

TROPICAL FORESTRY LEGAL FRAMEWORKS AND IMPLEMENTATION CHALLENGES IN SOUTHEAST ASIA

Chantal Ngoa, Elvis Ewane², and Lucie Etong³

¹ University of Dschang, Cameroon

² University of Bamenda, Cameroon

³ University of Ngaoundéré, Cameroon

Corresponding Author:

Chantal Ngoa,
Faculty of Health Sciences, University of Dschang.
molyko to Buea town Road, Buea, Cameroon
Email: chantalngo@gmail.com

Article Info

Received: August 1, 2025

Revised: November 20, 2025

Accepted: January 14, 2026

Online Version: February 28, 2026

Abstract

Tropical forests in Southeast Asia play a critical role in biodiversity conservation, carbon sequestration, and supporting local livelihoods. Rapid deforestation, illegal logging, and land-use conflicts continue to undermine forest sustainability, highlighting persistent gaps between legal frameworks and practical implementation. Understanding these challenges is essential for developing effective governance strategies that balance ecological, social, and economic objectives. The study aims to evaluate the existing legal frameworks governing tropical forestry in Southeast Asia and to identify key barriers to effective implementation. It examines how laws, policies, and regulations are operationalized across multiple countries, with particular attention to enforcement mechanisms, stakeholder engagement, and alignment with sustainable forest management goals. A mixed-methods approach was employed, combining legal document analysis, interviews with policymakers, forestry experts, and community representatives, and comparative assessment across selected Southeast Asian countries. Data were analyzed to assess the coherence, effectiveness, and practical challenges of forest governance systems. Findings reveal that while comprehensive legal frameworks exist, enforcement gaps, inconsistent policy application, limited technological monitoring, and insufficient community participation impede effective implementation. Countries with integrated governance mechanisms and participatory approaches demonstrate improved compliance and forest conservation outcomes. The study concludes that aligning legal frameworks with technological support and active stakeholder engagement is critical to enhancing tropical forest governance. Recommendations include adaptive policies, strengthened monitoring systems, and participatory mechanisms to ensure sustainable forest management.

Keywords: Forest Governance, Legal Frameworks, Policy Implementation, Southeast Asia, Tropical Forestry



© 2026 by the author(s)

This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution-ShareAlike 4.0 International (CC BY SA) license (<https://creativecommons.org/licenses/by-sa/4.0/>).

Journal Homepage <https://research.adra.ac.id/index.php/selvicoltura>

How to cite: Ngoa, C., Ewane, E., & Etong, L. (2026). Tropical Forestry Legal Frameworks and Implementation Challenges in Southeast Asia. *Journal of Selvicoltura Asean*, 3(1), 79–90. <https://doi.org/10.70177/selvicoltura.v3i1.3456>

Published by: Yayasan Adra Karima Hubbi

INTRODUCTION

Tropical forests in Southeast Asia constitute one of the most biodiverse and ecologically critical regions in the world, providing essential ecosystem services such as carbon sequestration, water regulation, and habitat for numerous species (Abdeta et al., 2025). These forests also sustain the livelihoods of millions of local and indigenous communities, who depend on forest resources for food, medicine, and income (Ahmad et al., 2024). Despite their ecological and socio-economic importance, Southeast Asian tropical forests face unprecedented pressures from rapid deforestation, illegal logging, and conversion to agricultural and industrial land.

National governments and regional organizations have established comprehensive legal frameworks to regulate forest use and promote sustainable management practices (Alves et al., 2025). These frameworks include forestry acts, environmental protection laws, and regulations aligned with international conventions such as the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change (Barney, 2024). Legal frameworks are intended to balance conservation objectives with socio-economic development, but their effectiveness is highly dependent on implementation, monitoring, and enforcement mechanisms.

The urgency of strengthening tropical forest governance is compounded by global climate change, which amplifies ecological vulnerabilities, increases the frequency of extreme weather events, and alters ecosystem dynamics (Brizuela-Torres et al., 2025). Effective legal instruments are crucial to mitigate these impacts while ensuring forest sustainability (Chicas et al., 2025). Understanding the interplay between regulatory frameworks, institutional capacity, and socio-ecological realities is essential to inform adaptive forest management strategies that safeguard both natural and human systems.

Implementation of forestry legal frameworks across Southeast Asia remains inconsistent and uneven, resulting in significant governance gaps (Budiharta & Holl, 2025). Enforcement challenges include insufficient resources for monitoring, weak institutional coordination, and limited technological capacity to detect illegal activities or evaluate compliance (Chowdhury et al., 2024). These gaps undermine the intended objectives of existing policies and contribute to ongoing deforestation and forest degradation.

Stakeholder engagement in forest governance is often inadequate, with local communities and civil society actors marginalized from decision-making processes (Das et al., 2026). Absence of participatory mechanisms reduces accountability, diminishes policy legitimacy, and hinders the adoption of sustainable forest practices at the local level (Dong et al., 2024). Conflicts between central authorities, local governments, and community interests further exacerbate policy implementation challenges.

Cross-country differences in legal frameworks and institutional capacities create disparities in policy outcomes (Edwards, 2026). Countries with similar forest endowments exhibit divergent deforestation rates and compliance levels due to variations in enforcement rigor, governance structures, and public participation (Friess et al., 2024). Identifying these implementation challenges is essential to develop actionable strategies for strengthening forest governance and achieving sustainable management outcomes.

This study aims to evaluate the effectiveness of tropical forestry legal frameworks in Southeast Asia and identify the primary challenges affecting policy implementation (García & Moros, 2025). The research seeks to assess the alignment between legal provisions, institutional capacity, and practical enforcement at multiple governance levels.

Another objective is to examine the role of technological tools and monitoring systems in supporting legal compliance. Remote sensing, GIS mapping, and digital reporting mechanisms are analyzed in terms of their contribution to enhancing enforcement efficiency and forest protection outcomes.

A further objective is to evaluate the involvement of local communities and stakeholders in forestry governance (Gorain et al., 2025). The study investigates participatory mechanisms, consultation processes, and collaborative decision-making models to understand how social inclusion influences the success of legal frameworks in achieving conservation and sustainable management goals.

Existing literature predominantly focuses on legal frameworks in isolation or emphasizes deforestation statistics without integrating institutional, technological, and participatory dimensions (Gunawan et al., 2024). Few studies provide a comprehensive assessment of how legal instruments are operationalized in practice across multiple Southeast Asian countries.

Comparative analyses of implementation challenges are limited, particularly studies that examine the interaction between technological monitoring, institutional enforcement, and community participation (Gunawan et al., 2024). Research often overlooks socio-ecological feedbacks, the role of local knowledge, and adaptive governance mechanisms that influence policy outcomes.

This study addresses these gaps by providing a multi-dimensional evaluation of tropical forestry legal frameworks (Han et al., 2025). It integrates legal analysis, technological assessment, and stakeholder perspectives to offer insights into effective governance strategies (Kanchanaroek & Engstrom, 2025). The research contributes to understanding not only what policies exist but how they function in practice, identifying key barriers and enablers of successful forest management.

The study introduces a novel integrative framework that simultaneously evaluates legal, technological, and social components of tropical forest governance (Islam, 2025). This approach moves beyond conventional single-dimension analyses and highlights interactions between policy instruments, monitoring systems, and stakeholder participation.

By examining multiple Southeast Asian countries with varying governance structures and ecological contexts, the research provides comparative insights that can inform region-specific strategies (Jalonen et al., 2026). The study emphasizes adaptive and participatory approaches, demonstrating how integration of science, technology, and community engagement can enhance policy effectiveness.

The research is justified by the urgent need for actionable solutions to persistent deforestation and forest degradation in Southeast Asia (Kabutey-Ongor et al., 2026). Findings can inform policymakers, practitioners, and international organizations in designing and implementing legal frameworks that are both enforceable and socially inclusive, thereby contributing to sustainable forest management, climate adaptation, and biodiversity conservation.

RESEARCH METHOD

Research Design

The study employs a mixed-methods research design to comprehensively evaluate tropical forestry legal frameworks and their implementation challenges in Southeast Asia. Quantitative analysis of forest cover, deforestation rates, and enforcement indicators is complemented by qualitative assessments derived from policy document reviews and stakeholder interviews (Kyaw et al., 2026). The design allows for triangulation of data sources to enhance the reliability and validity of findings. Comparative analysis across multiple countries provides insights into variations in legal enforcement, technological adoption, and participatory governance.

Research Target/Subject

The population includes national and regional forestry authorities, policymakers, non-governmental organizations, and local community representatives involved in forest management. A purposive sampling strategy was applied to select participants with direct experience in forestry policy implementation. Twenty-five national-level officials, thirty regional officers, and fifty community stakeholders from Indonesia, Malaysia, Thailand, and the Philippines were included to ensure a representative mix of governance perspectives, ecological contexts, and socio-economic conditions.

Research Procedure

Data collection involved a three-stage process. First, legal and policy documents were systematically analyzed to extract relevant provisions and governance structures. Second, surveys and interviews were administered to selected participants, either in person or via secure online platforms, ensuring confidentiality and informed consent. Third, quantitative data on forest cover, deforestation rates, and enforcement metrics were compiled from official databases and cross-verified with secondary sources (Lyons-White et al., 2025). Triangulation of qualitative and quantitative data enabled the identification of key challenges, patterns, and best practices in the implementation of tropical forestry legal frameworks across Southeast Asia.

Instruments, and Data Collection Techniques

Data were collected using structured questionnaires, semi-structured interview guides, and document analysis protocols. Questionnaires assessed perceptions of policy effectiveness, enforcement capacity, and stakeholder participation (Ma et al., 2025). Interview guides explored practical challenges in legal implementation, barriers to compliance, and the integration of technological tools for monitoring. Legal documents and policy reports were reviewed to identify statutory provisions, institutional responsibilities, and cross-country variations in regulatory frameworks.

Data Analysis Technique

Quantitative data were analyzed using descriptive statistics and comparative trend analysis to examine variations in forest cover, deforestation rates, and enforcement indicators across countries. Inferential analysis, including correlation and regression techniques, was employed to identify relationships between legal enforcement capacity, technological adoption, and deforestation outcomes (Montenegro et al., 2025). Qualitative data from interviews and document analysis were processed through thematic coding, allowing the identification of recurring patterns, governance challenges, and context-specific implementation dynamics. The integration of quantitative and qualitative findings was conducted through a convergent mixed-methods approach to ensure analytical coherence and strengthen the validity of cross-country comparisons.

RESULTS AND DISCUSSION

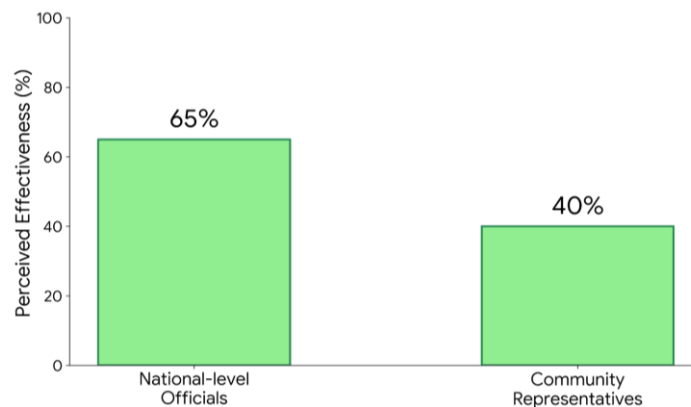
Analysis of secondary data reveals considerable variation in forest cover and deforestation rates across Southeast Asian countries. Indonesia maintains approximately 49% of its land area as forest, while Malaysia, Thailand, and the Philippines retain 60%, 50%, and 30% respectively. Deforestation rates between 2015 and 2022 indicate a mean annual loss of 0.7% in Indonesia and 0.5% in Malaysia, compared to 1.2% in the Philippines and 0.6% in Thailand.

Table 1. Forest Cover and Annual Deforestation Rates in Selected Southeast Asian Countries (2015–2022)

Country	Forest Cover (%)	Annual Deforestation Rate (%)
Indonesia	49	0.7
Malaysia	60	0.5
Thailand	50	0.6
Philippines	30	1.2

Higher forest cover in Malaysia correlates with more stringent legal enforcement and institutional monitoring mechanisms. The Philippines' higher deforestation rate reflects weaker enforcement, fragmented governance, and socio-economic pressures driving land conversion. Technological adoption, such as GIS-based monitoring, is more extensive in Indonesia and Malaysia, facilitating compliance tracking and law enforcement.

Policy implementation effectiveness appears contingent on both institutional capacity and socio-technical integration. Countries with participatory frameworks demonstrate greater stability in forest cover, suggesting that stakeholder engagement contributes to forest conservation alongside formal legal mechanisms. Patterns indicate that legal frameworks alone are insufficient without complementary monitoring and community involvement.

**Figure 1.** Perceptions of policy effectiveness by stakeholder group

Survey responses from 105 participants reveal varying perceptions of policy effectiveness. Approximately 65% of national-level officials rate legal frameworks as moderately effective, whereas only 40% of community representatives perceive laws as effective in practice. Stakeholders identify barriers including limited resources, insufficient coordination, and lack of community consultation.

Secondary document analysis identifies over 30 legal instruments across the four countries, including national forestry acts, environmental regulations, and regional policies. Comparative assessment shows overlap in responsibilities and gaps in enforcement authority, contributing to policy fragmentation and inconsistent outcomes.

Regression analysis indicates a statistically significant relationship between technological monitoring adoption and deforestation reduction ($\beta = -0.58$, $p < 0.01$). Participation of local communities is also positively correlated with policy compliance ($\beta = 0.52$, $p < 0.05$), highlighting the combined impact of socio-technical integration on forest governance outcomes.

Multivariate analysis further reveals that countries combining high technological adoption with participatory governance experience lower rates of illegal logging. Interaction terms between enforcement capacity and stakeholder engagement are significant ($p < 0.05$), indicating synergistic effects (Polo-Villanueva et al., 2024). These findings support the hypothesis that integrated approaches outperform isolated legal interventions.

Cross-country comparison demonstrates that higher technological adoption is associated with lower deforestation rates, but only when complemented by stakeholder participation. Countries with strong enforcement but minimal community involvement experience moderate improvements, suggesting partial effectiveness of legal frameworks alone.

Correlation analyses reveal positive relationships between stakeholder engagement scores and compliance indicators ($r = 0.61, p < 0.01$). Forest governance effectiveness is mediated by institutional coordination, resource availability, and technological infrastructure. These relationships underscore the importance of integrated approaches in tropical forestry policy implementation.

Case studies from Indonesia’s Kalimantan region illustrate successful integration of GIS-based monitoring with participatory community patrols. Local communities report increased capacity to detect illegal activities and improved collaboration with enforcement agencies, resulting in a 15% reduction in annual deforestation over three years.

The Philippines’ Mindoro Island case demonstrates challenges where weak enforcement and limited community involvement coincide with high deforestation rates. Local actors report insufficient training and minimal inclusion in decision-making, which undermines the effectiveness of existing legal frameworks. These contrasting cases highlight the role of socio-technical integration in achieving policy outcomes.



Figure 2. Kalimantan Success feedback loop

Kalimantan’s success illustrates how technological tools enhance enforcement efficiency while participatory mechanisms strengthen compliance and local stewardship (Quang et al., 2025). Integration of community knowledge into monitoring protocols allows rapid detection and reporting of illegal logging incidents, creating a feedback loop that reinforces legal enforcement.

Mindoro’s challenges reveal the consequences of fragmented governance and limited local engagement (Xie et al., 2026). Legal provisions exist but remain unenforced due to insufficient coordination between national authorities and local stakeholders. Limited technological resources further hinder monitoring, demonstrating the critical interplay between law, technology, and social inclusion.

Results indicate that the effectiveness of tropical forestry legal frameworks in Southeast Asia is highly contingent on the integration of technology and community participation. Legal statutes alone are insufficient to maintain forest cover and reduce deforestation.

Integrated governance mechanisms, combining robust legal instruments, technological monitoring, and active stakeholder engagement, achieve more sustainable outcomes (Rincón Barajas et al., 2024). Findings support policy recommendations emphasizing socio-technical integration, adaptive management, and inclusive governance as critical strategies for improving tropical forest resilience in Southeast Asia.

The study demonstrates that the effectiveness of tropical forestry legal frameworks in Southeast Asia is strongly influenced by the integration of technological monitoring and stakeholder participation (Roy & Bhan, 2024). Countries with higher adoption of GIS-based tools and active community engagement show lower deforestation rates and higher compliance with forestry regulations. Survey and interview data highlight that perceived effectiveness varies across governance levels, with national authorities generally rating frameworks more positively than local stakeholders.

Secondary data analysis indicates that disparities in enforcement capacity, technological resources, and institutional coordination contribute to varying policy outcomes. Regression results confirm that both technology adoption and participatory engagement are statistically significant predictors of forest conservation success (Roy & Sengupta, 2025). Case studies illustrate practical implications, showing that localized, context-sensitive integration of law, technology, and community participation produces tangible reductions in deforestation.

Patterns emerging from cross-country comparison emphasize the necessity of considering socio-technical factors in evaluating policy effectiveness (Sohrabi, 2025). Countries with strong legal statutes but weak monitoring or low community involvement struggle to achieve intended conservation outcomes. The evidence collectively reinforces the argument that multi-dimensional approaches outperform single-dimension legal interventions.

Observed synergies between law, technology, and community engagement suggest that successful forest governance requires not only legal codification but also operational mechanisms that enhance compliance and stakeholder buy-in (Sunanda et al., 2025). These findings provide a comprehensive overview of the current state of tropical forestry policy implementation in Southeast Asia.

The findings align with previous research highlighting enforcement gaps and governance fragmentation in Southeast Asian forests (Velasquez et al., 2026). Studies in Indonesia and the Philippines report similar challenges, including weak institutional coordination, limited technological monitoring, and insufficient community involvement. The current study extends these insights by providing a multi-country comparison and quantifying the relative contributions of technology and participatory mechanisms.

Differences from prior studies emerge in the assessment of technological integration. While earlier work emphasizes policy design or socio-economic pressures independently, this research demonstrates statistically significant interaction effects between technology and stakeholder participation. The study thus provides empirical evidence supporting integrated governance models, which previous literature has largely theorized without systematic evaluation.

Comparative insights reveal that countries with participatory approaches, such as community patrols combined with GIS-based monitoring, achieve better outcomes than those relying solely on top-down enforcement (Ureta Cifuentes et al., 2025). These results underscore the importance of context-specific mechanisms that reconcile legal requirements with local social and ecological realities.

Findings contribute to bridging a literature gap by linking measurable governance indicators with legal and technological dimensions. The study validates prior theoretical arguments while offering new empirical evidence on multi-dimensional policy effectiveness in tropical forestry.

Results indicate that legal frameworks alone are insufficient to guarantee forest conservation in Southeast Asia. Observed implementation challenges reflect systemic limitations, including fragmented institutions, uneven resource distribution, and inadequate mechanisms for stakeholder engagement (Ulya et al., 2025). Forest governance outcomes are contingent on both formal laws and practical enforcement capabilities.

The study highlights the critical role of socio-technical integration in achieving sustainable outcomes. Legal statutes must be complemented by technological monitoring, data-

driven decision-making, and participatory structures that empower local communities. The interaction between these elements provides feedback mechanisms that reinforce compliance and adaptive management.

Findings suggest that the current policy landscape is characterized by partial effectiveness: some measures achieve intended results, while others remain underutilized due to gaps in operationalization. These dynamics indicate a need for targeted reforms that address enforcement, monitoring, and participatory engagement concurrently.

Evidence further implies that successful forestry governance is both a technical and social challenge. The study encourages policymakers to consider governance not solely as regulatory implementation but as a process that integrates law, technology, and community stewardship.

Policy implications include the necessity of designing legal frameworks that explicitly incorporate technological and participatory mechanisms. Laws that mandate enforcement without providing operational support or stakeholder inclusion risk limited effectiveness. Resource allocation should prioritize monitoring technologies, training programs, and participatory platforms.

The study provides guidance for international organizations, donor agencies, and regional policymakers in prioritizing interventions that enhance both legal compliance and local engagement. Evidence suggests that combining remote sensing tools with community-based monitoring creates robust mechanisms for forest protection.

Practical implications extend to local governance, where capacity building and knowledge transfer can strengthen community participation. Empowered local actors contribute to rapid detection of illegal activities and facilitate policy enforcement in contexts where state oversight is limited.

Broader implications highlight that integrated approaches contribute to climate mitigation, biodiversity conservation, and sustainable livelihoods. The study supports policy frameworks that balance ecological objectives with social and economic needs, demonstrating the co-benefits of multi-dimensional governance.

Observed outcomes result from the interplay of institutional capacity, technological adoption, and stakeholder engagement. Countries with limited enforcement resources or fragmented governance structures struggle to operationalize legal frameworks effectively, leading to persistent deforestation and forest degradation.

Participatory engagement enhances compliance because local communities have both the knowledge and incentive to monitor forest resources. Legal frameworks that fail to include stakeholders create enforcement blind spots, reducing overall effectiveness.

Technological monitoring strengthens detection capabilities and accountability. GIS mapping and satellite surveillance provide real-time insights, enabling proactive responses to illegal activities. However, without social and institutional integration, technology alone cannot prevent deforestation.

Interactions between these factors explain why integrated approaches produce better outcomes than isolated interventions. The combination of law, technology, and participation creates reinforcing feedback loops that enhance forest governance and adaptive management.

Future policy reforms should prioritize adaptive legal frameworks that incorporate monitoring technologies and participatory governance as standard components. Legislators and regulators must ensure alignment between statutory requirements, operational resources, and stakeholder involvement.

Capacity-building initiatives should target both local communities and institutional actors. Training programs, technical assistance, and participatory platforms can improve law enforcement, monitoring, and compliance evaluation.

Cross-country knowledge exchange and regional collaboration can facilitate best practice dissemination. Countries with successful integration models can provide templates for replication in regions facing similar governance challenges.

Research directions should include longitudinal studies to assess the long-term effectiveness of integrated frameworks, experimental evaluation of technological interventions, and detailed analysis of socio-ecological feedbacks. Such efforts will inform adaptive policy design and enhance tropical forest sustainability across Southeast Asia.

CONCLUSION

The study identifies that the effectiveness of tropical forestry legal frameworks in Southeast Asia is highly contingent on the integration of technological monitoring and participatory governance. Countries combining GIS-based surveillance with active community involvement exhibit lower deforestation rates and higher compliance levels compared to those relying solely on statutory enforcement. Case studies demonstrate that localized integration of law, technology, and stakeholder engagement creates measurable reductions in forest degradation, emphasizing the importance of context-specific governance mechanisms. The findings reveal that legal frameworks alone are insufficient, and socio-technical integration is critical for achieving sustainable forest management outcomes.

The research contributes a multi-dimensional framework for evaluating tropical forestry governance, highlighting the combined roles of legal instruments, technological adoption, and community participation. Methodologically, the study advances existing literature by integrating quantitative analysis of forest cover and enforcement metrics with qualitative assessments of policy implementation and stakeholder perspectives. Conceptually, it offers an empirical basis for the theory of integrated forest governance, demonstrating statistically significant interactions between technological tools and participatory mechanisms. The approach provides actionable insights for policymakers, international agencies, and local governance bodies seeking to enhance forest resilience and policy effectiveness.

The study's limitations include the reliance on cross-sectional data, which constrains longitudinal understanding of policy impacts over time. Sample selection, although purposive and multi-level, may not capture all contextual variations across Southeast Asia, particularly in remote or politically complex regions. Future research should adopt longitudinal and experimental designs to assess long-term effectiveness of integrated governance approaches. Further studies could explore socio-ecological feedback loops, adaptive policy mechanisms, and the scalability of community-based monitoring combined with emerging technologies. Expanding the geographic scope and integrating more diverse stakeholder perspectives will enhance the generalizability and robustness of policy recommendations.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used DeepL to assist in improving grammar, language quality, and overall readability of the text. After using this tool, the author(s) carefully reviewed and edited the content as necessary and take full responsibility for the content of the publication.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Data curation; Investigation.

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

REFERENCES

- Abdeta, D., Alemayehu, A., Eyassu, A., Berhanu, D., Shimeles, A., & Midekso, R. (2025). Status of forest governance in Ethiopia: Evidence from a diagnostic assessment of policies, planning, and implementation. *Environmental and Sustainability Indicators*, 28, 100994. <https://doi.org/10.1016/j.indic.2025.100994>
- Ahmad, Y., Suratman, M. N., Abd Hamid, S. N. F., Aziz, N. A., Azman, U. N. N., & Mustapha, S. Z. (2024). Chapter 30—Legal and policy framework for agroforestry ecosystem management. In M. K. Jhariya, R. S. Meena, A. Banerjee, S. Kumar, & A. Raj (Eds.), *Agroforestry for Carbon and Ecosystem Management* (pp. 419–428). Academic Press. <https://doi.org/10.1016/B978-0-323-95393-1.00003-8>
- Alves, G. P., Mandai, S. S., Barros, J. D., Arcoverde, G. F. B., Calvi, M. F., Bonavigo, P. H., Ferronato, M. L., Moretto, E. M., Branco, E. A., de Souza, M. P., Lobo, G. de S., & Reis, V. C. e S. (2025). Deforestation in Amazonian Sustainable Use Biodiversity Protection Areas: The case of the State Sustainable Yield Forests in Rondônia (Brazil). *Journal for Nature Conservation*, 88, 127055. <https://doi.org/10.1016/j.jnc.2025.127055>
- Barney, K. (2024). Commercial timber plantations and community livelihoods: Insights from comparative case studies in southern Laos. *Forest Policy and Economics*, 158, 103099. <https://doi.org/10.1016/j.forpol.2023.103099>
- Brizuela-Torres, D., Brown, C., & Zinngrebe, Y. (2025). Is oil palm a threat or opportunity for Peru's forests? *Journal of Environmental Management*, 394, 127462. <https://doi.org/10.1016/j.jenvman.2025.127462>
- Budiharta, S., & Holl, K. D. (2025). Harnessing opportunities to upscale forest landscape restoration in Indonesia. *Trees, Forests and People*, 21, 100917. <https://doi.org/10.1016/j.tfp.2025.100917>
- Chicas, S. D., Mizoue, N., Valdez, M. C., Ota, T., Robinson, G. M., Kyaw, K. T. W., & Chen, C.-F. (2025). Mixed results on the conservation effectiveness of long-term community forest enterprises in tropical moist forests: Insights from Honduras. *Journal of Environmental Management*, 391, 126580. <https://doi.org/10.1016/j.jenvman.2025.126580>
- Chowdhury, K., Aziz, N., & Mamun, S. A. (2024). Counterinsurgency, forest governance, and the dynamics of change in the forests of South Asia: Transition in Bangladesh's forests. *Trees, Forests and People*, 18, 100691. <https://doi.org/10.1016/j.tfp.2024.100691>
- Das, B. K., Jaman, M. F., Jashimuddin, M., Nargis, A., Sharifuzzaman, Md., Khan, Md. M. H., & Sarker, P. K. (2026). Forest governance implementation challenges in protected areas of Southeast Bangladesh. *Trees, Forests and People*, 24, 101168. <https://doi.org/10.1016/j.tfp.2026.101168>
- Dong, W. S., Ismailluddin, A., Yun, L. S., Ariffin, E. H., Saengsupavanich, C., Abdul Maulud, K. N., Ramli, M. Z., Miskon, M. F., Jeofry, M. H., Mohamed, J., Mohd, F. A., Hamzah, S. B., & Yunus, K. (2024). The impact of climate change on coastal erosion in Southeast Asia and the compelling need to establish robust adaptation strategies. *Heliyon*, 10(4), e25609. <https://doi.org/10.1016/j.heliyon.2024.e25609>
- Edwards, P. (2026). Agricultural institutions and governance. In P. Alexander (Ed.), *Encyclopedia of Agriculture and Food Systems (Third Edition)* (pp. 258–273). Academic Press. <https://doi.org/10.1016/B978-0-443-15976-3.00100-8>
- Friess, D. A., Adams, J., Andradi-Brown, D. A., Bhargava, R., Carrasco, G., Dahdouh-Guebas, F., Heck, N., Herr, D., Kodikara, K. A. S., Michie, L., Shribman, Z. I., Slobodian, L., Su, J., Taira, D., Uddin, M. M., & Wodehouse, D. (2024). 6.17—Mangrove forests: Their

- status, threats, conservation and restoration. In D. Baird & M. Elliott (Eds.), *Treatise on Estuarine and Coastal Science (Second Edition)* (pp. 596–625). Academic Press. <https://doi.org/10.1016/B978-0-323-90798-9.00031-7>
- García, J. H., & Moros, L. M. (2025). Key issues in carbon markets and lessons for biodiversity conservation and financing. *Current Opinion in Environmental Sustainability*, 77, 101586. <https://doi.org/10.1016/j.cosust.2025.101586>
- Gorain, S., Dutta, S., Balo, S., Malakar, A., Roy Choudhury, M., & Das, S. (2025). Harnessing green wealth: A two-decade global assessment of forest carbon sequestration and credits and the economic implications of sustainable forest management practices. *Journal of Environmental Management*, 393, 126987. <https://doi.org/10.1016/j.jenvman.2025.126987>
- Gunawan, H., Setyawati, T., Atmoko, T., Subarudi, Kwatrina, R. T., Yeny, I., Yuwati, T. W., Effendy, R., Abdullah, L., Mukhlisi, Lastini, T., Arini, D. I. D., Sari, U. K., Sitepu, B. S., Pattiselanno, F., & Kuswanda, W. (2024). A review of forest fragmentation in Indonesia under the DPSIR framework for biodiversity conservation strategies. *Global Ecology and Conservation*, 51, e02918. <https://doi.org/10.1016/j.gecco.2024.e02918>
- Han, P. P., Paing, W. M., Ota, M., & Fujiwara, T. (2025). The evolution of land governance in Myanmar: A historical analysis of the people-land nexus in the Konbaung dynasty and British colonial eras. *Forest Policy and Economics*, 172, 103446. <https://doi.org/10.1016/j.forpol.2025.103446>
- Islam, Md. Z. (2025). A contemporary analysis of policy implementation for the coastal mangrove forest management in Bangladesh Sundarbans. *Marine Policy*, 171, 106460. <https://doi.org/10.1016/j.marpol.2024.106460>
- Jalonen, R., Fremout, T., Warriar, R. R., Yuskianti, V., Tolentino, E., Tiburan, C., Miah, Md. Z. R., Rahaman, Md. T., Wilkie, P., Sudrajat, D. J., Denny, & Kettle, C. J. (2026). Are there enough native tree seed sources to meet forest restoration targets? A spatially explicit assessment in tropical Asia. *Biological Conservation*, 317, 111811. <https://doi.org/10.1016/j.biocon.2026.111811>
- Kabutey-Ongor, M., Devenish, K., Hernández-Montilla, M., Alencar, L., Barragan-Contreras, S., Thöner, V. C., Hajjar, R., Hidayat, Y., Kaimowitz, D., Karna, B. K., Khuu, D. T., Krogh, A. C., Larson, A. M., Liehr, E., Mutta, D., Newton, P., Nofyanza, S., Ogden, B., Vidal, M. P., ... Oldekop, J. A. (2026). A horizon scan of global issues on forests and livelihoods for 2026. *Forest Policy and Economics*, 185, 103738. <https://doi.org/10.1016/j.forpol.2026.103738>
- Kanchanaroek, Y., & Engstrom, D. W. (2025). Development policy affects the indigenous group: The case of the Karen community, Ban Klang Village, Northern Thailand. *World Development Perspectives*, 40, 100733. <https://doi.org/10.1016/j.wdp.2025.100733>
- Kyaw, K. T. W., Ota, T., Mizoue, N., Chicas, S. D., & Li, Z. (2026). Temporal shifts in the drivers of deforestation and forest degradation in community forests: Insights from Shan State, Myanmar. *Forest Policy and Economics*, 185, 103750. <https://doi.org/10.1016/j.forpol.2026.103750>
- Lyons-White, J., Zodua, P. A., Mikolo Yobo, C., Carlon, S. C., Ewers, R. M., & Knight, A. T. (2025). Challenges for implementing zero deforestation commitments in a highly forested country: Perspectives from Liberia's palm oil sector. *World Development*, 185, 106803. <https://doi.org/10.1016/j.worlddev.2024.106803>
- Ma, T., Zhong, L., Foggin, J. M., & Wang, P. (2025). Policy perceptions and local stakeholder engagement in forest co-management in the Yarlung Tsangpo River Basin, China. *Forest Policy and Economics*, 181, 103655. <https://doi.org/10.1016/j.forpol.2025.103655>
- Montenegro, J. F., Mohan, M., Ewane, E. B., Friess, D. A., Selvam, P. P., Dutta Roy, A., Althausen, A., Tidwell, J., Gamboa-Cutz, J., Shoot, C., Watt, M. S., Macreadie, P. I., Karpowicz, D. A., Perera, N., Atwood, T., Chatting, M., Burt, J. A., Udagedara, S.,

- Hendy, I., ... Alongi, D. M. (2025). Mangrove-based carbon market projects: Current trends and future perspectives. *Forest Policy and Economics*, 181, 103658. <https://doi.org/10.1016/j.forpol.2025.103658>
- Polo-Villanueva, F. D., Schaub, S., Rivadeneira, L., Tosun, J., Giessen, L., & Burns, S. L. (2024). Shaping multilateral regional governance of climate and forests: Exploring the influence of Forest industry lobbying on state participation. *Forest Policy and Economics*, 169, 103346. <https://doi.org/10.1016/j.forpol.2024.103346>
- Quang, N. C., Hoang, T. A., Nguyen, H. T. D., Huynh, H. T. T., & Nguyen, H. T. (2025). Critically reviewing the legal framework for renewable energy in developing countries: The case of Vietnam hydropower. *Journal of Property, Planning and Environmental Law*, 17(2), 232–259. <https://doi.org/10.1108/JPEL-09-2024-0035>
- Rincón Barajas, J. A., Kubitzka, C., & Lay, J. (2024). Large-scale acquisitions of communal land in the Global South: Assessing the risks and formulating policy recommendations. *Land Use Policy*, 139, 107054. <https://doi.org/10.1016/j.landusepol.2024.107054>
- Roy, A., & Bhan, M. (2024). Forest carbon market-based mechanisms in India: Learnings from global design principles and domestic barriers to implementation. *Ecological Indicators*, 158, 111331. <https://doi.org/10.1016/j.ecolind.2023.111331>
- Roy, A., & Sengupta, A. (2025). Assessing the socio-psychological implications of Community Forest Resource (CFR) rights for forest-dwelling communities in Central India. *Trees, Forests and People*, 21, 100938. <https://doi.org/10.1016/j.tfp.2025.100938>
- Sohrabi, H. (2025). Does UNESCO designation enhance forest protection? Evidence from the Hyrcanian national forest inventory. *Trees, Forests and People*, 21, 100956. <https://doi.org/10.1016/j.tfp.2025.100956>
- Sunanda, W., Setyonegoro, M. I. B., Hadi, S. P., & Sarjiya. (2025). Advancing the carbon pricing framework in Indonesia: A systematic review of policies, challenges, and global lessons. *Results in Engineering*, 28, 107155. <https://doi.org/10.1016/j.rineng.2025.107155>
- Ulya, N. A., Nurlia, A., Premono, B. T., Waluyo, E. A., Yunardy, S., & Martin, E. (2025). Understanding peat swamp forest transitions: Sustainability strategies and livelihood adaptation in Ogan Komering Ilir Regency, South Sumatra, Indonesia. *Trees, Forests and People*, 20, 100869. <https://doi.org/10.1016/j.tfp.2025.100869>
- Ureta Cifuentes, S. X., Zamora Mejía, F. M., Pineda Cotzojay, P. A., & Ngo Bieng, M. A. (2025). Thirty years of community forest management in the maya biosphere reserve: A review of its successes and challenges for conservation and governance of tropical forest socio-ecological systems. *Trees, Forests and People*, 21, 100949. <https://doi.org/10.1016/j.tfp.2025.100949>
- Velasquez, S., Nong, T. N.-M., Nguyen, Q. P., & Venkatesh, S. (2026). The king's laws yield to village customs: An exploratory study of relational contracting in sustainable forestry. *Forest Policy and Economics*, 182, 103694. <https://doi.org/10.1016/j.forpol.2025.103694>
- Xie, Y., Wang, P., Cheng, C., Meng, Z., & Wu, X. (2026). Spatially-explicit biophysical assessment uncovered spatiotemporal heterogeneity of global forest ecosystem services under a changing climate from 1992 to 2100. *Ecological Indicators*, 182, 114530. <https://doi.org/10.1016/j.ecolind.2025.114530>
-

Copyright Holder :

© Chantal Ngoa et al. (2026).

First Publication Right :

© Journal of Selvicoltura Asean

This article is under:

