



The Woloan Stilt House Industry and Inequality in Access to Wood: A Regulatory Review and Reflections on Public Ecotheology

Cristofan Muliku, cristofanmuliku@gmail.com

Institut Agama Kristen Negeri Manado

Deny Leyden Waljufri, deniesljufri@gmail.com

Institut Agama Kristen Negeri Manado

Junior A. C. Sangande, juniorsangande@gmail.com

Institut Agama Kristen Negeri Manado

Correspondence:

cristofanmuliku@gmail.com

Article History:

Submitted: July 21,
2025

Reviewed: July 23
2025

Accepted: July 30,
2025

Keywords:

Woloan stilt houses, timber
access, structural inequality,
forestry regulations, public
ecotheology, ecological justice

Copyright:

©2025, Authors.

License:



Abstract

The stilt house industry in Woloan Village, Minahasa, has developed into an icon of the local economy and culture that depends on the availability of timber raw materials. However, this industry faces serious issues in the form of inequality in access to timber resources between large businesses, small craftsmen, and the local community. This study aims to analyze the regulatory policies governing timber distribution, uncover the forms of inequality that exist, and offer a public eco-theological reflection as an ethical and spiritual framework for addressing this issue. Using a descriptive-critical qualitative approach and case studies, data was collected through in-depth interviews, analysis of forestry policy documents, and field observations. The results of the study show that forestry regulations do not yet fully guarantee equitable access and are still marred by bureaucratic practices, corruption, and the dominance of certain actors in timber distribution. Public eco-theological reflection highlights the importance of human responsibility towards creation, ecological justice, and the role of faith communities in advocating for fair and sustainable resource management. This study recommends regulatory reforms based on local participation, the empowerment of churches in ecological education, and cross-sector collaboration to create more equitable and sustainable forest governance.

A. INTRODUCTION

The village of Woloan in Tomohon City, North Sulawesi, has been known since the 1980s as a center for the production of traditional Minahasa wooden stilt houses. The tradition of building wooden houses in this village has been passed down from generation to generation and has developed into a knock-down stilt house industry that is in demand even overseas in countries such

as Japan, the Netherlands, and the United States. According to Vianney Tamuntuan (2019), the growth of this industry not only reflects the local cultural heritage but also serves as the primary source of income for the community and the economic identity of Woloan Village.

The stilt house industry in Woloan heavily relies on the supply of high-quality wood such as Cempaka, Meranti, and Nyatoh. However, in recent years, the availability of this timber has been declining due to over-exploitation and conservation policies. I. A. P. Resosudarmo (2014) explains that forest tenure reforms and restrictions on utilization permits have limited access to timber for small-scale industry players, especially those in non-concession areas. This dependence highlights the vulnerability of the stilt house production structure to changes in the national forest management system.

In terms of access to raw materials, there is a significant disparity between large and small industry players. Johanes Arie and Yosephine Pangemanan (2022) reveal that large entrepreneurs have easier access to legal timber sources due to their capital support and networks with IUPHHK holders. Meanwhile, small-scale craftsmen and local communities often face regulatory and financial barriers that limit their access to legal timber, prompting some of them to use unofficial distribution channels. This creates a dilemma between production sustainability and legal compliance.

This inequality in timber access highlights the importance of reviewing forestry regulations and natural resource distribution. Bambang Simangunsong (2021) emphasizes that many forest licensing regulations are not favorable to local actors and MSMEs due to the complexity of bureaucratic procedures and weak supervision in the field. However, this issue is not only about policy but also touches on moral and spiritual values in the management of creation. Leonardo Boff (1997) and Norman Wirzba (2015) in their study of public ecotheology assert that humans have an ethical responsibility towards the earth as a shared home. Ecotheology demands ecological justice, care for creation, and solidarity with those affected by the unfair exploitation of natural resources.

Government policies related to forest management and timber distribution are regulated in various regulations, such as Law No. 41 of 1999 concerning Forestry and Regulation of the Minister of Environment and Forestry No. P.12/MenLHK-II/2015 concerning timber utilization permits. These regulations aim to preserve forests and regulate the legal distribution of timber through licensing mechanisms such as the Timber Forest Product Utilization Permit (IUPHHK). However, in practice, as explained by Bambang Simangunsong (2021), the implementation of this policy still faces many obstacles, especially in the context of access justice. Large businesses are more advantaged because

they have the financial and administrative capacity to obtain permits, while small artisans are often hindered by complex procedures and high costs.

Inequality in access to timber has a direct impact on social injustice and environmental damage. According to Johanes Arie and Yosephine Pangemanan (2022), small-scale industry players and local communities are often marginalized in the distribution of raw materials, leading to income disparities and potential economic conflicts. Furthermore, when legal access is closed, some industry players are forced to seek supplies from unofficial sources, which can accelerate forest destruction and threaten ecosystem sustainability. This inequality is a form of structural injustice that affects marginalized groups, both economically and ecologically.

Public eco-theology provides a reflective and normative approach to ecological and social justice issues through the lens of faith. Leonardo Boff (1997) emphasizes that the earth is a shared home that must be managed with principles of solidarity, equality, and intergenerational responsibility. In this context, inequality in timber access is not merely a legal or economic issue but also a violation of spiritual values in humanity's relationship with creation. Norman Wirzba (2015) adds that humans are called to care for and preserve creation as a form of participation in God's work of creation. Therefore, public ecotheology can serve as a prophetic voice demanding ecological justice and encouraging the church and faith communities to engage in advocacy for policy and structural change.

This study aims to evaluate and analyze government policies regulating access to and distribution of timber, particularly those affecting the stilt house industry in Woloan Village. Regulations such as Law No. 41 of 1999 on Forestry and Ministerial Regulation No. P.12/MenLHK-II/2015 are often designed with a top-down approach and do not sufficiently accommodate local contexts. Bambang Simangunsong (2021) highlights the gap between national policies and practices in the field, especially in terms of accessibility for small industry players. Therefore, this study aims to identify whether these policies have been implemented fairly, transparently, and in favor of all interested parties.

This study also aims to explore various forms of inequality in access to timber between large entrepreneurs, small craftsmen, and local communities. This inequality has an impact on local economic stability and exacerbates environmental degradation due to uncontrolled exploitation practices. Johanes Arie and Yosephine Pangemanan (2022) explain that small businesses often do not have legal channels to obtain timber, making them vulnerable to illegal practices or severe economic pressure. This study seeks to reveal in depth how these inequalities are formed and how they impact social justice and ecological sustainability.

In addition to regulatory and social analysis, this study aims to offer public eco-theological reflection as a normative approach to addressing the issue of unfair access to natural resources. Leonardo Boff (1997) asserts that creation is not an object of exploitation, but a shared home that demands collective responsibility. This perspective emphasizes the importance of ecological spirituality that is integrated with the struggle for social justice. Norman Wirzba (2015) also encourages churches and faith communities to treat ecological issues not merely as technical matters, but as a call of faith to care for creation and advocate for just systems. Within this framework, the study seeks to demonstrate how faith-based reflection can serve as a moral foundation for social change and policy.

This research is expected to enrich the public discourse on eco-theology, particularly in the Indonesian context, where ecological issues, social justice, and faith are still rarely studied in an interdisciplinary manner. By combining a theological approach and resource policy analysis, this research responds to Leonardo Boff's (1997) call for the importance of "the cry of the earth and the cry of the poor" as a unified struggle. Boff urges the church and theologians not to separate faith from the reality of ecological injustice.

Additionally, Norman Wirzba (2015) introduces a theological approach to creation that is not exploitative but participatory and relational. Through this approach, this research contributes to the development of an eco-theology theory rooted in local contexts while highlighting the importance of ecological justice as part of the church's public mission and theology.

Practically, this research aims to provide input for the formulation and evaluation of regulatory policies related to timber distribution and forest management, particularly in areas with local craftsmen such as Woloan Village. Bambang Simangunsong (2021) criticizes that many national forestry policies are top-down, do not consider the local context, and instead widen the inequality of access to natural resources. This research supports the importance of a distributive justice approach in timber governance, as well as the need for reform in the licensing system to be more inclusive of small-scale industry actors and local communities.

Thus, this research is expected to encourage dialogue between government stakeholders, the church, businesses, and civil society in realizing more participatory and sustainable policies.

B. RESEARCH METHODOLOGY

This study uses a descriptive-critical qualitative approach, as the main focus is to gain an in-depth understanding of the social, economic, regulatory, and theological phenomena related to the Woloan stilt house industry. This model enables researchers to interpret reality contextually and amplify the voices of local actors who are often marginalized in natural resource policy discourse.

The critical approach is used to identify structural inequalities and open space for normative reflection from a public theology perspective.

This research was conducted as a case study, namely an in-depth study of the specific context of Woloan Village as the center of the wooden house industry, with its complexities in accessing forest resources. This case study approach allows for a comprehensive exploration of the social, economic, regulatory, and spiritual dimensions of the issue under study. A regulatory framework is used to analyze forestry policy and law implementation, while a theological framework, specifically public ecotheology as developed by Leonardo Boff and Norman Wirzba, is used to provide ethical and spiritual reflection on the phenomenon of ecological inequality.

Data collection techniques included in-depth interviews with various sources, including: Stilt house industry players, both large entrepreneurs and small craftsmen, to understand the dynamics of production and access to wood.

Church leaders and ecological activists, to explore the involvement of faith communities in ecological justice issues.

Local government officials and forestry agencies, to explore policies, regulatory implementation, and challenges in monitoring timber distribution.

Document analysis, including: National regulations such as Law No. 41 of 1999, Ministry of Environment and Forestry Regulation No. P.12/MenLHK-II/2015, as well as implementation documents for IUPHHK permits and forest monitoring reports.

Field observations were conducted directly in: Woloan Village (location of stilt house production), Wood processing and distribution sites, Community interactions with permit bureaucracy and the timber market.

The data analysis technique used is thematic analysis, which is used to organize qualitative data into main themes such as timber access, economic inequality, forest policy, and ecological spirituality. This technique helps identify patterns and relationships between social and structural variables.

Contextual hermeneutics is used to explore the meaning and theological reflections of the social realities found in the field. This method allows researchers to interpret phenomena of inequality and ecological crisis through the lens of public theology, as explained by Boff (1997) within the framework of ecological spirituality and Wirzba (2015) in the relationship between humans, nature, and creation.

C. RESULTS AND DISCUSSION

The stilt house industry in Woloan Village has grown rapidly since the 1980s, when demand for knock-down wooden houses from domestic and international markets increased. According to Vianney Tamuntuan (2019), Minahasa stilt houses are not only a cultural symbol but also an economic commodity that supports the livelihoods of the majority of the village population. House production is carried out collectively, involving a division of labor from wood selection, processing, assembly, to marketing. The stilt house distribution chain now reaches global markets, but it still relies on informal systems for raw material procurement.

The main characteristic of Minahasa stilt houses is the use of high-quality wood such as Cempaka, Meranti, and Nyatoh. In this regard, the industry is highly dependent on the sustainability of forest resources. I.A.P. Resosudarmo (2014) states that this type of business is vulnerable to fluctuations in the availability of raw materials due to increasingly strict forestry regulations and increasing environmental damage. This dependence makes access to wood a strategic issue in maintaining production.

Forestry regulations in Indonesia are governed by Law No. 41 of 1999, which was later reinforced by various derivative regulations, such as PermenLHK No. P.12/MenLHK-II/2015 concerning IPHHK. This policy aims to regulate the utilization of forest products in a legal, sustainable, and equitable manner. However, according to Bambang Simangunsong (2021), this licensing system is still elitist and more accessible to large businesses, while small businesses face bureaucratic and financial obstacles.

Although regulations are in place, implementation in the field still faces serious challenges, such as weak supervision, lack of transparency in timber distribution, and rampant illegal trade. This was conveyed by Lutfi Iskandar (2018), who researched the dynamics of forest governance in areas of resource conflict. He emphasized that forest policies often fail to involve local communities as subjects in decision-making.

The issue of inequality in access to natural resources can be analyzed through distributive justice theory as proposed by John Rawls (1971) and further developed by David Schlosberg (2007) in the context of environmental justice. Justice is not only about economic distribution, but also includes recognition, participation, and access to decision-making. In the context of Woloan, inequality in the distribution of timber can be considered a form of structural injustice that marginalizes small industry players.

According to Arie and Pangemanan (2022), the role of the state as a regulator is often compromised by the economic interests of large entrepreneurs. This leads to the marginalization of local communities and small entrepreneurs in obtaining legal and affordable access to timber. The

absence of protection for local rights leads to discriminatory practices and increased inequality among actors in the timber production chain.

Public ecotheology is a branch of theology that highlights the connection between Christian faith, responsibility for the environment, and the call to achieve social justice. According to Ernst M. Conradie (2006), public eco-theology aims to expand the realm of Christian spirituality so that it is not only personal but also transformative in relation to public and structural issues.

Leonardo Boff (1997) states that the earth is a common home that must be cared for and respected. Creation theology places humans not as rulers but as stewards of creation. It emphasizes that social inequality and environmental crisis cannot be separated, as both are interconnected within a system of oppression against the earth and the poor.

Norman Wirzba (2015) expands on this understanding by emphasizing the relationship between humans and creation as an ethical and theological one. According to him, ecological spirituality must involve active participation in the care and justice of all of God's creation.

From a Christian perspective, the greedy exploitation of nature and structural inequality in resource management are contrary to the values of the kingdom of God. Theologians such as Sallie McFague (2008) and Jurgen Moltmann (1985) call for the importance of an ecological model based on love, solidarity, and reciprocal relationships between humans and nature. For them, theology is not only about spiritual salvation but also about ecological liberation and justice in real life.

Inequality of Access to Timber in the Woloan Stilt House Industry

Differences in Access between Large and Small Businesses

In Woloan Village, there is significant inequality in terms of access to timber raw materials between large and small businesses. Large businesses generally have direct connections with forest concession owners or IPHHK (Forest Timber Utilization Permit) holders, enabling them to purchase timber in large quantities at more competitive prices. In contrast, small businesses lack the resources or networks to access timber directly and must rely on intermediaries who often mark up prices.

Simangunsong (2021) notes that the forestry licensing and timber trading systems in Indonesia tend to favor parties with large capital and influence. Small businesses are often sidelined by complex and costly bureaucratic processes, which hinder their ability to compete fairly. As a result, the production of stilt houses by small businesses is unstable and at risk of declining in the long term.

The Role of Middlemen and Unscrupulous Individuals in Timber Distribution

In practice, many small businesses in Woloan have to purchase timber from unofficial middlemen or unscrupulous individuals involved in semi-legal or even illegal timber trade. This creates an

opaque distribution network and adds to production costs. Middlemen often manipulate prices and hoard timber stocks to take advantage of local supply shortages.

Iskandar (2018) shows that weak supervision of timber distribution in the region has led to the emergence of timber mafias that control supply through informal channels. This situation has a negative impact on small businesses that have no alternative but to follow the prices and terms of these informal networks. This practice creates an unequal economic ecosystem and reinforces the dominance of large-scale actors in the stilt house industry.

Impact on Forest Conservation and Industry Sustainability

Inequality in timber access and market dominance by large actors directly impacts unsustainable forest exploitation practices. Due to pressure to maintain supply and profits, excessive logging occurs, particularly outside permitted areas or even in protected forests. This accelerates deforestation and threatens local ecosystems.

According to Resosudarmo (2014), when oversight is weak and regulations only benefit certain groups, the exploitation of natural resources tends to be uncontrolled. In Woloan, high dependence on specific types of wood without diversifying materials further exacerbates pressure on forests. In the long term, this not only endangers the environment but also the future of the wooden house industry itself.

Leonardo Boff's (1997) ecological reflection reminds us that exploitative relations with the earth are a form of structural sin that destroys the order of creation. Inequality in access to resources not only undermines social justice but also violates the sacredness of creation that should be preserved together. In other words, inequality in access to timber is not merely an economic issue but also an ethical and spiritual one.

Evaluation of Forestry Regulations and Timber Distribution

The Gap between Regulations and Reality in the Field

Normatively, forestry policies in Indonesia, such as Law No. 41 of 1999 concerning Forestry, have regulated the sustainable and equitable use of timber forest products. However, in practice, there is a serious gap between written regulations and their implementation in the field. Many small-scale industry players in Woloan complain about the difficulty of accessing official permits, while large businesses with access to networks and capital are able to secure a regular supply of timber.

According to Safitri (2010), this gap is caused by top-down forestry policies that do not take into account the socio-economic context of local communities. As a result, regulations that are supposed to ensure sustainability and fairness actually reinforce structural exclusion. This is evident in Woloan, where only some industry players are able to follow legal procedures smoothly.

Bureaucratic Issues, Corruption, and Lack of Oversight

The distribution of timber from forests to the Woloan stilt house industry is not free from lengthy and complicated bureaucratic problems, which often open the door to corruption or illegal levies. The processing of timber permits (IPHHK, SIPUHH, and timber legality documents) often takes a long time and involves unofficial costs, forcing small industry players to seek shortcuts through informal networks.

McCarthy (2004) shows that weak forest governance in Indonesia is caused by conflicts between economic interests, local politics, and weak oversight institutions. In the context of Woloan, the practice of turning a blind eye to illegal or semi-legal timber flows proves that state oversight is still very minimal and tends to be permissive of violations as long as there are short-term economic gains.

Opportunities for Ecological Justice-Based Policy Reform

The situation of inequality and ecological damage caused by unfair timber distribution highlights the need for policy reform that prioritizes ecological justice as a core principle. This approach not only emphasizes technically sustainable forest management but also ensures equitable access for small-scale economic actors and protects local communities as part of the ecological community.

Purwanto (2016) proposes the integration of ecological justice values into the forestry legal system, including community participation in decision-making, transparency in timber distribution, and recognition of local rights. Policies based on ecological ethics can open up space for renewal that favors environmental sustainability and human dignity.

Furthermore, Leonardo Boff (1997) emphasizes the importance of “ecological spirituality” as the foundation of ethical awareness in shaping social and legal systems that are in harmony with the integrity of creation. Forestry regulations that do not consider spiritual and ecological justice aspects tend to be exploitative and technocratic. Therefore, a regulatory approach inspired by love for the earth, fellow human beings, and future generations is needed.

Public Ecotheological Reflections on Access Inequality

A Call for Ecological Justice: “The Earth as Our Common Home”

The concept of a “common home” affirms that the earth belongs to all of creation, not just a handful of groups with economic or political power. Inequality of access to wood in the Woloan stilt house industry demonstrates a violation of this principle, as only a few dominant actors enjoy forest resources, while others are marginalized.

Pope Francis (2015) in his encyclical *Laudato Si'* calls for “integral ecology” that combines social justice and environmental sustainability. Structural inequality, exploitation of natural resources, and

marginalization of small economic actors are not merely economic issues but also moral and spiritual concerns. “Injustice toward humanity and the environment are two faces of the same sin,” he writes.

Similarly, Leonardo Boff (1997) states that the earth is not an object of exploitation but a relational subject with sacred value. Any exploitative action toward nature without considering balance and sustainability is a form of betrayal of the faith that honors creation.

Ethics of Responsibility in the Management of Creation

Public eco-theology emphasizes the importance of ethics of responsibility in treating nature as a gift from God, not merely a commodity. Inequality in the distribution of timber shows an ethical failure in a social system that does not guarantee fair rights and access for all citizens, especially the weak and marginalized.

Jurgen Moltmann (1985) in *God in Creation* emphasizes that humans were not created to dominate, but to care for creation (*Imago Dei* as servants). Forest management and timber distribution must be carried out within the framework of intergenerational responsibility and responsibility among creation.

This ethics of responsibility is also voiced by Sallie McFague (1993), who describes the world as God's body. Thus, destroying the environment and concentrating access only on the powerful is a form of violence against God's own body.

The Role of Faith Communities in Advocating for Fair Distribution and Sustainability

Faith communities, especially churches, are called to be prophetic voices in the face of structural injustice, such as that which occurs in the Woloan stilt house industry. The church is not enough to merely teach spiritual values internally; it must also take action in advocating for the fair distribution of resources.

Joas Adiprasetya (2016) emphasizes that the church must be present as a “prophetic community” that stands with the victims of injustice and becomes an agent of social transformation. In the context of Woloan, the church can serve as a bridge between small businesses, indigenous communities, and the government in building fair and sustainable forest governance.

Furthermore, Larry Rasmussen (1996) states that faith must give rise to concrete action in response to the ecological crisis. The church is strategically positioned to shape collective consciousness, promote policies based on ecological justice values, and practice ecological spirituality in the daily lives of its members.

D. CONCLUSION

The case study of the Woloan stilt house industry shows that the issue of access to timber cannot be viewed solely from a technical or economic perspective. This inequality reflects the power dynamics between large and small businesses, as well as the absence of the state in ensuring fair distribution. In addition, overlapping and bureaucratic regulatory aspects exacerbate the exclusion of small actors from the legal timber supply chain. This problem also stems from an ethical failure to interpret natural resources as part of God's creation that must be managed responsibly. Therefore, an approach based solely on economic policy is inadequate without involving moral and spiritual dimensions.

An analysis of forestry policies and timber distribution systems reveals a gap between formal regulations and field practices. Small entrepreneurs in Woloan are often marginalized due to limited access to information, capital, and networks, while larger groups are more advantaged because they have relationships with intermediaries and officials. Although there are legal instruments such as IPHHK or the timber legality system, their implementation is not accompanied by supervision and advocacy for vulnerable groups. This situation highlights the need for contextual regulatory reform that upholds the principle of ecological justice.

An eco-theological reflection on this reality of inequality emphasizes that forest management and timber distribution are not just economic and legal issues, but also spiritual responsibilities. Public eco-theology invites faith communities to view the earth as a shared home that must be protected, not exploited for unilateral gain. Ecological spirituality demands a mutually protective relationship between humans and nature, and emphasizes responsibility towards future generations (intergenerational justice). In this regard, church communities are invited to become agents of change by defending the weak, advocating for fair policies, and shaping an ecological culture in the lives of the faithful.

A review of the timber distribution regulatory system is needed, particularly with regard to forest timber utilization permits (IPHHK) and the timber legality verification system (SVLK). The process of formulating and implementing regulations should involve local communities, small industry players, and traditional leaders as key stakeholders. By involving them, policies will be more contextual, fair, and able to respond to real needs in the field. This participation will also strengthen the legitimacy and effectiveness of policies and reduce the dominance of large actors in the timber distribution chain.

The church, as a moral and social actor, has a strategic role in building ecological awareness among its followers. Therefore, local churches need to be empowered to carry out faith-based environmental education, strengthen ecological spirituality, and advocate for justice in access to

natural resources. Church programs such as environmental catechesis, creation-themed liturgy, and ecological advocacy training for church youth can be effective means of forming faith communities that are concerned and active in preserving creation.

A cross-sectoral approach is needed to resolve the issue of unequal access to timber. The government as policy makers, industry players as resource users, and the church as a moral force need to form partnerships to realize fair and sustainable forest management. Joint forums, memoranda of understanding, or collaborative initiatives based on ecological justice values can serve as platforms for aligning collective vision and action, as well as building inclusive and visionary resource governance.

REFERENCES

- Boff, L. (1997). *Cry of the Earth, Cry of the Poor*. Orbis Books.
- Borras, S. M., Hall, R., Scoones, I., White, B., & Wolford, W. (2011). Towards a Better Understanding of Global Land Tenure: An Editorial Introduction. *The Journal of Peasant Studies*, 38(2), 209–216. <https://doi.org/10.1080/03066150.2011.559005>
- Ministry of Forestry of the Republic of Indonesia. (1999). Law No. 41 of 1999 on Forestry.
- Ministry of Forestry of the Republic of Indonesia. (2015). Regulation of the Minister of Environment and Forestry No. P.12/MenLHK-II/2015 on IPHHK (Permits for the Utilization of Timber Forest Products).
- Hidayat, S. (2016). Inequality of access to natural resources and agrarian conflicts. *Reflective Sociology Journal*, 10(2), 251–272.
- Ministry of Environment and Forestry of the Republic of Indonesia. (2020). Timber Legality Verification System (SVLK): Guidelines and Procedures.
- Latour, B. (2004). *Politics of Nature: How to Bring Science into Democracy*. Harvard University Press.
- Leopold, A. (1949). *A Sand County Almanac*. Oxford University Press.
- Manoppo, F. (2018). Cultural traces of Minahasa wooden houses: A study on the preservation of traditional Woloan architecture. *Journal of Indonesian Architecture*, 6(1), 45–60.
- Nasa, M. (2021). The Woloan stilt house industry and local-global dynamics. *Indonesian Anthropology Journal*, 42(2), 213–228.
- Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods* (3rd ed.). Sage Publications.
- Rawls, J. (1971). *A Theory of Justice*. Harvard University Press.

- Setiawan, B. (2017). Forestry regulations and community access to timber resources: A critical analysis of distribution policies. *Journal of Law & Development*, 47(3), 437–456.
- Sumardjo, J. (2014). The role of religion in building ecological awareness in society. *Journal of Theology and Society*, 19(1), 57–73.
- Wirzba, N. (2015). *From Nature to Creation: A Christian Vision for Understanding and Loving Our World*. Baker Academic.
- Wulan, Y. C., Yasmi, Y., Purba, C., & Wollenberg, E. (2004). *Analysis of Forestry Sector Conflicts in Indonesia 1997–2003*. Center for International Forestry Research (CIFOR).