

ECOTOURISM MODEL BASED ON LOCAL WISDOM/INDIGENOUS: A SUSTAINABLE DEVELOPMENT STRATEGY IN KEBESANI TOURISM FOREST CONSERVATION AREA, DETUKELI DISTRICT, ENDE REGENCY"

Estherlina Sagajoka^{1*}, Reyna Virginia Nona²

^{1,2} Department of Development Economics, Faculty of Economics and Business, University of Flores, Indonesia

*Email corresponding author: esthersagajoka@gmail.com

Abstract

This research aims to formulate a custom-based ecotourism model as a sustainable development strategy in the Kebesani Tourism Forest conservation area, Detukeli District, Ende Regency. The approach used is descriptive qualitative with a case study method, through participatory observation, in-depth interviews, and documentation studies. The focus of this research is the integration of local cultural values and traditional wisdom in natural resource management to create a balance between environmental conservation and improving community welfare. The results show that customary value systems, such as prohibition rules (*pire*), rites of respect for nature, and collective land ownership, play an important role in maintaining the sustainability of forest areas. One example is the traditional ritual "*Tu mbotu Rendu koba leke*" performed by traditional leaders (*Mosalaki Pu'u*) during the long dry season to ask the ancestors for rain. After the ritual is performed, rain falls, and this is believed to be evidence of local spiritual power that is part of the community's social capital. In the customary view, the forest is considered a sacred area guarded by guardian spirits (*nitu*), and strict prohibitions such as "*Ma'e titi oto, ma'e pura Ndu'a*" (it is forbidden to cut down the forest carelessly) become norms that are obeyed to preserve the forest and water sources. The active participation of indigenous communities in designing and managing ecotourism strengthens sustainable social control mechanisms. The proposed custom-based ecotourism model emphasizes the principles of community participation, ecological justice and economic sustainability. These findings provide theoretical and applicative contributions to the development of conservation area management policies based on local wisdom.

Keywords: indigenous ecotourism; local wisdom; sustainable development; conservation; community participation.

1. INTRODUCTION

The Kebesani Tourism Forest area, located in Detukeli District, Ende Regency, is an ecological natural panorama and potential natural resource that has strategic value in conservation and sustainable development efforts. Ecologically, this area functions as a buffer for the hydrological system of the surrounding area, a protector of biodiversity, and a provider of important ecosystem services such as carbon sequestration, microclimate balancing, and erosion control (Widiastuti, 2022). The existence of the Kebesani tourism forest area has a deeper and more promising dimension and color for the Nuapu indigenous community of Kebesani village. In the view of indigenous peoples, forests are not just physical or economic entities, but an integral part of the cosmological system, spirituality, and collective identity (Sutrisno, 2018). Socially and culturally, this area contains sacred sites, ancestral myths, and customary rules that regulate human interaction with nature in harmony. One form of local wisdom that is still alive is the customary prohibition system known as *pire* in Lio language. This system functions as a local norm-

based conservation mechanism that regulates the pattern of sustainable utilization of natural resources (Yoseph & Deki, 2021).

The customary cultural system has been going on for generations and is part of the social capital structure of the Nuapu indigenous community of Kebesani village because customary knowledge and social capital are important factors that have a significant impact on community economic growth and sustainable development (Sagajoka, Fatima, 2023). However, in line with the dynamics of tourism development that is not well planned, it will threaten the sustainability of the area. Tourism management activities that are not based on ecological principles and local wisdom often lead to environmental degradation, such as pollution, destruction of sacred sites, violation or neglect of rituals and increased pressure on existing forest ecosystems (Nugroho & Prayogo, 2019). On the other hand, cultural modification and exploitation of local traditions for the benefit of commercial tourism have the potential to erode the values of local wisdom and social capital of local indigenous peoples. The absence of a participatory and indigenous-based tourism management model leads to social marginalization and loss of control rights over the area of sustainability of the local community's life (Martini et al., 2020).

In this context, the indigenous-based ecotourism approach is very relevant and urgent. Ecotourism is not only oriented towards environmental conservation, but also encourages the active involvement of local communities in the management of tourist destinations, environmental education, and ecological and sustainable economic development. The results of research by (Sagajoka, Et all, 2022), show that the kebesani village community hopes that the development of forest conservation into a local wisdom-based tourist destination needs to be specifically related to the myths and culture of the indigenous people of Kebesani Village, where the development of the Kebesani tourist forest becomes a new tourist destination that must be maintained and preserved in accordance with the cultural statement "*Ma'e titi oto, ma'e pura Ndu'a*", This is based on local customs and culture that should be maintained and maintained according to the habits of ancestors since time immemorial, thus it is hoped that the development of ampupu forest tourism can provide added value to economic activities for the kebesani village community and its surroundings according to the sustainable development paradigm. When combined with local wisdom that has been proven to sustainably maintain ecosystems for centuries, this approach has the potential to produce a model of tourism development and development that is fair, sustainable, and firmly rooted in the local social, economic and ecological context (Rahman & Fitriani, 2021).

Kebesani Village has extraordinary natural resource potential in this regard. The spiritual values of the indigenous people and the socio-cultural conditions that live in traditional practices that are still very strong, such as access restrictions to certain areas, the prohibition of reckless logging ("*Ma'e titi oto, ma'e pura Ndu'a*"), and respect for ancestors (*embu mamo*) forest guardian spirits (*nitu*)-are forms of spiritual-based conservation that have not been widely accommodated in Ende district's regional development policies.. Sometimes, these value systems are often ignored by the dominant technocratic approach in national and regional tourism sector development planning. Therefore, the integration of local wisdom values into the ecotourism model is not only an alternative strategy, but an urgent need to ensure ecological sustainability and social justice in the Kebesani tourism forest area.

Many studies on ecotourism have been carried out by previous researchers, but they are still dominated by ecological and economic approaches alone, focusing on the potential of natural tourist attractions and the economic impact on local communities. Meanwhile, approaches that integrate customary value systems, local wisdom and local spirituality in ecotourism development planning and management are still very limited, especially in eastern Indonesia including in Ende Regency.. Previous studies have examined community participation in ecotourism development as stated by Wondirad et al., 2020,7 but not many have specifically focused on the design of custom-based ecotourism models in conservation areas that live with the beliefs of local indigenous peoples. In addition, tourism planning documents are often top-down and technocratic, which ignore the cultural dimensions, spiritual values, and customary law-based management areas that are actually

the foundation of ecological areas.

3. Novelty

This research offers novelty from two important sides, namely:

1. Integrative Model of Custom-Based Ecotourism:

This research designs an ecotourism model that integrates ecological and customary values simultaneously, including customary institutional structures, traditional prohibition systems, and local spirituality, as the main components in tourism management. This is an approach that goes beyond conventional ecotourism models that only emphasize environmental conservation and economic empowerment.

2. Local Context of Indigenous Conservation Areas in Ende.

The research focus on the Kebesani Tourism Forest as a case study provides an important contextual contribution, as this area has not been widely touched upon in the academic literature. By highlighting local narratives and customary practices as the basis for sustainable development, this research helps strengthen a development paradigm rooted in the local cultural identity of Eastern Indonesia.

By considering the actual conditions, local potential, from previous research, this research becomes important and urgent to do. The custom-based ecotourism model designed from the bottom-up and rooted in local wisdom is expected to not only be relevant for Kebesani, but also replicable in other areas that have similar characteristics. The results of this research are expected to become a conceptual and practical basis for local governments, local communities, and development partners in formulating tourism development policies that are fair, sustainable, and cultured.

2. LITERATURE REVIEW AND HYPOTHESIS FORMULATION

a. Ecotourism Concept

Ecotourism is a form of tourism that emphasizes environmental conservation, respect for local culture, and economic empowerment of local communities. The concept of ecotourism does not only involve nature tourism activities, but also a form of environmentally based development intervention. The main principles of ecotourism include biodiversity conservation, environmental education, community participation, and sustainable management of tourism impacts. Therefore, in the context of indigenous peoples, ecotourism can be a strategic medium for integrating ecological conservation and cultural revitalization.

b. Local Wisdom and Indigenous Cosmology

Local wisdom is a system of collective knowledge born out of a community's long interaction with its environment (Keraf, 2010). In the Lio indigenous community, this wisdom is not only in the form of technical practices, but also rooted in cosmology and spirituality that regulate human relations with nature. Customary prohibitions such as "pire", respect for the guardian spirit of the forest (nitu), and the annual ritual system show that conservation in the indigenous view is not only an ecological action, but also spiritual and moral. This local knowledge is holistic and adaptive, making it a key element in development based on social-ecological sustainability.

c. Participatory and Custom-based Ecotourism Model.

Research by Wondirad et al. (2020)⁷ shows that community participation is an important determinant in the success of ecotourism. However, the participation model that has been used tends to be symbolic or tokenistic, without really providing control space to indigenous peoples. Studies of custom-based ecotourism, which make customary values, institutions and laws the main basis for management, are still very limited. In this context, the indigenous-based ecotourism approach is important to develop as a response to the structural marginalization of indigenous communities in development planning.

d. Development Based on Local Culture

Development approaches that emphasize local culture emphasize the importance of social sustainability and the preservation of collective identity (Rahman & Fitriani (2021)⁸ underline that the "bottom-up" development model, which departs from local value structures and practices, has a higher leverage on the dynamics of social and environmental change. This approach places communities not only as objects, but subjects of development, who have the right to design the future of their own communities.

3. RESEARCH METHODS

3.1. Approach and Type of Research

This research used a descriptive qualitative approach with an exploratory case study method. This approach was chosen to explore the meaning, values and customary practices related to natural resource management and ecotourism, and to understand the underlying social relations in depth and contextually.

3.2. Research Location and Subjects

The research location is in Kebesani Village, Detukeli District, Ende Regency, East Nusa Tenggara. The research subjects consisted of:

- Customary store (Mosalaki) 5 people
- Indigenous people (ana kalo fai walu i) in Nuapu village 10 people
- Kebesani forest ecotourism business actors (Forest Service) 5 people
- Kebesani village officials and Detukeli sub-district government 10 people
- Non-government stakeholders (NGOs, and academics) 5 people

3.3. Data Collection Techniques

- In-depth Interviews: Exploring the narratives and perspectives of traditional leaders (mosalaki) and community members (ana kalo fai walu) on their relationship with the forest, the customary prohibition system (Pire), and perceptions of tourism.
- Participatory Observation: Directly following customary activities, rituals and tourism activities to understand the real interactions between community, culture and environment.
- Documentation Study: Examining local documents such as village regulations, customary texts, and archives on the history of area management.
- FGD (Focus Group Discussion): For data triangulation, validation of findings, and mapping aspirations across social groups.

3.4. Data Analysis Techniques

Analysis was conducted using a thematic analysis approach, which included:

1. Initial coding: Identifying keywords from interviews and field notes.
2. Categorization: Organizing themes based on cultural, ecological and social dimensions.
3. Thematic interpretation: Explaining the relationship between local wisdom and ecotourism sustainability .

4. RESULTS AND DISCUSSION

4.1. Socio-Cultural and Ecological Characteristics of the Kebesani Community

The Nuapu indigenous village community in its daily life is still very thick with its customary and cultural traditions, and has a tribal-based social structure so that the forest management system and other resources are based on customary law. Where every time they start or initiate a job or activity, for example when clearing agricultural land, building a house, it always begins with the traditional ceremonial of Namanya: Tu tau (Customary ceremony to feed the ancestors (embu mamo)) this ritual is carried out by mosalaki pu'u which is a traditional ceremony to ask permission from embu mamo, in order to protect and maintain the health and survival of ana kalo fai walu (Indigenous people). This is done to build a relationship between indigenous

peoples and nature that is relational and sacred. In carrying out various activities so that ceremonies are sacred there are customary prohibitions such as *pire* and *Bhisagia* (sacred places) which not only prevent over-exploitation, but also strengthen social cohesion. Local ecology is seen as part of *tana embu mamu* (ancestors), not just an economic resource.

4.2. Traditional Conservation Practices

Local Mechanisms in Sustainable Natural Resource Management Local Ecological Knowledge System and the sacredness of Nature Traditional conservation practices carried out by indigenous communities in the Kebesani Tourism Forest reflect a form of local ecological knowledge that has existed for generations and is internalized in the value system, beliefs, and social institutions. Concepts such as "tu tau" and respect for "*nitu*" (spiritual entities guarding nature) are effective informal mechanisms in preserving forest ecosystems and preventing overexploitation known as customary calls in the Lio language "strict prohibitions such as "*Ma'e titi oto, ma'e pura Ndu'a*" (do not cut down the forest carelessly) Annual rituals such as *Nggua* (traditional feast), Annual rituals such as *Nggua* (traditional feast), *keti uta* (traditional ritual to feed the ancestors before harvest), which are usually carried out before the planting or post-harvest season, are not mere symbolic ceremonies, but a form of ecological contract that unites the community in a shared ecological consciousness, where the prohibition of hunting, cutting trees, or accessing sacred areas is collectively applied and binding.. Based on the testimony of indigenous groups, that when there is a prolonged summer so that there is a long drought which causes the community (*ana kalo fai walu*) to have difficulty planting because the rain does not fall, the *mosalaki pu'u* conducts a traditional ceremony called "*Tu mbotu Rendu koba leke*" which aims to ask God and ancestors to be able to send rain. And based on the life experience experienced by the Nuapu indigenous village community so far, it is true that after the traditional ceremony was carried out, the rain fell. This practice is in line with the theory of ecological stewardship which emphasizes the involvement of local communities as sovereign guardians of nature (Berkes, 2012).

Traditional Zoning and Seasonal Restrictions Local communities have long practiced traditional zoning systems. The division of space into categories such as *tana nitu* or *tana embu mamu* (ancestral territories), *langi* (garden boundaries), and *uma rema* (production land) reflects sophisticated spatial knowledge. The sacred zone (*Bhisagia*) functions as an absolute conservation area, similar to the core zone in the modern conservation biology approach. The prohibition to cut or enter the area is based on cosmological beliefs and accompanied by customary sanctions, which act as a form of social control as well as ecological risk management. In addition, communities apply a seasonal closure system that adapts exploitation activities to ecological cycles such as wildlife breeding seasons or plant flowering seasons. In this context, conservation is not only preventive but also adaptive - in line with the resilience-based resource management approach (Folke, 2006). Boundary demarcation (*langi*) as Social-Spiritual Mapping The practice of customary boundary demarcation is a form of social and spiritual mapping with ecological significance. This knowledge is passed down orally and maintained through the mechanism of customary deliberation (*tubu musu*), which serves as a space for collective deliberation in making decisions about spatial management. This approach represents an early form of community-based spatial planning that is now being adopted in various national and global models

4.3. Participatory Model in Tourism Management

The research revealed that tourism management in conservation areas, especially Kebesani Tourism Forest, is still dominated by a technocratic and top-down approach, where strategic decisions related to tourism development are mostly taken by external actors, such as the local government (forestry service), without meaningful involvement from indigenous communities as owners of local space and cultural heritage. Indigenous communities are

generally only limitedly involved in the program implementation stage, such as the provision of guide services or field workers, without having deliberative space in the planning, design or other strategic decision-making processes. This lack of substantive participation contradicts the principles of good governance and participatory sustainability, which emphasize the importance of actively involving local communities as key stakeholders in natural resource management and tourism. The absence of a participatory model has led to significant social-ecological consequences.

Among these are spatial conflicts, where indigenous territories that have traditionally had ecological and spiritual functions begin to be commodified for the benefit of mass tourism without regard to sacred values (*bhisagia*) or applicable customary spatial planning. This process has led to a form of cultural alienation, in which local communities lose authority over the identity, narratives and customary practices that are the foundation of their lives. Tensions also arise due to the conflict between customary values that emphasize ecological balance, the sacredness of nature, and the principle of mutual respect between humans and the environment, with the logic of tourism commercialization oriented towards short-term profitability. This value mismatch has led to social friction between the older generation of customary guardians and the younger generation who are starting to be exposed to the lifestyle and economic expectations of the modern tourism industry..

The absence of participatory approaches also results in a lack of community sense of ownership of tourism programs, which in turn reduces long-term social and ecological sustainability. In many cases, the existence of tourism programs without social legitimacy can accelerate social and ecological degradation, and increase the risk of failure of community-based conservation projects. Thus, there is a need to reformulate local wisdom/indigenous tourism governance models that integrate local values, indigenous rights, and genuine participation mechanisms in all stages of tourism development - from planning, to implementation, to evaluation and monitoring. Only with an inclusive, collaborative approach can tourism development in the kebesani forest create spatial justice, ecological sustainability, and authentic and meaningful cultural preservation. Similarly, Tosun (2000) distinguishes between induced participation (participation controlled by outsiders) and authentic participation (true participation that comes from the will and authority of local communities). When people are only involved symbolically or instrumentally, such participation does not create genuine social transformation. In contrast, the bottom-up approach provides a space for dialogue between actors and enables the creation of ecological and social justice in the tourism development process.

Case studies from various regions show that the success of custom-based tourism models is highly dependent on the existence of strong institutional structures, equitable benefit-sharing systems, and legal recognition of customary land and cultural rights. Therefore, future tourism development strategies need to place indigenous peoples not only as beneficiaries, but as rights holders and co-designers of the development process. The findings on the absence of a participatory model in tourism management in the Kebesani Tourism Forest area have important implications for the formulation of sustainable tourism development policies, especially in areas where customary social structures are still alive.

4.4. Based on the results of field findings and qualitative analysis,

This research proposes a custom-based ecotourism model that is integrative and adaptive to the socio-cultural context of local communities, the ecological conditions of the region, and the dynamics of sustainable tourism development. This model was developed by considering the principles of participation, local wisdom, and ecological sustainability, which are articulated into four main components, namely:

1. Customary Institutional Structure

Strengthening the role of customary institutions is the main foundation in this model. The customary council or Mosalaki (local designation) functions as a management and supervisory body (guardian council) in ecotourism governance. Customary institutions have the authority to:

- Determining visitation rules based on customary norms (taboo values, prohibitions, sacred time),
- Verifying tourism activities so that they do not conflict with the local cultural value order,
- Bridging communication between local communities and outside parties (government, business actors, tourists).

This institutional structure is formally integrated in the ecotourism management unit through the mechanism of village regulations or perdes as a form of legal recognition of local wisdom.

2. Value-based and Ecological Zoning

Zoning spaces are developed not solely based on tourist attraction, but also considering sacred values, ecological sensitivity, and sustainability potential. The proposed zoning includes:

- Core Sacred Zone: Areas with high spiritual value (ritual places, sacred sites) that are closed to tourist activities, except for limited education escorted by traditional leaders.
- Ecological Conservation Zone: Areas with high biodiversity or important habitats that are only reserved for research and conservation-based tourism.
- Educational Tourism Zone: Areas developed for cultural and ecological interpretation-based tourism visits with limited infrastructure and environmentally sound.
- Socio-Economic Utilization Zone: Areas where local residents develop homestays, crafts, traditional culinary and other economic activities in a controlled manner.

This zoning must go through customary deliberations and be authorized by the village government to have dual legitimacy (customary and formal).

3. Tourism Education Model Based on Local Narratives

The implementation of indigenous-based ecotourism requires an authentic interpretation strategy. Therefore, a tourism education model was developed that includes three main dimensions:

- Spiritual Narrative: Explanation of the community's cosmological relationship with nature, guardian spirits (*nitu*), and annual traditional rituals as a form of spiritual conservation.
- Customary History and Genealogy: Documentation of the origins of indigenous peoples, ancestral migration, and the formation of social structures and customary laws.
- Tradition-based Conservation: Local knowledge on flora and fauna conservation, the system of prohibiting indiscriminate cutting of forests, ritual practices during land clearing, and post-harvest utilization of agricultural crops.

This model is packaged in the form of oral storytelling, visual interpretation, information boards, and training of local tour guides from the community itself.

4. Multi-Stakeholder Collaboration Schemes

For this model to be sustainable, it requires a collaborative approach between stakeholders through a clear and fair partnership scheme. Suggested collaboration models include:

- Tripartite Partnership: Between indigenous communities, village/sub-district/district governments, and development partners (NGOs, academics, tourism actors).
- Community-owned enterprises (BUMKam): Management of funds from tickets, tour packages, and retribution is managed by the community through a collective business entity.
- Transparent profit-sharing pattern: Income from tourism activities is shared according to roles and contributions-a certain percentage is allocated for customary preservation, environmental conservation, and empowerment of customary stakeholders.

- Periodic Evaluation Forum: An annual dialog forum is established to evaluate implementation, discuss challenges, and formulate innovations based on field experience.

By integrating elements of custom, conservation, education and cross-sector collaboration, this model is expected to become a strategic reference in the development of ecotourism based on indigenous communities that are able to maintain cultural integrity while answering the challenges of social and ecological sustainability. This model also has the potential to be replicated in other conservation areas that have similar characteristics, with adjustments to their respective local customary structures. The Model Scheme can be read in Figure 1 below:

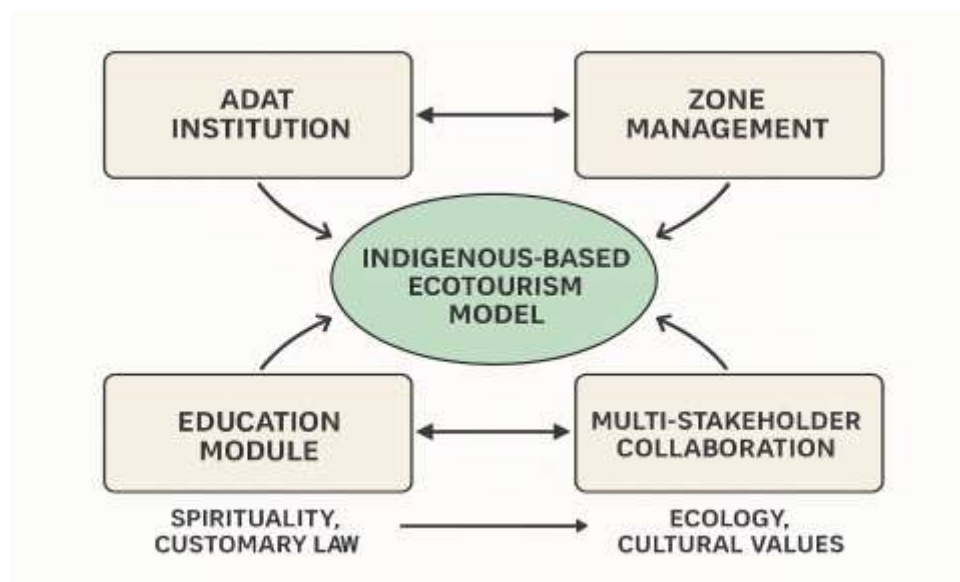


Figure 1. Model of Ecotourism Development based on Local Wisdom /indigenous

5. CONCLUSION

The results of this study indicate that the custom-based ecotourism model developed in the Kebesani Tourism Forest area is a strategic approach in realizing sustainable development as a whole. This model not only offers solutions to ecological problems, but is also able to bridge cultural, social and economic interests in an integrated manner. By placing local/indigenous communities as the main subject in the process of planning, managing, and evaluating ecotourism, this approach prioritizes the principles of inclusiveness, participation, and respect for local values. Local wisdom embodied in customary practices such as *langi* (boundaries), the prohibition of cutting down any tree (*ma'e titi oto ma'e pura ndua*) is sacred (*bhisagia*), as well as a rotational system of natural resource utilization, which has proven to be in line with modern conservation principles. The integration of these values into the ecotourism model provides a strong ethical and ecological foundation, while strengthening the cultural identity of local communities in the midst of homogenization due to mass tourism. In addition, the active participation of indigenous communities in decision-making creates a high sense of belonging to their territory, reduces the potential for conflict, and increases the success of conservation programs. From an economic perspective, this model provides new opportunities for diversification of community livelihoods through tour guide services, the provision of traditional house-based homestays, and the development of creative products in the form of *sufenir* and local cuisine. This also encourages local economic growth that is not exploitative, but instead adaptive to ecosystem capacity and cultural values. However, the implementation of this model faces a number of structural challenges, such as limited community institutional capacity, weak regulations to protect the rights of indigenous peoples, and a lack of coordination across sectors (ego sector). Thus, the sustainability of this model is highly dependent on the joint commitment of local governments, customary institutions, academics, and tourism

businesses.. This requires the formulation of local policies that recognize and protect the rights of indigenous peoples in the management of their territories, as well as the strengthening of local institutional capacity through training, mentoring and the allocation of adequate resources. In addition, the development of a community-based monitoring and evaluation system needs to be an integral part of this model to ensure long-term adaptability and accountability.

Thus, the ecotourism model based on local / customary wisdom in the Kebesani Tourism Forest is not only a means of economic development and conservation, but also a representation of a form of ecological and social justice that places local communities as the main actors in the sustainable development narrative.

Reference:

- Honey, M. (2008). *Ecotourism and sustainable development: Who owns paradise?* (2nd ed.). Island Press.
- Keraf, S. (2010). *Etika lingkungan hidup*. Kompas.
- Martini, R., Salim, D., & Wahyudi, H. (2020). Marginalisasi komunitas adat dalam pengembangan pariwisata: Studi kasus di kawasan konservasi. *Jurnal Ilmu Sosial dan Ilmu Politik*, 24(1), 12–26. <https://doi.org/10.22146/jsp.2020.123456>
- Nugroho, I., & Prayogo, D. (2019). Dampak negatif pariwisata terhadap lingkungan dan budaya lokal. *Jurnal Pembangunan Wilayah dan Kota*, 15(2), 135–142. <https://doi.org/10.14710/pwk.v15i2.12345>
- Sagajoka, Fatima. (2024). Kearifan Lokal, Modal Sosial, Dan Pembangunan Berkelanjutan. *Jurnal Analisis Fakultas Ekonomi, Universitas Flores*, VOL. 13 NO. 02, TAHUN 2023 P. 426 - 440 . DOI: 10.37478/als.v13i2.2938
- Sagajoka, Et all (2022). Persepsi Masyarakat Tentang Konsep Pelestarian Dan Pengembangan Hutan Wisata Ampupu Kebesani Berbasis Kearifan Lokal. *Jurnal Analisis, Fakultas Ekonomi Universitas Flores Vol. 12 No. 02 Edisi September Tahun 2022 hal : 222-246, DOI: 10.37478/als.v12i2.2089*
- Rahman, F., & Fitriani, N. (2021). Pembangunan berbasis budaya lokal: Menakar relevansi pendekatan partisipatif. *Jurnal Pembangunan Berkelanjutan*, 9(1), 45–60. <https://doi.org/10.20885/jpb.vol9.iss1.art5>
- Sutrisno, B. (2018). Kosmologi masyarakat adat dan perlindungan hutan adat: Studi pada komunitas adat di Flores. *Jurnal Antropologi Indonesia*, 39(2), 110–125. <https://doi.org/10.7454/jai.v39i2.1234>
- Widiastuti, A. (2022). Peran ekosistem hutan dalam pengendalian perubahan iklim dan konservasi keanekaragaman hayati. *Jurnal Lingkungan Tropis*, 6(1), 20–34. <https://doi.org/10.31227/jlt.v6i1.1234>
- Wondirad, A., Ewnetu, B., & Tolkach, D. (2020). Community participation in tourism development in developing countries: A critical review. *Tourism Planning & Development*, 17(3), 215–235. <https://doi.org/10.1080/21568316.2019.1617609>
- Yoseph, Y., & Deki, A. (2021). Kearifan lokal dan konservasi sumber daya alam di NTT: Studi kasus sistem pira di masyarakat Lio. *Jurnal Kearifan Lokal Nusantara*, 3(2), 77–89. <https://doi.org/10.24036/jkln.v3i2.12345>