

The Urgency of Forest Governance: Learning from Brazil's Sustainable Tourism Development

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Abstract This study aims to describe the development of sustainable tourism as a method for the enduring management of forests, ensuring the effectiveness of applicable laws, the direction of forest governance policies, and their impact on the environment. Furthermore, it compares these aspects with the conditions in another country, Brazil. This research is a legal study that employs legislative, conceptual, and comparative approaches. The findings indicate that despite relevant regulations, their effectiveness remains low, necessitating focused and directed forest governance guidelines. An integrated landscape approach based on ecotourism development is considered an appropriate solution. However, tourism development also poses risks to forest sustainability, with the potential for significant forest area loss. The study also discovers that the direction of Indonesian government forest governance policies tends to have a negative impact on the environment. Therefore, Indonesia requires an integrated landscape approach as a solution to the failures of sectoral approaches, aiming to prevent damage caused by development. Furthermore, Brazil offers legal comparisons as solutions for the Indonesian government in creating regulations and policies related to forests for tourism.

Keywords: • forest governance • integrated landscape • sustainable development • forest management • sustainable tourism

1 Introduction

Indonesia is ranked the third country with the largest tropical forest area in the world. The forest produces oxygen that fulfils the survival of living things. It makes Indonesia's tropical forests to be known as "the lungs of the world" (Putri & Subekti, 2022). To protect the forests, the government designated conservation forests to ensure basic ecological, hydrological, economic, and social functions able to overcome robust challenges. Based on the statistics, the Indonesian forest area covers 132,397,729 ha (approximately 71% of the land area). The Conservation Areas cover 27,190,992.91 ha (14.88%) (Ismail, Ahmad, Wantu, & Nggilu, 2023). The obligation to protect and manage natural preservation is a challenge for the people, including in managing forest sustainability.

Forest governance is a part of environmental governance. It is related to natural processes because forests are the elements of natural resources. Forests play a role in protecting and preserving the environment (Rideng, Wijaya, & Budiarta, 2022). Thus, the use of forests for the sustainable tourism industry must be carried out with an ecological approach, considering that the tourism sector can grow fast globally. Since forests are considered ecotourism destinations, their development must minimize negative impacts on the environment, build environmental awareness, preserve the natural environment, empower local communities, provide financial benefits, respect local culture, and support human rights (Li et al., 2018). Consequently, sustainable tourism development in forest areas must be carried out on a non-consumptive market basis. Therefore, economic benefits can be achieved together with environmental benefits (Zoysa, 2021).

Changes in land use for tourism development reflect the dynamic activities of the surrounding community. Therefore, land use changes can be more rapid. Moreover, the government has developed procedures to permit the use of forests. The main objectives are equity and sustainable prosperity for the people. The community has an option to improve the quality of human resources gradually. Thus, they can contribute positively to the administration of natural resources (Sudarma, 2022). Previously, forests were used only to fulfill basic needs. Then they can become sources of livelihood and community industry. Furthermore, tourism can be an educational forum involving the community and tourists. The well and sustainable practice can improve and develop their life quality (Meray, Tilaar, & Takumansang, 2016).

The Indonesian government should have shifted its strategy from a recovery policy to the prevention of environmental damage. Sustainable tourism is based on ecological, social, and cultural capacity. In this context, forests are the elements that have receptive properties. Forests can function as tourist attractions, become a means of tourism activities, and carry the resource. On the other hand, some parties continuously cause deforestation. They do not follow established

procedures (Budi & Subekti, 2021). The deforestation rate in the 2018-2019 period was 75.03% of 462.46 thousand hectares; and it increased 115,460 hectares in the 2019-2020 period (Nakita & Najicha, 2022).

As is known, Indonesia currently occupies the highest ranking of forest cover destruction in the world. The annual rate of forest deforestation has reached 2.83 million hectares (Adudu, Saleh, Mooduto, & Baderan, 2023). The current destruction of the potential benefits available in forests is a consequence of a few factors that are domestically linked to the poor state of forest governance in Indonesia (Talumepa, 2020). After the sectoral approach was not successful enough to overcome deforestation, various initiatives through proposing landscape-based concepts were carried out. They include the landscape approach from the WWF, the Sustainable Landscape Approach (SLP) from the Conservation International (CI) (Raghav, 2016), integrated landscape management (ILM) from the UNEP (Thaxton et al., 2015), integrated landscape approach from the CIFOR (Reed, Van Vianen, Deakin, Barlow, & Sunderland, 2016), and the development of large-scale landscape conservation (S. Suryadi et al., 2015). The landscape approach is one approach that has a significant impact. The landscape approach accommodates various interests related to conflicting land use, namely between extractive economic functions and conservative environmental services (Prasetyo, 2017). Forest governance with a landscape approach will provide many benefits to the sustainable tourism sector.

Sustainable tourism is the development of a travel concept that can provide long-term impacts on the environment, social, cultural, and economic for the present and the future of all local communities and visiting tourists (Kemenparekraf/Baparekraf RI, 2021). Sustainable tourism focuses heavily on the long-term sustainability of the tourism industry. Therefore, the current needs do not jeopardize the needs of future generations. There are three main areas in developing sustainable tourism: economic, socio-cultural, and environmental conditions of tourist areas. Tourism development will have a positive impact not only on economic development (increasing income) but also on socio-cultural conditions (community welfare increases with cultural sustainability maintained) and environmental conditions (environmental sustainability is maintained). Therefore, it is necessary to develop sustainable tourism. The concept of sustainable tourism is adopted from the development concept that was first introduced by the World Commission on Environment and Development (WCED) in the 1987 Brundtland Report (Rahmat, 2021). The World Tourism Organization (UNWTO) by adopting this concept defines sustainable tourism as "a form of tourism that is consistent with natural, social, and community values and which allows both hosts and guests to enjoy positive and useful interactions and shared experiences" (Suwena, 2010).

According to Heilbronn in Ningrum, there are components that must be fulfilled in sustainable tourism development (Ningrum, 2023), namely environmentally sustainable, economically sustainable, and socio-culturally sustainable. Environmentally sustainable is carried out through optimal use of environmental resources by limiting resources, maintaining ecological processes, and maintaining the sustainability and existence of natural heritage and biodiversity in tourist destinations. Economically sustainable is carried out by reducing poverty levels, encouraging economic growth, and creating jobs. Meanwhile, socio-cultural sustainability is carried out by maintaining the socio-cultural authenticity of local communities with mutually agreed rules and regulations, preserving local cultural heritage and customary values, as well as increasing intercultural tolerance and understanding.

Based on the background, this study aims to reveal sustainable forest management through forest governance for sustainable tourism with reference to the effectiveness of forest management according to Indonesian laws and regulations, to provide direction of forest governance for Indonesian tourism, and to compare Indonesian with other states' conditions and policies.

2 Literature review

2.1 Forest management

Forest areas, being vast expanses planted with a variety of vegetation, possess a significant ability to absorb carbon dioxide, making them the primary providers of oxygen on the Earth's surface. The oxygen produced by forests is vital for the respiration processes of humans and animals, leading to forests often being referred to as the lungs of the world. Beyond their roles in carbon absorption and oxygen provision, forests offer numerous other benefits and services (Mayasari, Fadilah, Reflis, Utama, & Ramdhon, 2024).

In the modern era, there has been an increase in the utilization of forests, particularly for tourism purposes. A management approach to tourism that incorporates forestry concepts has become a source of income that supports the overall financial health of the nation and specifically the regions. As a local revenue source, this can enhance the welfare of communities surrounding the forest. However, it remains crucial to consider the environmental impact and conditions of tourism sites to maintain the sustainability of the natural environment and to ensure that tourism attractions adhere to the principles of sustainable development (Karjoko, Winarno, Rosidah, & Handayani, 2020). Uncontrolled tourism activities can pose a serious threat to the environment. The primary impacts of tourism on the environment can be divided into three major categories: depletion of natural resources, increased pollution, and effects on ecosystems. Tourism can exert considerable pressure on local resources such as

energy, water, forests, land, and wildlife. Forests, in particular, often suffer negative impacts from deforestation and the clearing of land for parking spaces or the construction of facilities (Andesgur, 2019; Putra & Waluyo, 2020).

Traditional approaches to forest management have tended to believe that the government is the sole entity capable of effectively managing forests through policies that grant concessions to major investors, with a more dominant top-down approach and minimal community participation, which should be the main stakeholders (Pambudi, 2023). This approach seems to overlook ecological principles long emphasized by environmental experts, which highlight the importance of balanced interactions among various components within an ecosystem. This is due to the interdependent relationships between organisms or living beings with one another and with their environment, involving interactions between non-living and living factors within the ecosystem. The environment is defined as the area or region that sets the limits for economic activities, directly affecting the development of life within it (Common & Stagl, 2005). Therefore, to achieve sustainability in the management of natural resources, it is necessary to adopt a holistic approach to setting conservation priorities, capable of reducing environmental degradation without sacrificing community welfare (Barendse, Roux, Currie, Wilson, & Fabricius, 2016; Pambudi, 2022).

On the other hand, obstacles in forest management have arisen because the transformation in forest management policies has not been accompanied by a corresponding shift in mindset among those directly involved in the field. The struggle to maintain certain benefit shares has become commonplace, ultimately overlooking the role of local communities in forest resource management efforts, even though a participative approach is consistently emphasized by policymakers (Yuana, 2023). Therefore, management and prioritization are crucial elements to ensure that the structure and models of policy can effectively achieve the community's objectives regarding forest management. The diversity of approach dimensions in policymaking asserts that evaluating the importance of a factor based solely on policy approach affiliation will not reflect the true interests. This is logical because approach dimensions are not arranged hierarchically but are in a relationship to influence each other (Schultz et al., 2021). Therefore, in formulating a forest management policy, it is necessary to delve into environmental, social, and economic elements.

2.2 Deforestation

Deforestation represents the phenomenon of forest area loss, posing a complex and challenging problem to resolve. Addressing this issue requires in-depth knowledge and strong cooperation among various parties capable of mobilizing society to participate in reducing activities that harm the forest or support programs aimed at collectively addressing the issue. The phenomenon of

deforestation not only threatens the survival of various species but also leads to a reduction in forest area due to land conversion for various purposes such as infrastructure, settlements, agriculture, mining, and plantations (Yakin, 2011). In Indonesia, deforestation has had serious impacts both nationally and internationally, including uncontrollable forest fires, destructive logging activities, land expansion for plantations, exploitation of fossil fuels, and the development of transmigration areas significantly affecting the socio-economic lives of communities highly dependent on natural resources or forests. These impacts result in substantial losses for the community and the nation as a whole (Wahyuni & Suranto, 2021).

The importance of forests is evident in the context of 21st-century climate change, where deforestation and forest degradation are among the principal contributors to greenhouse gas emissions (van der Werf et al., 2009). Efforts to combat deforestation have been a focus of the United Nations, as manifested in the 2015-2030 Sustainable Development Agenda, which emphasizes the need to implement sustainable forest management, halt deforestation, restore degraded forests, and enhance afforestation and reforestation globally (Miyamoto, 2020). On the other hand, although various International Forest Governance and Policy Arrangements (IFGA) have been developed to promote more sustainable forest protection and management, the effectiveness of these efforts remains limited (Rayner et al., 2010). Deforestation and forest degradation continue at a high rate, and the achievement of the agreed sustainable development targets is unsatisfactory. Some studies on IFGA highlight the complexity within the global forestry policy regime and the increasing institutional fragmentation that leads to policy conflicts. However, other research indicates the potential for effective international forest governance development through transnational efforts and synergy between state and non-state regulations (Sotirov, Pokorny, Kleinschmit, & Kanowski, 2020).

In Indonesia, the government has taken steps to reduce the rate of deforestation in response to existing challenges. According to data from the Ministry of Environment and Forestry (KLHK) cited by M. Suryadi (2023), the rate of deforestation in Indonesia saw a significant decline during the 2018-2019 period, decreasing by 75.03% from the previous year, from 462,460 hectares to 115,460 hectares in the 2019-2020 period. Nonetheless, the history of deforestation in Indonesia exhibits significant fluctuations, with high deforestation rates in previous years, which could have a substantial negative impact on both the environment and the social life of communities (Nakita & Najicha, 2022). Therefore, cooperation and collective awareness in efforts to reduce forest deforestation remain critical to achieving environmental sustainability and community welfare (Wahyuni & Suranto, 2021).

2.3 Sustainable tourism

The development of sustainable tourism is currently a primary focus to reduce negative impacts on the environment and enhance socio-economic benefits at tourism destinations (Satria & Aldi, 2023). The concept of sustainable tourism, developed by the World Tourism Organization, emphasizes the holistic management of resources to meet economic, social, and aesthetic needs while maintaining cultural integrity, ecological balance, biodiversity, and life support systems (Sgroi, 2020). One of the key strategies to achieve this is through the development of ecotourism, aimed at reducing the impacts of conventional tourism. The development of ecotourism destinations requires accommodation facilities that adhere to sustainability principles, including harmony with the environment, the use of traditional architecture, local materials, and alternative energy sources (Bulatović, 2017; Sirakaya-Turk, Baloglu, & Mercado, 2014).

Furthermore, cooperation between the government and the private sector is necessary for efforts to maintain the sustainability of tourism by anticipating potential environmental damage before irreversible harm occurs (Adnyana, 2020; Febriandhika & Kurniawan, 2019). Tourism development that overlooks environmental aspects will have a negative impact on the tourism industry as a whole. Sustainable tourism means meeting the needs of tourists today without compromising the needs and rights of future generations (Adnyana, 2020; Obot & Setyawan, 2017). The principle of sustainable tourism allows for the holistic management of all resources, aiming to preserve culture, biodiversity, ecological aspects, and life systems. Thus, sustainable tourism is defined as a form of tourism that considers economic, social, and environmental impacts, as well as meets the needs of various stakeholders such as tourists, the industry, local communities, and the surrounding environment (Adnyana, 2020; Zamfir & Corbos, 2015).

According to the Strategic Plan for Sustainable Tourism and Green Jobs for Indonesia, prepared by the Ministry of Tourism and Creative Economy of the Republic of Indonesia, the principles and practices of sustainable tourism development governed by the UNWTO can be applied across all forms of tourism and destinations (Ministry of Tourism and Creative Economy, 2012). Sustainable tourism must be based on three main dimensions for it to be sustainable in the long term, namely (Mussadad, Rahayu, Pratama, Supraptiningsih, & Wahyuni, 2019):

- 1) Optimally utilizing environmental resources by maintaining ecology and conserving biodiversity.
- 2) Respecting the socio-cultural authenticity and communities of host territories by preserving cultural heritage and traditional values, and providing a positive contribution to intercultural understanding and tolerance.

Providing long-term economic benefits by ensuring the equitable involvement of all stakeholders, creating stable employment opportunities, offering economic

chances for host communities, and reducing poverty levels. The implementation of sustainable tourism is a crucial step in making tourism environmentally friendly and contributing significantly to inclusive development in the long term. Therefore, the environmental aspect plays a central role in the framework of sustainable tourism. Furthermore, the concept of sustainable development includes three mutually supportive pillars: economic development that enhances community welfare, socio-cultural development that sustains community life, and environmental development that preserves the natural surroundings (Jayakusuma et al., 2023).

3 Research

This study used the legal study method. It considered legal norms and identified the advantages and disadvantages of the legal norms (Efendi, Ibrahim, & Rijadi, 2016). It also used a statutory approach to observe the regulatory framework related to the context of the legal issues discussed, the conceptual approach was utilized to find the possible solutions for law enforcement problems of forest governance for tourism. In addition, a comparative approach compared legal and regulatory systems and policies with other states (Marzuki, 2019). This study also used prescriptive analysis techniques in the data analysis. In legal studies, the law is often understood as statutory regulations or law in books. It is also defined or conceptualized as rules or norms, acceptable standards of human behavior. The development of the initial theoretical framework is optional but the development of the conceptual framework is necessary. Therefore, the formulations of laws and regulations can be used as the foundation of the study. This study also aims to find and formulate legal arguments through the analysis of the main issues. It also examined legal principles and theories and secondary data or literature studies.

This study covers the law which is defined as a standard or social regulation serving as a guide for everyone's behavior. Therefore, this study aims to describe the inventory of positive law, legal principles and doctrines, discovery of law in concrete situations, legal systematics, level of synchronization, comparative law, and legal history. The study used the legal research method to discuss sustainable forest management through forest governance for sustainable tourism.

4 Results and discussion

4.1 The effectiveness of forest management in Indonesia in terms of laws and regulations

The effectiveness of forest management in terms of statutory regulations means that the level of effectiveness is based on the influence and success of a legal product. The implementation of the principle can be carried out by considering the effectiveness of the law by investigating the life of society philosophically,

juridically, and sociologically. Based on the perspective of laws and regulations, regulations are effective if they can be applied in people's lives. The implementation of laws and regulations is a factor that determines their success (Zulfikar & Aminah, 2020).

According to the 1945 Constitution, Indonesia is referred to as a state of law. Consequently, the state organizes people's welfare from a real perspective. The Indonesian government manage and control the resources, one of which is the forest (Ellydar, 2007). To increase the effectiveness and efficiency of government and as the implementation of the constitutional mandate which states that state control over natural resources, several laws have regulated forest management since 1967. Therefore, Indonesian forest management has actually been regulated in the 1945 Constitution, Laws Number 41 of 1999, and Number 18 of 2013. They regulate the concept of superior forest governance by applying the principles of sustainable development as one of the environmental principles (D. Doman & N. Doman, 2020).

In principle, Indonesia protects the forests by maintaining a balance of biodiversity, which is a condition for the success of the principle of justice over generations. It aims to prevent the extinction of species and biodiversity. The state applies forest management regulations and policies by dividing forests based on their status and function. The separation is expected to adjust forest management to its designation. In fact, activities in the forests are very diverse such as clearing and cultivation, plantations, food crop farming, road construction, village/city expansion, etc. This condition also exacerbates forest areas (Ifrani, Barkatullah, Nurhayati, & Said, 2019).

Furthermore, there are many deviations between the objectives and the reality on the ground so they do not reflect good forest governance. The deviation occurs in the form of altering the function of protected forest areas and conservation forest areas into production forests or even plantations, as has occurred on the islands of Sumatra and Kalimantan. Furthermore, concrete evidence of this is the opening of opportunities for the use of protected forest areas for mining activities (Mareta, 2016; Soedarso, 2015). This is why the deforestation rate is still high and makes local people not prosperous. Moreover, a study from the National Development Planning Agency (Bappenas –Badan Perencanaan Pembangunan Nasional) shows that the Indonesian government's response to basic issues such as spatial planning is not synchronized between the central and the regional governments. There are also cases of unclear tenure rights and weak capacity for forest management and law enforcement that indicate poor forest management. The fundamental problem of forest management leads to the destruction of forest resources (Badan Perencanaan Pembangunan Nasional, 2010). In addition, government policies tend to favor the licensing system in favor of companies. As evidence, the total area of Indonesia's production forests controlled by private entrepreneurs through the

HPH (Hak Pengusahaan Hutan or Forest Concession Rights) system amounts to 64 million hectares and is dominated by approximately 572 private companies. In reality, these 572 HPH are controlled by about 20 conglomerates, resulting in conglomerate formation and monopolies within the forest management system in Indonesia (Dewi, 2018).

On the other hand, the Government of Indonesia adopted the concept of the state's right to control. The state is not the owner of the forest as assumed in the Domain Declarations (Barr, Dermawan, McCarthy, Moeliono, & Resosudarmo, 2006). In the Indonesian legal system, the government is the representative of the Indonesian people who is responsible for controlling forests with the authority based on the law. They must allocate, regulate, and determine the legal relations of citizens related to forests. However, in practice, the state acts as the owner. They also control and limit people's access to forests and make agreements on forest use and the exchange of forest areas, including unconfirmed forest areas (Myers, Intarini, Sirait, & Maryudi, 2017).

4.2 Forest governance policy for sustainable tourism in Indonesia

4.2.1 The integrated landscape approach as an effort to balance ecological and tourism interests

An integrated landscape approach is an approach that includes the concept of tools and methods for managing the landscape in achieving economic, social, and environmental objectives simultaneously (Minang, Duguma, van Noordwijk, Prabhu, & Freeman, 2015). This approach combines elements from various existing concepts, approaches, and disciplines, but focuses on the need to apply socio-ecological systems and to work across sectors, to co-management. This certainly makes the integrated landscape approach a management-oriented process involving stakeholder parties. Likewise, the approach does not provide a ready-made operational framework for planning at the landscape level but rather refers to a process of negotiation, decision-making and re-evaluation, flexibility, and sustainability (Sayer et al., 2013).

The integrated landscape approach is the answer to the failure of the se approach sector for forest resources management and development as well as in overcoming problems arising from other sectors. Furthermore, many regulations and policies issued in one sector are not aligned with existing regulations and policies in other sectors because they are issued by a ministry or government agency with different responsibilities (Frost, Campbell, Medina, & Usongo, 2006). In fact, several cases of institutional and political arrangements have failed to create a supportive environment that has actually provided a disincentive for collaborative efforts between sectors (Kusters, 2017).

In addition, this integrated landscape approach is carried out by paying attention to the characteristics of the forest area landscape with several development innovation concepts. An integrated landscape approach will eventually allow forest areas to be developed by creating several ecosystem rehabilitation areas that are designed in an integrated manner while building and managing tourism activities, especially environmental education tours. Through integrated management both from the character of the landscape and the integrated strategy, the goals of conservation and rehabilitation will be realized. The landscape approach is carried out by collecting and interpreting data, projecting it into the future, identifying problems, and providing a reasoned approach to solving these problems. In the landscape approach, issues related to the relationship between ecology and socio-economic are also considered. Furthermore, in realizing this integrated landscape approach, the government can implement various steps, namely:

- 1) The government can ensure the adoption of sustainable landscape management practices through the creation of policies and regulations that support and consider environmental, social, and economic sustainability, and encourage integration among sectors involved in landscape management.
- 2) Conducting extension and education can help increase awareness of the importance of sustainable landscape management among governments, communities, and businesses through training, seminars, and public information campaigns.
- 3) Partnerships and collaboration between the government, private sector, NGOs, and civil society are crucial in promoting sustainable landscape management. These partnerships can facilitate the exchange of knowledge, resources, and experiences, as well as strengthen the implementation of sustainability programs.
- 4) Implementing an effective monitoring and evaluation system to measure progress in the implementation of sustainable landscape management. Data and information obtained from monitoring can be used to make better decisions and adjust policies if necessary.
- 5) Providing incentives and sanctions to individuals, organizations, and companies that implement sustainable landscape management practices, such as subsidies or tax reductions, as well as imposing sanctions on those who violate regulations or do not comply with sustainability practices.
- 6) Offering support for research and innovation in sustainable landscape management is essential for developing more effective and efficient solutions for maintaining ecological and social balance in the landscape.

In the context of innovation, this landscape approach can be combined with the tourism sector development paradigm, which is adopted through an ecotourism development approach model. It is based on the exploration of socio-cultural, economic, and environmental potential. Ecotourism development policies in Indonesia are carried out based on strategic policies supported by systematic studies by integrating ecotourism in the field of education and local product innovation as support for ecotourism (Fitriasari, Kistanto, Yuwanto, & Yuwono, 2019). An integrated landscape approach and forest sustainability can mutually create optimal carrying capacity. Furthermore, an integrated landscape approach in building sustainable tourism can be a way of planning forms of recreation programs in forest areas. Nature tourism programs are made by creating an external physical environment or landscape that can make tourism activities and activities according to their wishes and comfort. Local people also get economic benefits from the existence of these tourist attractions (Hildayanti, 2022).

4.2.2 Implications of forests for tourism on the environment and proportion of forest areas protected

Forestry and tourism are areas that have received a lot of international attention recently. There is a prominent difference between the two. Forestry is attracting attention because of its function in providing the products and services needed by society; and tourism comes to the agenda because it is one of the fastest growing sectors and has significant economic, socio-cultural, and environmental impacts. Tourism has become a way of life in the modern day. It is an important means that stimulate economic growth. However, it also provides the environment with a negative impact (Pereira, Silva, & Dias., 2021).

The negative impact of tourism development in forest areas is that it causes a large consumption of natural resources and produces waste, which has the potential to damage and destroy the environment. Many researchers claim that tourism development has unintentionally caused environmental problems in forest areas, especially in developing countries, thereby changing ecological resources. It is also influenced by several other factors such as increased tourist attraction and facility development, which have caused forest devastation and pollution problems, increased deforestation, forest logging as well as forest fires and extinction of plant species (Kuvan, 2005). Furthermore, the development of tourism in forest areas causes changes in land cover and land use, thus increasing the rate of deforestation to build tourism infrastructure, especially in forest areas.

The development of infrastructure for tourism especially on large-scale facilities can cause irreparable damage or loss of ecosystems. The United Nations Environment Program (UNEP) notes that forests frequently experience harmful impacts due to tourism. For instance, there is deforestation due to the use of land use for lodging and other infrastructures, as well as the usage of materials for the

buildings. In contrast, in many areas, forests are increasingly becoming a significant factor in creating and maintaining tourism products (Sunlu, 2003). Forests are considered a major tourism and recreation site. Thus, they are an integral component of the tourism result. Not to mention, it is accompanied by accommodation, transport facilities, and service infrastructures. In addition, it must be broadly acknowledged that landscape dominance plays an important role in the competitiveness of tourist destinations. In this setting, the significance of forests in the field of tourism and recreation has been widely accepted around the world.

On the other hand, the management of natural resources and the tourism environment is important for the success of tourist destinations. Most environmental issues are related to volume, carrying capacity, and management instruments, which play a very important role in determining environmental impacts. Therefore, forestry institutions must be more involved in the forests' use for the purpose of tourism and their impacts. The Government of Indonesia has reduced the minimum area of forest area that must be maintained, which is 30% per watershed or island proportionally from the previous one, namely the minimum area of forest area that must be maintained is 30%. The obligation to maintain at least 30 percent of the forests is considered irrelevant to current developments, especially in forest areas on the island of Java, which currently accounts for less than 30 percent (Widiaryanto, 2020). Thus, the determination of the minimum area of forest area will depend on the geographical and physical conditions of each island or watershed.

Simultaneously, conditions of physics and geography are adjusted to maintain the minimum area of this forest area regulated in Government Regulation Number 23 of 2021 on Forestry Administration. The Regulation explains that forest areas and forest cover that must be maintained pay attention to a proportional distribution by considering four aspects: bio-geophysics, carrying capacity and environmental capacity, characteristics of watersheds, and diversity of flora and fauna. The physical and geographical conditions criteria have two different impacts: changing these criteria indicates developments in national policy making and momentum to achieve ecological balance by adjusting the area of forest land cover to watersheds proportionally based on the conditions of physics and geography so as to be able to control rainwater (Nugroho, 2021). Thus, in achieving sustainable forest management and minimizing or eliminating the negative impacts of tourism on forest lands, the concept of Sustainable Tourism must be applied. Sustainable Tourism is a concept of utilizing forests for tourism purposes by paying attention to the allocation of land for the construction of tourist facilities with land that is not built for facilities (Fitriasari et al., 2019).

On the other hand, as is known in conservation areas, especially forests, there are many parties with diverse interests. These interests include communities living in

or near the conservation area, individuals or groups benefiting economically from its resources, governments responsible for the area's preservation, NGOs concerned with environmental conservation, and scientists interested in the knowledge within the area (Qodriyatun, 2019). The differing interests of these parties often lead to conflicts in the management of conservation areas. Therefore, to reduce such conflicts, collaborative management is proposed as a solution. This collaborative management involves an agreement between two or more stakeholders to share information, responsibilities, and roles through a mutually agreed partnership (Tamrin & Lubis, 2023). This process often involves the exchange of information and continuous adjustment to achieve the desired goals.

Furthermore, to encourage active participation from the community in preserving conservation areas, steps to empower the surrounding community need to be taken. In accordance with the provisions in Government Regulation No. 28 of 2011 on the Management of Nature Sanctuary Areas (KSA) and Nature Conservation Areas (KPA), it is affirmed that to maintain the integrity and sustainability of conservation areas, the government and regional governments are required to designate areas directly bordering the conservation areas, whether KSA or KPA, as buffer zones (Ariyanto, Ardiansyah, & Kadaryanto, 2023). The concept of conservation villages is proposed as a solution, where communities around the area are involved in active and sustainable management. The management of buffer areas is also crucial to ensure the sustainability of conservation areas and the welfare of the community. In establishing conservation villages, community participation and the involvement of relevant parties are essential principles that must be considered to achieve optimal management effectiveness and enhance the welfare of the local community (Qodriyatun, 2019).

4.3 Comparison of forest policy for tourism between Indonesia and Brazil

Brazil is a state with the largest tropical forest in the world because almost all of its territory includes Para, Amazonas, Mato Grosso, Maranhao, Goias, Acre, Amapa, Roraima, and Rondonia (De Bolle, 2019). It makes the Brazilian forest a conservation unit that provides many indirect benefits to humanity through services that regulate the environment and protect the contours of the land, store carbon, house many species of flora and fauna, and prevent global warming. Therefore, the Brazilian government issued the 1934 Forest Code to look after forests. It allows landowners in forest areas to make the property private property and exempt from taxation obligations. However, in 1965 the regulation was updated. The updated version regulates landowners to be empowered. They are required to designate their private lands as conservation areas (Schiavetti, de Oliveira, da Silva Lins, & Santos, 2010).

In Brazil, the law allows landowners to exclude 20 percent of their forest from development and can exclude up to 35 percent of the forest area that belongs to landowners in the Savannah region. It is up to 80 percent in the Amazon Forest area. Even though the law is good, this regulation is not implemented comprehensively. The Brazilian government suffers from a lack of law enforcement resources. Thus, they are unable to take further action against ranchers and farmers who encroach on forests that have been private conservation areas. Consequently, deforestation continues at an uncontrolled rate in Brazilian forests (Mueller & Alston, 2007). In the 1990s, the Brazilian Federal government enacted Decree nº 98.914, also known as the Law on Private Natural Heritage Reserves (RPPN). The regulation aims to extend land ownership rights to convert large areas of land into private conservation areas. The regulation prohibits economic activities such as farming and hunting in conservation areas. Under the Law, private conservation areas are restricted to environmental education, research activities, and ecotourism or sustainable tourism development (Dedeke, 2017).

As a step to develop tourism in Brazil, the federal government, in the early 1990s, began to involve investment both public and private to change both the territory and social relations in the area directly affected. The step was taken to understand the consequences of regulating and fostering the tourism sector. In 1966, Empresa Brasileira de Turismo (EMBRATUR) was formed. There was almost no legal policy to promote tourism. Furthermore, the first policy that was related to tourism was in Decree-Law 406 dated May 4, 1938. It regulates the entrance of visitors by air, land, and sea. The establishment of EMBRATUR is in accordance with Decree-Law 55 of 1966. It is the origin of Brazil's national tourism policy. Although the original function of EMBRATUR was limited to the consolidation of the in-house market and accumulative external demand through promotion. In the early 1990s, the agency turned into a basic agent in developing policies in the sector.

In July 1992, EMBRATUR established a national tourism plan. It was expected to promote development in the regions through an integrated tourism system. The national tourism plan of the EMBRATUR, namely the Programa de Ação para o Desenvolvimento do Turismo no Nordeste Brasileiro (PRODETUR-NE), with the support of the federal government and the Northeastern state government as represented by the Superintendent for Development of the Northeast, obtains financial assistance from Inter-American Development Bank. The PRODETUR-NE investment aims to complete projects of basic infrastructure such as highways, electrical energy facilities, preparation of sanitary water, and good drainage as well as infrastructure projects that directly provide benefit to tourism such as provision and improvement of stations, airports, and long distance buses (Bartholo, Delamaro, & Bursztyn, 2008). The modernization to support tourism activities resulted in new territorial divisions between coastal strips occupied by large

companies and areas that are reserved for local communities (da Cruz, 2005). According to the World Bank's Program on Forests and Waves Programme, Brazil earns US\$14 ha-1 yr-1 from 10% of forest used for recreational purposes. According to the same study, the rental price for NTFPs is US\$ 6.5 ha-1 yr-1. Another estimate is that the recreational value of the Amazon rainforest biome ranges from US\$ 53 per hectare including a 6% discount to US\$ 160 per hectare (Carvalho Ribeiro et al., 2018). Of course, thoroughly, tourism in the Brazilian forests can embrace the way of life of the local Amazonian people who have been keeping the rainforest away from development interference.

5 Conclusions

The findings and the results reveal that sustainable tourism development is an effort to manage forests in a sustainable manner. Sustainable tourism development ensures the effectiveness of existing laws and regulations, the direction of forestry policies, and their impact on the environment, as well as comparisons with other countries. Regulatory effectiveness in Indonesia is related to sustainable tourism development in Indonesia. It has not been effective yet, so a direction for forest governance is needed for tourism. The direction of forest governance for tourism must use an integrated landscape approach based on ecotourism-development. It must also explore socio-cultural, economic, and environmental potentials.

On the other hand, tourism development requires special attention, especially on the impact of removing the minimum percentage of the forest area. It has the potential to decrease the total area of Indonesia's forests further and uncontrollably because the regulations that were promulgated recently actually removed the minimum percentage of forest by 30 percent per watershed according to the proportional needs. Compared to the management of forestry tourism in Brazil, tourism is managed separately by EMBRATUR by issuing PRODETUR-NE policies. They are made in an integrated manner as a reference for a long-term framework. Thus, tourism policies overlap can be overcome. This study expects that the government, as a policy maker, through the Ministry of Tourism, can form a grand design of governance with an integrated landscape approach. Thus, ecological and economic conditions can go without sacrificing any parties.

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