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VALUING INDIGENOUS RIGHTS OVER FOREST GOVERNANCE IN SIX ASEAN MEMBER COUNTRIES

¹Mohammad Jamin & ²Sapto Hermawan

¹Department of Law and Society,
Universitas Sebelas Maret, Indonesia

²Department of Administrative Law,
Universitas Sebelas Maret, Indonesia

¹Corresponding author: mohjamin@staff.uns.ac.id

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ABSTRACT

Indigenous forests and indigenous communities have always shared a deep emotional, spiritual, and practical bond. This paper aims to methodically examine the relationship between the level of rights held by indigenous people concerning indigenous forest governance and the ability of the indigenous community in ensuring the long-term viability of its ecosystems. Concurrently, in examining and discussing these issues it is hoped that it can also contribute to the survival of the indigenous people in the future. The elucidation of indigenous people's rights in the context of indigenous forest governance is based on the empirical scrutiny of the study hypotheses, utilizing the Sikor et al. type of rights. A quantitative analysis through Somer analysis was also carried out on the comprehensive secondary data sets obtained from six selected ASEAN member countries. The findings show that the six selected ASEAN member countries have not yet been granted the

third level of rights for indigenous peoples with regard to indigenous forest governance. The statistical evidence strongly suggests the urgent need in these countries to grant indigenous people rights over indigenous forest governance, both within a legal framework and in practical implementation, particularly at the definitional and allocative level of rights. The absence of such rights at the highest levels raises significant concerns about the sustainability of indigenous forests and the welfare of indigenous people across the observed ASEAN member countries.

Keywords: ASEAN member countries, valuing indigenous people rights, indigenous forest governance, sustainable indigenous forest.

INTRODUCTION

Southeast Asia covers nearly 15 percent of the world's tropical forests, and is home to at least four of the twenty-five important biodiversity locations worldwide (Estoque et al., 2019). The region also has various indigenous people (henceforth IPs) with different lifestyles and social colors. Most IPs inhabiting Southeast Asia are spread out in Cambodia, Vietnam, Malaysia, Thailand, Philippines, and Indonesia. There were respectively, 24, 54, 97, 34, 110, and 700 IPs groups in these countries (AIPP, 2010). Legally, the availability of regulations discussing the existence of IPs and indigenous forests is sufficient. At the international level, the regulation of IPs is clearly stated in the United Nations Declaration on Indigenous Peoples' Rights (UNDRIP). The UNDRIP was adopted by the General Assembly on Thursday, September 13, 2007, by a majority of 144 states (United Nations, 2007). This arrangement was further complemented by the International Convention on Civil and Political Rights (ICCPR), the Economic, Social and Cultural Rights (ESCR), and the International Convention for the Elimination of Racial Discrimination (ICERD). Regionally, the legal protection related to indigenous forests and IPs is also regulated through The ASEAN Charter (Indigenous World 2020: Association of Southeast Asian Nations (ASEAN) - IWGIA - International Work Group for Indigenous Affairs, n.d.) and the Strategic Plan of Action for ASEAN Cooperation on Forestry (ASEAN, 2016).

Several scientific studies have revealed a robust interdependence between indigenous forests and the presence of IPs (Fa et al., 2020;

Moul Phath & Seng Sovathana, 2012). Because of their strong interdependence, the IPs culture will slowly die if the forest is destroyed. Isolating IPs from the forest is an extremely fatal step that will destroy their identity and survival as a community and will also destroy the forest itself (Moul Phath & Seng Sovathana, 2012). However, the fact of the matter is that no legal instrument can sufficiently protect IPs or assure indigenous forest sustainability. According to the many readily available data sources, the forest where IPs lives and depends is eroded and lost for various reasons and interests. For example, Global Forest Watch reported that Cambodia had 7.22 million hectares of natural forest in 2010, covering more than 42 percent of its land area. However, the country had lost 140 thousand ha of natural forest, with more than 57.5 Mt of CO₂ emissions in 2019 (Global Forest Watch, 2020a). Furthermore, according to various scientific reports (Califf, 2023; Pauly et al., 2022; Strangio, n.d.), around 2,000 square kilometers of forest were lost yearly in Cambodia due to illegal logging (Thomas, 2019). Likewise, northern Thailand lost 37,000 hectares of forest from 2015-2020 (FAO, 2020b). This situation has tarnished Thailand's struggle to convert 40 percent of its land into a green forest, an ambition that started in 1975 (IUCN Asia, 2019). Other media outlets (Landslide in Vietnam Kills at Least 20 Military Personnel - The New York Times, n.d.; Vietnam, 2017; Whong, 2020) reported that the recent landslides that had killed hundreds of people in Vietnam were directly attributed to the massive deforestation in the country.

Furthermore, deforestation in Vietnam was mainly caused by a hydropower development project (Whong, 2020). The country lost about 150 thousand ha of natural forest in 2019. This condition differs from 2010 when Vietnam had 14.5 million ha of natural forest, spanning more than 50 percent of its land area (Global Forest Watch, 2020b). Like other Southeast Asian countries, Malaysia also lost 193,000 hectares of natural forest in 2019. According to Tang (2020), Malaysia was sixth among the ten tropical countries that had lost primary forests. The survey by Omran et al. (2020) revealed that oil palm plantations were the leading cause of deforestation. Malaysia is one of the largest exporters of palm oil; consequently, it requires a spacious area for cultivation.

In the Philippines, the Ministry of Environment and Natural Resources records show that around 47,000 hectares of forest cover

are lost annually due to rampant illegal logging and lack of security in wildlife reserve areas (Domingo, 2020). Satellite imagery reveals that the Philippine rainforest covers about 90 percent of the land. Over the last few decades, forest cover has been reduced by at least 10 percent, leaving only a tiny part of the old forest (Perez et al., 2020). Moreover, deforestation has also become a significant issue in Indonesia. In the last few decades, the natural forests have experienced severe deforestation, including the loss of natural forest cover in both quantity and quality. According to the Forest Watch Indonesia (FWI) analysis carried out from 2000 to 2017, deforestation was still high. For instance, from 2000 to 2009, Indonesia lost 1.4 million ha of natural forest/year. In the following period (2009-2013), the area of natural forest loss decreased to 1.1 million ha/year. From 2013 to 2017, the loss increased to 1.4 million hectares yearly (Forest Watch Indonesia, 2020).

These statistics demonstrate that IPs, with all their limitations in science and technology, cannot help prevent the destruction of their forests as quickly as they would have liked. The massive deforestation in ASEAN countries has been attributed to the mismanagement of forest governance or conflicting economic interests. These two factors have negatively impacted the welfare and existence of the IPs. Although forests are essential in their inherent value, recreation, and preservation aspects, the domination of economic interests has always exacerbated the problem of deforestation (Callicott, 2013). The present paper has argued that, published articles generally only examined the importance of championing the rights of indigenous peoples, but not many had been able to demonstrate what rights should be given to indigenous peoples. This paper is thus, aimed at filling the legal gaps in existing publications by providing a more comprehensive explanation through mathematical testing combined with the shifting property rights theory of Sikor et al. (2017). Specifically, it has investigated the influence of shifting property rights theory toward IPs rights in selected ASEAN member countries, in order to address in particular the issue of IPs rights over indigenous forest governance.

Why is this paper questioning these rights? Because most IPs in the ASEAN region inhabit forests in remote areas, a practice especially passed on across generations. The answer to the impact of the shifting property rights theory on indigenous forest governance clarifies the legal stratum of IPs recognition and answers IPs access rights over

indigenous forests in the evidence from praxis. This paper is divided into several sections using juridical mathematical analysis to support the IPs and indigenous forest governance hypothesis. Juridical mathematical analysis implies incorporating mathematical methods into legal or juridical procedures. In a practical sense, this could entail utilizing mathematical models, statistical analysis, or other quantitative approaches to evaluate legal principles, anticipate legal results, or examine patterns in legal data. As an illustration, one might employ statistical analysis to detect patterns in court rulings or utilize mathematical modeling to comprehend the consequences of specific legal frameworks applicable to every legal situation (Ferrara & Gaglioti, 2012b, 2012a). This technique does not eliminate the normative legal process based on regulatory analysis and legal theorization. It strengthens the rationality of the legal analysis previously brought out. The model works conditionally when a logical hypothetical tool describes any legally material event (Zufall et al., 2023). The first part of the paper describes empirical data on forest damage in selected ASEAN member countries. The second part justifies using property rights theory, particularly Sikor et al. (2017). The third part which is covered in section 2, describes the legal relationship between indigenous forest governance and available regulations. In addition, the substance of the third part will support the mathematical analysis in the next part in section 3. This third section of the paper will describe the relationship model of indigenous forest governance and IPs where this relationship is supported by mathematical analysis. The rest of the section contains the clarification of recent IPs rights, juridical recommendations, and a conclusion.

THEORETICAL FRAMEWORK: JUSTIFICATION FOR THE USE OF EIGHT CATEGORIES OF PROPERTY RIGHTS

Forest issues, mainly deforestation, relate to global environmental problems. However, this paper is not directed at the environmental aspects alone. It investigates thoroughly the shifting property rights and its impact on managing the indigenous forests owned by IPS across generations. This reasoning is because access rights and ownership over natural resources closely relate to power and authority. The authorization process for property claims also affects granting authority over natural resources to political-legal institutions (Sikor & Lund, 2009). This paper uses the property rights theory developed

by Sikor et al. (2017b), to provide a rational analysis. Schlager and Ostrom (1992) initially developed a conceptual schema on the right to manage natural resources logically and systematically. Property rights were divided into the following five categories: (physical) access, withdrawal, management, exclusion, and alienation (Schlager & Ostrom, 1992). For more than two decades, these five categories of property rights have been used to analyze the correlation between ownership and natural resource management, common property, and community resource management. At the theoretical level, this paper describes that natural resources and management issues have experienced significant developments in the last two decades, indirectly influencing the shift in property rights (Almeida, 2015; Rocheleau & Ross, 1995).

The eight types of property rights developed by Sikor et al. (1992) are divided into three categories. The first one is the use of rights to enjoy benefits, which is divided into two, namely (1) the use of direct benefits, such as the right to obtain benefits directly derived from a resource, and (2) the use of indirect benefits, which include the right to obtain indirect benefits from a resource. The second category is control rights, which refers to various kinds of “second-order” rights to determine the scope of use rights. There are also the rights of (3) management, including regulating the use and transforming the resource; (4) exclusion, the right to define the one who has use rights; (5) transaction, the right to handle the activities required for the realization of benefits; and (6) monitoring: the right to monitor the use of benefits and resource state. The last category is authoritative rights, which are the “third-order” rights, including the rights (7) definition: to define the discretionary space for the control rights and (8) Allocation, which is the right to assign control rights to particular actors (Sikor et al., 2017b).

This paper is of the view that the granting of these eight rights categories should be outlined in regulatory and policy provisions. The assertion of rights in regulation provides more legal certainty for a series of rights held by IPs and the sustainability of indigenous forests. The analysis carried out in this paper has included the following indicators for a more objective conclusion regarding IPs rights (See Table 1).

Table 1
Indicators of IPs Access Rights in Indigenous Forest Governance

Types of Rights	Stipulation in Legal Norm		Impact on Forest Management		
	Strong	Weak	Full-Recognition	Conditional-Recognition	Pseudo-Recognition
(1) Use of Direct Benefits; (2) Use of Indirect Benefits; (3) Management; (4) Exclusion; (5) Transaction; (6) Monitoring; (7) Definition; (8) Allocation.	IPs rights are clearly and firmly listed in regulations/policies.	IPs rights are not listed clearly in regulations/policies, or IPs rights are listed but in a grey area.	(a) IPs is granted full sovereignty to use its resources without destroying the available ecosystems and without any restrictions/conditions of exclusion from the State; (b) IPs is granted the full right to develop its community using available forest resources without any discrimination and violence from the State; (c) IPs is granted full rights to maintain forest sustainability according to their traditions and customs with the assistance and full cooperation of the State and international support; (d) the judicial decision stable on IPs interest.	(a) IPs is given the sovereignty to use their resources without destroying the available ecosystem, but there are still limitations/prerequisites of exclusion from the State; (b) IPs is given the right to develop its community using available forest resources without any discrimination and violence from the State; (c) IPs is given full rights to maintain forest sustainability following State interests and limits international support on conditions; (d) the judicial decision unstable on IPs 's interest.	(a) IPs is given the sovereignty to use their resources through existing regulations without destroying the available ecosystems, but in practice, there is denial from the State; (b) IPs is given the right to develop its community using available forest resources, but there are still elements of discrimination and violence from the State; (c) IPs is given the right to maintain forest sustainability, but it has to be adjusted to State interests and the State severely limits international support; (d) the judicial decision contrary to IPs interest.

Note. Adopted from Principles of the Rio Declaration and UNDRIPS

It is vital to determine whether the inclusion of IPs rights in each country's regulations is strongly regulated or neglected. In the weak category, the inclusion of IPs rights is only set unclearly in the regulations/policies. The inclusion of rights in this regulation correlates with recognizing IPs rights over forests, whether in full, conditional, or pseudo-recognition groups. There are several debates regarding the indicator provision of this recognition criterion. Each IPs in several ASEAN member countries has different categories and interpretations of their rights. Marmor's assertion shows that (1) in every society (including indigenous peoples) with a functioning legal system, several social conventions determine the legal authority and how it is to be executed, and (2) Legal norms consist of directions or instructions from legal authorities identified and formed by social conventions (Marmor, 2001, 2009, 2011). Legal recognition of IPs should originate from indigenous people conventions formulated in indigenous law norms recognized in positive legal norms. Therefore, the indicator determination for IPs legal recognition of indigenous forests and land access should be universally applicable. This indicator's inclusion leads to a summary of sustainable forest governance based on the principles of the Rio Declaration in 1992 and the Principles of the United Nations Declaration on Indigenous Peoples' Rights in 2007.

This paper builds on a robust theoretical basis to investigate the inclusion of indigenous people's rights into the regulatory structures of the six selected ASEAN member countries of the present study. The analysis carried out in this study goes beyond standard examinations that separate discussions on IPs rights from the more considerable debate on property rights theory and forest governance by directly associating Sikor et al. (2017a) shifting property theory with the position of indigenous forest governance. The intricate interdependence of these three variables is obvious and reinforces one another. It is critical to emphasize that separately examining legal aspects may impede the cohesive development of the rights of IPs enshrined in the regulations of the six selected ASEAN member countries. This separation is a significant impediment to developing a comprehensive indigenous forest governance rights framework. The interconnectedness of property rights theory, IPs rights, and forest governance necessitates a unified approach to foster a more nuanced understanding and effective implementation of regulatory measures. A comprehensive strategy is required to navigate the complexities of

identifying and safeguarding IPs rights when discussing indigenous forest governance.

RESULTS AND DISCUSSION

Sikor, He, Lestrelin’s Theory and Its Impact on Indigenous Forest Governance

Before examining the shifting impact of property rights on indigenous forest governance, it is essential to present forest, land ownerships, and IPs regulations in the six selected ASEAN member countries. The regulatory table 2 below assists in incorporating forest regulation and IPs rights into regulations in the six selected ASEAN member countries. Even though IP rights are labeled as full, conditional, or still at the pseudo-recognition level, including legal norms regulating them and forests in regulations and policies should help analyze the problems raised in this article.

Table 2

Regulations on Forest and IPs Recognition in Six ASEAN Member Countries

Country	Regulation
Cambodia	The Land Law of 2001; The Forest Law of 2002; Sub-decree No. 79 ANK, BK 2003 on Forest Community Management; Sub-decree No. 118 ANK, BK 2005 on State Land Management; Sub-decree No. 83 ANK, BK 2009 on Procedures of Registration of Land of Indigenous Communities
Thailand	Forest Law BE 2484 (1941) and subsequent amendment BE 2532 (1989); National Park Law BE 2504 (1961); National Reserved Forest Law BE 2507 (1964) and subsequent amendments BE 2522 (1979X and BE 2528 (1985); Forest Plantation Law BE 2535 (1992); Community Forest Law BE 2562 (2019)

(continued)

Country	Regulation
Vietnam	The Forest Law of 2017; The Land Law No. 45/2013/QH13; Decree No. 43/2014/ND-CP on Implementation of The Land Law No. 45/2013/QH13.
Phillipines	The Republic Act No. 1400 of 1955 on Land Reform; The Republic Act No. 2874 of 1919 on The Public Land; The Republic Act No. 8371 of 1997 on the Indigenous Peoples' Rights Act (IPS RA); Presidential Decree No. 705 of 1975 on Forestry Reform Code of the Phillipines; Presidential Decree No. 1529 of 1978 on Property Registration
Malaysia	National Forestry Act of 1984 (amended in 1993); National Forest Policy of 1977 (updated in 1992); The National Land Code 2020; Sarawak Land Code (Amendment) 2018; Sabah Land Ordinance (Sabah Cap. 68) of 1930; Sabah Forest Enactment 1968; Sarawak Forest Ordinance 1958.
Indonesia	Law Number 5 of 1960 concerning Basic Agrarian Regulations; Law Number 41 of 1999 concerning Forestry; Law Number 6 of 2014 concerning Villages; Minister of Home Affairs Regulation Number 52 of 2014 concerning Guidelines for the Recognition and Protection of Indigenous People Law; Ministry of Environment and Forestry Regulation Number 17 of 2020 concerning Indigenous Forest and Forest Rights.

Note. Source from Laslo Pancel and Michael Köhl (2016)

Table 2 clearly shows that each country already has forest and land ownership regulations. Nevertheless, there is still the question on whether the regulation has provided sufficient juridical legitimacy for IPs on indigenous forest governance, primarily if related to the development of the eight rights categories suggested by Sikor et al. (2017). The description of the correlation between IPs rights and shifting property rights is clearly explained in the following sub-sections on each individual ASEAN member states.

Cambodia

Cambodia is home to 24 distinct indigenous people, with the majority speaking Mon-Khmer or Austronesian. The country's IPs population

is estimated at 2-3 percent, specifically around 400,000 individuals inhabiting 25 percent of the national territory. The indigenous territories of its IPs are spread over 15 provinces, primarily in the forested highlands and Northeast Cambodia or Khmer-Loeu (hill tribes) (Moul Phath & Seng Sovathana, 2012). Some literature reveals that Cambodia has several laws and policies protecting land, natural resources, and IPs rights. The Land Law 2001 is a fundamental or legal basis for IPs rights over land. The ownership recognition for IPs is regulated in Article 23 of The Land Law of 2001, where the ownership status is collective. Before IPs have collective rights over ancestral lands (including indigenous forests), they must be registered first, as required by the Cambodian Law on Community and Sub-decree No. 83 ANK, BK 2009 Procedures of Registration of Land of Indigenous Communities. According to Article 26 of The Land Law of 2001, collective ownership rights include all rights and ownership protection enjoyed by private owners. However, IPs cannot transfer any collective ownership rights granted by the State to other people or groups. Its collective ownership rights can be manipulated at any time by the State. Apart from the problematic process and mechanisms in obtaining rights, IPs collective ownership rights are not obstacles to the State's work implementation or activities required for the national interest or emergency needs (CIPS A-CIYA-AIPS P, 2019; KHAM Vanda, 2016).

The substance in The Forest Law of 2002 states that Permanent Forest Estates consist of Permanent Forest Reserves and Private Forests. Furthermore, Permanent Forest Reserves comprise the following three categories: production forests, protection, and conversion forestland. According to Article 10 of The Forest Law of 2002, IPs has the right to collect products and by-products in Protection Forests with little impact. The Land Law 2001 shows that the IPs can only use indigenous forests registered in the Ministry of Agriculture, Forestry, and Fisheries in coordination with the Ministry of Land Management Urban Planning and Construction. For clarity regarding the extent of coverage and boundaries, Article 40 of The Forest Law of 2002 states that IPs cannot transfer traditional user rights to third parties by mutual agreement or contract. The provisions of Article 26 of The Forest Law of 2002 state that the Head of the Forestry Service has the authority to issue permits to harvest products and by-products in indigenous forests in a certain amount above the use right of IPs. Regarding the inconsistency of the interpretation of the two articles, this study

indicates a potential trigger for problems in the future concerning efforts to conserve indigenous forests and the sustainability of IPs inhabiting their territories.

The two regulations relating to recognizing the IPs existence and forest access rights granted by The Forest Law of 2002 and The Land Law of 2001 show that the government of Cambodia has recognized the existence of IPs but grants them limited access. Regarding the development of the property rights theory by Sikor et al. (2017a), IPs rights over indigenous forests are regulated by two different regimes. The provisions of Article 26 of The Land Law of 2001 show that IPs rights over forests are perceived to be the same as allocation rights. The implementation of allocation rights means that all ownership rights on the immovable property of a community, including special conditions of land use, should be subject to the traditional authority's responsibility and the mutually agreed-upon decision-making mechanisms of indigenous communities. IPs is given authority over the registered land even though the State can revoke the allocation right at any time. According to The Forest Law of 2002, granting the IPs rights over the forests is not as strong as the rights given by The Land Law of 2001. The Forest Law of 2002 provisions show that IP rights are limited to use rights (the lowest layer of rights) and concern the right to inhabit IPs. Furthermore, an in-depth study of The Forest Law of 2002 shows that the IPs is not provided with various second-order or authoritative rights.

According to the previous evidence, this paper considers the different strata of rights between use and allocation rights in a limited way, which led to restrictions on the space for IPs to maintain forest sustainability. Several studies have established that the different strata granting IPs over forest rights correlate with losing rights over land and natural resources in IPs areas. Keating (2013) firmly stated that there was still no realization of these rights in the lives of most IPs throughout Cambodia. Land vulnerability is a national problem in Cambodia. This is caused by the government's rejection of protection and support for granting land rights to IPs (Keating, 2013). Although it is not disaggregated in the national census, some data confirms that Cambodia's indigenous peoples face discrimination and forced displacement that makes them marginalized. These patterns are driven by the state and transnational companies for the extraction or conversion of resources (particularly timber, minerals, hydro, and

agribusiness) without consultation or seeking approval from the IPs (IWGIA, 2019; Lohani et al., 2020; Riggs et al., 2020).

Thailand

IPs groups in Thailand are concentrated in three geographic areas, and they are as follows: (1) fishermen and hunter-gatherer groups in the south near the Malaysian border, (2) on the Korat highlands along the Laos and Cambodia borders, and (3) in the northwest highlands, where the largest population of indigenous peoples (hill tribes) reside. The indigenous peoples are estimated to be between 600,000 and 1.2 million, or around 1-2 percent of the population (IWGIA, 2020). Thailand is one of the countries supporting the 2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIPS). Several IPs s have united into The Network of Indigenous Peoples in Thailand (NIPST) to raise awareness about indigenous peoples' rights through public agendas. Robust discourse on IPs identity and rights has emerged due to the formation of NIPST, which has a membership of more than 38 ethnic groups. This community often conducts active advocacy through an indigenous rights-based approach to help formulate and enforce government policies (Network of Indigenous Peoples in Thailand, 2016).

The Thai Constitution stipulates that IPs has been granted official recognition in 2007. According to Section 66 of the Thai Constitution of 2007, persons assembling to be a local or traditional community shall have the right to conserve or restore their customs, local knowledge, arts, or good culture and the nation's characteristics. Moreover, they shall manage, maintain, preserve, and exploit natural resources, environment, and biological diversity in a balanced fashion and continually. This constitutional mandate is strengthened by the inclusion of clearer land and forest management regulations. However, tracing the regulations governing forests through the Forest Law BE 2484 (1941) and subsequent amendment BE 2532 (1989) showed that IPs was not even granted the bare minimum of access rights over forest management. According to the provisions of the Land Code Promulgating Act BE 2497 (1954) and subsequent amendments BE 2551 (2008), this law has been used to establish control over the country's forest natural resources. If IPs lacks a title deed to prove ownership over the land and forest, the State automatically owns these properties. According to the Land Code Promulgating Act BE

2497 (1954) and subsequent amendments BE 2551 (2008), IPs has no juridical mechanism to register land ownership. Therefore, all land that lacks ownership rights will automatically be owned by the State. When the State claims the land, IPs will be deemed to have become a law violator.

A slight change is created through special regulations governing new community forests, as stated in the Community Forestry Act, BE 2562 (2019). However, the Community Forestry Act, BE 2562 (2019) does not directly legitimize and authorize IPs full access rights in forest management. Part IV provision of the Community Forestry Act, BE 2562 (2019) shows that the community forest is a forest or State area outside the purview of laws on protected forests. The establishment of community forests must be approved by the State, collaborating with the community in the conservation, rehabilitation, management, maintenance, and utilization of natural resources, the environment, and biodiversity in community forests. The definition of ‘community’ in the Community Forestry Act, BE 2562 (2019) is also essential. This situation involves whether the notion of ‘community’ can be perceived as the definition of IPs, and if the interpretation of the term ‘people’ is the same as the meaning of IPs. If the interpretation is the same as the meaning of IPs, then the authority of the IPs over community forests is minimal, relative to the dominant role of the State. The requirement shows the nature of the limitations a community forest establishment initiated by IPs as a community organization, as it had to be first registered as a civil society organization with the Royal Forest Department. The registration process is complicated because there is a lack of valid data about the number of IPs and IP registration mechanisms in Thailand. Moreover, the limitation is also shown by the membership structure of the Community Forestry Policy Committee, which is the organ authorized to oversee the implementation of the Community Forestry Act, BE 2562 (2019). This committee has not provided an active engagement space for IPs. The formation of community forests closely relates to the control and command model (Contreras, 2004), in which the planning to evaluation process minimizes the involvement of indigenous peoples (Salam et al., 2006).

Concerning the development of property rights by Sikor et al. (2017a), this article has already made the point that the authority of the IPs over forest management is challenging to define. Analyzing available regulations in Thailand leads to the recognition of the IPs

at the pseudo-recognition level. Therefore, IPs has the lowest layer of rights, specifically use rights over forest management is not based on sufficient juridical power. Consequently, they face various land conflicts (Hares, 2009) and litigation cases, such as the Karen living in Bang Kloi Bon and Kaeng Khachan District's administrative area, Phetchaburi Province. They were forced to move from their traditional hometown to Bang Kloi Lang, a designated relocation point. The national park and military officials burned and destroyed their homes and rice barns (Bunditderdsakul, 2019; Kathrin Wessendorf & The International Work Group for Indigenous Affairs, 2011). The absence of robust IPs regulations over forest management rights in Thailand severely affects the lives and livelihoods of the IPs. Indigenous activists and community members are subjected to violence and other forms of intimidation because of their (de facto) legitimate actions in protecting and enjoying their rights over ancestral lands and indigenous forests (International, n.d.; IWGIA, 2019).

Vietnam

As a multi-ethnic country, Vietnam has 54 recognized ethnic groups, though 53 are considered Ethnic Minority (EM). These groups comprised about 14 million people, or 14.6 percent of the country's total population of 98 million. Each EM group has its own culture and traditions. The word "indigenous peoples" is not used by the Vietnamese government for any group. However, the ethnic minorities living in the mountainous regions are known as the indigenous peoples of Vietnam. The term "ethnic minorities" is often used interchangeably with "indigenous peoples" in Vietnam. As clearly stated in Article 1-5 provisions of the Vietnam Constitution, the State recognizes everyone with the same rights (P. J.-A. & IWGIA, 2018).

Several regulations and state policies further strengthen the recognition of IPs in Thailand. The Land Law No. 45/2013/QH13 is responsible for the residential and agricultural land of ethnic minorities. Various strategies are employed, including adopting residential land and areas for community activities for ethnic minorities based on customs, cultural practices, identities, and each area's practical conditions. Furthermore, policies are also adopted to help ethnic minorities own land for agricultural production in rural areas. The provisions of Article 110 in The Land Law No. 45/2013/QH13 reveal that the State exempts or reduces land use charges or leases. Granting IPs

rights over land in Thailand is carried out by the People's Committee, which acts as an extension of the government. According to Article 133, paragraph 2 of The Land Law No. 45/2013/QH13, the Provincial People's Committee oversees the following tasks: directs the review and approval of the land use plan, allocates or leases land according to the approved land use plan, and restores land not utilized, used for improper purposes, or contracted, leased, and loaned illegally, encroached, or occupied to create land funds for allocation and leases to organizations, households, and individuals. During the land allocation or lease process, the State must prioritize ethnic minority households and individuals in the region that do not own or lack production land.

Recognition of IPs in Vietnam is also regulated in The Forest Law of 2017. Since IPs live in the forests, the State must support policies prioritizing ethnic minorities and local forest-dependent communities. As stated in Article 4 point 6, and Article 14 point 8 of The Forest Law of 2017, the State should ensure that people from ethnic minority groups and forest-dependent communities are allocated forests and land for combined agriculture and fishery production. IPs can cooperate and associate with forest protection and development, as well as benefits-sharing owners. These provisions involve the practices of forest-related culture and beliefs based on existing regulations. Several provisions in The Land Law No. 45/2013/QH13 and The Forest Law of 2017, are connected to the development of property rights by Sikor et al. (2017a), which coherently provide a more robust category of property rights, though at the conditional-recognition level.

According to Sikor et al. (2017a), IPs in Vietnam are given use and control rights according to the eight property rights categories. Also, they are granted several types of control rights, including the following: (1) management rights to regulate resource use and transform, (2) exclusion rights to define who has use rights, and (3) transaction rights to handle the activities required for the realization of benefits. A juridical basis supports the granting of this right through Article 192, paragraph 3 of The Land Law No. 45/2013/QH13, which states that individuals from ethnic minorities that use land under allocation and policy support from the State can transfer or contribute land use rights after ten years from the issuance date of decisions on land allocation based on Government regulations. Specifically, Article 40 Paragraph 1 of Decree No. 43/2014/ND-CP on Implementation of The Land

Law No. 45/2013/QH13 states that the land ownership transfer of ethnic minorities needs to be approved by the People's Committee. The approval of the commune-level People's Committee over the land location is usually based on the following criteria: (1) the fact that the IPs no longer need to use the land because they moved from the commune, neighbourhood, or township, (2) they conduct other trades, or (3) they no longer have the capacity to work in the location previously occupied. Other parties that obtain ownership transfers from IPs should fulfill the requirements of Decree No. 43/2014/ND-CP on Implementation of The Land Law No. 45/2013/QH13.

This paper argues that the enjoyment of the control rights to IP on forest governance is not always streamlined as stipulated in the previous provision. There are frequent tensions and serious conflicts triggered by forest rangers when conducting patrols to limit local communities' impact on forest ecosystems. The different strata of rights are shown by how IPs and its control rights rely heavily on natural forests for their livelihoods, while national park managers with authoritative rights try to enforce forest protection vis-a-vis the activities of indigenous peoples (McElwee, 2004; Nguyen et al., 2019; Sikor & Cà, 2016). Furthermore, laws and regulations related to Forest Allocation and Forest Land Allocation (FA/FLA) have not been applied consistently. The context of forest cover and land management also differ significantly between provinces. Research conducted in six provinces shows that the forest area allocated for IPs was much smaller than that for State entities (P. J.-A. & IWGIA, 2018). Some IPs complained that the forest quality allocated to them was low, lacked plant cover, and it was challenging to generate income from them (Food and Agriculture Organization of the United Nations (FAO) & Mekong Region Land Governance (MRLG) Project, 2019).

Phillipines

According to the 2015 census, the IPs population of the Phillipines is around about 10 percent to 20 percent of the national population. The IPs inhabiting the northern mountains of Luzon (Cordillera) are collectively known as Igorot, while the group inhabiting the southern part of Mindanao Island is called Lumad. Furthermore, small groups are collectively known as Mangyans on Mindoro Island, scattered across the Visayas and Luzon islands, and several hunter-gatherer groups in transition (Camacho et al., 2012). The IPs has retained

most of its traditional, pre-colonial culture, social institutions, and livelihood practices (Camacho et al., 2016). They generally live in geographically isolated areas without access to essential social services and few opportunities for economic, educational, or political participation. However, natural resources with important commercial value, such as minerals, forests, and rivers, can be found in their areas (IWGIA, 2020).

The 1987 review of the Constitution of the Republic of the Philippines requires the State to recognize and promote all the rights of the Indigenous Cultural Communities/Indigenous Peoples (ICCs/IPS) within the constitutional framework. A step ahead of other ASEAN member countries, the Philippines has legally recognized the existence of IPs by enacting The Republic Act No. 8371 of 1997 on the Indigenous Peoples' Rights Act (IPS RA). According to IPS RA, claims to land, resources, and rights belong to the entire community in a particular area. The term ownership here means land occupied, controlled, and utilized by individuals, families, and clans as the ICC/IPS members since ancient times, alone or through their ancestors' interests. It is a claim of ownership by individuals or traditional groups which is continuously used. According to IPS RA, several rights are also attached to IPs in the Philippines, including the following right to: (1) develop, control, and use land and territories traditionally occupied, owned, or used, (2) manage and conserve natural resources in the region and uphold responsibilities for future generations, (3) obtain benefits and share profits from the allocation and utilization of natural resources contained, (4) negotiate terms and conditions for the exploration of natural resources in the area for ecological assurance, environmental protection, and conservation measures, in line with national customs and laws, (5) informed and intelligent participation in the formulation and implementation of any public or private project, which affect the ancestral domain to receive fair compensation for any damage as a result of the project; and (6) the right to conduct effective measures by the government to prevent interference, alienation, and encroachment of these rights.

As mentioned in the IPS RA, the inclusion of rights relates to the shifting of property rights by Sikor et al. (2017a). IPs in the Philippines already has a robust legal position. For instance, IPS RA has already covered all levels of rights, from use to authoritative rights. Therefore, this is a progressive step that has to be appreciated. However, a few

clauses block the rights of IPs to integrity, specifically the government's authority (even the private sector), in taking IPs rights away if at any time there is war, *force majeure* or transfer, trickery, clandestine, or due to a government project and other voluntary agreements. IPS RA should be followed by amendments to several forests and land management regulations to strengthen IPs rights. There is a need for an amendment because studies on several regulations governing forest and land ownership do not appear to be fully in favour of the IPs. According to some regulations, including The Republic Act No. 1400 of 1955 on Land Reform, The Republic Act No. 2874 of 1919 on Public Land, Presidential Decree No. 705 of 1975 on Forestry Reform Code of the Philippines, and Presidential Decree No. 1529 of 1978 on Property Registration, there is not a single provision that mandates IPs to own land or access rights to forest management. Complete control and authorization over forest management, including community, permanent or reserve, and reservation forests, are only held by the government, a paradoxical condition. IPs has been given a full set of rights, though the object that forms the attachment of this right is not set in forest and land ownership regulations. Therefore, the Philippine government needs to pay serious attention to the issue of being consistent with regard to IPs rights so as to ensure that they can live peacefully and sustainably (Cuaton & Su, 2020).

Regarding granting rights only on paper, there is a strong correlation between studies that inform the number of violations and crimes against IPs in the Philippines and the granting of rights incompletely by the State (Jarzebski, 2016; Larson et al., 2015). Violations of IPs rights happened in various forms, including granting around 230 of the 447 large-scale mining permits in the Philippines located in ancestral domains. These projects cover 542,245 hectares of ancestral land and 72 percent of the total land area covered by all approved mining applications. According to forestry regulations, this project violates the rules. There is no allowance for any location of prospecting, exploration, utilization, or exploitation of mineral resources inside forest concessions unless proper notice is served upon the licensees and the State's prior approval. Through this extractive project, large dam projects in indigenous territories threaten the indigenous lands and resources. Coal mining is worrying because coal operating contracts in the Andap Valley Complex and several provinces throughout Mindanao issued by the Ministry of Energy have violated hundreds of thousands of hectares of ancestral land (IWGIA, 2019). At least

29 contract agreements between the Phillipines and the Chinese government were signed in November 2018 to support the economic development program, including the Chico River Pump Irrigation Project in Kalinga and Cagayan Provinces, New Centennial River Dam Project, or Kaliwa Dam in Rizal and Quezon provinces. These projects did not meet the free, prior, and informed consent (FPIC) requirements of IPs (Aspinwall, 2019).

Malaysia

Based on statistical data in 2017, the number of IPs in Malaysia is around 13.8 percent of the 31,660,700 national population. They are collectively known as the Orang Asli (Khan et al., 2021). In general, the IPs live in Peninsular Malaysia. The IPs in the country consist of 18 sub-groups, including the Negrito (Semang), Senoi, and Aboriginal-Malay, and amount to 198,000 or 0.7 percent of the population in Peninsular Malaysia (31,005,066). In Sarawak, IPs is collectively known as the indigenous people (Dayak and Orang Ulu) and include the following IPs: The Iban, Bidayuh, Kenyah, Kayan, Kedayan, Lunbawang, Punan, Bisayah, Kelabit, Cloudy, Kejaman, Ukit, Sekapan, Melanau, and Penan, their numbers are estimated to be around 1,932,600 or 70.5 percent of the state of Sarawak's population. In Sabah, 39 indigenous ethnic groups are known as Anak Negeri, and their numbers amount to about 2,233,100 or 58.6 percent of the population of the state of Sabah. The main IPs groups are the Dusun, Murut, Paitan, and Bajau. The Malays are not categorized as native residents because they are the majority and are politically, economically, and socially dominant. In Sarawak and Sabah, the British laws during colonial rule recognized the indigenous peoples' indigenous land rights and laws (IWGIA, 2020).

According to Malaysia's regulations and policies, there is no explicit reference to the juridical basis governing indigenous land rights in The National Land Code 2020. The absence of a definite legal basis raises the issue of the unilateral claim made by IPs. They claim lands and territories to be theirs essentially due to the absence of provisions through formal land certification rules and regulations. Their claims have strong support due to the long-maintained ecological relationship with the land, forests, and sea based on the indigenous land laws and practices. The National Land Code 2020 only applies to states in the Malay Peninsula, but not to the states of Sabah and Sarawak in the island of Borneo.

IPs living in Sabah and Sarawak are considered fortunate when it comes to regulating indigenous land ownership. The Sarawak Land Code (Amendment) 2018 requires the State to recognize and grant native indigenous rights. In general, these rights cover all types of land rights classes, including the following rights to (1) land cultivated or used for housing; (2) land planted with twenty or more fruit trees per hectare; (3) isolated fruit trees covered with a fence; (4) grazing land full of animals; (5) wet and dry rice fields, as long as it is cultivated for at least three years before registration; (6) graves; and (7) right of way. The granting of the rights should be promulgated in the gazette and published in newspapers with coverage of circulation in the Sarawak area. Likewise, the state of Sabah has also recognized and attached all types of land rights classes to IPs as has been stated in the Sabah Land Ordinance (Sabah Cap. 68) of 1930. In light of the regulations in Sabah and Sarawak, the present article has focused on the effectiveness of the enforcement of these two regulations in the the two states (Kadir et al., 2021). This state of affairs is evidenced by Malaysia's land registration model which uses the Torrens system (Yong, 1967). Using the Torrens land registration system reduces the opportunity for IPs to register their ownership rights.

The regulations governing forest management in Malaysia depict that IPs is not given special rights to forest management. Specifically, they can only enjoy forest products around their IPs area. Therefore, forest management's rights and responsibilities are only transferred from the State to indigenous law and local communities through long-term leases or management agreements. This situation aligns with the Forest Resources Assessment data in 2020, which stated that the area granted forest management rights to IPs in Malaysia does not exist or is empty (FAO, 2020a). If this situation is related to the type of property rights development by Sikor et al. (2017a), in the absence of full access rights to forest management, IPs in Malaysia is only given the lowest level of rights, specifically use rights, both directly and indirectly.

The use rights status correlates with the recognition of IPs ownership rights in Malaysia, which is only pseudo-recognition. This proposition is supported by an empirical study (*INDIGENOUS PEOPLES–SUHAKAM*, n.d.; *Update on Indigenous Peoples of Malaysia**| ヒューライツ大阪, n.d.; Phua, 2009) describing IPs discrimination against their rights. Land that indigenous peoples have long occupied is increasingly being

targeted for resource extraction, conversion to plantation crops, and infrastructure development (Nelson et al., 2014, 2015). This situation leads to widespread deforestation, environmental degradation, depletion of natural resources, and increasing conflicts over resource access and land ownership in the name of development (Cooke et al., 2017). Although indigenous communities and organizations have increased their use of various forms of resistance to deprivation and discrimination, unequal power relations limit the effectiveness of efforts by IPs to defend their de facto rights (Aiken & Leigh, 2011; Doolittle, 2007).

Indonesia

The Central Bureau of Statistics reports that the total population of Indonesia is more than 250 million (BPS-Statistics Indonesia, 2020). However, the number of IPs is not known with certainty. The publication of the Indigenous Peoples' Alliance of the Archipelago (AMAN) estimates that the number of IPs ranges from 50 to 70 million. Through the Ministry of Social Affairs, the Indonesian government has identified 1,128 ethnic groups with thousands of communities scattered in locations from Sumatra to Papua Island. According to the 1945 Indonesian Constitution, Article 18B paragraph (2) explicitly declared that the State recognizes and respects indigenous peoples and their traditional rights, as long as they are alive and in line with the community development and the principles of the Unitary State of the Republic of Indonesia which are regulated in law. The role of Indonesia at the regional and international levels is always to voice the interests of the IPs. It is one of the countries that has supported and signed the UNDRIPS (IWGIA, 2020).

According to the regulations governing land in Indonesia, the recognition of land ownership rights in Law Number 5 of 1960 on Basic Agrarian Principles is only mentioned implicitly, leading to the different interpretations of IPs ownership. The most recent development through the 2019 Land Law draft does not clearly state whether IPs is given a strong right over the land where they live. The legal stipulation for state recognition of ownership over land rights to IPs has legal consequences that are only voluntary without coercion and marked by sanctions. In its implementation, there is the potential for irregularities. Based on the regulations governing forests (before the Constitutional Court decree), no article gives juridical legitimacy

to indigenous forest governance to IPs. For a very long period of time, IPs in Indonesia has to struggle to successfully fight injustice over indigenous forests' legal status. On May 16, 2013, the Indonesian Constitutional Court Number 35/PUU-X/2012 Decision on Judicial Review of Law No. 41 of 1999 concerning Forestry contradicts the 1945 Constitution of Indonesia stated that an indigenous forest is a forest located within the territory of indigenous communities. The previous provisions in Law Number 41 of 1999 on Forestry stated that the indigenous forest is a state forest within indigenous peoples' territory. The decision of the Constitutional Court has juridical implications that indigenous peoples are legal subjects with rights over indigenous forests, apart from indigenous territories.

Regarding shifting property rights by Sikor et al. (2017a), IPs rights over forest governance are still limited to use rights, both directly and indirectly. Even though ownership rights over the indigenous forest have been confirmed through the decision of the Constitutional Court, various sectors still encounter many obstacles (Hidayat et al., 2018), particularly when examined from a juridical perspective. Law No. 6 of 2014 concerning Villages in response to the decision of the Constitutional Court provides harsh IPs conditions to obtain their full rights. According to Article 97 of Law No. 6 of 2014 concerning Villages, IPs is subject to three conditions which must be fulfilled to change their status to a Traditional Village with the juridical power in ownership rights. The three conditions are as follows: (1) indigenous peoples, and their traditional rights should be affirmed, both territorial, genealogical, and functional; (2) indigenous law community units and their traditional rights are deemed in line with community development; and (3) indigenous peoples and their traditional rights should be in line with the principles of the Unitary State of the Republic of Indonesia. According to this provision, the first and second conditions are a challenge to implement because there is no regulation governing the mechanism for granting land rights to IPs. In the second condition, it is not easy to determine objective assessment indicators that IPs development in Indonesia aligns with community development. Measuring IPs life indicators using instruments and perspectives from the modern community would be irrational.

IPs recognition in Indonesia has not received respect and fair protection from the State (van der Muur, 2018). For this reason, it is still a pseudo-recognition, as IPs continue to remain in a marginalized

position politically, economically, socially, and culturally (Pedro & Rowena, 2012). This observation is corroborated in the findings of the research by Dhiaulhaq and McCarthy (2020) which highlighted the land tenure conflicts caused by oil palm companies that had seized IPs land in Kampar, Riau Province. Furthermore, the IPs conflict in Rempek Village, Lombok, West Nusa Tenggara Province, where the IPs struggles to defend indigenous land ownership claims against unilateral control by the State (Riggs et al., 2020). IPs also lost the Iban Dayak tribe's forest in Jagoi Babang Sub-District, West Kalimantan Province, which has been home to indigenous peoples for centuries. Currently, IPs only have a plot of land for farming, while the forest used as a food source has been converted into an oil palm plantation managed by a private company (Hermawan, 2018; Human Rights Watch and Aliansi Masyarakat Adat Nusantara (AMAN), 2019). Moreover, an inquiry by the Indonesian National Human Rights Commission concluded that the granting of State permits and concessions that prioritize the private sector, corporations, and significant capital owners in the form of Business Use Rights (HGU), Forest Concession Rights (HPH), Mining Business Permits (IUP), Industrial Plantation Forest (HTI), Right to Use (HP), and conservation violation are the main entry points for ecological destruction, as well as the loss of rights and marginalization of IPs over land, water, and territory in forest areas (Komisi Nasional Hak Asasi Manusia Republik Indonesia, 2016; Tim Inkuiri Nasional Komnas HAM, 2016).

PROPOSING INDIGENOUS RIGHTS UNDER JURIDICAL-MATHEMATIC ANALYSIS

The foregoing discussion has highlighted how miserable the fate of the IPs is in selected ASEAN member countries. The section of the paper which follows aims to affirm the rights-based indigenous forest governance that IPs should have. This paper argues that several ASEAN member countries only grant IPs rights based on conscience and irrationality. Hence, this paper attempts to mathematically relate the powerlessness of the IPs in property rights, besides several regulations that ASEAN member countries had imposed. This mathematical analysis is supposed to be a policy guide for how selected ASEAN member countries should provide property rights over indigenous forest governance.

The research reported in this paper has hypothesized that indigenous peoples would have the authority to ensure their existence if the home, namely the indigenous forest, was preserved. In light of this rational reasoning, indigenous peoples should therefore, be given the right to indigenous forest governance at the highest level, as stated by Sikor et al. (2017a). This hypothesis was tested mathematically using secondary data to support the ideal condition of granting rights over indigenous forest governance. The data sample was taken from six of the eleven ASEAN member countries. As described in the previous section, this number already represented more than half of the total ASEAN member countries, and only these six countries were considered representative. The present study has argued that the empirical analysis concerning the relationship between IPs and the indigenous forest would then be best analyzed using the property rights of Sikor et al. (2017a). (See Table 3)

Table 3

Type of Rights in Six ASEAN Member Countries

Countries	Types of Rights							Recognition Status if correlate with impact on forest governance	
	Low	Medium					High		
		Use of Indirect Benefits (Lowest L1) 1 (0)	Use of Direct Benefits (L2) 2 (1)	Management (M4) 3 (2)	Exclusion (M3) 4 (3)	Transaction (M2) 5 (4)			Monitoring (M1) 6 (5)
Cambodia	v	v	v	-	-	-	-	-	Full Recognition (IP have all type of rights) = 2
Thailand	v	v	-	-	-	-	-	-	
Vietnam	v	v	v	v	-	-	-	-	
Malaysia	v	v	-	-	-	-	-	-	Conditional Recognition (IP have all low and more than two medium types of rights= 1
Philippines	v	v	v	v	v	-	-	-	
Indonesia	v	v	-	-	-	-	-	-	
									Pseudo Recognition (IP only have all low type of rights and one medium type of rights) = 0

Note. The classification is based on (Sikor et al., 2017a)

Conditional Recognition (IP have all low and more than two medium types of rights= 1

Pseudo Recognition (IP only have all low type of rights and one medium type of rights) = 0

Pseudo Recognition

Pseudo Recognition

Conditional Recognition

Pseudo Recognition

Conditional Recognition

Pseudo Recognition

Write Table 3 again into the matrix, then analyze the correlation to conclude the proposed hypothesis= this part has been modified.

Table 4

Type of Rights Correlated with Impact Forest

Country	Type of rights	Impact forest
Cambodia	0	0
	1	
	2	
Thailand	0	0
Vietnam	0	1
	1	
	2	
Malaysia	3	0
	0	
	1	
Philipines	0	1
	1	
	2	
	3	
Indonesia	4	0
	0	
	1	

Note. Mark 0, 1, ..., 7 represent 8 types of rights, and Mark 0, 1, 2 represent 3 categories of impact forest.

This paper assumes that indigenous peoples will get full recognition if the IPs has ownership of labels 6 and 7. This hypothesis can be proven using correlation analysis (in this case, a significant positive correlation / if the value of variable 1 increases, then the other variables also increase, and vice versa) to answer whether the assumption is fulfilled or not. Because the data used is ordinal, it uses Somer's D correlation analysis. Somer's Delta, or Somer's D, measures agreement between pairs of ordinal variables. A measure of agreement tells us something about how two variables are connected. The type of rights data and impact forest data are included in ordinal variables. Ordinal variables are ordered from best to worst or smallest to most significant. When we want to know whether indigenous peoples will or will not fully recognize indigenous forest governance, we need to characterize those data to determine what method will be used to test

our hypothesis. Note that full recognition is one of the levels in impact forest variables. Therefore, it is with a high level of confidence that this study chose to use Somer's D method to learn about indigenous forest governance. The Somer's D analysis is as follows.

Table 5

Case Processing Summary

Crosstabulation	Cases					
	Valid		Missing		Total	
	N	Percentage	N	Percentage	N	Percentage
Type of rights * Impact forest	17	100%	0	0%	17	100%

Count	Forest Impact		Total
Type of Rights	Pseudo	Conditional	
Use of Indirect Benefits	4	2	6
Use of Direct Benefits	3	2	5
Management	1	2	3
Exclusion	0	2	2
Transaction	0	1	1
Total	8	9	17

Note. Data Analysis using Somer's D

- H_0 : indigenous peoples will not get full recognition (as the highest level of impact forest) of indigenous forest governance if they do not have the type of rights with labels 6 and or 7
- H_1 : indigenous peoples will get full recognition (as the highest level of impact forest) of indigenous forest governance if they have the type of rights with labels 6 and or 7
- Significance level,

Table 6

SPSS Output: Directional Measures

Description	Value	Asymp. Std	Approx.	Approx. Sig.
Ordinal by Ordinal		Error ^a	T ^b	
Somers'd Symmetric	.402	.175	2.237	.025
Type of Rights Dependent	.500	.223	2.237	.025
Impact Forest Dependent	.336	.143	2.237	.025

From the output, we got 0.402 as the correlation value and 0.025 as the signification value. Due to the result = 0.025 which is less than 0.05, therefore H_0 is rejected.

From the mathematical analysis carried out, it was determined that indigenous peoples resolve to get full recognition (as the highest level of impact forest) of indigenous forest governance if they have a type of right with labels 6 and/or 7. Consequently, this type of analysis has further helped to explain that the fate of indigenous peoples was far from the positive impression the government often conveyed. Half-hearted recognition of IPs was often the norm in the six selected ASEAN member countries. However, there were certain critical points when IPs interests were protected by the decisions of judges which upheld the rules and regulations legislated in favor of the survival of IPs. There were several court decisions which have become landmark victories for the survival of IPs, such as the guarantee of justice given by King Sihanouk of Cambodia in the case of illegal land acquisition by IPS Ratanakkiri (*King Delivers Justice in Land Case | Phnom Penh Post*, n.d.), or other cases like *Adong bin Kuwau & Ors v Kingdom of Johor & Anor* in Malaysia.

Nevertheless, there have been other IPs cases which were not made public and thus, the IPs problem is just like the ‘tip of the iceberg’ as only the small, noticeable part of the IPs problem has been discussed but not the hidden larger problematic struggles of the IPs. Some actions of certain quarters still do not acknowledge the existence of the IPs and their rights, and even worse when their actions threaten the survival of the IPs by destroying the indigenous forests, their source of life. At the very least, this paper has tried to show that there is no longer any more time to delay in providing robust regulation/policies favoring indigenous peoples; especially their rights over indigenous forest governance at the highest level. Support for IPs must include strengthening the legal system’s protection of IPs rights in each of the six selected ASEAN member countries, primarily upholding the judicial recognition of the rights of the IPs over their lands, cultures, and endowments, as well as their traditional way of life.

CONCLUSION

The granting of IPs rights for indigenous forest governance in ASEAN member countries varies. Generally, the granting of rights in the six ASEAN member countries studied were governed by the following two regulatory regimes: land and forest regulation. From a juridical perspective, the Philippines, through its IPs RA, is more

responsive in assigning IPs rights to forest governance through State regulations and policies. In the context of Indonesia, Vietnam, Malaysia, and Cambodia, these countries have also granted IPs rights over forest governance, though the respective State's interests could still impose limits on the rights and they could be taken away at any time. Meanwhile, Thailand's regulations and policies regarding the granting of IPs rights on forest governance are difficult to define because the provisions governing IPs rights on forest management are unclear and not explicitly stated. Through testing with Somers's analysis on forest impact correlated with Sikor et al. rights, this paper would like to strongly suggests that recognizing IPs rights over indigenous forest governance must be strengthened both from juridical and praxis perspectives. Further research in this discIPs line could focus on improving the analytical methodologies used, investigating the socioeconomic impacts of strengthened IPs rights on indigenous communities, and evaluating the effectiveness of international collaboration in harmonizing IPs rights for indigenous forest governance. A global comparative analysis could also provide a broader perspective and assist in identifying best practices for securing and enhancing IPs rights over indigenous forest governance.

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