



Sustainable Forest Management from the Perspective of Customary Law in Indonesia: A Case Study in the Bayan Community

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Abstract

The Indonesian government has not been able to realize sustainable forest management under the 1945 constitutional mandate, causing much forest damage. Indonesia urgently needs good forest governance. Therefore, it is essential to give a more significant role to local communities in managing forests in the future. The primary objective of this research project is to find sustainable forest management practices based on the customary law of the Bayan community. This research uses the literature review and case study method. An additional objective of this research is to study the problems that occur due to the absence of legal protection for local communities with regard to forest use and conflicts. This research demonstrates that the Indonesian government provides extensive support to the private forestry sector (for example through award of permits) and has ignored the rights of people who live around the forest. Forest management through customary law, such as Awiq-awiq in Bayan village, can provide great economic, social, and cultural benefits to local communities. Awiq-awiq regulates prohibitions, sanctions, and the procession of the customary assembly in association with forest management, and has been an effective way to use forests sustainably. The local community is highly compliant with awiq-awiq because they have been directly involved in drafting and reviewing this regulation. The customary law approach used by the Bayan community is an example of sustainable forest management practices that run well; and could be a valuable model for the Indonesian state and other forest conservation managers to consider.

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1. Introduction

This chapter presents the background to this research, and describes the impacts of current forest management laws on local people in affected village communities in Indonesia. This is followed

Terminology of Sustainable forest management

Sustainable forest management is about managing and using forests and forest land in a way, and at a level, that preserves existing biodiversity, productivity, regeneration capacity, vitality, and the forests' potential to fulfill, now and in the future, relevant social, economic and ecological functions; at local, national and global levels and in ways which do not cause damage to other ecosystems (Middleton 2013). This concept can be described simply as achieving a balance between increasing community demands for forest products and benefits, and preservation of forest health and diversity (Trosper and Parrotta 2012). Sustainability is essential for the survival of the forest, and the welfare of the people who depend on it. For sustainable forest managers, managing specific forest channels means determining, in a tangible way, how to use the forest today to ensure the same benefits, health, and productivity in the future (Foster et al. 2010).

To produce an integrated forest policy, forest managers must assess and integrate a variety of considerations, often including conflicting needs – commercial and non-commercial values, environmental considerations, community needs, and even global impacts (Foster et al. 2010). In most cases, forest managers develop consultative plans in collaborations with a wide range of stakeholders including local residents, entrepreneurs, relevant organizations, and other interested actors in and around managed forest channels. A range of new tools and visualizations have recently been developed to support better management practices (Adamowicz and Burton 2003). Because forests and communities are constantly changing, the desired outcomes for sustainable forest management may also change over time but forests that are managed sustainably will change in ways that are supported by communities which value sustainability (Hickey and Innes 2005).

Defining customary law

The term customary law was first developed scientifically by Van Vollenhoven, an expert on Customary Law in the Dutch East Indies (now Indonesia). As identified by Van Vollenhoven, customary law refers to the original traditional laws present in Indonesian communities before the introduction of Western laws, and the associated rules and sanctions to encourage preferred behaviors (Benda-Beckmann and Benda-Beckmann 2011). According to Davidson and Henley (2007), Customary Law remains an unwritten rule and guideline for many Indonesians today, and is part of daily life for people in both villages and cities. More broadly, customary law is the traditional set of laws in any indigenous community. Customary laws are often not written laws; however, they are implicit and embedded in a particular community or society. They originate from social customs and rules which evolve over time through processes of adaptation, practice, and learning, so that they can be used by the community to survive and remain cohesive (Ørebech 2005). With respect to forest practices, Huy Tuan (2006) illustrates how people in the highlands of Indonesia use their customary law as rules and norms in the management of local forest resources. Throughout Indonesia, customary law is often used to convert shared resources into limited shared property rights. Thus, even though the property in question (such as a forest) is publicly owned, according to customary law there are limits around its access and use. This is critical for the long-term sustainability of forests and related ecosystems (Ørebech 2005). In Indonesia, many case studies have shown that customary law can be effective in natural resource management. The Bayan people in Lombok are a particular example: between 2000-2012 this group was able to

manage the local forests using customary law to achieve an increase in forest vegetation cover to 4.78% (Ifrani et al. 2019). One key component of this success was that Bayan customary law is effective for managing and reducing conflicts associated with deforestation (Diswandi 2017).

Customary law and forest management

This section explores Indonesia's existing laws regarding forest management, some issues related to these laws, and then considers the potential role and value of customary law in forest management. Indonesia has high biodiversity, and a high level of endemism (Mutolib and Ismono 2017). Indonesia is the world's third most biodiverse country, after Brazil and Colombia, with 13 different types of terrestrial ecosystems and six different aquatic (including marine) ecosystems. Within these ecosystem types, 74 different categories of vegetation have been identified (Indonesia Minister of Environment 2009, Mutolib and Ismono 2017).

With such rich biodiversity, it is crucial for biodiversity conservation that Indonesia manages its ecosystems well, and for the long term. Currently, Indonesia's forest governance is underwritten by the country's 1945 constitution, particularly article 33 paragraph 3, which states that "[Indonesia's] earth, water and natural resources contained in it controlled by the state and used as much as possible for the prosperity of the people". This statement is worth considering in relation to what it says about the exploitation of Indonesia's earth, water, and other natural resources, including the key points "controlled by the state" and "the greatest prosperity of the people (Ifrani et al. 2019)." All exploitation of natural resources in Indonesia is expected to comply with these two points; to ensure both that the exploitation reflects state control, and that it provides the greatest prosperity for the people (Ardiansyah, Marthen, and Amalia 2015). This latter point is elaborated further in Indonesia's Basic Agrarian Law No. 5 of 1960, Article 1 and 2, which together state that all natural resources are to be used to bring prosperity, happiness, and justice to the State and the people; and seek to clarify the rights to natural resources for all Indonesians (Agustina 2018). It is important to note that extensive ambiguity remains in both the 1945 constitution and the other current laws, regarding whether 'the people' includes future as well as present generations (Ifrani et al. 2019). Intergenerational equity and justice is a fundamental principle of biodiversity conservation which is often overlooked in national-level laws; often to the advantage of short-term vested interests at the cost of biodiversity for future generations (Martin, Boer, and Slobodian 2016). In the case of Indonesia, despite the lack of clarity around whether intergenerational equity is accommodated in the country's constitution and other existing laws, it is clear that State control of natural resources has the stated intention of furthering the prosperity of "all its people"; indicating, at least, an intention to use natural resources to support the entire present-day population (Ardiansyah, Marthen, and Amalia 2015). However, forest management in Indonesia does not reflect compliance with sustainable forest governance principles, leading to extensive deforestation and forest degradation over recent decades, with associated major biodiversity losses and other extreme – often irreversible – environmental and social impacts (Ifrani et al. 2019). The Indonesian Ministry of National Development Planning, BAPPENAS, reported in 2010 that the fundamental problems in the Indonesian forestry sector included poor governance (including corruption as well as lack of capacity and resources); asynchronous spatial planning between the State and the regions; unclear tenure rights; and weak overall capacity in forest management (including law enforcement) (BAPPENAS 2010). In addition, BAPPENAS (2010) found that these forest management issues had led to extreme destruction of natural resources; which remains ongoing. The loss of forest cover in Indonesia had started during the colonial era but worsened during the Soeharto regime

(Indonesia's second president) between 1966 and 1998 (Diswandi 2017). The forest loss is still increasing: in the 1980s, Indonesia's forest loss averaged around 1 million ha per year, which almost doubled to around 1.7 million ha per year in the first years of the 1990s. Since 1996, deforestation rates have increased to an average of 2 million ha per year (Forest Watch Indonesia 2014). Alongside the inadequate implementation of Indonesia's formal laws, there is a lack of clarity around customary land rights and how they may be able to operate alongside laws to support effective forest management (Ifrani et al. 2019). Given that forest management in Indonesia requires urgent attention to halt and reverse deforestation of native forests, it is timely to consider whether part of a new effective forest management system could include not only the development of clear and specific laws and the effective implementation of those laws (including adequate enforcement, independent monitoring and associated resourcing), but also consideration of the benefits of accommodating the values and regulations of local customary law (Wibowo, Race, and Curtis 2013). Many local people and communities in Indonesia have a long history of rely for their livelihoods on their local forests, and these communities may retain knowledge and experience of sustainable forest management practices (Santika et al. 2017).

In utilizing forest resources, Indonesian communities have traditionally complied with local customary laws, including 'rules' which are obeyed regarding how wood, hunting and other forest practices should be undertaken (Wibowo, Race, and Curtis 2013). Forest management based on local wisdom and customary law is a longstanding traditional practice which has remained sustainable over generations; in part because local communities have been dependent on the resources and have developed practices to protect these resources and to ensure their community is not placed at risk by overuse (Tamalene et al. 2014).

While it is important to recognize that forest management which relies on customary law may face challenges today which it did not face in the past, including a weakening of the power of customary law in the face of higher population densities and migration, weaker community ties, increasing consumerism and other factors, at the very least, forest management should involve the community around the forest, particularly where the local community is still closely connected with the forest and is therefore most likely to be invested in its sustainable management (Karhab and Setyadi). Globally, sustainable forest management is often prevented due to forest policies that greatly benefit companies and powerful individuals that obtain licenses to clear native habitat, while disregarding and violating the rights of local communities (Enrici and Hubacek 2016). In Indonesia, a stronger, fairer, more effective government policy could include a return the forest management based on local customary law, in areas where local communities still have the skills and desire manage their local forest sustainably to preserve its biodiversity and ecological functions. This would have the added benefit of improve equity of access to forest resources, as Indonesia's constitution stipulates (Nanang and Inoue 2000). Given the scale and urgency of the deforestation crisis currently occurring in Indonesia a wise government will seize the opportunity to reform laws, policies and associated practice so that law enforcement not only reforms its substance, but also reforms the legal culture and legal structure (Ifrani et al. 2019). To identify what is effective in the Indonesian context, it is important to consider the extent to which forest management based on customary law, such as that practiced in the Bayan community, is useful and suitable as part of future forest sustainability in Indonesia.

2. Materials and Methods

The methodologies for this research include a literature review and case study. Forests have diverse functions for human societies; not only ecological but also economic and socio-cultural. Forests benefit humanity not only at local levels but also at national, regional, and global levels. Direct benefits are obtained from a variety of forest products and services, including wood, other biological forest products, non-biological forest products, services derived from the forest, and goods and services derived in turn from these forest products (FAO 2005). As discussed earlier, the most important benefits of forests globally are related to their ecological functions, including protecting biodiversity and mitigating the effects of harmful climate change. Setting aside these vital indirect benefits, some of the more direct economic, social and cultural benefits are summarized below. Indonesia's forests provide economic benefits in the form of timber and non-timber forest products as well as other environmental services (FAO 2005). Non-timber forest products include rattan, latex, honey, medicinal plants and many other resources that can support the local and national economy (Kian Wie 2018). The Indonesian forestry sector contributes to the country's economy through timber and non-timber exports. Data from the Ministry of Environment and Forestry indicated that in 2018, there were 12.17 billion US dollars in foreign exchange earnings from the forestry sector. In addition to national-level economic benefits, forests are a source of economic income for local surrounding communities, with common forest product utilization activities including harvesting of wood and non-wood products (Lee 2017). Indonesia's 1945 Constitution, article 1 paragraph (3), includes the statement that all aspects of life in society, nation, and State must be based on legal norms (Hamzani 2015). While it is understood that the law should be used to support and resolve conflicts between individuals and groups, at all levels of society and the State, it is also expected that under the rule of law, all people must obey governmental rules; and of particular relevance for this discussion, the government has primary control of forest management (Hidayat, Abdullah, and Ilwan 2018). Specifically, Article 33 paragraph (3) of the Constitution states that the Earth, water, and natural resources contained therein are controlled by the State, to be used for the greatest prosperity of the people (Ardiansyah, Marthen, and Amalia 2015). Despite this intention, since the 1960s the Indonesian state's implementation of the laws on forest management have led to many conflicts, increasing inequality and erosion of indigenous rights; destruction of cultures; and massive loss of forests and associated biodiversity (Hidayat, Abdullah, and Ilwan 2018). The following are additional laws that govern forestry in Indonesia.

3. Results and Discussions

Although the local community may benefit from the forest economically, socially, and culturally, these benefits are minimal compared to the financial benefits that forest concessionaries receive (Contreras-Hermosilla, Fay, and Effendi 2005). This has been argued to be contrary to the 1945 constitution, which states that forests should be used for the prosperity of the people (Ardiansyah, Marthen, and Amalia 2015). Although forest concessionaries play a role in the national economy by exporting forest products such as plywood and wood, forest concessionaries do not contribute significantly to the economic position of local communities (Guritno 2000). In this and other ways, it is clear that Indonesia forest management does not yet reflect compliance with good forest governance principles. The 1945 Constitution may recognize the existence of customary law, but

at present, there are no further regulations related to this provision (Ifrani et al. 2019). Further, control over customary rights is regulated as ‘ownership status’; this is stipulated by both Law No. 5/1960 concerning Basic Agrarian Principles relating to land rights, and Law No. 41/1999 concerning Forestry (Ifrani et al. 2019). Legal protection and management of customary forests are still not governed procedurally, and there are no clear, readily available maps which show areas and agreed-boundaries of customary forest. This confusion often leads to overlapping rights between indigenous peoples and forest concessions, generating conflicts between companies and local people which often increase forest destruction (Pasaribu, Vanclay, and Zhao 2020). Conflicts occur due to several reasons, such as:

1. Unclear and disputed boundaries between the customary forest and forest concession (Simorangkir and Sardjono 2006).
2. Customary law violations by forest industries (Ifrani et al. 2019, Afiff and Rachman 2019).
3. The ineffectiveness of and perceived injustices by law enforcement officers when responding to stakeholder concerns/conflicts (Fay and Denduangrudee 2018) .
4. Destruction or loss of resources that support the livelihoods of indigenous peoples and communities around the forest (such as food from the forest), due to forest loss, fragmentation or other modification (Nugroho et al. 2018, Hidayat, Abdullah, and Ilwan 2018).

The Bayan community is located in the Bayan Village, Bayan District, West Lombok Regency, West Nusa Tenggara Province. The indigenous Sasak people of this community retain many ancestral traditions (Arief and Subadyo 2017). Bayan Village comprises an area of around 2,600ha, and is one of six villages in Bayan Subdistrict, West Lombok Regency. This village area stretches from the foot of Mount Rinjani to the northern coast. The location is one of the routes to climb Mount Rinjani (Jayadi, Yanuwiadi, and Purnomo 2014). The livelihoods of Bayan villagers generally involve work as farmers, to produce rice, vegetables, coconuts, fruits, shallots and garlic; this work is the mainstay for the community. In addition, the Bayan community has a tradition of managing natural resources, particularly the local forest. The Bayan Village community lives according to the principles set out in their traditional customs, which are still followed closely (Hidayat, Abdullah, and Ilwan 2018).

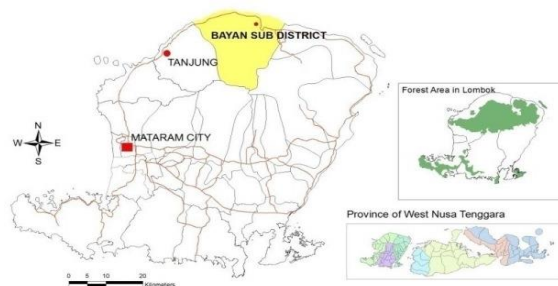


Figure 1. Bayan Village Map, North Lombok (Jayadi, Yanuwiadi, and Purnomo 2014).

Customary rules, known also as awiq-awiq, are used to protect the forest. This includes sanctions for those who damage customary forests; for example, a person who cuts a tree against local regulations is fined one buffalo, one quintal of rice, and 244 coins perforated (Mutia et al. 2019). According to Mutia et al. (2019), these three components of the guidelines must be obeyed by all parties who will utilize customary forests in the Bayan Region (Table 1).

No	Regulated activities	Regulations
1	Prohibited activities	<ol style="list-style-type: none"> 1. Regulation against clearing land in customary forests 2. Regulation against cutting down trees in the customary forest 3. Regulation against hunting in the customary forest 4. Regulation against releasing livestock inside customary forest 5. Regulation against burning customary forest areas
2	Sanctions	<p>The sanctions below match numerically to the transgressions above</p> <ol style="list-style-type: none"> 1. 10,000 pieces of ancient money 2. One quintal of rice 3. One buffalo 4. One chicken 5. Two whole coconuts 6. Two sugars 7. Plant trees according to the type that is cut
3	Customary court processes	<ul style="list-style-type: none"> - If awiq-awiq violations occur, Pemangku (forest ranger) reports to the Pembekel (Traditinal leaders). - The pembekel held a joint adat (gundem) session with other traditional leaders. - The traditional session chaired by the Pemekel is held with presenting violators, witnesses, and accompanied by evidence

The Bayan peoples and communities around this forest comply closely with these customary rules, and this minimizes deforestation and conflicts (Diswandi 2017). Indeed, between 2000-2012, the Bayan people were able to increase forest vegetation cover by 4.78% (Ifrani et al. 2019). This chapter has introduced and described a system of customary rules that meets the concept of sustainable forest management; called awiq-awiq. Awiq-awiq refers to customary provisions that apply in a hereditary way to indigenous peoples in the Bayan Village, and which have binding power for them, including customary sanctions for non-compliance. Application of awiq-awiq is able to reduce deforestation and conflict. The Bayan community is highly compliant with awiq-awiq and customary law, and when this is in force, the community complies with sustainable forest practices. In fact, people consciously participate in preserving and protecting the land in their customary forest areas. There is a strong public awareness of the long-term benefits of the forest, both in terms of the availability of wood to build their homes, as well as non-timber forest products such as honey and cocoa. The adat institutions play a central and vital role in realizing sustainable forest management. The customary rules, even those involving prohibitions and sanctions, involve consultation within the local community; the whole community is included and respected, and together this preserves the forest.

4. Conclusion

The aim of this research project was to explore sustainable forest management practice from the perspective of customary law in Bayan village, Indonesia. This study has sought to:

1. Review the current formal laws that apply to forest management, including the importance of forests in Indonesia.
 2. Investigate the problems that can arise from the absence of legal protection of customary law regarding forest management.
 3. Research and present the findings of a case study investigating sustainable forest management based on customary law, from the Bayan community in Lombok, Indonesia.
- This chapter summarizes the key findings of these aims, and provides recommendations to inform forest management policy and practice, in order to support best-practice decision-making by the Indonesian government and other natural resource and conservation managers.

Key findings

A review of current literature in the field of sustainable forest management and the formal laws has been used in this research, in order to achieve the first aim. Chapter 2 revealed that even though the local community benefits from the forest economically, socially, and culturally, these benefits are minimal compared to the benefits obtained by forest concessionaries. Forest management in Indonesia does not yet reflect compliance with good forest governance principles, as stipulated in the 1945 [add rest of this]. Moreover, control over customary rights is partly regulated as ownership status, as stipulated in Law No. 5/1960 concerning Basic Agrarian Principles relating to land rights, and Law No. 41/1999 concerning Forestry, which controls the state of forestry. This leads to overlapping rights between local people and forest concessions, which greatly increases the likelihood of conflict between these groups as well as greater forest destruction.

The research has discusses the problems that can arise from the absence of legal protection of customary law regarding forest management; this discussion achieves the second aim of this research. The chapter identified four major problems that have emerged as a result of forest management laws that are biased towards benefits for forest concessionaries. These issues include unclear forest-use boundaries, customary law violations, injustices against local communities, and livelihood destruction. The chapter demonstrated that Indonesia's current regulations clearly has not been able to accommodate the rights of local communities to manage forests sustainably according to traditional practice. The research has investigated a case study of sustainable forest management based on customary law, in the Bayan community, Indonesia. Bayan customary law regulates the community's forest management through awiq-awiq. This awiq-awiq is a customary law used as a guideline in the management of forests in Bayan, and specifically regulates three aspects of forest management: prohibitions (limits on use), sanctions (for noncompliance), and processes processions of customary assembly. Awiq-awiq guidelines and regulations have been developed by the community itself and the process still involves the local people, so they feel respected and included, and accept their individual and collective responsibility to manage their forest well. The case study demonstrated that forest management through awiq-awiq can be used for the long-term benefit of the local people. The community is able to use both timber and non-timber forest products to fulfill their daily needs, as long as they get permission from the adat leader. Importantly, traditional ways of life are maintained, and the forest is protected.

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