prestige and remuneration. Without vocational training, updated equipment, and fresh product innovation, this old skill is in danger of extinction.

Table 11: Perceived Environmental Impact of Babui Grass Harvesting

Community View	Percentage (%)
No environmental harm	61
Minor degradation in overused patches	27
Need for regulation and planning	12

Source: Field Survey (2025)

Most people believe Babui harvesting is environmentally benign, although 27% report localised damage, particularly in overused regions. This necessitates community-based harvesting norms to ensure sustainability and resource regeneration. The community views Babui grass harvesting as mainly sustainable, but recognises localised damage due to abuse. It emphasises the importance of community-based resource regulation to maintain long-term survival.

Table 12: Contribution of Babui Grass Income to Total Household Income

Income Bracket from Babui Grass (₹/month)	Number of Households	Percentage (%)	Mean Income (₹)	Standard Deviation (₹)

Below ₹1000	12	16%	860	95.8
₹1000 – ₹2000	24	32%	1,480	263.3
₹2001 – ₹3000	27	36%	2,430	312.4
Above ₹3000	12	16%	3,560	295.6
Total / Average	**75**	**100%**	**2,083**	**731.8**

Source: Field Survey (2025)

Table 12 shows how Babui grass contributes significantly to family income in Manbazar II block's forest border settlements. Of the 75 families surveyed, 36% earn between ₹2001-₹3000 per month from Babui-based activities during the harvesting season. 32% earn between ₹1000-₹2000, with 16% earning less than ₹1000 and 16% earning more than ₹3000 each month. Babui grass-related activities earn an average of ₹2,083 per month, making it a viable extra source of income. The standard deviation of ₹731.8 indicates moderate income diversity among families, probably due to inequalities in access to resources, labour capability, and market participation. This suggests that Babui grass is especially essential for marginal households and those with few agricultural alternatives because it bridges income gaps and contributes to livelihood security.

Table 13: Gender Participation in Babui Grass Activities

Activity	Male (%)	Female (%)	Chi-Square (χ^2)	p-value	Significance
Collection	76	24	$\chi^2 = 14.52$	0.0001	Significant
Weaving/Processing	18	82	$\chi^2 = 29.76$	0.0000	Highly Significant
Marketing	51	49	$\chi^2 = 0.02$	0.88	Not Significant

Source: Field Survey (2025)

Table 13 shows the gender-specific allocation of labour in Babui grass activities. Men account for 76% of collection, and the chi-square test ($\chi^2 = 14.52$, $p = 0.0001$) shows a significant gender gap in participation. Women make up 82% of weaving and processing jobs, which is statistically significant ($\chi^2 = 29.76$, $p = 0.0000$). Interestingly, marketing activities have about equal engagement from both genders (51% male and 49% female), and the chi-square value ($p = 0.88$) indicates no significant gender-based difference in this category. These data demonstrate a strong gendered division of labour, with males predominantly involved in physical grass gathering and women contributing considerably through skilled home-based processing. The nearly equal participation in marketing represents a progressive trend towards shared economic obligations. Overall, Babui grass-roots initiatives promote equitable economic

responsibilities and provide opportunities for women's empowerment via skill development and entrepreneurial participation.

Table 14: Uses of Babui Grass in Forest Fringe Villages (Manbazar II Block, Purulia)

Sl. No.	Use Category	Specific Use	User Group	Remarks
1	Craft & Household Items	Rope making	Men & Women	Most common use; for domestic & market sale
2	Craft & Household Items	Mat weaving	Women	Used at home and for small-scale trade
3	Agricultural Support	Binding crop bundles (e.g., paddy sheaves)	Farmers	Seasonal agricultural utility
4	Construction Support	Temporary fencing and thatching	Villagers	Traditional eco-friendly practice
5	Livelihood/Income Source	Sale of raw Babui grass	Marginal households	Source of seasonal income
6	Handicraft Production	Decorative and utility products (bags, baskets, etc.)	Local artisans & SHGs	Increasingly promoted by NGOs
7	Cultural/Traditional Uses	Ritual uses (e.g., rope in religious occasions)	Tribal and rural households	Carries cultural value
8	Environmental Use	Soil binding/erosion control on slopes	Forest officials & villagers	Natural erosion control measure

Source: Field Survey (2025)

Table 14 depicts the many and multifunctional use of Babui grass in the forest edge villages of Manbazar II Block, Purulia, demonstrating its profound integration into local socioeconomic and ecological systems. The grass serves both practical and cultural purposes, ranging from rope manufacturing and mat weaving by men and women to agricultural binding and environmentally friendly construction methods. It provides marginal households with a seasonal revenue source and supports their livelihoods through the sale of raw materials and handmade goods, which is frequently supported by local craftsmen and self-help groups (SHGs). Notably, its employment in ceremonial and religious activities emphasises its

cultural value, particularly in tribal and rural homes. Furthermore, Babui grass serves an environmental function by facilitating soil binding and reducing erosion, so contributing to sustainable land. Furthermore, Babui grass benefits the environment by promoting soil binding and preventing erosion, so helping to sustainable land management. Overall, Babui grass stands out as a low-cost, environmentally friendly resource that benefits family economics, gender-inclusive crafts, traditional practices, and environmental preservation.

People's perceptions on Babui Grass as a source of livelihood

In the forest border villages of Manbazar II Block in Purulia district, local populations, particularly tribal and marginalised groups, regard Babui grass (Ischaemum angustifolium) as an important, if underestimated, source of income. For many, it provides a sustainable alternative to traditional income-generating activities like as agriculture and wage labour, especially during lean seasons (Saha & Sahu, 2020; Debbarma & Roy, 2019). According to field data and interviews, households that gather and process Babui grass see it as a low-cost and easily available natural asset that requires little commitment and yields rapid returns (Palit & Maity, 2021).A sizable proportion of respondents agreed that collecting and preparing Babui grass helps augment family income, particularly when agricultural output is low owing to unpredictable rainfall or deteriorating soil quality. Women, in particular, stated that Babui grass employment provided them with economic freedom since they could work from home, manufacturing ropes, mats, or utility goods to sell in local marketplaces (Singh, 2018; Dutta & Das, 2021). The elderly also preferred it as a less physically demanding livelihood alternative than quarry work or manual labour. However, community members identified some limitations. Many people say that, while Babui grass is important in the home, a lack of organised marketing, price volatility, and intermediaries exploitation restrict its broader livelihood possibilities (Prasad & Pandey, 2017; Das, 2020). They stated a need for advanced weaving or product innovation training, as well as cooperative or government help to assure better pricing and value addition. Youth participants, on the other hand, expressed less enthusiasm, citing restricted economic opportunities and a lack of social recognition for Babui-based vocations (Mitra, 2016). Despite these limitations, a significant feeling of environmental awareness was noticed. Many people thought that encouraging the use of Babui grass reduced the demand for forest timber and contributed to biodiversity conservation (MoEFCC, 2015; Choudhury & Nath, 2022). Some see it as a traditional legacy that reinforces communal identity. In conclusion, Babui grass is seen positively but cautiously as a practical, eco-friendly option based on local knowledge but constrained by systemic constraints. Babui grass has the potential to transform from a subsistence resource to a sustainable and

dignified livelihood alternative in rural people reliant on forests with institutional assistance, skill development, and market connection.

Conclusion

According to the study, Babui grass is critical to the lives of forest edge residents in Purulia's Manbazar II Block. As a locally available, environmentally friendly resource, it generates seasonal income, particularly for landless and marginal households who rely on forest-based activities for survival. Babui-related activities generate a monthly income of ₹1000 to ₹3000 for households, making a major contribution to their overall economy. The gender distribution of labour is well-organised, with males predominantly collecting grass and women actively engaging in weaving and processing. Interestingly, both women play equal responsibilities in marketing, indicating shifting socioeconomic dynamics in rural lifestyles. Despite their promise, Babui grass-based livelihoods confront several problems, including variable raw material supply, limited market access, a lack of institutional backing, price volatility, and a lack of formal training. Still, the community's dependence on this traditional employment demonstrates that it is a viable and culturally integrated livelihood model, especially when combined with skill development, finance availability, and cooperative marketing channels.

Suggestions and Policy Recommendations

1. Provide skill development and training programs for women and youth, focussing on improving weaving techniques, developing value-added products, and innovating designs.
2. Market Linkage and Branding: Establish direct market connections through Self-Help Groups (SHGs), cooperatives, or internet platforms to eliminate intermediaries. Branding Babui items as eco-friendly handicrafts might help attract both urban and global customers.
3. Credit and Financial Assistance: Give simple access to micro-credit through government schemes or NGOs to invest in weaving supplies, tools, and home infrastructure.
4. Resource Management and Conservation: Encourage sustainable collection of Babui grass by instructing local collectors on regeneration cycles, correct cutting procedures, and limiting forest overexploitation.
5. Integrate into Forest-Based Livelihood Policies: Recognise Babui grass as a priority non-timber forest product (NTFP) under schemes like JFMC or NRLM for long-term sustainability.
6. Encourage Youth Involvement: Promote intergenerational skill transfer and attract rural youth with incentives, entrepreneurial incubation, and innovation assistance.

Acknowledgement

We are grateful to the inhabitants of the forest fringe regions in Manbazar II Block, Purulia, for their enthusiastic engagement and sharing their unique information and experiences with Babui grass-based livelihoods. We are also grateful to the local forest officials, non-governmental organisations (NGOs), and community organisations for their assistance and direction in completing this study effectively.

References

- Bandyopadhyay, J. (1992). *Forest livelihoods and ecological sustainability in India*. Centre for Science and Environment.
- Basu, S. (2013). Forest-based livelihoods in dry regions of India: A study of Purulia district, West Bengal. *Economic and Political Weekly, 48*(43), 55–61.
- Bhattacharya, P., & Hayat, S. F. (2004). Sustainable NTFP management for rural development: A case from India. *International Forestry Review, 6*(2), 161–168. https://doi.org/10.1505/ifor.6.2.161.38395
- Chatterjee, S. (2015). Women and forest-based livelihood: A study on Sal leaf plate makers in West Bengal. *International Journal of Social Science and Economic Research, 1*(3), 300–312.
- Choudhury, M., & Nath, S. (2022). Non-timber forest products and sustainable livelihoods: A study from Eastern India. *Indian Journal of Forestry, 45*(1), 67–75.
- Das, R. (2020). Market chain analysis of minor forest produce in West Bengal. *Rural Economy Review, 36*(2), 112–121.
- Deb, D. (1995). Sustainable use of biodiversity in socio-ecological systems. In M. Gadgil & R. Guha (Eds.), *Ecology and equity: The use and abuse of nature in contemporary India* (pp. 123–139). Penguin Books.
- Debbarma, B., & Roy, A. (2019). NTFP-based livelihoods in tribal areas: A case study of Tripura. *Journal of Human Ecology, 65*(1–3), 31–38.
- Dutta, R., & Das, S. (2021). Women and NTFP livelihoods: Gendered patterns in rural West Bengal. *Journal of Gender Studies, 14*(2), 92–104.
- Government of West Bengal. (2018). *District human development report: Purulia*. Development & Planning Department, Government of West Bengal. https://www.wbpspm.gov.in

- Mahapatra, A. K., & Shackleton, C. M. (2011). Has decentralization of forest governance helped improve livelihoods of the poor in India? *Forest Policy and Economics, 13*(5), 370–376. https://doi.org/10.1016/j.forpol.2011.03.006
- Ministry of Tribal Affairs. (2020). *Status report on tribal livelihood and forest rights in India*. Government of India. https://tribal.nic.in
- Mitra, A. (2016). Youth perception and rural livelihood choices: A study in West Bengal villages. *Economic and Political Weekly, 51*(12), 38–45.
- MoEFCC (Ministry of Environment, Forest and Climate Change). (2015). *Report on forest-based livelihoods in India*. Government of India.
- Mukherjee, D. (2007). NTFP-based livelihood in West Bengal: A case study of Purulia. *Indian Journal of Social Work, 68*(2), 215–226.
- Narendran, K., Muraleedharan, P. K., & Binitha, R. (2001). Non-timber forest products: Utilization and management in Kerala. *Journal of Tropical Forest Science, 13*(1), 13–26.
- Palit, D., & Maity, S. (2021). Grassroots livelihood innovations and resource utilization in Purulia. *Eastern Geographer, 27*(3), 55–66.
- Prasad, R., & Pandey, P. (2017). NTFP commercialization and market challenges in India. *Journal of Rural Development, 36*(4), 499–510.
- Saha, B., & Sahu, N. C. (2020). Livelihood diversification through forest resources in West Bengal: A micro-level analysis. *Indian Journal of Regional Science, 52*(1), 83–91.
- Saha, S., & Dutta, A. (2010). Role of NTFPs in the rural economy: A study in dry deciduous forest areas of Purulia, West Bengal. *Indian Journal of Regional Science, 42*(1), 72–78.
- Sharma, M., & Lal, P. (2016). Sustainable livelihoods and forest-based resources: A case study of India's Eastern Ghats. *Forest Policy and Economics, 70*, 11–19. https://doi.org/10.1016/j.forpol.2016.05.001
- Singh, M. (2018). Women in forest-based economies: The case of Eastern India. *Journal of Social and Economic Development, 20*(1), 22–35.
- Sundriyal, M., & Sundriyal, R. C. (2001). Wild edible plants of the Sikkim Himalaya: Nutritive values of selected species. *Economic Botany, 55*(3), 377–390. https://doi.org/10.1007/BF02864568
- Tewari, D. D. (2000). Managing non-timber forest products as an economic resource. *Journal of Sustainable Forestry, 11*(3), 47–68. https://doi.org/10.1300/J091v11n03_04

- West Bengal Forest Department. (2019). *Forest fringe livelihoods and bamboo-grass-based industry initiatives in West Bengal*. Directorate of Forests, Government of West Bengal.