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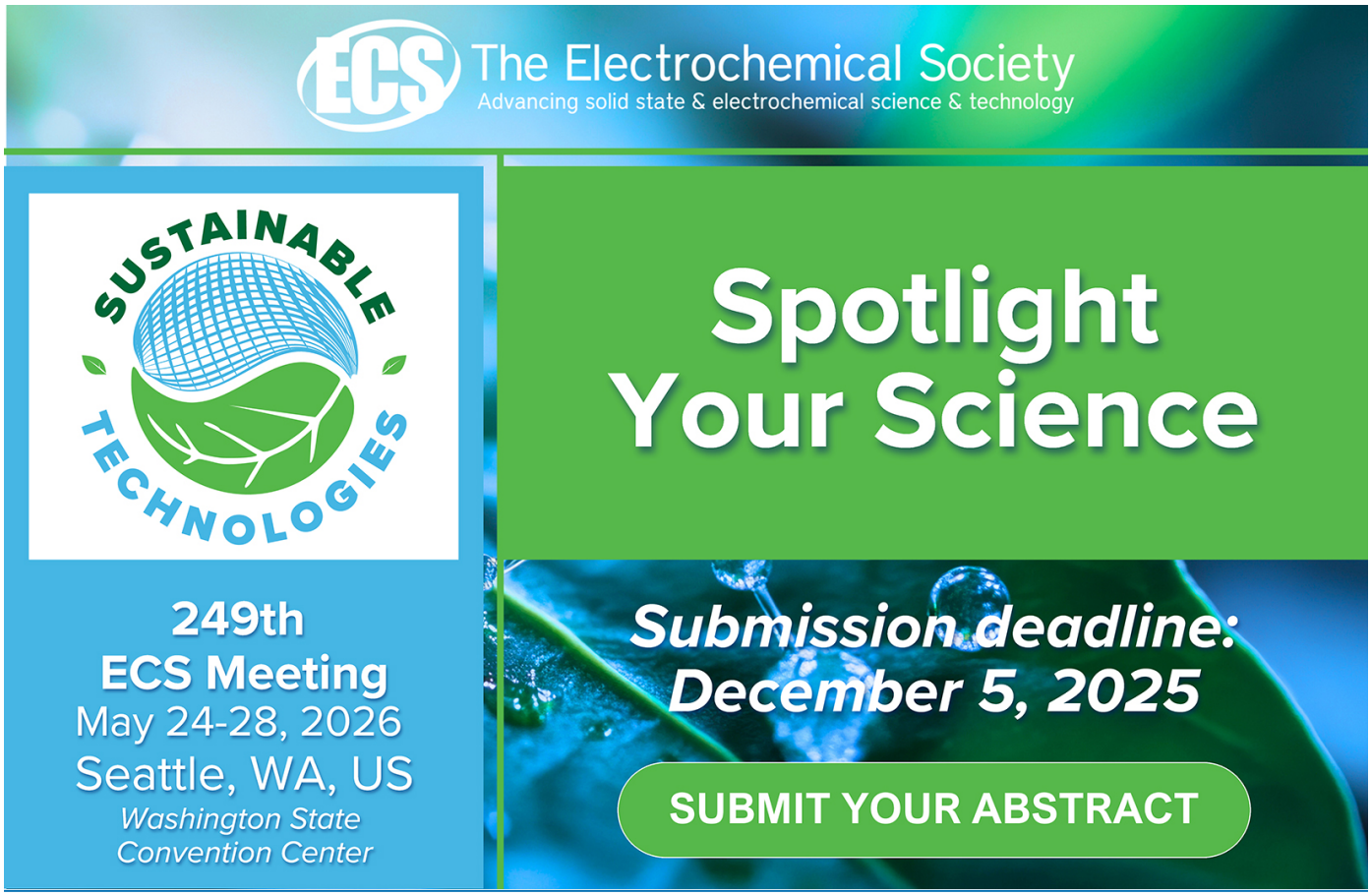

RETHINKING ENVIRONMENTAL JUSTICE IN INDONESIA THROUGH ACTOR-NETWORK THEORY IN AN EXAMINATION OF CONSTRUCTIVISM PARADIGM

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Abstract. Environmental Justice (EJ) in Indonesia faces significant challenges due to an anthropocentric legal framework prioritizing human interests, such as economic and political agendas, over the rights of the environment and non-human entities. This anthropocentrism facilitates natural resource exploitation and marginalizes ecological concerns. This study aims to explore and reconstruct EJ through the Actor-Network Theory (ANT), which views humans and non-humans as equal actors within a legal network. Using a socio-legal approach and interdisciplinary analysis, this research includes literature reviews of national and international regulations and comparative studies with countries like Ecuador and New Zealand. Findings indicate that Indonesian environmental law remains human-centred, as reflected in laws like the Minerba and Environmental Law, which restrict community involvement and prioritize human interests. However, there is potential for adopting a pro-ecological legal framework through the recognition of non-human legal rights. This study concludes that applying ANT in environmental law can foster a more progressive, inclusive, and sustainable legal system, promoting environmental justice for human and non-human actors.

Keywords: Actor-Network Theory, Environmental Justice, Constructivism Paradigm.

1. Introduction

Over the last few decades, the discussion on Environmental Justice (EJ) as an effort to provide equal access for all parties in shaping environmental policies has experienced rapid development, especially for international communities facing ecological threats due to the exploitation of natural resources (1). However, as part of the global community, Indonesia remains confined to an anthropocentric view, prioritizing human interests (such as economics and politics) over environmental interests (2). Such a view limits the role of non-human entities, such as the environment, rivers, animals, and others, in shaping environmental justice, laws, and policies (3).

The anthropocentric view presents the exploitation of nature that is carried out arbitrarily, without regard for the rights of the environment itself (4). This is evident in the increase in deforestation in 2024, which reached 251,575 hectares in Indonesia. Then, it is exacerbated by various government discourses that aim to expand oil palm plantations and equate them with natural forest plants, indicating a policy trend prioritizing economic benefits over environmental sustainability (5). Furthermore, Ibu Kota Nusantara's (IKN) development exemplifies how national strategic projects often overlook community rights and present significant ecological impacts, including deforestation and social changes that affect the communities involved (6). In addition, other problems, such as mineral and coal mining, damage forest ecosystems and groundwater contamination, which threaten the existence of various related parties (7).

Environmental policies that remain overly anthropocentric often fail to capture the complexity of the relationship between humans, law, and the environment (8). A progressive environmental justice (EJ) concept should recognize that non-human actors, like the environment itself, can be legal subjects. This can be strengthened by incorporating Bruno Latour's Actor-Network Theory (ANT) into environmental law at both national and international levels. ANT views law as a dynamic network of human and non-human actants, shaped through irreductions, translations, and alliances, creating more equitable legal systems without dominant actors (9).

Based on the above issues, this research is guided by the constructivism paradigm as an umbrella philosophical system, exploring the ontology, epistemology, and methodology of the reality of the relevance of ej and current law. This plays a vital role in understanding how environmental law is constructed through a network. For a constructivist, law is not an objective and static entity but rather a construct of consensus that continues to evolve (10). In the context of EJ, this paradigm enables a more in-depth and nuanced examination of environmental law. This is certainly in line with ANT, which posits that human and non-human actors exist in equal networks.

Various studies with similar themes have been conducted by scholars, such as those by Mahadika and Setiadi, which demonstrate the role of the Actor-Network Theory in the context of dismantling Anthropocene anthropology in Indonesia (3). In addition, research by Natalis et al. offers a new formula in environmental law by incorporating ecofeminism as an alternative to anthropocentrism, which is patriarchal and characterized by objectification and commodification values toward various groups (2). Additionally, research by Indreswari et al. integrates environmental justice into the legal reasoning of judges in Indonesia to enhance environmental law enforcement (11). In addition, research by Sonhaji et al. highlights the importance of recognizing non-human legal subjects, such as the recognition of animal rights in a country's legal system, in achieving environmental justice (12).

In contrast to previous studies, this research aims to explore and reconstruct the application of EJ through the Actor-Network Theory approach guided by the Constructivism Paradigm. This is achieved by examining environmental law, various case studies, obstacles to EJ, and legal comparisons between countries. This research offers a new perspective by employing the Actor-Network Theory (ANT) and the Constructivism Paradigm in developing a progressive, inclusive, and sustainable environmental law system, thereby enabling broad environmental justice for non-human actors, including the environment, trees, forests, rivers, and animals. This research provides a practical contribution in strengthening a more just legal basis for all actors in the environmental legal system by answering questions regarding: how is the current condition of anthropocentric law in Indonesia, how is the model of environmental justice through ANT, and how is the contribution of paradigmatic analysis in reconstructing environmental justice, so that

it can give birth to a legal system that is entirely free from the shackles of anthropocentrism which shows that the law is for all, not just for humans.

2. Method

This socio-legal study with interdisciplinary analysis aims to comprehensively understand environmental justice by integrating law, sociology, and public policy (13). It is also guided by the Constructivism Paradigm, which provides a comprehensive analysis encompassing ontology, epistemology, and methodology, aimed at bridging legal philosophy, legal theory, and legal practice in a stratified, sequential, and connectionist manner (14).

This research collects data through a literature study of various national and international regulations, including the Indonesian Environmental Law, the Paris Agreement, and the constitutions of countries with legally recognized ecological entities. Additionally, this research employs a comparative law approach by examining the implementation of non-anthropocentric environmental laws in Ecuador and New Zealand.

3. Results and Discussion

3.1 The Condition of Indonesian Environmental Law

Indonesia is key in advancing global environmental justice (EJ) because it is one of the most biodiverse countries (15). However, its legal framework remains anthropocentric, prioritizing economic and political interests over environmental protection. This is evident in Article 28H, paragraph 1 of the Indonesian Constitution, which frames the environment primarily to support human well-being, reflecting a human-centered rather than an ecocentric perspective. This article emphasizes that the environment is just a tool for humans to get a good life.

Furthermore, Article 33, paragraph 3 of the Indonesian Constitution explicitly states that the Earth, water, and natural resources contained therein are controlled by the state and used for the greatest prosperity of the people. This article views nature and the environment as objects of human exploitation, focusing on economic utilization rather than protecting and recognizing nature's rights. Although Article 33, paragraph 4, explains the principle of environmental insight and sustainability in the national economy, this principle is still driven by the economic context rather than broader and more proportional environmental justice. Meanwhile, through some of these articles, some scholars state that the current constitution has demonstrated the nuances of a green constitution that is environmentally oriented (16). However, these ideas are flawed due to the dichotomy between the environment/nature and humans, which overlooks the true nature of humans being inextricably linked to nature in an equal relationship that affects each other (3).

Article 1 point (1) of the IEL defines the environment as the unity of space, encompassing all objects, forces, conditions, and living things, including humans. It emphasizes the role of humans as the center of life and anthropocentrism. The regulation employs the "polluter pays" and strict liability principles for environmental damage, emphasizing restoration without compromising human livelihoods (17). However, it still allows for pro-ecological regulations, such as Article 66, which states that no one who fights for the right to a good and healthy environment can be prosecuted criminally or sued civilly as a manifestation of Anti-Strategic Litigation Against Public Participation (Anti-SLAPP) (18). Unfortunately, this article is still not perfect because there is still criminalization of pro-environmental activists. Several cases in Indonesia undermine the spirit of Anti-SLAPP and EJ, such as the conviction of Daniel Frits in Karimunjawa for hate speech after his digital activism against shrimp pond pollution and the criminalization of Kendeng residents protesting a cement factory (19). These examples highlight environmental injustice against vulnerable communities, who, through acts of subjectification described by Rancière, challenge

the social order or Le Partage du Sensible, which silences their voices and limits their influence (20).

This environmental injustice can be reviewed in more detail through several cases, such as those involving mineral and coal mining, which are increasingly massive and destructive. One of these activities has caused 73% of mangrove areas to be affected and has decreased the quality and function of vegetation in Indonesia (21). Mangrove degradation contributes to climate vulnerability, particularly for coastal livelihoods, exacerbating global CO2 emissions. This is compounded by various diseases affecting people, animals, and the environment. The escalation of mining*, mutatis mutandis,* increases environmental vulnerabilities*,* such as increased deforestation and loss of natural biodiversity. For example, the increase in nickel mining concessions currently reaches 999,587 ha, and around 653,759 ha of these concessions are suspected of using forest areas, which ironically are intended to accommodate batteries for electric vehicles that are considered environmentally friendly (22).

Regarding mining and increased deforestation, palm oil plantation activities cannot be separated. Almost 50% of deforestation in Kalimantan from 2000 - 2021 was caused by oil palm land clearing. Meanwhile, 20% of the oil palm forest cover in Kalimantan is illegal, which is highly destructive to all livelihoods in the region and has a global impact on the increase in greenhouse emissions (23). Furthermore, oil palm land clearing has escalated agrarian conflicts for communities, primarily indigenous peoples. The Consortium for Agrarian Reform noted that from 2015 to 2023, there have been at least 1,131 eruptions of agricultural disputes, which is far from the spirit of agrarian reform (24). The expansion of oil palm plantations that encroach on forests and customary lands severely limits the rights of nature and the rights of the surrounding living beings.

This restriction on the rights of non-human actors is reflected in the latest Mineral and Coal Law in Indonesia highlights the limitation of non-human actors rights and the dominance of anthropocentrism. Enacted without meaningful community participation, the law centralizes mining permits, limiting local government authority and sidelining affected communities (25). Article 162 further suppresses environmental activism by criminalizing actions that obstruct mining activities, weakening the spirit of Anti-SLAPP and silencing vulnerable groups. Similarly, Ibu Kota Nusantara's (IKN) development reflects these injustices through forced relocations and limited indigenous participation, ultimately undermining environmental justice and deepening inequality (6).

Based on the legal conditions above, it can be examined through the work of Le Partage du Sensible à la Rancière to determine if all policies and legal products produced by the state are often exclusive, serving economic and political interests, thereby excluding those who have no part (*la part de sans-part*). The parties entitled to decide are the producers of truth, including government authorities, corporations, and political and economic actors (20). There is a role of power in producing truth and knowledge to determine who is entitled and eligible to shape environmental policy, through normalization, regulation, and subject production, so that the environment is both the result and the resource of power (26). This view is guided by a naive anthropocentrism that places humans as the source, cause, and influence of environmental balance. On the other hand, the discussion about the environment is not just a conversation among humans alone, but a comprehensive dialogue within a network that affects each other (27).

3.2 Modeling Environmental Justice through the Actor-Network Theory

Through the Actor-Network Theory (ANT), Bruno Latour dismantles the subject-object dichotomy by placing all human and non-human entities as active actors in a network. Latour assumes that the whole of reality is interconnected, affecting one another (9). Therefore, Latour, through ANT, has a significant influence on EJ modeling, as well as ecocriticism, in addressing other environmental issues by examining everything in everyday reality. Latour's ontological

view, which considers all entities equal, also gave rise to a concept known as the Parliament of Things (PoT) (3). This concept challenges conventional democracy by including non-human entities in the decision-making process. However, before heading to PoT, it is necessary to translate reality through ANT, with stages: (1) Actant Identification; (2) Translation Process through Problematization, interestment, Enrollment, and Mobilization; (3) Stabilization; and (4) Social Change (28).

First thing first to build a more progressive EJ model, all involved actors must first be identified, not only humans, but also non-human actors, such as animals, rivers, forests, land, environmental data, and even the law. In Latour's flat ontology, these actors hold equal value, rights, and responsibilities within the Politics of Things (PoT). Each actor must be recognized as irreducible at this stage, meaning they cannot be simplified or reduced to narrower definitions (9).

At the next stage, a translational process is required, involving problematization or problem identification by one of the actors in the network, to identify environmental problems and invite other actors to become involved. For example, a river that indigenous people in Papua guard suffers from mining waste. Then, interessement is carried out, which is an effort to sensitize, invite, and bind other actors to ally. For example, the indigenous community invited academics, government officials, and activists to collaborate to analyze river damage data. Third, enrollment is necessary, specifically the distribution of roles to actors to strengthen the network, for example, by determining the roles of activists and academics in the court, government in policy-making, and media as whistleblowers. Finally, mobilization is needed, specifically the coordination of actors who help each other achieve specific goals, for example, by producing policies and legal systems that involve all parties equally, without domination by one party's power.

In the stabilization stage, strong networks have been established, enabling the policies and legal systems that have been constructed to endure. Therefore, the principle at the beginning regarding flat ontology is indispensable for all parties, as all are equal and can play an active role without being abandoned by the other party. If one actor breaches the agreement of an equal environment, different actors have the right to act as watchdogs, ensuring that the noble agreement to realize EJ can be carried out. Finally, social change is a significant goal of ANT. By modeling a more progressive EJ, there is a shift in environmental policy that is more equitable for the entire society, both locally and globally. So, how might these measures be implemented?

The answer is to adopt the concept of ANT as the foundation of all environmental policies. At the highest level, it can be established through the constitution and implemented through laws and regulations. The government and human and non-human actors can collectively revise the constitution to include the rights of nature, including animals, as human beings have increasingly recognized the importance of including human rights. Of course, this position can be achieved again with the recognition that there is no subject-object relationship, but all are actors. This is possible, considering that many countries have recognized non-human actors as legal subjects, such as in the case of animal rights in Austria, Germany, and several other European countries (12). This process challenges the concept of Progressive law, as Satjipto Rahardjo espouses that law is for humans, not humans for law (29). However, humanity must now realize that environmental legal realities are shaped and influenced by humans and human and non-human entities.

3.2.1 Ecuador's Constitution and the Recognition of Natural Rights

Latour's idea is not just an academic dream in broad daylight. This can be seen from how Ecuador has practiced and recognized the existence of the Parliamentary of Things since 2008 through constitutional amendments. Chapter 7 regulates the Rights of Nature, which grants nature, or Pachamama, the right to live, be restored, and be maintained by all actors. Actors, including humans, indigenous peoples, and nature, can request that state authorities

enforce the rights of nature, such as providing incentives for those who promote and respect all elements within an ecosystem. Recognizing nature's rights in the constitution provides opportunities and equality for all actors to engage in a network of equitable environmental legal systems (30). There is a point of transition (PoT) and a translational process that stabilizes and brings about social change in Ecuadorian society, ensuring that no human can dominate, exploit, or commodify the environment.

3.2.2 Recognition of the Whanganui River and the Establishment of an Environmental Court in New Zealand

Unlike Ecuador, New Zealand officially recognized the Whanganui River as a legal entity with rights and obligations in 2017. This occurred when the Maori tribe asserted that the river had rights and should be preserved as part of their cultural heritage. This was achieved through negotiation and legal interpretation, involving the establishment of two legal guardians (Te Pou Tupua) from the government and the Maori community, with the Whanganui River as the legal subject (31). New Zealand has embraced social change by granting equal access to non-human actors and establishing the Environment Court (EC) to handle environmental and conservation cases. This reflects a strong non-anthropocentric approach and creates space for the Parliementary of Things (PoT) to emerge in the relationship between law, nature, and society.

Based on these two studies, Indonesia and the global community can adopt a similar approach. This can be done by amending the legal system and constitution to recognize non-human entities as equal through a flat ontology. Then, ANT-inspired laws and regulations are developed to facilitate the creation of green constitutions and laws. Then, it can be complemented with recognizing legal guardians of non-human entities in various regions as one of the efforts to realize meaningful participation and Anti-SLAPP in an integrated manner. Practically, it can be achieved by establishing environmental courts as part of the new legal system network so that legal practitioners no longer only rely on general courts or previous decisions that are still full of anthropocentric systems

3.3 The Role of Constructivism Paradigm Analysis in Reconstructing Environmental Justice

Paradigm is a set of basic beliefs related to the main principles for a person to define, for its holder, the nature of the world, the place of researchers and subjects in it the possibility of a relationship between the world and its parts, along with providing an understanding of the boundaries of research and knowledge (14). Guba, Lynham and Lincoln present a view of the five major paradigms for the scientific community, namely Positivism, Post-Positivism, Participatory, Critical Theory et al, and Constructivism. This can be understood as follows:

Table 1. Constellation of Paradigms in Qualitative Research Guba, Lynham, and Lincoln

Paradigm	Ontology	Epistemology	Methodology
Positivism	Naive Realism	Dualist-Objectivist	Experimental-Manipulative
Post-Positivism	Critical Realism	Modified Dualist-Objectivist	Modified Experimental-Manipulative
Participatory	Participative Realism	Critical Subjectivist	Collaborative Action Inquiry
Critical Theory et.al.	Historical Realism	Transactional/Subjectivist	Dialogic/Dialectical

Constructivism	Relativism	Transactional/Subjectivist	Dialectical/Hermeneutic

Source: Handbook of Qualitative Research

Based on the illustration, there are five main paradigms: ontology, epistemology, and their respective methodologies, which cannot be interchanged individually. Reading about paradigms typically begins with examining the nature of reality or ontology, then analyzing how the reader perceives this reality. It discusses the methods required to achieve this reality or methodology (32).

Research guided by the constructivist paradigm is crucial in developing a new EJ construction, which is complemented by the application of actor-network theory (ANT). This paradigm posits that ontology, the human understanding of reality, is a flat, relativist reality where knowledge is relative to the mind and determined by consensus or agreement. This reality is constructed based on shared interpretations to understand what exists, such as a shared understanding of actors and the renewal of legal subjects, including non-human entities, in advance. The attachment to this relativist understanding is then examined in transactional-subjectivist epistemology. There is a relationship between subjects that enables them to form an interactive experience of whether the subject is human or not. This can be carried out by appointing representatives who possess the ownership of the non-human actor itself, such as the Whanganui River in New Zealand, where they have appointed a body of guardians to represent the interests of the river, one chosen by the Crown and the other by the iwi. Since it is consistent with the Māori beliefs of *kaitiakitanga* (guardianship) and legal concepts, this portrayal is appropriate to ensure that the river is regarded as a being with inherent value and a voice in decision-making rather than property (33). This exemplifies the feasibility of Indonesia adopting this model, given its rich presence of indigenous communities such as the Dayak, Baduy, and Ammatoa Kajang tribe who live in and steward customary forest areas and whose cosmologies view nature as sacred and interconnected. In the case of the Dayak people, their customary laws (*hukum adat*) embed a profound respect for the forest, rivers, and land as living entities, deserving protection and representation (34).

In line with Latour's concept of the Parliament of Things, this epistemological shift brings values that resonate with one another in a shared network. This epistemological shift allows for a reconstruction of legal forums in which humans and non-humans (through their representatives) participate in legal-political decision-making. In the Indonesian context, this can be translated into the institutionalization of indigenous representatives such as adat leaders, shamans, or customary councils as spokespersons for natural entities within legislative or judicial processes. These representatives, grounded in cosmological legitimacy and ancestral stewardship, act as mediators for forests, rivers, mountains, and other non-human actors in deliberative democratic structures. ANT provides the framework for such negotiations, fostering a dialectical and hermeneutic methodology, in which meaning is not fixed but constantly reinterpreted through dialogue and interaction. This "fusion of horizons" allows for anthropocentric legal systems to be re-read and re-shaped, creating room for a more environmentally attuned legal consciousness (35). These three domains provide space to develop integration for constructing a more progressive EJ.

Erlyn Indarti argues that paradigmatic legal philosophy studies can serve as an omnibus vehicle for legal inquiries, namely, a framework for conducting comprehensive legal research, especially in bridging the gaps between legal philosophy, legal science, legal theory, and practice. The harmony between them builds a comprehensive bridge. In the current context of EJ, it can be understood that there is a gap between the realm of philosophy and practice. Upon examination in the realm of legal philosophy, the ontology of relativism aligns with ANT's flat ontology, which views human and non-human reality as equal subjects. In the realm of theory, which is equivalent to a transactional-subjectivist epistemology, ANT can serve as an effort to form a network of

negotiations that supports a more integrated understanding of a legal problem. This is complemented by legal methodologies that provide opportunities for negotiation and meaningful participation, enabling actors to implement a legal system that evaluates EJ. In practice, this vision entails the development of laws and institutions such as Environmental Courts, customary environmental regulations, and legal subjectivity for ecosystems informed by the constructivist paradigm and ANT. By acknowledging indigenous actors as essential representatives within the Parliament of Things, Indonesia can realize an inclusive environmental justice model that ensures human-centered equity, ecological integrity, and cosmological continuity.

4. Conclusion

This research shows that Indonesia's environmental justice concept and application is still dominated by an anthropocentric approach, which focuses on humans as the only legal subject responsible for environmental issues. Using the Actor-Network Theory (ANT) approach, this research reveals that the current legal system has been unable to accommodate the involvement of non-human actors in environmental policy, thereby providing equal space without the dominance of any single actor.

To achieve a more inclusive environmental justice, it is necessary to reconstruct legal policies more adaptable to the complex network of actors within the environmental system. Legal reforms should consider ANT in designing regulations emphasising human responsibility and recognising non-human actors' role in shaping environmental justice. This can be done through actor identification, translation, and social change. This process can be achieved, if and only if guided by the constructivism paradigm in guiding ontology, epistemology, and methodology, following the realm of philosophy to legal practice, to position that law is for all, not just humans.

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