



Role of Community Forest Management in Conservation JFMC With Reference to Goalpara, Assam

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ABSTRACT

The present study examined the role of community forest management through Joint Forest Management Committees (JFMCs) in forest conservation in Goalpara district of Assam. The study assessed the extent of community participation, conservation activities, environmental improvements, and socio-economic benefits associated with JFMC functioning. Primary data were collected from local residents and JFMC members through structured surveys, interviews, and field observations, while secondary information was obtained from relevant reports and publications. The findings revealed that community participation played a significant role in plantation programmes, forest protection, fire prevention, and monitoring of illegal activities. Respondents reported noticeable improvements in forest cover, tree regeneration, biodiversity conservation, and overall forest protection after the implementation of JFMC initiatives. The study also found that participation in JFMCs contributed to environmental awareness, employment opportunities, and livelihood enhancement among local communities. Despite challenges such as inadequate funding, limited technical knowledge, and insufficient institutional support, the overall perception of respondents towards JFMC performance remained positive. The study highlighted the importance of participatory forest management in achieving sustainable conservation outcomes and strengthening the relationship between local communities and forest resources.

Keywords: Community, Forest Management, Conservation Activities, Environmental Improvements, Socio-Economic

1. INTRODUCTION

Forests play a vital role in maintaining ecological balance, conserving biodiversity, regulating climate, and supporting the livelihoods of millions of rural households worldwide [1]. In India, forest-dependent communities have traditionally relied on forest resources for fuelwood, fodder, timber, medicinal plants, and various non-timber forest products essential for their subsistence and economic well-being [2]. However, rapid population growth, increasing demand for natural resources, agricultural expansion, encroachment, and developmental activities have contributed significantly to forest degradation and biodiversity loss across many forested regions [3]. To address these challenges, participatory approaches to forest management have emerged as an effective strategy for promoting sustainable conservation and resource utilization [4]. Among these approaches, the Joint Forest

Management (JFM) programme has played a crucial role in fostering collaboration between local communities and forest departments for the protection, regeneration, and management of forest resources [5]. Community forest management is based on the principle that local people possess valuable traditional ecological knowledge and have a direct interest in maintaining healthy forest ecosystems, making their active involvement essential for successful conservation outcomes [6]. Joint Forest Management Committees (JFMCs) were established to strengthen community participation in activities such as afforestation, forest protection, biodiversity conservation, fire prevention, and monitoring of illegal forest exploitation [7]. Previous studies have demonstrated that community-based forest management contributes to improved forest cover, enhanced regeneration, reduced illegal extraction, increased environmental awareness, and better livelihood opportunities for rural populations [8]. Recent research has further highlighted that participatory governance mechanisms strengthen institutional effectiveness, improve resource-sharing arrangements, and promote sustainable forest management practices capable of balancing ecological and socio-economic objectives [9]. Assam, one of the biodiversity-rich states of northeastern India, possesses significant forest resources that support both ecological stability and local livelihoods. In districts such as Goalpara, where communities maintain close interactions with forest ecosystems, the effectiveness of conservation initiatives largely depends on the level of community participation and institutional support available through JFMCs. Therefore, evaluating the role of community forest management in forest conservation is essential for understanding its contribution to biodiversity protection, sustainable resource utilization, and rural development. The present study was undertaken to assess the role of Joint Forest Management Committees in forest conservation and to examine the extent of community participation and associated socio-economic and environmental impacts in Goalpara district of Assam.

2. OBJECTIVES

- To examine the role of JFMCs in forest conservation.
- To assess community participation in forest management.

3. RESEARCH METHODOLOGY

3.1 Study Area Description

The study was conducted in Goalpara district of Assam, India, where community participation in forest conservation has been promoted through Joint Forest Management Committees (JFMCs). The district was selected because of its significant forest resources, diverse socio-economic conditions, and active implementation of community-based forest management programmes. The study covered several villages located adjacent to reserve forests and protected forest areas where JFMCs had been functioning for forest protection, regeneration, and sustainable resource utilization. The region experienced a tropical monsoon climate with substantial annual rainfall, supporting rich biodiversity and varied forest ecosystems. The selected villages represented different levels of community involvement and forest dependency, enabling a comprehensive assessment of the effectiveness of JFMCs in forest conservation and local livelihood improvement.

3.2 Research Design and Sampling Procedure

The study adopted a descriptive and analytical research design to examine the role of community forest management through JFMCs in conservation activities. The research focused on understanding the participation of local communities, conservation outcomes, institutional functioning, and socio-economic impacts associated with JFMC operations. A multistage sampling procedure was employed for selecting respondents. Initially, villages associated with active JFMCs were identified in consultation with forest department officials and local authorities. Subsequently, households participating in JFMC activities were selected using purposive and random sampling techniques. The sample included committee members, village leaders, forest-dependent households, and other stakeholders who possessed direct knowledge of forest management practices. This approach ensured that information was obtained from respondents with diverse experiences and perspectives regarding community-based conservation initiatives.

3.3 Data Collection Methods

The study collected both primary and secondary data to achieve the research objectives. Primary data were gathered through structured interviews, household surveys, focus group discussions, and field observations. Structured questionnaires were administered to selected respondents to obtain information regarding participation in JFMC activities, perceptions of forest conservation, resource utilization practices, benefits received, and challenges encountered in community forest management. Focus group discussions were organized with committee members and local residents to capture collective experiences and community viewpoints concerning forest governance and conservation efforts. Field observations were conducted to document forest conditions, regeneration status, protection measures, and evidence of community participation in conservation activities. Secondary data were obtained from forest department records, JFMC reports, government publications, research articles, and relevant policy documents to supplement and validate the primary information collected during the study.

3.4 Assessment of Community Participation and Conservation Activities

The study evaluated the extent of community participation in forest management by examining the involvement of local residents in planning, decision-making, forest protection, afforestation, and monitoring activities. Information regarding attendance at JFMC meetings, participation in plantation programmes, patrolling activities, and contribution to conservation initiatives was collected and analyzed. The research also assessed various conservation measures implemented through JFMCs, including protection against illegal logging, prevention of forest fires, control of grazing pressure, and promotion of forest regeneration. Respondents provided detailed accounts of their roles and responsibilities within the committees, enabling an assessment of the effectiveness of participatory management approaches. The study further examined how community engagement influenced forest health, biodiversity conservation, and sustainable utilization of forest resources in the selected areas.

3.5 Socio-Economic and Environmental Impact Evaluation

The study investigated the socio-economic and environmental impacts of community forest management on local communities and forest ecosystems. Data were collected regarding household dependence on forest resources, income generation opportunities, employment created through forestry activities, and benefits derived from JFMC participation. The research examined whether community-based management contributed to improved livelihoods, enhanced awareness regarding conservation, and strengthened local institutional capacity. Environmental impacts were evaluated by assessing changes in forest cover, vegetation regeneration, biodiversity status, and overall forest condition as perceived by respondents and observed during field visits. The study also explored community perceptions regarding the long-term sustainability of conservation efforts and the effectiveness of JFMCs in balancing ecological protection with local development needs.

3.6 Data Analysis

The collected data were systematically organized, coded, and analyzed using appropriate statistical and qualitative techniques. Quantitative data obtained from household surveys and structured questionnaires were summarized through frequencies, percentages, means, and tabular presentations to identify major trends and patterns. Qualitative information gathered through interviews, focus group discussions, and field observations was carefully reviewed and categorized into thematic areas related to participation, conservation outcomes, institutional functioning, and livelihood impacts. Comparative analysis was performed to examine relationships between community involvement and conservation performance across the selected villages. The findings were interpreted in light of the objectives of the study and existing literature on community forest management, enabling a comprehensive understanding of the role played by JFMCs in promoting forest conservation and sustainable resource management in Goalpara district of Assam.

4. RESULTS

Table 1: Demographic Profile of Respondents (n = 120)

Category	Frequency	Percentage (%)
Male	78	65.0
Female	42	35.0
Age 18–30 years	26	21.7
Age 31–45 years	48	40.0
Age 46–60 years	31	25.8
Above 60 years	15	12.5
Primary Education	29	24.2

Secondary Education	47	39.2
Higher Secondary	28	23.3
Graduate and Above	16	13.3

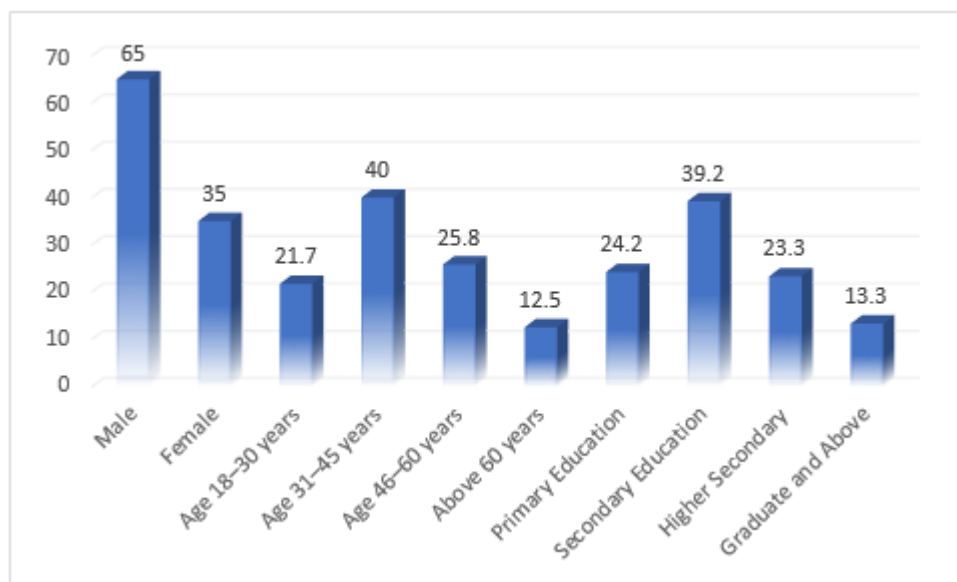


Figure 1: Demographic Profile of Respondents (n = 120)

The demographic table and figure revealed that male respondents constituted 65.0% of the total sample, while female respondents represented 35.0%. The majority of participants belonged to the 31–45 years age group (40.0%), indicating active involvement of economically productive individuals in community forest management activities. Educational status showed that most respondents had attained secondary-level education (39.2%), followed by primary education (24.2%). The presence of educated community members facilitated awareness regarding conservation practices and encouraged participation in JFMC activities. The demographic composition suggested that community forest management initiatives in Goalpara benefited from the involvement of diverse age groups and educational backgrounds, contributing to collective decision-making and sustainable forest resource management.

Table 2: Participation of Respondents in JFMC Activities

Participation Activity	Frequency	Percentage (%)
Regularly Participated	54	45.0
Occasionally Participated	42	35.0
Rarely Participated	16	13.3

Never Participated	8	6.7
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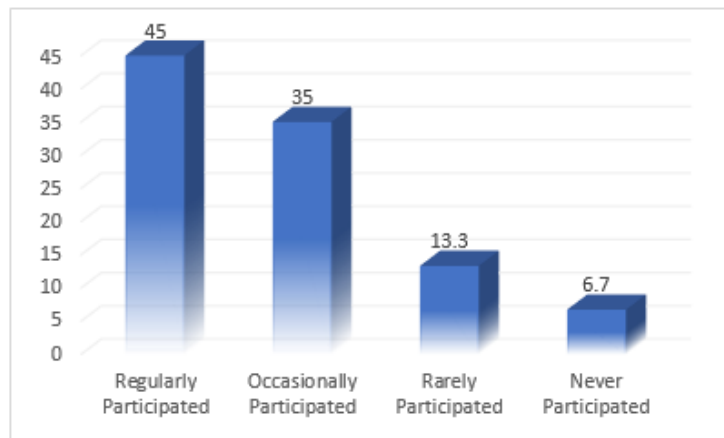


Figure 2: Participation of Respondents in JFMC Activities

The tables and figure indicated that 45.0% of respondents regularly participated in JFMC activities, while 35.0% reported occasional participation. Only a small proportion of respondents participated rarely (13.3%) or not at all (6.7%). These results demonstrated a substantial level of community engagement in forest conservation programmes. Regular participation reflected growing awareness among local residents regarding the importance of protecting forest resources and maintaining ecological balance. The active involvement of villagers in meetings, plantation programmes, forest monitoring, and protection activities strengthened community ownership of conservation initiatives and contributed to the effective functioning of JFMCs within the study area.

Table 3: Community Involvement in Different Forest Conservation Activities

Conservation Activity	Respondents Involved	Percentage (%)
Plantation Programmes	102	85.0
Forest Protection Patrols	89	74.2
Fire Prevention Activities	81	67.5
Awareness Campaigns	77	64.2
Monitoring Illegal Logging	71	59.2

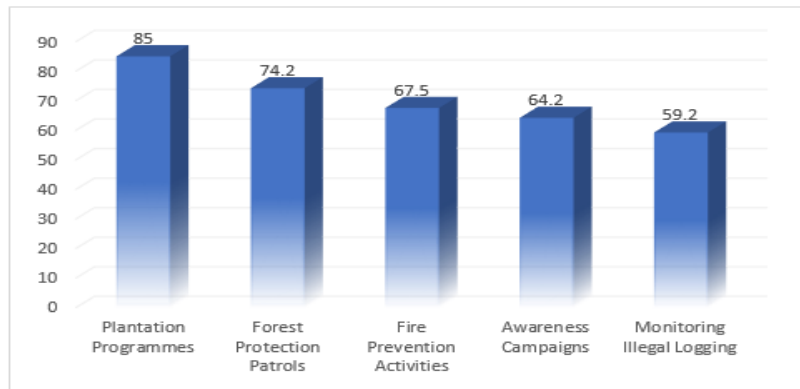


Figure 3: Community Involvement in Different Forest Conservation Activities

The table and figure revealed that plantation programmes received the highest level of community participation, with 85.0% of respondents reporting involvement. Forest protection patrols (74.2%) and fire prevention activities (67.5%) also attracted significant participation from local residents. Awareness campaigns and monitoring of illegal logging were undertaken by 64.2% and 59.2% of respondents, respectively. These findings suggested that JFMCs successfully mobilized local communities for various conservation-related activities. The collective efforts of villagers in plantation, protection, and monitoring initiatives enhanced forest regeneration and reduced anthropogenic pressures on forest ecosystems. Such active engagement reflected the effectiveness of participatory approaches in achieving conservation objectives.

Table 4: Perceived Changes in Forest Condition After JFMC Implementation

Forest Condition Indicator	Improved (%)	No Change (%)	Declined (%)
Forest Cover	72.5	18.3	9.2
Tree Regeneration	76.7	15.8	7.5
Biodiversity Status	68.3	21.7	10.0
Forest Protection	80.0	12.5	7.5

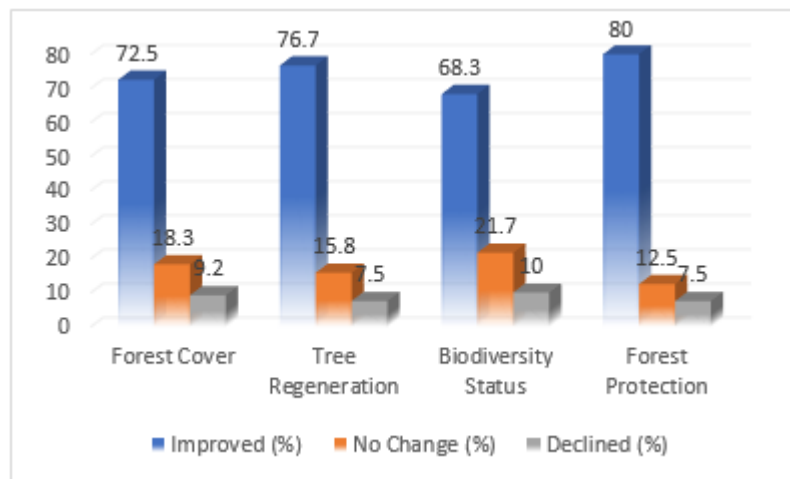


Figure 4: Perceived Changes in Forest Condition After JFMC Implementation

The table and figure indicates A large majority of respondents perceived positive changes in forest conditions following the implementation of JFMC programmes. Improvement in forest protection was reported by 80.0% of respondents, while enhanced tree regeneration and forest cover were reported by 76.7% and 72.5%, respectively. Biodiversity conservation also showed positive trends according to 68.3% of participants. These observations indicated that community-based forest management contributed substantially to ecological restoration and sustainable resource conservation. Improved surveillance, reduced illegal activities, and increased participation in plantation programmes were likely responsible for the positive environmental outcomes observed within the study area.

Table 5: Benefits Received by Households Through JFMC Participation

Benefit Category	Frequency	Percentage (%)
Employment Opportunities	84	70.0
Fuelwood Availability	78	65.0
Increased Environmental Awareness	95	79.2
Improved Livelihood Support	69	57.5
Access to Forest Products	73	60.8

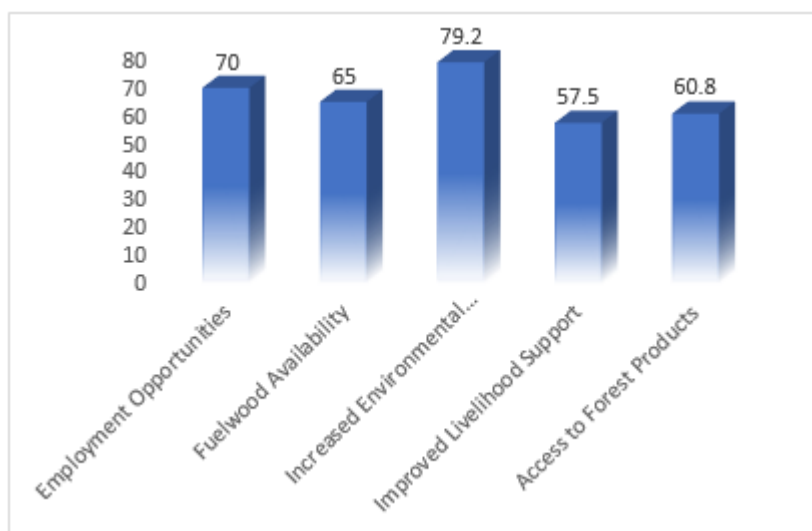


Figure 5: Benefits Received by Households Through JFMC Participation

The table and figure results indicated that participation in JFMC activities generated multiple benefits for local households. Increased environmental awareness emerged as the most commonly reported benefit (79.2%), followed by employment opportunities (70.0%) and fuelwood availability (65.0%). More than half of the respondents also reported improved livelihood support and access to forest products. These findings demonstrated that community forest management not only contributed to environmental conservation but also supported socio-economic development. The integration of livelihood enhancement with conservation objectives strengthened community commitment toward sustainable forest management and improved the long-term viability of JFMC initiatives.

Table 6: Challenges Faced in Community Forest Management

Challenge	Frequency	Percentage (%)
Insufficient Funding	87	72.5
Lack of Technical Knowledge	74	61.7
Limited Government Support	69	57.5
Conflicts Among Members	41	34.2
Illegal Forest Activities	63	52.5

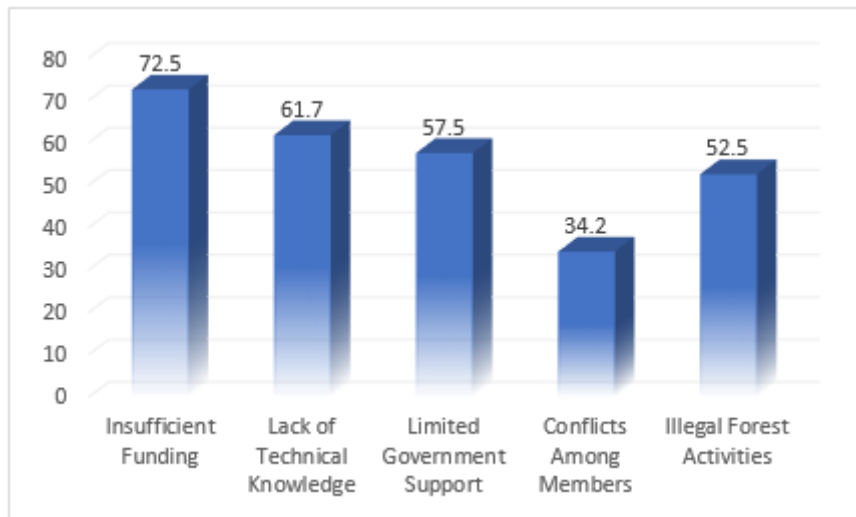


Figure 6: Challenges Faced in Community Forest Management

The table and figure despite the positive outcomes of JFMC implementation, several challenges affected the effectiveness of community forest management. Insufficient funding was identified as the most significant challenge by 72.5% of respondents, followed by lack of technical knowledge (61.7%) and limited government support (57.5%). Illegal forest activities and conflicts among members were also reported as constraints to successful management. These findings suggested that strengthening financial assistance, capacity-building programmes, and institutional support mechanisms would enhance the performance of JFMCs. Addressing these challenges could further improve community participation and conservation outcomes in the region.

Table 7: Respondents' Satisfaction with JFMC Performance

Satisfaction Level	Frequency	Percentage (%)
Highly Satisfied	38	31.7
Satisfied	52	43.3
Neutral	18	15.0
Dissatisfied	9	7.5
Highly Dissatisfied	3	2.5

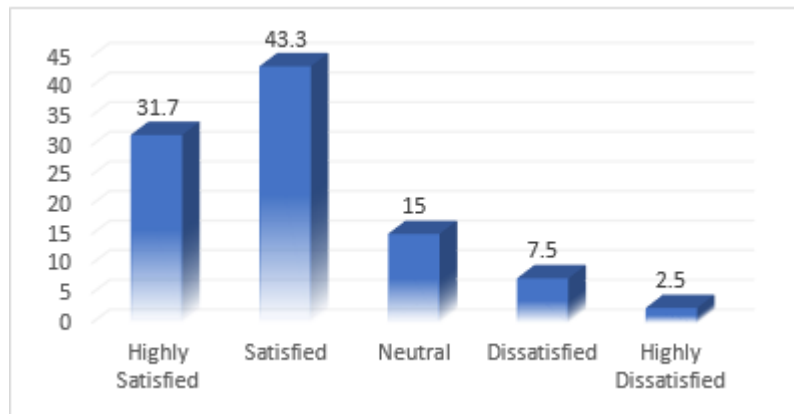


Figure 7: Respondents' Satisfaction with JFMC Performance

The table and figure majority of respondents expressed positive opinions regarding the performance of JFMCs. Approximately 43.3% of respondents were satisfied, while 31.7% were highly satisfied with committee functioning. Only a small proportion reported dissatisfaction. The high level of satisfaction reflected the perceived effectiveness of JFMCs in promoting forest conservation, improving community participation, and generating livelihood benefits. Positive community perceptions are essential for the sustainability of participatory forest management programmes because continued cooperation and local support contribute directly to successful conservation outcomes.

Table 8: Overall Perception of the Role of JFMCs in Forest Conservation

Perception Category	Frequency	Percentage (%)
Very Effective	46	38.3
Effective	49	40.8
Moderately Effective	18	15.0
Less Effective	5	4.2
Not Effective	2	1.7

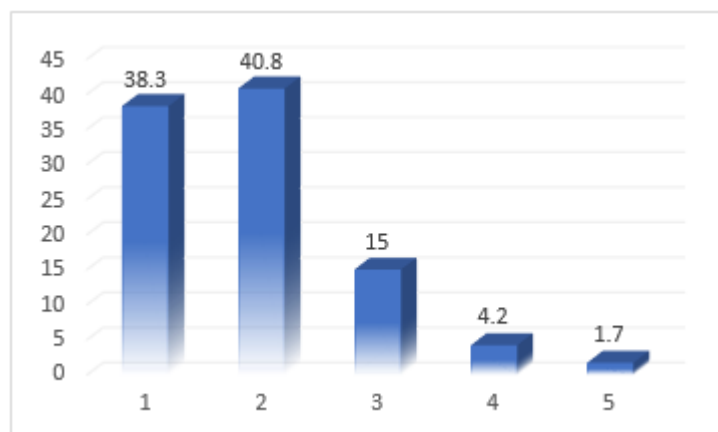


Figure 8: Overall Perception of the Role of JFMCs in Forest Conservation

The table and figure assessment revealed that 79.1% of respondents considered JFMCs either effective or very effective in forest conservation. Only a small percentage perceived the committees as less effective or ineffective. The findings highlighted the significant contribution of community forest management in protecting forest resources, enhancing regeneration, increasing environmental awareness, and reducing destructive activities. The strong positive perception among local residents suggested that JFMCs played a crucial role in fostering collaborative conservation efforts and promoting sustainable forest management practices in Goalpara district. The results further indicated that strengthening institutional support and addressing existing challenges could enhance the long-term success of community-based conservation programmes.

5. DISCUSSION

The study showed that JFMCs in Goalpara district significantly contributed to forest conservation through increased community participation in plantation, protection, and monitoring activities, leading to improved forest conditions and greater environmental awareness. The findings are consistent with research indicating that community-based forest governance improves ecological outcomes by strengthening local stewardship and reducing resource degradation [10]. It was also observed that JFMCs provided livelihood benefits and enhanced resource access, supporting earlier studies that highlight the dual environmental and socio-economic advantages of participatory forest management systems [11]. However, challenges such as limited funding and inadequate technical support restricted their full effectiveness, which aligns with findings that long-term success of such initiatives depends on strong institutional and financial backing [12].

6. CONCLUSION

The study concluded that Joint Forest Management Committees (JFMCs) played an important role in promoting forest conservation and sustainable resource management in Goalpara district of Assam. Active community participation in plantation activities, forest protection measures, and conservation programmes contributed significantly to improvements in forest conditions, including increased forest cover, enhanced regeneration, and better biodiversity protection. The findings demonstrated that community-based forest management not only supported environmental conservation but also

generated socio-economic benefits such as employment opportunities, improved access to forest resources, and greater environmental awareness among local residents. Although challenges related to funding, technical capacity, and administrative support continued to affect the effectiveness of JFMCs, the overall success of the programme indicated that collaborative management approaches can strengthen conservation efforts and encourage long-term stewardship of forest resources. Therefore, enhancing institutional support, capacity-building initiatives, and community engagement mechanisms would further improve the effectiveness and sustainability of JFMC-led forest conservation programmes in the region.

REFERENCES

1. Sarker, P. K., Ahmed, S., Sadath, M. N., & Rahman, M. S. (2025). A sustainability perspective: Community-based forest governance in Bangladesh. *Environmental and Sustainability Indicators*, 100877.
2. Upadhyay, S. (2025). Forests, Tribals and Forest Rights Act. In *Textbook of Forest Science* (pp. 31-51). Singapore: Springer Nature Singapore.
3. Nthiga, N. (2024). Exploring Forest Change Dynamics: A Synthesis of Most Commonly Identified Drivers Influencing Tropical Forest Cover Change. The Florida State University.
4. Citaristi, I. (2019). United nations environment programme—UNEP. In *The Europa directory of international organizations 2019* (pp. 193-199). Routledge.
5. Chaku, S., Negi, A., Gusain, R., & Akshaya, R. K. (2025). State-Wise Deforestation Trends and Forecasting in India (2013–2030): Environmental Impacts and Predictive Insights.
6. Kleinschmit, D., Arts, B., Assembe-Mvondo, S., Böcher, M., Brockhaus, M., Cordova-Pineda, D. A., ... & Ziegert, R. F. International Forest Governance for the Future: From Criticism to Alternatives. *INTERNATIONAL FOREST GOVERNANCE: A CRITICAL REVIEW OF TRENDS, DRAWBACKS, AND NEW APPROACHES*, 119.
7. Dasgupta, S., Malakar, A., & Das, A. (2025). in *Managing Forest Degradation in India. Forest Degradation and Management: An Indian Perspective*, 433.
8. Thoker, I. A., Bhat, M. S., Shah, S. A., Lone, F. A., & Jeelani, P. (2024). An appraisal of people's participation in the joint forest management programme in the Kashmir Himalayas. *Forest Policy and Economics*, 166, 103265.
9. Kareyapath, L., Vijayan, D., Bavorova, M., & Sam, A. S. (2026). Indigenous peoples' participation in Joint Forest Management: insights from the Western Ghats, India. *Regional Environmental Change*, 26(2), 108.
10. Sharma, G. K., & Ghuge, V. V. (2026). Investigation of Spatial Determinants of Urban Growth Dynamics in Eight Indian Metropolitan Cities. *Journal of Urban Planning and Development*, 152(1), 05025049.

11. Chi, N. N. L., Sen, L. T. H., Khanh, H. L. P., Saget, G., & Bond, J. (2026). Community Forest Management and its Impacts on Ecosystem Services and Livelihoods in Thua Thien Hue Province, Vietnam. *Forest and Society*, 10(1), 454-473.
12. Djenontin, I. N., Larson, A. M., Delgado-Serrano, M. M., Dhyani, S., McGinley, K., Pulhin, J. M., ... & Das, S. (2025). Analysis of Forest Governance and Institutions for Social and Economic Resilience. *Forests as Pillars of Social and Economic Resilience. A Global Assessment Report*, 45.