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Editorial: The utilization and management of forest resources in South and Southeast Asia

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Editorial on the Research Topic

The utilization and management of forest resources in South and Southeast Asia

Forests, with their rich biodiversity and crucial role in maintaining ecological balance, are among our planet's most valuable resources. It has significant role in the regions of South and Southeast Asia, where diverse cultures and rapid development intersect with the need to sustainably manage these precious ecosystems.

This Research Topic, “*The Utilization and Management of Forest Resources in South and Southeast Asia*,” has provided a platform for scholars and experts to delve into the complexities of forest resource management in this critical part of the world. The focal area of the Research Topic encompassed a variety of sub-themes, including spatio-temporal geospatial analysis; biodiversity conservation; community forestry; agroforestry; land degradation; climate change; wildlife and its habitat management; wetland management and restoration and Eco-tourism, planning and management. Ultimately, the publication will facilitate the formulation of effective policies along with the conceptualization and execution of well-crafted programs and activities. The approaches have illuminated both the challenges and the promising for shaping the forests' future.

The delicate balance between livelihood, economic development, cultural and social dimension of forest management and environmental preservation is emerged in the forest management (Diansyah et al.; Li et al.; Wang and Xiao; Kotowska et al.). The topic showcased a range of strategies employed by various countries to harness the benefits of forest resources while ensuring their long-term sustainability. From innovative agroforestry practices to community-based conservation initiatives, these papers have highlighted the immense potential of locally rooted solutions to the malicious practices of forest management.

The research article by Diansyah et al.; “*Exploring the relevance of engaging the Orang Asli in Malaysia's forest management*” examines the role of local and indigenous involvement in environmental management. Many of the manuscripts underscored the deep-rooted connections between indigenous communities and the forests they inhabit (Lauer, 2012; Menzies, 2013). The imperative to respect and integrate traditional knowledge alongside modern science was a recurring motif in these papers, emphasizing the importance of inclusive and equitable approaches.

On the same tone, paper by Wang and Xiao “*Spatio-temporal characteristics and national variations of border land use change in Laos within the geo-polynomial context*” investigated on the issue of how geopolitical mechanisms and border cooperation have influenced land use change (LUC) in different border areas. Notably, it reveals distinct trends in border-related characteristics along the different borders as supported by some other researchers (Xiao et al., 2021; Zheng et al., 2023), emphasizing the need for tailored management strategies. This research prompts us to consider geopolitical factors as crucial drivers of regional land use dynamics.

The paper “*New landscape-perspective exploration of Moso bamboo forests under on/off-year phenomena and human activities*” introduces a unique perspective on Moso bamboo forests (MBFs) alongside human activities (Li et al.). This study presents a comprehensive understanding of MBFs’ spatial diversity and the role of anthropogenic influences. This approach has the potential to reshape bamboo forest management strategies contributing the holistic assessment of carbon sequestration.

Another article “*Effects of Wood Hydraulic Properties on Water Use and Productivity of Tropical Rainforest Trees*” (Kotowska et al.) delves into the intricate interplay between wood hydraulic properties, water use efficiency, and ecosystem productivity (Fichot et al., 2009). By analyzing diverse range of tree species in Indonesian rainforests, it uncovers significant correlations between wood hydraulic anatomy, water use, and aboveground biomass increment which has implications for forest management.

As we celebrate the achievements of this Research Topic, it is essential to acknowledge the tireless efforts of the authors and reviewers who have contributed their expertise to this collection. Their commitment to advancing our understanding of forest resource management is commendable and will undoubtedly inspire further research and policy development in the years to come.

However, this editorial also invites reflection on the gaps that persist. While the submitted manuscripts have shed light on various aspects of forest management, there remain areas where more research is needed. Issues such as the impact of climate change on forest ecosystems, the role of technology in monitoring and managing resources, and the evaluation of policy effectiveness demand further exploration.

We envision this Research Topic as a stepping stone toward a comprehensive understanding of forest resource management in South and Southeast Asia. We encourage researchers to build upon the findings presented here, addressing the gaps identified and exploring new avenues for collaboration and knowledge exchange.

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Ultimately, the research compiled in this collection carries implications far beyond academia. It speaks to policymakers, conservationists, and all those who are vested in the sustainable use of our forest resources. By sharing knowledge, respecting diversity, and embracing innovation, we can collectively work toward a future where forests in South and Southeast Asia thrive, benefiting both the environment and the societies that depend on them.

We invite readers to explore the full range of papers on this Research Topic, each contributing a unique piece to the intricate puzzle of forest resource management. Together, we can chart a course toward a more sustainable and harmonious relationship with the forests that enrich our lives.

Author contributions

HS: Conceptualization, Writing – original draft, Writing – review & editing. SS: Writing – original draft, Writing – review & editing. BK: Writing – review & editing. UK: Writing – review & editing. JZ: Writing – review & editing.

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