Legal Recognition of Customary Water Use in Energy-Affected Areas

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ABSTRACT

As the world shifts toward renewable energy to mitigate the effects of climate change and environmental degradation, it is essential to become increasingly aware of the broader ecological and social implications of this transition. Renewable sources such as solar, wind, and hydropower are typically considered environmentally friendly alternatives to hydrocarbons. However, their development can cause major disturbances in local ecosystems and societies. Energy projects have a disproportionate impact on the customary water use of indigenous and local communities. These communities depend on traditional water systems for their food, culture, and livelihoods. This is especially relevant in matters like roads, transmission lines, and site development during decommissioning.

Customary water rights, with strong bonds to traditional usage and historical traditions of the community, often lack formal documentation under the law. This legal vacuum becomes particularly problematic in areas affected by energy projects, where mega-developments proceed without adequate consideration of published or unpublished water rights. The ensuing conflicts reveal the inadequacy of existing legal and policy regimes, which prioritize national energy priorities over concerns for environmental justice and community rights.

This article contends that formalizing legal recognition of customary water use is a foundational requirement to achieve a fair and sustainable energy transition. Based on international legal norms and principles of environmental justice, it calls for the adoption of regulatory approaches congenial to community representation and concepts of traditional water rights as part of national and international legal practice. The views of marginalized communities are central in this research, and the article adds to a broader writing on how energy development can take place without violating the rights, cultural practices, and well-being.

Keywords: Customary water rights; energy development and indigenous communities; Renewable energy environmental impact; legal recognition of traditional water use; sustainable energy and environmental justice.

INTRODUCTION

In recent decades, the worldwide trend of promoting various energy sources has become one cornerstone of the sustainable development strategy based on the concept of national resource sovereignty, which asserts the right of states and communities to manage their natural resources, including energy and water, to meet their own needs and priorities. Fossil fuels remain the frontrunner because they are the most dependable and because of their existing infrastructure, but there are significant environmental implications associated with them, including greenhouse gas emissions, air pollution, and climate change, as have been addressed by the Intergovernmental Panel on Climate Change (2021).

Despite the increased utilization of green energy, especially hydropower, the Indigenous and local communities who are still the minority are still having a lot of difficulty getting their customary water use

rights legally recognized. Such rights that have been exercised and respected for centuries are still largely not recognized within national legal systems. As a result, energy infrastructure projects introduced by large corporations are often implemented without consultation with or compensation for the affected communities. As a consequence, the necessary water supply for traditional cultural practices, people's means of living, and local ecosystems are all disturbed. This legal limbo is the root source of social tensions and environmental wrongs; thus, the immediate address of the problem is the development of legal frameworks that will accommodate customary water rights.

Assessing energy transitions solely based on their environmental benefits is not enough. The concept of energy justice highlights the importance of fairly distributing both the benefits and burdens of energy production, promoting inclusive decision-making, and ensuring sustainability that takes into account social equity, cultural values, and environmental health (Sovacool et al., 2017). Although renewable energy systems produce lower carbon emissions, they can still have negative impacts. These can include land degradation, changes in water usage, and the extraction of rare earth materials (Sovacool, 2021; Sovacool et al., 2017), issues that are often overlooked in mainstream discussions. This principle indirectly supports national resource sovereignty, which asserts that states and communities have the right to control and manage their natural resources, including energy and water, based on their national interests and legal frameworks. Institutions such as the United Nations and international law have recommended the inclusion of indigenous water knowledge and practices within national legal systems. However, in most cases, statutory law dominates. As such, the rights to water, which are decided and maintained through customary law, are often not recognised (UN General Assembly, 2010). In this way, this case highlights a much broader environmental and social justice issue, especially in communities where long-standing customary uses of water are threatened by the consumptive uses of water for industrial purposes connected to large-scale energy projects. International and intergovernmental bodies such as the United Nations have recommended the incorporation of customary water practices into national legal systems. However, it is the statutory legal systems that take dominance in most situations. As such, customary water rights are often not recognised (UN General Assembly, 2010). This highlights a much broader issue of environmental and social justice, especially in communities where long-standing customary uses of water are under threat from the industrial uses of water connected to large-scale energy projects.

The legal recognition of customary water use in areas that are or will be affected by the development of energy resources is closely linked to the concept of procedural justice. By considering the work of Edward Coke, John Rawls, and Jürgen Habermas, the ideal of procedural justice centres on the importance of fair, open, and participatory decision-making processes that respect and take into account the rights and voices of affected communities (Coke, 1628; Rawls, 1971; Habermas, 1996). In the context of energy development, such recognition of customary practice is not only important for protecting the cultural inheritance of indigenous communities but also for safeguarding the wider concepts of justice and equity in parallel with the development of energy resources. This recognition of rights in national energy policy, therefore, helps to buttress ongoing efforts to ensure that Indigenous and local communities are involved in decisions that affect them and that national energy goals are at least in balance with, and if possible supportive of, environmental and social equity (Habermas, 1996; Rawls, 1971). The absence of these inclusive processes has contributed to a lack of legitimacy in energy policies and consolidates the 'legal limbo' as it relates to customs rights.

This is an issue of fundamental justice. It is not only about whether energy is clean or dirty but also about whose hands control the resources and who suffers the consequences of energy development. For example, hydropower projects such as the Bakun and Murum Dams show that the state-led development process can override the rights of Indigenous peoples and local communities, prioritizing national and corporate interests over customary practices (Yean, 2022). Such cases underscore the need for energy justice, which calls for equitable sharing of energy benefits and harms and more inclusive decision-making processes. As Mulvaney (2019) argues, sustainability must reflect social fairness and ecological balance, not merely carbon reduction. In Southeast Asia, large renewable energy projects have caused biodiversity loss, community displacement, and environmental damage associated with rare earth mining (Ali, 2014; Middleton, 2022). These impacts demonstrate the critical importance of justice-oriented energy policies (Sovacool et al., 2017; Bridge et al., 2013).

A holistic approach to energy development and governance requires not only the integration of environmental, legal, social, and cultural dimensions but also a robust theoretical foundation that explains the root causes of legal gaps surrounding customary water rights. In the context of energy law, theories provide a systematic and logical basis for understanding why such rights remain unrecognised and how justice can be meaningfully achieved (Bacharach, 1989). These ethical and legal insights and our specific methodology also reaffirm and illuminate energy justice insights, for example, those related to energy transitions. For instance, inspired by philosophical, legal, and political theory traditions of virtue (Plato, Aristotle), utility (Bentham, Mill), human rights (Kant), and procedural justice (Coke, Rawls, Habermas), a more refined understanding of the nature of states' moral and legal obligations, and, by extension, also our own as citizens, in this context, can be obtained. In this regard, the case for the equitable and inclusive legal recognition of customary water rights and norms becomes less ambiguous when one takes into account the far-reaching interconnectedness of water and energy resources to the ecosystems that underpin livelihoods, community well-being, and long-term resilience. Customary water and energy norms, rights, and practices, as well as their exclusion or inclusion by the state, should thus be an intrinsic element of energy planning if we are to avoid the types of gross social and environmental injustice and community disruption that are currently associated with much hydropower, rare earth mining, or other types of resource extraction. By contrast, by better incorporating customary rights and practices in state law and practices, social and environmental justice, inter alia, can be advanced. Our approach and findings dovetail well with the energy justice concepts of distributive justice, procedural justice, ecological resilience, and legal pluralism as advanced by Heffron and McCauley (2017), Boelens et al. (2018), and Heffron et al. (2020), and provide a template to ensure that low-emissions energy transitions are socially inclusive, respectful of Indigenous peoples' and local communities' worldviews, and grounded in an empirical reality check that can serve to direct and redirect the evolution of justice-related norms, policies, and practices in both the energy and water management sectors.

Water, inherently linked to energy, must be taken into account. Water is a central element to life and development as well as cultural identity (Boelens et al., 2018). Energy projects, on the other hand, often disrupt local access to water resources, and customary water practices are marginalized. This issue becomes significant when large-scale infrastructure projects proceed without considering customary water rights (Royster, 2013; Jackson and Langton, 2012). Addressing these issues will require more than the implementation of clean energy technologies; it will necessitate legal frameworks that recognize and protect customary water practices. The recognition of customary water rights is not only a matter of cultural preservation but also a legal and ethical imperative grounded in the principles of environmental justice, human rights, and sustainable development. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP, 2007) affirms the rights of Indigenous peoples to manage their lands and resources, including water. Moreover, Bruch et al. (2011) emphasize the importance of honoring customary practices for effective governance and meaningful inclusion of indigenous and local communities in decision-making processes related to water.

Hence, this article is making the case for an urgent law and policy recognition of customary rights in energy-impacted areas. It focuses on issues and legal implications of invisibilizing such practices and the opportunity for creating inclusive systems that accommodate customary rights under national and international law. As Burchi (2005) earlier stated, particularly at rural sites, the rights-principled approach to water governance is the cornerstone for justice and sustainability.

LITERATURE REVIEW

Energy Development and Indigenous Water Rights

The issue of whether energy development is linked or parallel with indigenous water rights will be discussed by focusing on the framework and mechanism of legal pluralism and energy procedural justice. Legal pluralism recognises the coexistence of multiple legal systems, formal state law, and customary norms within a single jurisdiction. Meanwhile, energy procedural justice highlights the need for fairness, inclusion, and equity in energy transitions, particularly for historically marginalized Indigenous communities in Malaysia (Hariri et al., 2024).

Globally, customary water rights refer to the established practices and beliefs regarding water use within Indigenous and local communities (Ramazzotti, 2008). Papua New Guinea was entitled to use water, and other resources taken from rivers and lakes form part of customary water rights. These are seen as property rights under customary expression that the community shall protect. According to customary law, these are regarded as property rights that the community upholds. The rights of Indigenous people are protected by their traditional customs and practices, which maintain their way of life and culture even though the statutory law is unclear (Kalinoe, 2024). The Indigenous people of Australia's Murray-Darling Basin claim their rights to water usage as well as cultural heritage preservation and natural flow protection, which support both ecosystems and their traditional survival methods. They are supporters of co-management where their roles as custodians are recognised and, they have a say in water management matters (Morgan et al., 2004).

While international legal documents such as the United Nations Declaration on the Rights of Indigenous Peoples and the Convention on Biological Diversity recognise Indigenous water rights, Western legal systems often fail to effectively protect these rights in practice (Yadav et al., 2016). This is the gap that frustrates Indigenous peoples' opportunities for meaningful participation in water governance and continues to foster a struggle for justice and a human right to water. Such rights, rooted in cultural and community practices, often lack formal recognition in the legal systems of the nation-states. This is because traditional institutions and practices are not recognised, and this has created a gap between traditional and modern water governance imposed by the state. The situation becomes acute when it is a millions-of-dollars project, such as damming the river for electricity or rare earth exploitation, for which the affected communities have not been sufficiently consulted, participated in, or compensated (Wright, 2018).

In response to these issues, researchers highlight the importance of incorporating environmental, legal, social, and cultural factors into energy governance. Boelens et al. (2018) overlook social and cultural values and hence pave the way for these adverse effects, stressing the significance of inclusive approaches that respect indigenous cosmologies and customary entitlements (Kothari et al. Mehta (2014) criticizes governance reforms concentrated on legal reforms and that fail to address the issues of power imbalance and institutional capture. He emphasises that without addressing wider structural inequalities, including political alienation, economic marginalisation, and historical colonial legacies. Legal reform will also not by itself ensure Indigenous rights or more equitable governance of resources. This perspective demands radical shifts that redistribute power for true Indigenous self-determination towards energy and water governance.

In practice, a variety of processes have been suggested and utilized to secure Indigenous involvement in, and the procedural justice of, energy planning. The United Nations Declaration on the Rights of Indigenous Peoples explained that Indigenous peoples have the right to give or deny permission for projects that impact their lands, territories, and resources before development starts in line with the standard of FPIC, which is Free, Prior, and Informed Consent (UNDRIP, 2007). Community mapping and community-driven assessments are also mechanisms to help record the traditional lands, resource areas, and cultural sites. It strengthens their claims and guides development planning while their knowledge and values are still respected. Involving Indigenous viewpoints into decision-making is essential to advancing inclusive and equitable energy governance (Hoogesteger et al., 2023).

In Ecuador, steps are taken towards a governance model where the uses of water determine the rights of the groups. The usage of water in Indigenous communities is under the legal customs as collective availability of water. The links to the participatory effort to work collectively in bunk to bluff irrigation and the local association that is formed subsequently. While in Ghana, use of customs for water use is managed at a local level, where groups and orderly manners are shared, shares are equitable, and the environment is respected. It is becoming less relevant over time due to market integration and migration and is influenced by colonized laws and modern legislation. In Guyana, the Amerindians never made use of written documents in order to depend on water, while it was managed through traditional usage. Despite the constitution providing them with legal recognition, it is limited, especially for the rights to surface water (Ramazzotti, 2008).

The acceptance of traditional water rights varies widely by location, according to a review of legal frameworks. Collaboration in the management of water resources between the Crown and Māori

communities is encouraged under the Treaty of Waitangi. It acknowledges and protects Māori customary water rights in New Zealand. According to the Waitangi Tribunal, Māori had property rights over water sources in 1840. These rights were as strong as ownership under English law and included authority over access and use of water within their rohe (tribe territory). Māori people have special rights to take care of water because they see it as something very important. Their traditional rules, called tikanga, help guide how they protect the water. The Tribunal said that people who are not part of the Māori community must ask for permission to use the water. These rights can change to fit today's needs, but they still belong only to Māori groups, called hapū and iwi. Even though these rights are recognised, the Tribunal said that New Zealand laws like the Resource Management Act do not protect Māori rights well enough. These laws also do not give Māori enough voice in water decisions. Because of this, many people are asking for a better system where the government and Māori can work together and respect Māori ways of caring for water (Macpherson and Turoa, 2025).

In Malaysia and many parts of Southeast Asia, however, traditional water rights frequently remain unofficial knowledge in national legal systems. Government-led energy projects, and dams in particular, have been developed with little regard for Indigenous water governance or meaningful consultation with affected communities. This disregard of custom has resulted in conflicts, displacement, and alienation of local people, whose traditional water management and access rights are being supplanted by state policies privileging economic development and energy production.

Adat, or customary law, is often ignored in countries like Malaysia and Indonesia until it is acknowledged through legal frameworks. As highlighted by Nicholas (2010), this legal structure creates a problem for many Indigenous communities when it comes to accessing legal support for their customary water and land rights. Colchester (2011), in the work Conflict or Consent?, draws attention to the relatively overt clashes between statutory legal systems and Indigenous customary water rights caused by the Bakun and Murum dams and other large-scale hydropower projects in Malaysia. These and similar projects were often executed in total disregard of consultation or recognition of Indigenous adat systems that govern water and land use.

For instance, building the Bakun Dam submerged thousands of hectares of P2 land that belonged to the Kenyah, Kayan, and Penan communities. This infringement on community rights happened without proper compensation or the Free, Prior, and Informed Consent (FPIC) of the displaced people. The absence of constructive discussion in turn fomented long-term resentment and social discord that affected Indigenous ways of life and their sense of identity in relation to traditional territories. The same applies to Murum Dam, where they failed to issue an FPIC to the indigenous people, contrary to provisions in international human rights instruments such as the UN Declaration on the Rights of Indigenous People (UNDRIP). Concerns over marginalization and environmental degradation are serious issues, as energy projects often show little respect for the marginalization of indigenous peoples and environmental degradation (Colchester, 2011). This will only create a serious issue and will not be a solution for peace, as ignoring adat in national laws will only make it harder and more rigid for indigenous people to protect their water and join decisions on energy projects.

Legal Frameworks and Pluralism

The worldwide energy transition towards renewables is expected to be a game-changer in the fight against climate change. However, much of the transition to green energy has happened in ways that are profoundly unaware and uncaring of its social and environmental implications in communities where these energy projects are being built, including for Indigenous and local people whose customary water rights are often threatened (Sovacool, 2021). Customary rights are long-standing traditional systems of water governance and allocation systems informed by community, culture, and ancestral norms (Boelens et al., 2018). Customary water rights are often not recognised under law and are frequently left out of formal water governance and water management institutions at the national level (Boelens et al., 2018). Statutory water rights often take precedence at the cost of local and community rights, leading to severe environmental and human rights injustices.

Yet, as the world turns to renewable energy as a global solution to climate change, such energy transitions

are often accompanied with social and ecological impacts that are externalized and missed in the design and development of the energy sector. For example, Indigenous peoples and local communities are often at the frontline of experiencing injustices due to their traditional water rights being overlooked by large-scale energy development projects (Sovacool, 2021). In many cases, traditional water systems, which are managed based on cultural traditions and collective values, are not formally acknowledged by the state and do not feature in national water management and governance (Boelens et al., 2018). Instead, formal state rules, also known as statute law, continue to overrule local interests, resulting in environmental and human rights injustices.

In most nations, their national water laws are based on rule systems, by which the legislation regulates access to and control over the water resources, with the assistance of written and centralized legal regulations. These frameworks tend to focus on strong state/corporate drivers, particularly in the arena of resource development like hydropower and rare earth mining (Colchester, 2011). One prominent example involves the Bakun and Murum Dams in Malaysia, which saw the loss of Indigenous land without adequate compensation or Free, Prior, and Informed Consent (FPIC) from affected communities, contravening international norms and customarily recognized governance frameworks (Colchester & Chao, 2013).

Legal systems in Malaysia and Indonesia exemplify this pattern. Indigenous adat (customary law) is often considered subordinate to statutory law unless it is explicitly codified (Nicholas, 2010). Consequently, communities lack enforceable protections over their traditional water sources. The absence of legal recognition creates a "legal limbo" where customary rights are informally respected at the community level but carry no legal weight in national planning processes (Yadav et al., 2016). This disconnect erodes local autonomy and exacerbates the vulnerability of marginalized populations during energy transitions.

To overcome these gaps, scholars and practitioners advocate for legal pluralism, the recognition that multiple legal systems (e.g., statutory, customary, and religious law) can coexist and hold equal legitimacy within a state (Griffiths, 1986). Legal pluralism challenges the hegemony of statutory law by creating space for hybrid governance structures, such as the co-management of resources between states and Indigenous communities. Such integration is not merely theoretical. In New Zealand, the Waitangi Tribunal has affirmed Māori rights to water governance under the Treaty of Waitangi, establishing co-management as a viable model (Waitangi Tribunal, 2024). This also allows for Indigenous concepts such as kaitiakitanga (guardianship) to be practiced and traditional frameworks leading the way for national water policy. In a similar way, Boelens et al. (2018) suggest that inclusionary governance will lower levels of conflict, maintain environmental resilience, and return epistemic justice to water basins experiencing extractive development.

Free, Prior, and Informed Consent (FPIC) mechanisms, community-led mapping, and rights-based environmental assessment tools are a few examples of how legal pluralism can be operationalized and how Indigenous peoples can be meaningfully involved in water governance prior to the initiation of energy development processes (UNDRIP, 2007). International law provides a strong normative framework for the recognition of Indigenous peoples' water rights. The most notable of which is the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), which includes the inherent right of Indigenous peoples to exercise control over their traditional lands, territories, and resources, including water (UNDRIP, 2007). Article 25 of UNDRIP directly protects the spiritual and cultural relationship to water and holds states responsible for maintaining that relationship.

In 2010, the United Nations General Assembly officially recognized the human right to water by resolution, noting that "safe and clean drinking water and sanitation is a human right essential for the full enjoyment of life and all human rights" (UN, 2010). This declaration places legal and moral pressure on governments to ensure equitable access to water for all populations, especially those historically excluded from decision-making. Further reinforcing this are the Sustainable Development Goals (SDGs), notably SDG 6 (Clean Water and Sanitation) and SDG 16 (Peace, Justice, and Strong Institutions), which emphasize the importance of inclusive institutions and participatory governance in resource management (UN SDGs). Yet, as Mehta (2014) cautions, international instruments often remain aspirational if not accompanied by domestic reforms that confront entrenched institutional inequalities (Mehta, 2014).

(Policy—briefly) International frameworks like the United Nations Declaration on the Rights of Indigenous Peoples support Indigenous control over traditional resources but are not legally binding and rely on national implementation (United Nations, 2007). The Sustainable Development Goals, especially SDG 6 and SDG 16, promote access to clean water and inclusive governance but serve mainly as aspirational policy guides (United Nations, 2015). The Global Water Partnership's Integrated Water Resources Management approach encourages the use of Indigenous knowledge in water planning, aligning with environmental justice and legal pluralism principles (Global Water Partnership, 2000). In Malaysia, the National Renewable Energy Policy and Action Plan focuses on energy security but lacks provisions for Indigenous involvement or social equity (NREPAP, 2010). The National Water Resources Policy promotes integrated water use under "One Water, One Plan" but does not recognize customary water systems (NWRP, 2012). Malaysia's 11th and 12th Development Plans emphasize sustainability and inclusion but fail to detail how Indigenous systems will be integrated or protected (Malaysia Development Plans, 2016 and 2021). These gaps show that both international and national policies fall short in fully addressing the rights and participation of Indigenous communities.

Energy Justice and Procedural Fairness

Energy justice is a way to consider whether energy systems are equitable for everyone. It focuses on three main ideas. First is distributive justice, which looks at who gets the benefits and who carries the burdens. Second is procedural justice, which is about how decisions are made and whether the process includes everyone. Third is recognition of justice, which asks whether people's voices, especially those often ignored like Indigenous communities, are heard and respected (Sovacool and Dworkin 2015, p. 436).

These ideas are supported by well-known theories. For distributive justice, Rawls' idea of justice says that inequality is only fair if it helps those who are most disadvantaged (Rawls, 1971). For procedural justice, Habermas believed that everyone should be included in open and respectful discussions, where each person can speak as an equal (Habermas, 1984). For recognition of justice, Schlosberg said justice should also respect people's identities, cultures, and histories. This includes valuing Indigenous knowledge and traditions in decisions (Schlosberg, 2004).

The fundamental concepts of justice have evolved through recent scholars who expanded the energy justice framework to fit modern societal complexities. In 2013 McCauley and his colleagues developed a model that consists of distributive justice alongside procedural justice and recognition justice. The three components enable us to evaluate whether an energy system maintains fairness across all population groups.

Heffron and McCauley expanded the model in 2017 with two essential components. The first element of restorative justice involves efforts to fix past injuries. The second idea, cosmopolitan justice, is about our responsibility to care for people from other countries or different groups. These two ideas are very important for Indigenous communities because many energy projects have ignored their rights, disrespected their culture, and left them out of important decisions.

But Jenkins and others in 2016 added something very important to the discussion. They said that recognition should come first. This means we need to make sure people are truly seen, heard, and respected before we can even talk about having fair processes or fair outcomes. This entails honouring their identities, backgrounds, and contributions of knowledge. The rest of the legal process won't truly be fair without recognition. The researchers also noted that justice fails when only one aspect is addressed. For example, process fairness alone is ineffective if recognition does not come first. This is particularly relevant for Indigenous peoples who have often been excluded for an extended period of time.

The empirical reality of these ideas can be evidenced in existing indigenous resistance movements and mobilisations against hydropower and energy infrastructure where there has been a lack of procedural fairness and recognition. For example, as noted by Reuters (2024) in Canada, Colombia, and New Zealand, there have been examples of indigenous energy resistance where energy infrastructure was being built or proposed in areas where Free, Prior, and Informed Consent (FPIC) had not been obtained from Indigenous populations. These cases illustrate that where procedural fairness and recognition of indigenous identity are

lacking (and this will be further discussed), energy projects can become delegitimised and result in the exacerbation of historical injustices. Further to this, Jodoin et al. (2020) have previously outlined the inclusion of indigenous legal systems, land rights, and co-management as key considerations for integration into national energy policy.

This research makes a case for Indigenous-led environmental assessments as a process by which communities can participate in energy transitions in a way that is ethical and sustainable. The combined contributions of this research also suggest that to meaningfully achieve energy justice in Indigenous contexts, it requires not only active inclusion of Indigenous interests but also an institutional shift in governance systems to respect and elevate Indigenous sovereignty, knowledge systems, and their long-term visions for the environment.

To leverage these perspectives, it is important to think about energy justice in the Malaysian context. Indigenous communities like the Orang Asli may face the dual challenges of historical injustices in treatment and more contemporary developmental pressures. Using the energy justice framework, especially the discussions around fair sharing, fair decision-making, and culture & identity and respect for voice, may give us new insight into whether our water and energy systems reflect and develop Indigenous rights and responsibilities, protect the environment, and promote the longer-term well-being of Indigenous Peoples.

Justice-based frameworks that focus on energy justice and fair decision-making are very important for recognising customary water use among Indigenous communities in Malaysia. The three main parts of energy justice, which are distributive, recognition, and procedural justice, offer useful ways to identify and address unfairness in access to energy and water resources (Siah et al., 2024). Big projects like palm oil plantations and dams have affected their traditional water sources and changed the Orang Asli communities' way of life. This is enough proof of why it is important to have energy and water policies that include Indigenous voices and protect their rights and traditional systems (Siah et al., 2024; Wook, 2025). For instance, based on the planning reports about the Nenggiri Dam project in Gua Musang, the planning showed clear concerns about the fairness of the processes of land acquisition, as the land was taken without proper consent. This also puts their ancestral water sources at risk and jeopardises their independence (Wook, 2025).

Successful community programs show that Indigenous people can lead decisions about water and energy. For example, the Safe Water Safe Communities Program in Pahang, Perak, and Negeri Sembilan shows how community efforts in water, sanitation, and hygiene can help people get clean water and have more control over their resources (Global Peace Foundation and Nestlé Malaysia, 2023). In Royal Belum State Park, the joint management of water systems is based on consultation and mutual respect, showing a real partnership where the Orang Asli work together with the government to manage their resources (Mohd et al., 2024).

These examples show that fairness-based and participatory systems are critical for recognising and safeguarding customary water use in Malaysia. These systems support more equitable and Indigenous-rights-based governance for energy and water. They support environmental justice by recognizing the importance of Indigenous communities and their participation in natural resource management and procedural justice by supporting the involvement of all stakeholders in water and energy decisions. For their part, policymakers should be proactive to ensure that FPIC is implemented; to support the inclusion of Indigenous legal systems in environmental and natural resource management; and to ensure that Indigenous peoples are given fair opportunities to participate. Additionally, commonisation should be strengthened to support environmental and procedural justice and equity, and recognition of customary rights to water resources in legislation and planning can help to redress historical inequities while advancing a more equitable and sustainable future for water and energy in Malaysia.

METHODOLOGY

This study uses a comprehensive mixed-method legal research strategy. This kind of method has been used because the understanding is that the subject includes not only a doctrinal examination of existing legislation but also a juridical-normative assessment of its implications for justice, alongside a hermeneutic analysis of

Indigenous legal traditions situated within their socio-cultural framework. Firstly, the doctrinal method acts as a base to analyze accessible legal sources, including national and international declarations and case law. Whereby legal documents like the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP, 2007), the UN General Assembly Resolution 64/292 (2010), Malaysia's National Water Resources Policy (2012), and the National Renewable Energy Policy (2010) are also sources that have been used in this research. This analysis assesses the extent to which existing legal frameworks recognize or deny customary water rights. Case studies like the Bakun and Murum Dams highlight practical and legal shortcomings in energy law (Griffiths, 1986; Boelens et al., 2018; Colchester & Chao, 2013). In addition, the research is also comparative in nature, as it considers worldwide experience, namely that of New Zealand, Papua New Guinea, and Ecuador, to identify any effective legal models that successfully integrated customary water rights in formal law. Moreover, the juridical-normative approach is employed to critically analyze whether these legal systems promote justice, equity, and environmental justice. The approach traces the alignment of legal systems to the pillars of energy justice, namely distributive justice, procedural justice, and recognition justice (Sovacool & Dworkin, 2015; Heffron & McCauley, 2017). For example, the Murum project evidence proves legal failure through the absence of FPIC (Wook, 2025; UNDRIP, 2007). A hermeneutic approach is also used to interpret legal concepts within their historical, philosophical, and cultural contexts. Drawing on theorists like Rawls (1971), Habermas (1996), and Coke (1628), the research explores Indigenous frameworks such as Māori kaitiakitanga and Malaysia's Adat as culturally rooted systems of water governance deserving formal legal recognition (Macpherson & Turoa, 2025). The methodological synthesis involves a global and normative legal examination, incorporating doctrinal, juridical-normative, and hermeneutic approaches to map current legal terrain, ensuring Indigenous voice, knowledge systems, and worldviews are acknowledged and respected.

FINDINGS

The field of customary water rights, as it pertains to energy development, remains somewhat underexplored in policy research and practice in Malaysia. This short article contributes to that conversation through a cursory analysis of existing policy frameworks. We would like to propose, based on my readings, that Malaysia’s current suite of policies does not adequately acknowledge, protect, or enable the recognition of customary water use within the context of either national energy or water planning or governance. What follows is a discussion on this point. For brevity, this post examines four key policies and asks what they do and, more importantly, what they do not do for customary water rights and Indigenous water governance in Malaysia. The policies in question are (1) National Water Resources Policy 2012, (2) National Renewable Energy Policy and Action Plan 2010, (3) Twelfth Malaysia Plan 2021-2025, and (4) National Green Technology Policy Framework 2015. Our findings may not be exhaustive, and it must be kept in mind that policies are not static but are living and changing documents that may be subject to future review or amendment.

The National Water Resources Policy 2012 reflects an integrated water resources management approach through the framework of “One Water, One Plan” (2012). While laudable for its holistic vision, there is no mention of adat-based customary water governance or management. There is also no established process or policy for documenting or protecting customary use of water sources. In the absence of any legal or customary recognition of Indigenous peoples’ water use, communities who historically used and continue to use rivers and springs for cultural, spiritual, agricultural, and daily living purposes have no recourse or protection under national policy. The lack of policy recognition of customary water use not only marginalises and erodes these practices but may further be in tension with development plans that seek to ‘monetise’ the nation’s water resources.

The National Renewable Energy Policy and Action Plan 2010 follows the same energy efficiency, renewable energy, and economic competitiveness triad. The policy, much like the national water resources policy, does not include procedural mechanisms to ensure Indigenous participation or social impact assessment with a special focus on Indigenous use of lands and waters. Mega hydropower projects like Bakun and Murum, to name but a few, were undertaken without Free, Prior, and Informed Consent (FPIC) of affected communities and in the face of community resistance and international advocacy, including communication directly to members of the royal family. The Malaysian government has affirmed the United

Nations Declaration on the Rights of Indigenous Peoples (UNDRIP 2007) and UN Resolution 64/292 on the human right to water, but both have been held to be aspirational because of Malaysia's lack of domestic law or policy to reflect them. Notably, despite widespread Malay use of the word "sungai" for river or water, rivers are explicitly excluded from Malaysia's water pollution control laws.

The relationship between energy and water policy is one of the most striking policy disjunctions. On the one hand, the Twelfth Malaysia Plan (2021-2025) has a strong focus on environmental sustainability and equity. Yet there is little meaningful effort to operationalise sustainability or inclusive participation in a way that overcomes energy-water silos. Energy development, for example, does not consider the customary water access and customary rights that are likely to be affected by water diversions, pollution, or displacement. Environmental impact assessment under the Environmental Quality Act 1974 does not appear to have cultural or customary metrics, and industry will be able to complete an Environmental Impact Assessment (EIA) as part of its approval process and compliance with conditions before development without any culturally sensitive indicators of success or failure. The EPA could, in this policy vacuum, build a Cultural Impact Assessment (CIA) as part of an EIA process for developments near or on Indigenous lands and provide metrics for success in working with Indigenous communities.

No national water policy or legal code has created mechanisms for legal pluralism or the co-existence of statutory and customary law. Malaysian water law remains monist in that statutory law overwrites customary law, including adat, unless it is codified in some way or custom. This approach has a long history and contrasts with the co-management or hybrid systems adopted in places like New Zealand. In that jurisdiction, the Waitangi Tribunal has recognised Māori water governance under kaitiakitanga, which recognises Indigenous rights to sources and spiritual obligations to protect those resources. Malaysia has made no such determination but has a long history and rich tradition of adat law that is currently not reflected in state-based water governance.

International or transnational policy has been of limited value without clear national adoption, implementation, or enforcement. The Sustainable Development Goals, especially Goal 6 on clean water and sanitation and Goal 16 on inclusive institutions, are frequently evoked, but the SDGs do not in and of themselves create a just, Indigenous-centered, or customary rights-protective system. Neither the Eleventh nor Twelfth Malaysia Plan has clear mechanisms for the inclusion or consultation of Indigenous Peoples or protection of customary water use. The plans do speak to sustainability and inclusion in broad terms but do not identify how, for example, Indigenous communities will be included in national water and energy governance. Policy and planning tools like citizen/community-based water resources inventory that can help to ground-truth and place community-led mapping and identification of water resources are either not present or not made available to Indigenous communities. In contrast, the GWP Integrated Water Resources Management (IWRM) and human rights-based approaches to water management do include local and traditional knowledge as an important piece of water planning and management. Malaysian policy has not yet arrived at Indigenous data sovereignty or support for mapping and other data tools that are useful for making customary claims or using customary practices within state-based decision-making forums. In the absence of both of these tools and policy, local or traditional knowledge is subsumed into other decision-making silos and can be co-opted or marginalized.

In summary, based on my reading, there is a significant gap in the recognition, protection, and practice of customary water rights and governance within the context of energy and water policy and law in Malaysia. As a result, despite aspirational policy statements about inclusive participation, social justice, and environmental sustainability, there is a critical absence of substantive policy content to make these things a reality, and the reality of energy development on Indigenous lands and waters will likely continue the patterns of extraction and colonialism unless a coherent policy vision is advanced. This vision would need to be recognizably pluralist in its approach to law and governance, firmly embed procedural justice through FPIC or other standards, and incorporate customary use of data and traditional knowledge and place-based expertise as an important part of decision-making in the field of energy, water, and the environment. Another key change would be to integrate the field of water justice and equity as a cross-cutting goal of these policies. This could take the form of a national Indigenous Water Rights Act or changes to the Federal

Water Act or Environmental Quality Act that recognised customary systems within national planning and regulatory systems.

Moreover, the study shows that Malaysia's energy law is governed by a complex statute based on energy type and source that includes the Renewable Energy Act 2011, the Sustainable Energy Development Authority (SEDA) Act 2011, and the Energy Commission Act 2001. These all support the growth of the renewable energy sector. When it comes to water-related energy such as hydroelectric power. The legal landscape encompasses older laws such as the Waters Act 1920, the Drainage Works Act 1954, the National Land Code 1965, and the National Forestry Act 1984. For this research, the laws that are relevant to this research are the National Land Code of 1965, the Waters Act of 1920, the Environmental Quality Act of 1974, and the Renewable Energy Act of 2011. Although these laws do not directly or fully address customary water rights, some of their provisions may offer opportunities to support integration, legal reform, and the promotion of legal pluralism within Malaysia's energy and environmental governance framework.

The National Land Code 1965 (NLC) is the primary legislation in Malaysia that governs land tenure. Although the National Land Code (NLC) primarily addresses formal land titles and land alienation, it also has an indirect impact on customary water rights by regulating access to rivers, catchment areas, and communal lands. Most Indigenous communities in Malaysia, particularly the Orang Asli, depend on ancestral lands for their traditional access to water. Unfortunately, their land claims are seldom recognized under the NLC unless they fall within gazetted Aboriginal reserves as defined by the Aboriginal Peoples Act 1954. As a result, their water rights remain legally insecure.

The Waters Act of 1920 gave state authorities the power to control and regulate the use of inland waters for both public and private purposes. Generally, the Act provides a legal mechanism for managing access to rivers and water bodies in areas impacted by energy projects. Unfortunately, it does not explicitly address community-based water governance or the concept of Free, Prior, and Informed Consent (FPIC), which is essential for ensuring procedural justice. However, the Act could be reinterpreted or amended to incorporate participatory governance structures that reflect traditional water practices. For instance, recognizing Adat (customary law) within the water management process could be legitimized through subsidiary regulations under the Act. The legal pluralism hypothesis, which supports the coexistence of formal statutory laws and community-based norms. This parallel approach would be consistent with this strategy (Griffiths, 1986). This kind of Waters Act strengthening will improve Indigenous people' legal security and close the gap between cultural heritage and environmental governance.

The Environmental Quality Act 1974 (EQA) is one of the most vital statutory laws for environmental protection and sustainability in Malaysia. Whereby the Act gives the powers to the government, particularly the Department of Environment, to monitor pollution and also enforce rules related to water, air, and soil quality. Whereas the EQA focuses on technical issues and does not refer to human rights or Indigenous peoples, it provides a legal framework for designing rights-based interventions for safeguarding water. The EQA can require EIAs for energy development projects like dams, hydropower, or extraction of rare earths. In this context, the EIA process could be broadened to include community-driven assessments and traditional ecological knowledge, as suggested in international discussions on Indigenous environmental governance (Jodoin, Lofts, & Anaya, 2020). Section 34A of the Act, which requires EIAs for certain projects, can be improved by adding a justice element. This means Indigenous communities must be properly consulted and given the right to say no if their water sources are at risk. It would put the principle of Free, Prior, and Informed Consent (FPIC) into real action and give stronger protection to customary water users in Malaysia.

The Renewable Energy Act 2011 (REA) proved that Malaysia is leading toward clean energy commitment, especially in regard to solar, biomass, and small hydropower. The Act promotes sustainable energy through feed-in tariffs and creates SEDA to oversee the sector. However, it mainly focuses on investment and lacks social safeguards or community involvement. With more hydropower projects on Indigenous lands, the Act should be updated to include these protections. Adding social equity provisions to the REA, especially for water-related energy projects, would help include traditional water use in energy planning. Countries like New Zealand show how this can work; the Treaty of Waitangi guarantees Māori involvement in managing

freshwater (Macpherson & Turoa, 2025). Adding social equity to the REA, especially for water projects, would help include traditional water use in energy planning. In New Zealand, the Treaty of Waitangi gives Māori a role in managing freshwater (Macpherson & Turoa, 2025). Changing the REA to require proper cultural engagement and Indigenous-led checks would make projects fairer. These changes also follow the idea of energy justice by Sovacool and Dworkin (2015).

The previous findings serve as the basis for this section, which will investigate the specific weaknesses of Malaysia's existing legal framework that allow customary water rights to remain unrecognised and unprotected. Our review identifies that a range of principal statutes, including, but not limited to, the National

Land Code 1965, the Waters Act 1920, the Environmental Quality Act 1974, and the Renewable Energy Act 2011 lack any operative provisions to guarantee protection of safeguards of customary water use. Specifically, the National Land Code seems to favour entitled land and requires Indigenous claims to exist only in designated gazetted Aboriginal Reserves, consequently minimising the legal rights of communities who rely on traditional occupancy of land and water on their territories and providing either no legal standing for displacement in relation to energy development or insufficient legal protection for customary water rights. The Waters Act 1920, while a foundational law, is outdated and provides no procedural guarantees for Free, Prior, and Informed Consent (FPIC), thereby excluding Indigenous peoples from relevant decision-making processes relating to policies impacting their water resources.

In a similar vein, the Environmental Quality Act of 1974 requires Environmental Impact Assessments (EIAs) for development projects, although it excludes cultural and customary indicators from its assessment criteria. Consequently, water's sociocultural importance to Indigenous populations is frequently disregarded. Despite encouraging Malaysia's shift to sustainable energy, the Renewable Energy Act of 2011 makes no allowances for community involvement or acknowledgement of customary water usage. Energy policy runs the risk of replicating historical trends of exclusion under the pretense of development if equitable measures are not incorporated.

A fundamental weakness across these laws is the lack of legal pluralism. All current legislation recognizes only statutory law, and customary governance systems are legally invisible unless officially codified. Moreover, community-level tools such as participatory mapping or Indigenous-led assessments have yet to be integrated into law at the national level, thus limiting the ability of Indigenous communities to advance their rights. Even where existing policies reference sustainability and inclusiveness, they are unimplemented aspirations without the means to be realized in law. Reforms to the law that ensure procedural fairness, cultural recognition, and pluralistic governance are necessary to fill this gap and support a just and inclusive energy transition.

In conclusion, our analysis has established that, while Malaysia's laws on customary water rights do not presently provide sufficient protection, there is significant potential for meaningful reform. The National Land Code 1965, Waters Act 1920, Environmental Quality Act 1974, and Renewable Energy Act 2011 all contain practical gaps in respect of Indigenous participation, procedural justice, and recognition of customary practices, which adds to the multigenerational marginalization of the Indigenous communities in relation to decisions regarding their traditional water sources. Reforming these laws has the potential to promote environmental justice but also uphold dignity, identity, and self-determination for the communities affected by energy development.

RECOMMENDATIONS

The research demonstrates that the current national legal and policy frameworks governing water rights in Malaysia are inadequate to protect the customary water rights of Indigenous communities in the face of energy development. This finding supports our initial hypothesis that despite high-level commitments to sustainability and inclusivity, key policy documents such as the National Water Resources Policy 2012, the Renewable Energy Policy 2010, and the Twelfth Malaysia Plan (2021-2025) lack meaningful incorporation of Indigenous Peoples' participation or customary law. This policy gap results in what we call a "legal

limbo," where customary water practices of Indigenous peoples remain invisible to the legal system and therefore are vulnerable to large-scale energy development. To address these policy and legislative gaps, a series of legal, institutional, and policy recommendations are needed.

First, Malaysia should consider introducing a new specific legal instrument at the national level, such as a National Indigenous Water Rights Act. This would allow for the formal recognition of adat-based customary water governance systems within the national legal framework. The Act should provide clear legal definitions of customary water rights as legal entitlements derived from historical and traditional use. It should also explicitly recognize and protect rivers, springs, and other communal water sources that have been used for cultural, spiritual, and livelihood purposes by Indigenous communities for generations. The Indigenous Water Rights Act should allow Indigenous communities to document their customary water systems through oral testimony, community mapping, and local knowledge. This data could then be submitted as legal evidence in regulatory processes and court cases. Without such legal recognition, Indigenous communities will lack the necessary legal mechanisms to protect their ancestral water sources from diversion or pollution by energy infrastructure.

Second, it is necessary to amend and update current legislation that fails to offer adequate protection and participation for Indigenous communities. For example, the Waters Act 1920 can be revised to include procedural rights for Indigenous communities, such as Free, Prior, and Informed Consent FPIC in the case of water-related energy development. FPIC should be required as a legal standard before any approval or licensing of large-scale energy infrastructure projects like hydropower dams. In addition, the Environmental Quality Act 1974 should be amended to make Cultural Impact Assessments CIA a formal part of the Environmental Impact Assessment EIA process. Currently, EIA processes often exclude or undervalue the sociocultural importance of water to Indigenous peoples and the Traditional Ecological Knowledge associated with them. Requiring a formal CIA would help to ensure that customary water practices are considered and respected in development decisions. Additionally, the Renewable Energy Act 2011 could be further amended to include specific provisions for social equity and Indigenous Peoples' participation related to hydropower on customary lands.

One of the largest legislative gaps in the current framework is the lack of legal pluralism. The existing system is based on a monist model where statutory law supersedes all customary laws unless they are formally codified. However, this does not reflect the legal pluralism that is practiced in many Indigenous communities. As such, Malaysia should look to establish hybrid governance structures that would formally recognize and incorporate both statutory and customary legal systems. New Zealand's approach to co-management, which allows for Māori water governance under the principle of kaitiakitanga or guardianship, is one potential model to draw on. Formal legal pluralism would allow Indigenous communities to govern water resources according to their own customary laws while also having a seat at the table in national planning and decision-making processes.

In addition, the government of Malaysia should also incorporate Free, Prior, and Informed Consent FPIC mechanisms in all phases of energy and water development, from planning and consultation to final decision-making. FPIC should be applied before decisions are made to use water resources for energy development, and Indigenous communities should be provided with the right to say no if the projects pose a threat to their water security. Community-level FPIC must be seen as more than a box-ticking exercise and should instead be a legally binding standard that affirms Indigenous Peoples' self-determination and sovereignty over their traditional territories. In addition, the government should invest in community-based tools and capacity-building initiatives such as participatory mapping, Indigenous knowledge systems, and community-led environmental assessments to better empower Indigenous communities in water governance and decision-making.

Finally, Malaysia should take steps to better operationalize and implement international frameworks and agreements such as the United Nations Declaration on the Rights of Indigenous Peoples UNDRIP and the Sustainable Development Goals (SDGs). Although these instruments have provisions that support access to clean water SDG 6, inclusive governance SDG 16, and Indigenous rights UNDRIP Article 25, they are largely aspirational in Malaysia because the legal and policy frameworks do not currently have domestic

enforcement mechanisms. To bring these international standards into law, the Malaysian government should take active steps to incorporate them into national legislation and policy. For example, the Environmental Quality Act can be updated to require adherence to SDG and UNDRIP indicators when approving new energy projects on Indigenous land.

In terms of the flaws of the statute, especially the exclusion of Indigenous water rights under the National Land Code 1965. It is imperative for the legislature to amend the Act to broaden its scope beyond gazetted Aboriginal reserves. Based on long-standing traditional occupation and use, a clear and sturdy legal provision should be introduced to recognize customary land and water usage rights even in the absence of formal title. For example, the use of community mapping and oral history as admissible forms of evidence to support land and water claims. This also extends to Section 4 of the Aboriginal Peoples Act 1954, which facilitates the creation of Aboriginal reserves, and should be harmonized with the National Land Code to recognize customary rights outside gazetted zones. This would reinforce legal pluralism and bridge statutory and adat-based land systems.

Moreover, the most important thing in amending the Waters Act 1920 is that it requires significant modernization to align with contemporary environmental and human rights principles. It should be amended to explicitly incorporate Free, Prior, and Informed Consent (FPIC) as a mandatory process before any approval of water use related to energy projects on or near Indigenous territories. Furthermore, the Act should recognize community-based water governance systems rooted in Adat through subsidiary regulations that enable local participation in water licensing, monitoring, and management. The law should let local people help manage and protect their own water, using their traditions. This would make sure they have a real say in what happens to the rivers and springs in their area.

CONCLUSION

This research has shown that Indigenous communities in Malaysia do not have enough protection when it comes to their rights to use and manage water, especially in areas where energy projects are planned or already happening. Although policies like the National Water Resources Policy, Renewable Energy Policy, and the Twelfth Malaysia Plan mention ideas like sustainability and inclusion, they do not clearly explain how Indigenous people will be involved or protected. At the same time, important laws such as the National Land Code, Waters Act, Environmental Quality Act, and Renewable Energy Act do not include any real measures to make sure that communities who depend on rivers and springs are heard or respected. This makes it easy for development projects to harm their land and water without proper consultation.

One big reason for this problem is that the current legal system does not recognise customary or adat-based laws unless they are officially written or included in government rules. Indigenous knowledge and traditions are often left out. There is also no proper process to make sure communities are asked for their consent before energy projects begin. To fix this, the government should create a new law, such as a National Indigenous Water Rights Act, to recognise customary water use and allow local communities to protect their rivers using community mapping and oral history. Other laws like the Waters Act and Environmental Quality Act should also be updated to include cultural impact assessments and stronger community participation. Moving forward, Malaysia should make sure that international promises like the United Nations Declaration on the Rights of Indigenous Peoples and the Sustainable Development Goals are made real in local laws. Lessons from other countries show that it is possible to combine national laws with traditional systems. Malaysia has its own rich traditions like adat that should be respected. Clean energy is important, but it should not come at the cost of pushing Indigenous communities aside. A fair and just system must allow these communities to have a real voice and protect their way of life. Only then can Malaysia move toward a future that is both sustainable and fair for everyone.

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