
| RESEARCH ARTICLE

From Green to Growth: A Critical Assessment of Legal Frameworks and Environmental Consequences in the PIK 2 Project, Tangerang

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| ABSTRACT

The conversion of protected forests into production forests in the Pantai Indah Kapuk (PIK) 2 project in Tangerang Regency raises significant legal and environmental implications. This study analyzes the legal aspects and environmental impacts of this policy using normative and empirical approaches. Legally, this land-use change is controversial due to the lack of involvement of key stakeholders and its potential violation of spatial planning regulations and good governance principles. Environmentally, the project threatens ecosystem balance, reduces biodiversity, and negatively impacts coastal communities that depend on natural resources in the area. Therefore, an in-depth and transparent assessment is necessary before making land-use conversion decisions. This study recommends a comprehensive evaluation involving public participation to ensure policies align with sustainable development principles and environmental justice.

| KEYWORDS

land-use conversion, environmental law, ecosystem, sustainable development

| ARTICLE INFORMATION

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1. Introduction

Protected forests have a strategic role in maintaining ecosystem balance and environmental sustainability. As a protected area, protected forests function to maintain natural ecosystems, prevent erosion, regulate water management, and protect biodiversity. However, along with economic development and development, many protected forest areas have been converted into land for other purposes, including industrial, residential and infrastructure purposes. Forest land conversion is one of the crucial issues in sustainable development in Indonesia. Protected forests, which were originally designated as areas with the main function of protecting life support systems, are now facing great pressure from various economic interests, such as infrastructure and property. One actual example is the reclamation and development project of the Pantai Indah Kapuk 2 (PIK 2) area in Tangerang Regency, Banten Province. This case has caused polemics because, on the one hand, it is claimed that the project can encourage regional economic growth, but on the other hand, there are concerns about its ecological impact, especially related to potential damage to the mangrove ecosystem and coastal erosion.¹

PIK 2 is a coastal area development project which includes reclamation and construction of housing and commercial facilities. This project was developed in an area that previously had important ecological functions, including protected forest areas that play a role in water absorption, protecting coastal ecosystems and mitigating environmental disasters. The conversion of protected forests in this project has significant ecological impacts, including increased flood risk, loss of natural habitat, and reduced carbon absorption capacity. Apart from that, changes in the function of this area also give rise to legal issues, considering that there are

¹ WALHI report, "Environmental Crisis on the North Coast of Tangerang: PIK 2 Project Impact Study," 2023.

regulations governing the designation and function of forests, such as Law Number 41 of 1999 concerning Forestry which regulates changes in the designation and function of forest areas must take into account environmental sustainability and community welfare and Government Regulation Number 104 of 2015 concerning Procedures for Changes in the Designation and Function of Forest Areas which provides a mechanism for changing forest functions which must go through in-depth study and approval from the Ministry of Environment and Forestry (KLHK).²

In the context of the PIK 2 project, the main question that arises is to what extent the protection forest conversion policy follows applicable legal provisions, as well as what impact it will have on the environment and surrounding communities. Several previous studies have shown that changes in land use in coastal areas, especially those involving the conversion of protected forests, often harm the environment and the welfare of local communities. Therefore, the legal analysis and environmental impacts of this project are important issues to be studied in depth.

In addition, in the context of international law, there are often conflicts of interest between developed and developing countries in efforts for sustainable development and natural resource management. Developing countries tend to face pressure from developed countries regarding environmental policies, although they still struggle with limited technology and resources to balance economic growth and environmental sustainability. This shows how global environmental law is often influenced by the political and economic interests of large countries.³

2. Discussion

2.1 Theoretical Framework

2.1.1 Environmental Law Theory

Environmental legal theory emphasizes the importance of ecosystem protection as part of human's basic right to a good and healthy environment. In this context, every action to change the function of forest areas must consider ecological sustainability and generational justice.

2.1.2 Teori Sustainable Development

Sustainable development emphasizes a balance between economic, and social needs and environmental preservation. This theory underlines the importance of forestry and land management policies that do not damage the carrying capacity of the environment.

2.1.3 Teori Good Governance

Good governance in environmental management includes the principles of transparency, accountability, public participation and law enforcement. In forest conversion, this theory is relevant for assessing the licensing, monitoring and community participation processes.

2.2 Legal Basis

Table of Legislative Regulations Related to Forest Area Function Transfer

No	Rules	Short Description	Relevance to Research
1	UU no. 41 of 1999 about Forestry	Regulates types of forest areas, conversion criteria and permits	Becomes the main legal basis for changes in forest function

² Law Number 41 of 1999 concerning Forestry, Article 19 and Article 20.

³ A.T. Mulyono dan R.K. Karo, "Questioning a Fair Settlement as The Legal Resolution of Global Interests," *IOP Conf. Series: Earth and Environmental Science*, 1270 (2023): 012025.

2	UU no. 32 of 2009 concerning Environmental Protection and Management	Requiring AMDAL and community involvement in high-impact activities	Used to test the suitability of AMDAL procedures in projects
3	PP No. 104 of 2015 Concerning Procedures for Changing the Allocation of Forest Areas	Regulate legal mechanisms for changes in forest function	Becomes a legal reference for PIK 2 forest conversion procedures
4	LHK Ministerial Regulation No. 7 of 2021 concerning Forestry Planning, Changes in the Designation and Function of Forest Areas, and Use of Forest Areas	Administrative and technical procedures for establishing and confirming areas	Relevant in determining the legality of area designation
5	Law No. 11 of 2020 (Create Jobs) and its derivatives	Change and speed up the environmental and forestry licensing process	Influence the normative and procedural context in large projects such as PIK 2
6	Tangerang Regency RTRW Regional Regulation	Demonstrate the suitability of land use with regional spatial planning	Used to test the consistency of development land use

2.3 Previous Studies

Several previous studies have highlighted the problems of land conversion and forestry, including:

- Sylviani (2008) in "Study of the Impact of Changes in the Function of Forest Areas on Surrounding Communities" found that the production forest areas that experienced changes were HPH areas that were no longer active or whose permits had been revoked so they had no direct social impact and decreased the quality of the community's environment, in contrast to communities living in protected forest areas.
- Rachmawati (2021) in "Implementation of Good Governance in Protected Forest Management" concluded that weak supervision is the main factor in the widespread conversion of forests that violate the law.
- Muttaqin (2008) in "Good Governance in 5 Prioritized Policies of Forestry Ministry" concluded that the program designed by the Ministry of Forestry was still not equipped with good reporting procedures and monitoring tools.
- Darmanto (2016) regarding "Implementation of Protected Forest Management Governance through Applications *Soft System Methodology*" concludes that the SSM application implemented is not optimal, this study shows that there are problems regarding principles of *Good Governance* in monitoring protected forests.
- Walhi's investigative report (2023) states that the PIK 2 project has the potential to cause damage to the coastal environment and change the sensitive mangrove forest ecosystem.
- Setiawan (2021) "Conversion of Forest Land to Uncontrolled Palm Oil Plantation Land in South Kalimantan Province as *Tragedy of Common*" In general, providing recommendations for sustainable forest management must pay attention to

determining area designation in the preparation of the RTRW by the government, conducting regular evaluations, carrying out reforestation, enforcing forest protection laws and strengthening permits and strengthening non-governmental organizations.

2.4 Conceptual Framework

This research examines the conversion of protected forests to production forests in the PIK 2 project from two main dimensions:

1. Legal Dimensions:

Analyze the suitability of the function transfer process with the Forestry Law, Environmental Law, and their derivative regulations.

2. Environmental Dimensions:

Assess the potential and reality of ecological impacts such as abrasion, tidal floods, loss of biodiversity, and changes to regional water management.

This research uses a normative approach to examine the conversion of protected forests into production forests in the Pantai Indah Kapuk (PIK) 2 project in Tangerang Regency. A normative approach is used to analyze various statutory regulations governing forest areas, changes in forest designation and function, as well as regional spatial planning. The regulations studied include Law Number 41 of 1999 concerning Forestry, Law Number 32 of 2009 concerning Environmental Protection and Management, and Government Regulation Number 104 of 2015 concerning Procedures for Changing the Designation and Function of Forest Areas. The research also examined licensing documents and regional policies related to the Tangerang Regency spatial planning plan, as well as other relevant implementing regulations.

All data obtained was analyzed qualitatively using the descriptive-analytical method, namely by describing and interpreting the data based on the conformity between normative provisions and reality in the field. This analysis aims to assess the extent to which the forest conversion policy in the PIK 2 project is following applicable laws and regulations and to identify the ecological and social impacts that arise.

By using a normative approach, this research will identify relevant regulations, and examine their application in the PIK 2 case. The results of this study are expected to provide more comprehensive insight into the relationship between forest conversion policies, legal compliance, and their ecological impacts in Indonesia.

3. Results and Discussion

3.1. Conflict of Interest in the Conversion of Forest Areas: Inequality Between Global and Local Interests

The conversion of protected forest areas into production forests in the PIK 2 project in Tangerang Regency reflects the dynamics of complex conflicts of interest. Changes in the designation of this area not only involve legal and environmental dimensions, but also show the tug-of-war between global interests (including investment, large-scale infrastructure development, and macroeconomic orientation) and local interests (such as ecosystem protection, sustainable livelihoods of local communities, and ecological justice). The conversion of protected forest areas into production forests for the PIK 2 Project shows how the conflict between local needs and global economic pressures is still a major issue in environmental policy. Mulyono (2023) pointed out that the conflict of interests between developing and developed countries in efforts to achieve sustainable development causes national decisions to be vulnerable to being influenced by foreign interests.

In this context, forest conversion, which should be subject to the precautionary principle and the principle of sustainability, is instead framed in the narrative of development and investment. The PIK 2 project, which was developed by a large corporation, has legal justification through the revision of spatial planning but is basically at odds with the spirit of protecting conservation areas and balancing the ecosystem. This transfer of functions ignores Indonesia's obligations to various international conventions, such as the Convention on Biological Diversity and the Rio Declaration (1992), which require the country to prioritize the protection

of important ecosystems. This shows that national development is influenced by the need for foreign investment and economic pressures often occur at the expense of long-term ecological functions.⁴

3.2. Environmental Justice and Inequality of Access to Resources

In this case, the conversion of forest functions was carried out in the interests of development and economic expansion, but the impact was felt more by local communities who depend on forest ecosystems, such as traditional fishermen, farmers and indigenous communities. Not only do they lose access to natural resources that are a source of livelihood, but they also have to bear ecological losses such as environmental degradation, increased risk of flooding, and decreased air quality.

Meanwhile, the parties who benefit most from this land conversion are groups of capital owners and large corporations who obtain legality for exploiting resources. This reflects unequal access to natural resources, where the rights of local communities are marginalized by investment interests and short-term profits. This inequality is exacerbated by weak public participation mechanisms and a lack of transparency in the land conversion permit process. Thus, forest conversion policies that do not take into account the principles of ecological and social justice have the potential to create widening structural inequalities, while exacerbating the environmental crisis at the local and regional levels.

Mulyono (2023) states that developing countries face pressure in balancing the interests of economic development and meeting global environmental targets which are often set by developed countries.⁵ In the case of PIK 2, this conflict is also evident in the context of environmental injustice, where local communities—especially fishermen and coastal communities—do not have access to the decision-making process, but must bear the ecological impacts.

The concept of "fair settlement", as offered by Mulyono, is not reflected in this case. Large projects such as PIK 2 often receive formal legal support, but ignore the principles of the community's right to a good and healthy living environment as regulated in Article 28H paragraph (1) of the 1945 Constitution and Law Number 32 of 2009 concerning Environmental Protection and Management (UU PPLH).⁶ As a result, the conversion of forest functions causes ecological and social losses but is not accompanied by fair and equitable compensation or mitigation.

3.3. Regulatory Framework and Policy Insynchronization

Forest area conversion policies are often based on the flexibility of spatial planning regulations. Changes in the status of forest areas in Indonesia can be carried out through the mechanism for releasing forest areas by the Ministry of Environment and Forestry (KLHK), but often this policy is implemented without a transparent AMDAL assessment or meaningful public participation. Mulyono criticized this approach as a form of "global interest domination" that infiltrates local policies through instruments such as investment incentives and low-carbon development narratives.⁷ The PIK 2 project, which is claimed to be an environmentally friendly integrated area, actually sacrifices ecologically important areas in coastal areas, indicating that the current regulatory framework is more likely to be adaptive to economic interests rather than the environment.

The conversion of forest areas, including from protected forests to production forests, is within a complex regulatory framework and involves various levels of government and legal instruments. Normatively, the main legal framework that regulates changes in the function of forest areas in Indonesia includes:

- Law Number 41 of 1999 concerning Forestry, divides forest areas into several functions: protected forests, production forests and conservation forests. Changes in the function of this area require a rigorous ecological and administrative evaluation process.⁸
- Government Regulation Number 104 of 2015 concerning Procedures for Changes to the Use and Function of Forest Areas, regulates function transfer procedures, including the obligation to conduct strategic environmental studies (KLHS) and environmental impact analysis (AMDAL).⁹

⁴ United Nations. (1992). *The Rio Declaration on Environment and Development*. Rio de Janeiro: UN Conference on Environment and Development.

⁵ A.T. Mulyono dan R.K. Karo, "Questioning a Fair Settlement as The Legal Resolution of Global Interests," *IOP Conf. Series: Earth and Environmental Science*, 1270 (2023): 012025.

⁶ The 1945 Constitution of the Republic of Indonesia, Article 28H paragraph (1); Law Number 32 of 2009 concerning Environmental Protection and Management.

⁷ A.T. Mulyono dan R.K. Karo, "Questioning a Fair Settlement as The Legal Resolution of Global Interests," *IOP Conf. Series: Earth and Environmental Science*, 1270 (2023): 012025.

⁸ Law no. 41 of 1999 concerning Forestry.

⁹ Government Regulation no. 104 of 2015 concerning Procedures for Changing the Use and Function of Forest Areas.

- Law Number 32 of 2009 concerning Environmental Protection and Management, requires developers to obtain environmental approval before starting activities that pose a risk to the environment.¹⁰

However, in practice, there is policy asymmetry between the central and regional governments, as well as between authorized agencies. In the case of the reclamation and development project for the PIK 2 area in Tangerang Regency, several crucial problems emerged:

1. Inconsistency between the regional RTRW (Regional Spatial Planning) and the forest area function map from the Ministry of Environment and Forestry (KLHK). This triggers an overlap in authority between regional and central governments in granting land use permits.
2. The issuance of location permits and business permits by local governments that are not in line with the area status according to the Ministry of Environment and Forestry, creates a legal gray space that is exploited by business actors to carry out activities without strong legal certainty.
3. Weak coordination between institutions, especially between the Forestry Service, Environmental Service, Bappeda, and licensing agencies, has resulted in the issuance of permits that are inconsistent with environmental conservation provisions.
4. The existence of Presidential Regulations and national strategic projects (PSN) ignores ecological aspects because priority is given to investment and economic growth, thereby encouraging the accelerated transfer of regional functions without considering the carrying capacity and capacity of the environment.

This policy asymmetry reflects the weakness of forestry governance and space management in Indonesia, where development policies often proceed without cross-sector coordination and are not based on the principle of ecological precaution. In the context of the PIK 2 project, this has serious consequences for the environment and increases the potential for legal and social conflicts in the future.

3.4. Ecological Impact: Habitat Damage and Disaster Risk

The conversion of protected forests to production forests in the PIK 2 project in Tangerang Regency has significant ecological impacts, especially related to damage to natural habitat and increased risk of ecological disasters. Protected forests have a vital ecological function as buffer areas that maintain microclimate balance, prevent soil erosion, and provide habitat for biodiversity. When this area is converted, various species of flora and fauna lose their habitat, which leads to population decline, loss of endemic species, and potential local extinction (*local extinction*).¹¹

Apart from damage to biodiversity, changes in land use also increase the risk of ecological disasters, especially floods and landslides. Loss of vegetation cover causes a decrease in the soil's absorption capacity for rainwater. In the context of Tangerang Regency, which is a lowland area with a complex hydrological system, the reduction in catchment areas increases the potential for inundation and flooding, especially during the rainy season. The infrastructure development and reclamation carried out in the PIK 2 project also have the potential to disrupt the natural flow of rivers and damage mangrove areas which function as coastal protectors from abrasion and seawater intrusion.

Thus, the ecological impacts of forest conversion in this project are not only short-term but also threaten long-term environmental sustainability. This shows the importance of evaluating land use policies based on the precautionary principle (*precautionary principle*) and ecological justice so that development does not sacrifice natural functions that support community life and the surrounding ecosystem.

This is in line with Mulyono's criticism of developing countries which are often forced to pursue short-term growth at the expense of their ecological systems. He stated that without funding and technological support from developed countries, countries like Indonesia will continue to use unsustainable resource exploitation approaches to maintain national income, especially from the forestry, energy and mining sectors.¹² As a consequence, Indonesia is in a position vulnerable to the "resource curse", where

¹⁰ Law no. 32 of 2009 concerning Environmental Protection and Management.

¹¹ Ministry of Environment and Forestry (KLHK). (2021). *Functions of Protected Forests and the Importance of Protecting Forest Areas*. Jakarta: KLHK.

¹² A.T. Mulyono dan R.K. Karo, "Questioning a Fair Settlement as The Legal Resolution of Global Interests," *IOP Conf. Series: Earth and Environmental Science*, 1270 (2023): 012025.

dependence on land and resource exploitation worsens environmental damage and narrows fiscal space for sustainable development.

Summary Table of Environmental Impacts Before and After the PIK 2 Project

Environmental Aspects	Before the Project (Protected Forest Condition)	After the Project (PIK 2 Built-up Area)	Main Impact
Land Cover	Mangrove forest, natural vegetation, high green cover (>80%)	Housing, coastal reclamation, road infrastructure	Loss of natural habitat
Biodiversity	High: typical coastal flora & fauna (water birds, mangroves)	Low, limited to artificial landscapes	Ecosystem fragmentation
Water Quality	Clean, lots of natural water flows (small rivers, canals)	Potential pollution from domestic & industrial waste	Decreased water quality
Air Quality	Relatively clean, low emissions	Increased emissions from vehicles and construction projects	Increased air pollution
Microclimate	Cool, high humidity, natural shade	Hotter, surface covered with concrete & asphalt	Urban Heat Island
Ecological Function	Coastal protection from abrasion, carbon storage	Ecological functions have decreased drastically	Risk of abrasion & flooding
Local Social & Economic	Traditional coastal communities, fishermen, pond farmers	Commercialization of land, increase in land value	Social Disparities & Agrarian Conflict

4. Conclusion

The conversion of protected forests into production forests in the Pantai Indah Kapuk 2 (PIK 2) project in Tangerang Regency raises serious problems both from a legal and environmental perspective. This study found that the transfer of function policy was carried out in the context of regulatory asymmetry, weak coordination between institutions, and minimal public participation in the licensing and decision-making process. From a legal perspective, this policy has the potential to conflict with several laws and regulations governing forest area protection, spatial planning and environmental protection, including Law No. 41 of 1999 concerning Forestry, Law No. 32 of 2009 concerning Environmental Protection and Management, and PP no. 104 of 2015. The process of transferring functions that are not transparent and lack accountability shows that the principles of good governance have not been fully implemented.

From an ecological aspect, the conversion of forest areas in the PIK 2 project causes considerable environmental damage, including loss of biodiversity, increased risk of flooding and abrasion, and disruption of the ecological function of coastal areas. This impact

also indirectly contributes to environmental injustice, where local communities who depend on natural resources for their livelihoods are the ones most affected, while the economic benefits are felt more by large corporations and capital owners.

In general, this study shows that forest conversion without in-depth ecological and legal studies risks causing long-term losses both socially, economically and environmentally. Development that is only oriented towards economic growth without paying attention to the carrying capacity and carrying capacity of the environment will exacerbate the ecological crisis at the local and national levels. Therefore, forest area conversion policies must be based on the precautionary principle, public participation and ecological justice.

This research recommends the need for a comprehensive evaluation of the forest area conversion process, by transparently involving various stakeholders. There is also a need for a coordination mechanism approach between central and regional government institutions, as well as synchronization of spatial planning and forest protection regulations as well as increased accountability for environmental permits, including the obligation to publish AMDAL and KLHS documents openly. Apart from that, there is also a need to protect the rights of local communities, including providing fair compensation and ecological restoration of affected areas. By strengthening legal aspects and environmental protection in every development policy, Indonesia can realize development that is not only economically sustainable but also socially and ecologically fair.

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