

Perspectives on Landscape Approaches in Indonesian Policies



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Indonesian national development planning is laid out in five-year planning documents. These documents form the points of reference for implementation. The current plan (2020 – 2024) stipulates environmentally friendly economic development with the intention of integrating conservation and economic development; two aims frequently deemed contradictory (O'Connor et al. 2020). Sustainable development aims to ensure synergy and optimize the achievement of often conflicting economic, social, and environmental objectives. The landscape¹ approach focuses on means and processes for managing the complexities and dynamics of related biophysical, social and policy elements in overcoming trade-offs in the utilization of natural resources and achieving environmentally friendly development. Its overall aim is sustainable landscape management.

The landscape approach uses an inclusive outlook that considers various aspects of human life and encourages efforts to harmonize human life and nature. Therefore, from a policy perspective it is important to identify issues and the scope of policies relating to the landscape approach that provide opportunities for supporting the implementation of sustainable landscape management.

This infobrief is the result of a study of various policies issued by the Government of Indonesia at both central and regional levels. After determining the extent of policies relating to sustainable landscape management, the study was carried out by reviewing relevant, directly related macro policies (laws). The next stage was identifying references to lower-level policies providing the foundations/operational guidelines for the material/substance of those laws.

We spent greater focus on regional-level policies as they are implementary in nature and are directly connected to local-level agendas. In order for landscape approaches to achieve their objectives, Sayer et al. (2013) developed ten principles, namely:

1. Adaptive management
2. Common concern entry point
3. Multiple scales
4. Multifunctionality
5. Multiple stakeholders
6. Negotiated and transparent change logic
7. Clarification of rights and responsibilities
8. Participatory and user-friendly monitoring
9. Building resilience [social, economic, ecological]
10. Strengthened stakeholder capabilities.

In their implementation, these approaches need to be used in line with policies and institutions at the national, regional and local levels. Accordingly, the focus of this paper is: “Does the policy framework in Indonesia support integrated landscape management? If so, which policies do so, and what are their linkages or lack thereof on the ground? What are the challenges, impacts and lessons learned?” This policy analysis is part of the Collaborating to Operationalize Landscape Approaches for Nature, Development and Sustainability (COLANDS) action research; a collaborative project involving the Social, Economic, Policy and Climate Change Research and Development Center (P3SEKPI), CIFOR and Yayasan Riak Bumi, with funding support from IKI-BMUB.

Data collection methods

This study uses primary and secondary data. Primary data was collected through semi-structured in-depth interviews, focus group discussions (FGDs) and field observations. We interviewed seven key local-level informants in case study locations, and fifteen respondents representing a variety of interest groups, i.e. policymakers, researchers, academics, and civil society organizations. FGDs for data collection were held one time each at the national, provincial and kabupaten² levels. We also held one FGD involving kabupaten and national stakeholders to triangulate our findings. Secondary data was collected from literature, the Central Statistics Agency and related sectors. We also

¹ The English term 'landscape' is often translated in Indonesian as 'lanskap', 'bentang alam' or 'bentang lahan'.

² Kabupaten is a second-level administrative division of Indonesia, beneath the provincial level. It is often translated as district or regency. To avoid debate and confusion, we opt to use Kabupaten.



made a list of policies and institutions established since 2000 that according to respondents have affected landscape management and/or changes. We then reviewed each of these individually in greater depth.

Legislation in Indonesia is regulated by Law No. 15/2019 (amending Law No. 12/2011) on the Establishment of Regulations. One of its provisions stipulates that regulations may not contradict provisions in higher-level pieces of legislation. Similarly, regulations on and implementation of natural resource management in Indonesia is tied to the government hierarchical framework where authority over natural resources is divided between the central down to village government levels (Law No. 22/1999 on Regional Government and Law No. 6/2014 on Villages). This study covers policies in accordance with this hierarchical framework, from the central, provincial and kabupaten levels. The focus of this study is Kapuas Hulu kabupaten, but as explained by Graben (2016), despite autonomous regions having their own responsibility structures, the institutional and policy framework is nested in this hierarchical policy framework.

Study locations

Study locations were in Kapuas Hulu, a kabupaten in West Kalimantan (Figure 1). There are two strategic issues concerning Kapuas Hulu. First, the kabupaten lies on the border between Indonesia and Malaysia. Since 2015, through Presidential Regulation No. 2/2015, border regions, also called

frontline regions, have been the main priority for economic development. Second, more than 50% of the region is classified as protected area, including Betung Kerihun National Park (800,000 ha) and Lake Sentarum National Park (127,000 ha), both of which are managed by one authority, namely the Betung Kerihun and Lake Sentarum National Park Authority. Its forest ecosystems are habitats for various protected flora and fauna species, including tengkawang trees (*Shorea* spp.), orang utan (*Pongo pygmaeus pygmaeus*), proboscis monkey (*Nasalis larvatus*), hornbills (Bucerotidae) and the endemic super red variety of the Asian arowana (*Scleropagus formosus*).

Kapuas Hulu consists of many watersheds, but we selected the Seriang and Labian-Leboyan watersheds (Figure 2 and 3) as case study locations as both rivers empty into the Danau Sentarum wetlands, which have key hydrological functions for the Kapuas River. Landscape management along both rivers has a significant influence on the hydrology of Danau Sentarum and the Kapuas River.

Policy dynamics and their links to landscape changes in Kapuas Hulu

Since 2000, landscapes in Kapuas Hulu have experienced significant changes, driven by regulatory dynamics in response to global, regional and local situations. Many factors have driven these landscape changes. Decentralization

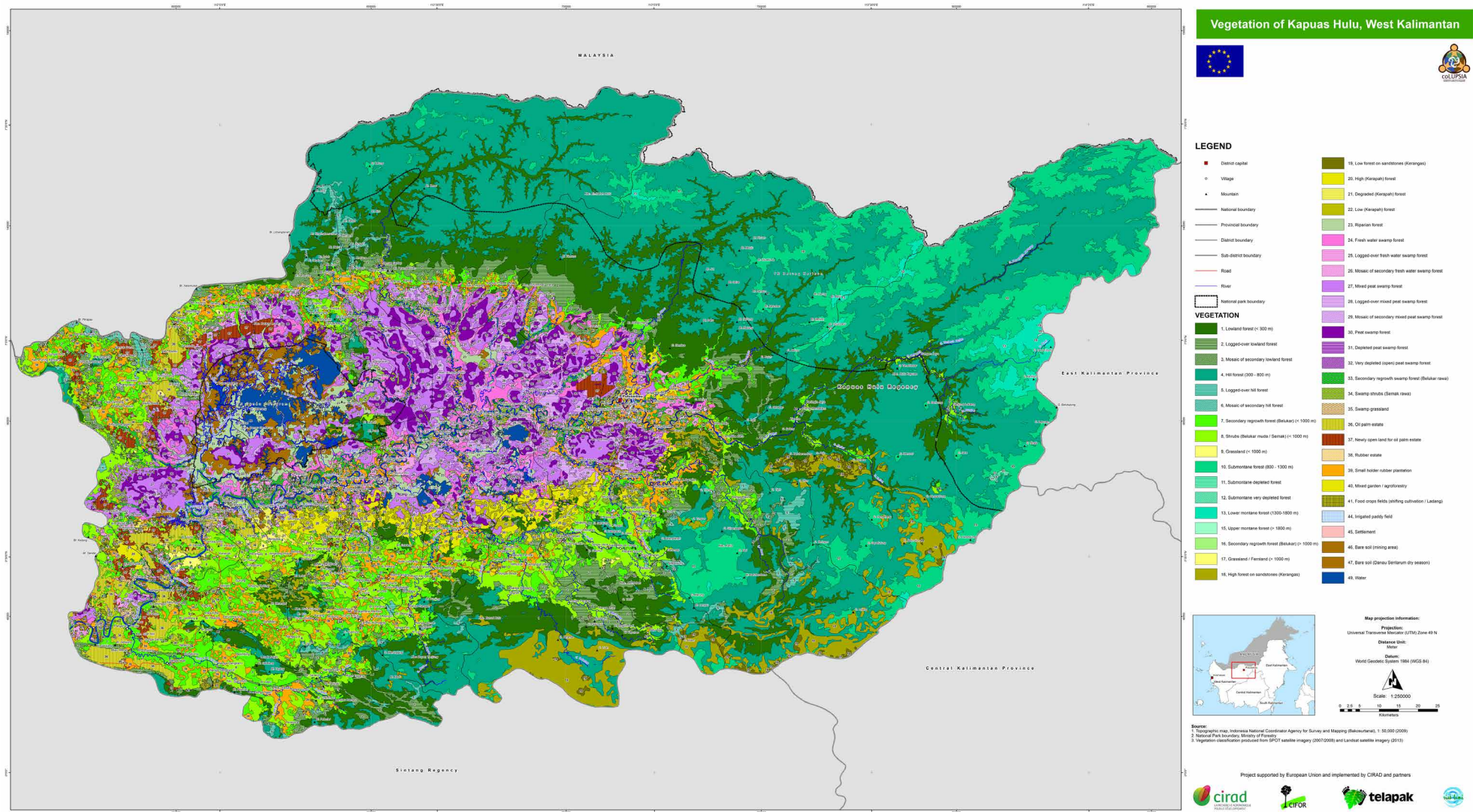


Figure 1. Kapuas Hulu vegetation cover.

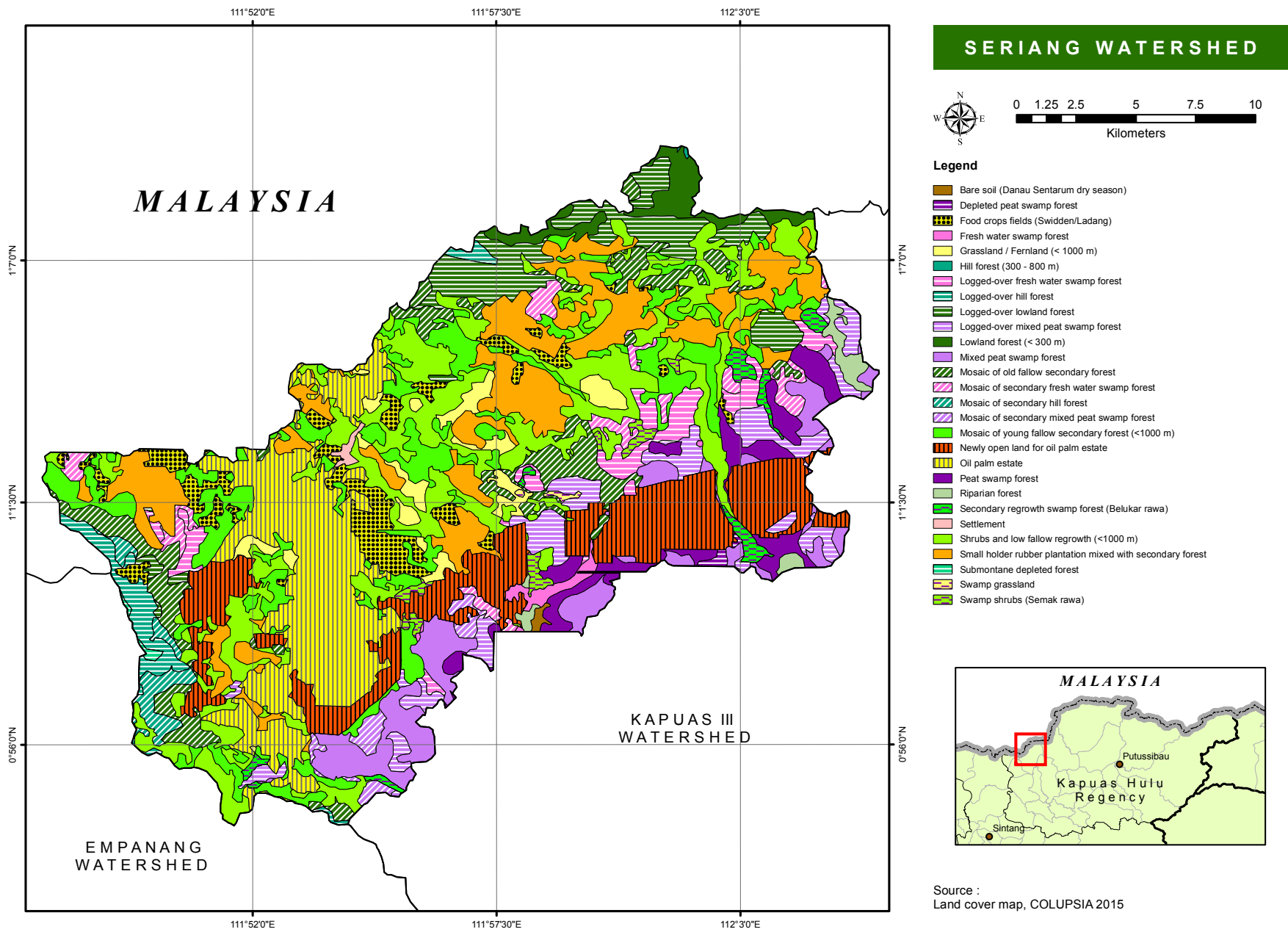


Figure 2. Seriang watershed.

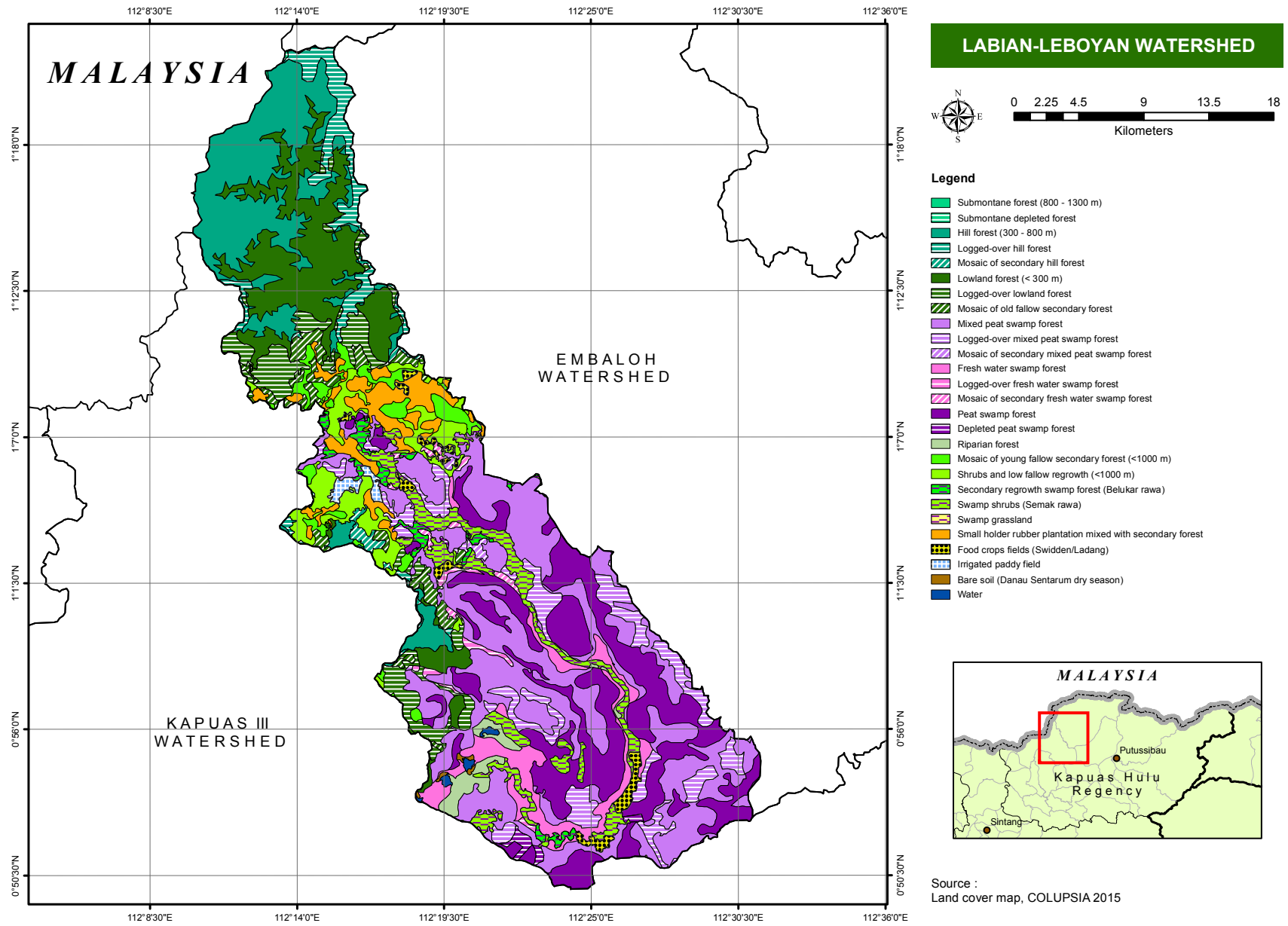


Figure 3. Labian-Leboyan watershed.

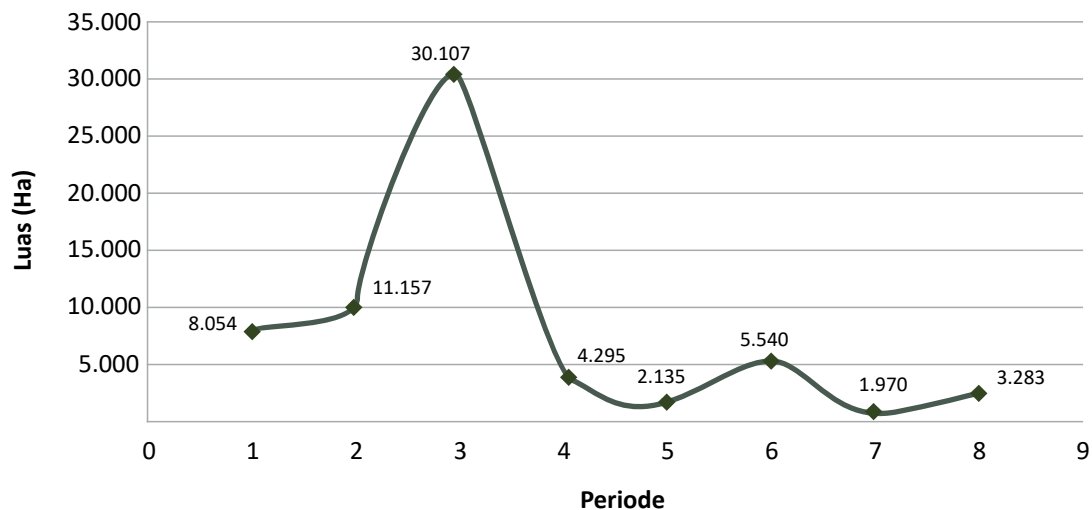


Figure 4. Changes to the area of state forest estates in Kapuas Hulu from 2009-2018.

in 2000 (Obidzinski et al. 2006) enabled the kabupaten to derive direct benefits from forest exploitation and encouraged growing numbers of forest user actors and organizations as well as widespread illegal logging (Wadley and Eilenberg 2006). To halt illegal logging, in 2005 Presidential Instruction No. 4/2005 was issued on law enforcement against illegal loggers. The Forest Law Enforcement, Governance and Trade (FLEGT) program (<https://www.euflegt.efi.int/what-is-flegt>) was launched in the same year. Widespread illegal logging, particularly in Sumatra and Kalimantan (Forest Watch Indonesia/FWI 2011) caused forest degradation to become a national issue, therefore its control involved 18 government institutions. However law enforcement against illegal logging failed to avert forest conversion. The issuing of oil palm plantation licenses to private concessions in APL (other land use areas) caused deforestation to peak from 2010-2012 (Figure 4). Deforestation in Kalimantan began to slow following the REDD+ Demonstration Area policy in response to the global climate change initiative (Wegscheider et al. 2018).

This policy encourages consolidation of actions on the ground and local capacity building. Deforestation has also been controlled with corrective policies and the amalgamation of ministries to become the Ministry of Environment and Forestry, which resulted in the broadening and legalization of access, conflict resolution and asset provision, thereby contributing towards deforestation, but on the other hand has still caused biodiversity loss, scarcity of clean water, high levels of waste production, as well as the conversion of communal land.

Serious threats to natural ecosystems and biodiversity in Kapuas Hulu have attracted the attention of various regional, national and international institutions. Some of these are working to preserve the rich biodiversity of tropical rainforests, which also function as carbon sinks and form microclimates, provide water sources for

local communities, and also become capital for regional and national development. This widespread attention encouraged the Kapuas Hulu Government to establish the region as a conservation kabupaten through Bupati (Kabupaten Head) Decree No. 144/2003 and Regional Regulation No. 20/2015. In 2018, the kabupaten was affirmed as a biosphere reserve by UNESCO with Betung Kerihun and Lake Sentarum national parks as core areas, protection forests and production forests as buffer zones, and other land use areas (APL) as transition zones (Directorate General of Natural Resources and Ecosystem Conservation/KSDAE 2018).

Main findings

Policies relating to landscapes

Bearing in mind a landscape encompasses the entirety of nature/the environment and natural resources, there is a vast array of regulations and policies on natural resource management in a broad definition. Specifically, we studied 42 relevant policies from the national level, eleven from the provincial level, and 31 from the kabupaten level relating to landscape management (see table in Annex 1). The table shows the majority of these regulations allowing the application of most of the 10 landscape approach principles. None of the regulations explicitly prohibit the application of any of these principles.

There are fifteen national policies, thirteen West Kalimantan provincial policies and four Kapuas Hulu kabupaten policies that support sustainable landscape management either directly and explicitly or indirectly and implicitly, for instance regulations on the need for multistakeholder processes or clarification of rights and responsibilities.

In addition, there are nineteen national policies, 23 provincial policies (including issuing and revocation) and four kabupaten policies regulating natural resource utilization.

There are natural resource utilization policies that are the same as or form part of landscape management policies, but there are also policies focusing on natural resource utilization separate to landscape management. Similarly, there are policies specifically regulating organizations and the division of authority and responsibilities as part of regulations governing landscapes (e.g. Law No. 41/1999) or are standalone policies (like the regional government and village laws). Of the regulations studied, 30 govern organizations, 5 in the province and 9 in the kabupaten (see Figure 5).

Legislation, for instance laws on forestry, spatial planning, integrated watershed management and conservation, as well as regulations on requirements for securing natural resource utilization permits are intended to ensure sustainable improvements in community wellbeing. Legislation is needed to establish conditions for utilization and to establish limits on utilization in the interests of sustainable livelihoods for the majority. Consequently, regulations governing estate management organizations or natural resource utilization also determine how landscapes can be managed sustainably.

As explained above, Kapuas Hulu has a special role in protecting Indonesia's remaining tropical rainforest biodiversity. With two large national parks, its declaration as a conservation kabupaten, and understanding of the importance of estate integrity, Kapuas Hulu has also been declared a biosphere reserve (Directorate General of Natural Resources and Ecosystem Conservation/KSDAE 2018). Nevertheless, effectively its biosphere reserve status has yet to become a reference in estate utilization and management.

This special position makes management using a landscape approach quite difficult. The kabupaten government has autonomy in regulating development processes in its region. However, more than half of the Kapuas Hulu region is conservation areas, the management of which

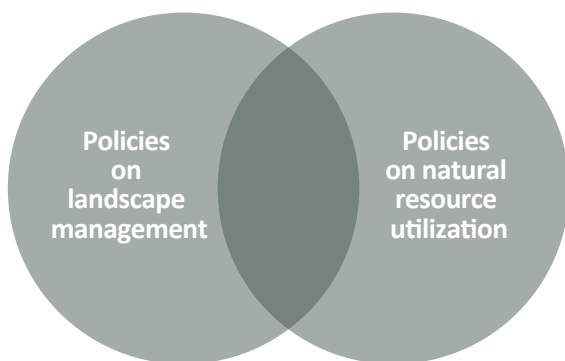


Figure 5. A simple illustration of the links between policies on landscape management and natural resource utilization.

is beyond the authority of the kabupaten and is regulated directly by central government. Meanwhile, non-conservation area forest estate management falls under provincial government authority. Kabupaten government management has become increasingly complicated with the integrated watershed management mandate. Watersheds are not wholly within forest estate boundaries, which leads to horizontal conflicts between sectors with different interests. Direction in establishing zonation for conservation estates is already stipulated in Minister of Forestry Regulation No. P.56/2006, which allows the establishment of seven conservation- and utilization-based zones. With this direction, the kabupaten government has an opportunity to utilize conservation estates in a framework of achieving regional sustainable development objectives that already consider economic, social, and environmental interests.

National parks are estates established to protect natural ecosystems and are managed by National Park Offices with zonation systems for the purposes of research, science, education, cultivation support, tourism, and recreation (Law No. 5/1990). With this zonation system, it is very possible for the national parks to be managed jointly with communities and to accommodate community interests.

Integrated watershed management

Landscape approaches depends on multi-stakeholder processes and efforts to unite all sectors within a single management framework. Government Regulation No. 37/2012 on Integrated Watershed Management and its derivative regulations relate directly to this integration principle. Bearing in mind Kapuas Hulu is the upstream area of the longest river in West Kalimantan and formed geographically and culturally by a number of large and small rivers, we paid special attention to those policies regulating them.

A watershed is a geographic entity connected by the flow of water from its upstream source to its downstream estuary and therefore constitutes a landscape with clear biophysical boundaries. Nevertheless, various conflicting interests necessitate coordinated management.

Government Regulation No. 37/2012 explains that watershed management is the responsibility of the Ministry of Forestry (since 2014, the Ministry of Environment and Forestry) and coordinated with related institutions, i.e. ministries/non-ministerial government agencies, provincial governments, and kabupaten/municipal governments with watershed management interests. As an implementation regulation, the Ministry of Forestry issued Minister of Forestry Regulation No. P.39/Menhut-II/2009 on Guidelines for Preparing Integrated Watershed Management Plans. At the provincial level, integrated watershed management is regulated by Regional Regulation No. 2/2018 and West Kalimantan Gubernatorial Decree No. 410/Dishut/2018.

Government Regulation No. 37/2012 and Regional Regulation No. 2/2018 were intended as guidelines for the management of natural resources in watersheds from planning, implementation, monitoring and evaluation to community participation, dispute resolution, financing, and sanctions. However, despite having the word 'integrated' in their titles and mandating the establishment of forums as a means for coordination, watershed management still falls under forestry arrangements. Under Law No. 22/1999 on Regional Government, the forestry sector came under kabupaten government authority, but with Law No. 23/2014 forestry fell under provincial authority. Arrangements are more complex for Kapuas Hulu kabupaten as its two large national parks fall under central government authority. The corridor between the two national parks is expected to become part of the broader biosphere reserve, but currently has status comprising APL, production forest and protection forest. So, the challenges for the foreseeable future are coordination between stakeholders and clarity over who is responsible for management of the corridor.

As a means for inter-agency coordination, a watershed management coordination forum (hereinafter watershed forum) was established. Watershed forums are a Ministry of Forestry initiative stipulated through Letter No. S.652/Menhut-V/2006, which asked all governors to encourage the establishment of watershed forums in their regions. The watershed forum involves multiple stakeholders including government and non-government elements, and is understood to function as coordinator in planning, mediator in disagreements, facilitator in coordination, accelerator in implementation and innovator in technology application. In addition, the forum also functions as liaison between communities and managers.

Despite the law stipulating that watershed forums could be established, in reality all stakeholders consider them a necessity. According to Wulandari and Ilyas (2019), watershed forums are the best alternative as they rest on existing legal foundations, enable stakeholder involvement, and ensure coordination is achieved. Watershed forums are expected to build commitment among stakeholders for achieving sustainable development and creating new mechanisms and funding sources. Watershed forums are also expected to facilitate community empowerment and monitor and evaluate stakeholder implementation and activities.

The main constraint to achieving the above objectives is that the watershed forum has yet to secure a strong legal foundation. Its establishment is based on Minister of Forestry Regulation No. P.39/Menhut-II/2009 on Guidelines for Preparing Integrated Watershed Management Plans and Minister of Forestry Regulation No. P.42/Menhut-II/2009 on General Patterns, Standards and Criteria for Integrated Watershed Management. Bearing in mind coordination proceeds through a hierarchy, the watershed forum is influential for coordinating other parties. Coordination

with communities however is sometimes hampered as communities are either unaware or do not care that their behavior in enhancing livelihoods can have negative downstream impacts.

According to interviews and FGDs at the kabupaten and provincial levels, the West Kalimantan watershed forum already functions quite well as a means for communication and information exchange. Nevertheless, the Kapuas Integrated Watershed Management Plan has yet to be integrated with RPJMD medium-term development plans, either at the provincial level or in kabupaten in the Kapuas watershed, thus making integrated watershed management a hollow policy (Sahide et al. 2018). RPJMD plans are the bases for the implementation of all development activities, and by law must consider spatial plans. However, in their implementation, spatial plans are also hollow policies. Apart from rarely being plans as such, and more often being illustrations of existing conditions, they are never truly made references in development planning. Therefore, it is necessary to increase the efficacy of integrating integrated watershed management plans and RPJMDs by strengthening spatial planning policies and regional RTRW spatial plans as these cover forest estates as well as areas outside the forest estate.

Agrarian reform, social forestry, and acceleration of the One Map policy

Three other interrelated policies directly affect the management of watershed landscapes: Agrarian Reform and Social Forestry (RAPS/Reforma Agraria dan Perhutanan Sosial); the One Map Acceleration Policy; and the Village Law.

The RAPS policy is a priority program of the current government administration and has been included in the national RPJM medium-term development plan. The program aims to rearrange control structures, ownership, use and utilization of land to be more equitable through the organization of assets and access for the prosperity of the Indonesian people. The assets in question are land, and given the extent of forest estate land controlled directly by the State, RAPS mainly targets the forest estate.

Agrarian reform is regulated under Presidential Regulation No. 86/2018, whereas social forestry as a support for this policy is regulated under Minister of Environment and Forestry Regulation No. 83/2016. The State has set a target of nine million hectares (ha) of land for surrender to local communities, including 4.1 million ha of forest estate, while 12.7 million ha of forest estate is targeted for social forestry. Agrarian reform land will be surrendered fully to communities, while the allocation of forest estate land for social forestry is only through various forms of use right leases, namely village forest, community forest, community plantation forest and forest partnerships. In addition, there

Table 1. Indicative TORA land in forest estate in Kapuas Hulu

No	Land criteria	Large (Ha)	Percentage (%)
1	Convertible and unproductive production forest	3,430	12.5
2	Government program to reserve land for new paddy fields	6,474	23.7
3	Transmigration settlements and their public and social facilities that have obtained principle approval	2,691	9.8
4	Settlement social and public facilities	13,029	47.7
5	Cultivated land (paddy field and fish pond)	1	0.0
6	Dryland agriculture (main source of livelihood for the local community)	1,710	6.3
Total		27,336	100.0

is hutan adat or customary forest, which requires special procedures for ownership.

Locations of Tanah Obyek Reforma Agraria (TORA) or land for agrarian reform are identified by using standards and criteria for the use of public facilities (*fasum/fasilitas umum*) and social facilities (*fasos/fasilitas sosial*) as the main target locations for release from the forest estate. Indicative maps for the allocation of forest estate for agrarian reform land are released through Minister of Forestry decrees and updated once every six months.

Minister of Environment and Forestry Regulation No. 83/2016 also establishes the Ministry of Environment and Forestry as the institution responsible for issuing permits under the social forestry scheme. It affords provincial and kabupaten governments the authority to be involved in verification processes, and private parties to be involved as partners. Monitoring and evaluation outcomes are made accessible to the public by using the Social Forestry Navigation System (SINAV). This system is integrated with the Facilitator Information System (SIMPING), which contains information from field facilitators of MoEF administration and human resources development agency (BP2SDM) and the Master Document Information System (SIMASDOK), which contains information on social forestry locations inside forest management units. This shows the systems developed are in fact already aimed at facilitating capacity building, transparency, accountability, and participatory monitoring, as well as user friendliness – all recognized landscape approach principles and objectives.

Based on Minister of Environment and Forestry Decree SK.7434/MenLHK-PKTL/KUH/PLA.2/9/2019 issued on 12 September 2019, the indicative area of TORA land in the forest estate in Kapuas Hulu is 27,336 ha, the details of which are shown in Table 1.

An implication of TORA is the release of forest estate for private ownership, but the main challenge is the time needed for proposal, validation, and verification processes. Information and field data can be incompatible, particularly regarding management region boundaries and overlapping ownership claims, and therefore frequently requires time

being allocated specifically for synchronization. Social forestry on the other hand, provides use rights while control rights remain with the State with implementation by the Ministry of Environment and Forestry.

Unsurprisingly, the Kapuas Hulu Government prefers TORA over social forestry, and in its proposal asked for 56,000 ha. Following up on the kabupaten government's proposal, the province issued a recommendation for 28,787.97 ha of TORA land in Kapuas Hulu kabupaten with a breakdown of 21,518.87 ha for boundary change resolution and 7269.10 ha for social forestry resolution (Gubernatorial Letter No. 522/0774/ Dishut/2019). The proposal was followed up with a study by the Settlement of Land Tenure in Forest Estate (PPTKH) implementation team through technical coordination. The study showed 3749.23 ha of land suitable for boundary alterations and 7632.61 ha suitable for social forestry. The study recommended 17,406.14 ha of proposed land be rejected as it had yet to be included in the RPJMD.

As with integrated watershed planning, one of the main constraints for RAPS is its relationship with RPJMD development plans. Without an RPJMD there is no budget allocation, and without a budget, activities cannot be implemented. The availability of central and regional budgets encourages acceleration. As RAPS is a project of central government, its financing must be allocated from the central budget.

Changes in forest estate boundaries, the determination of land use and the regulation of natural resource utilization permits all involve maps. Until now, sectors have tended to use their own maps, which frequently leads to disputes over boundaries, overlapping concessions and conflicts over rights. Presidential Regulation No. 9/2016 on Acceleration of Implementation of the One Map Policy is expected to help overcome this challenge. This presidential regulation rearranges the roles of every sector in providing spatial information relating to land use. The Ministry of Environment and Forestry is tasked with being information provider for nine forestry themes: estate gazette maps; estate establishment maps; forest resource value maps; conservation area zonation maps; maps of forest estates for special purposes; watershed boundary maps; community

forest maps; customary forest maps; and forest timber product concession license maps for plantation forest, natural forest and ecosystem restoration.

The existence of an integrated, accurate and credible 1:50,000 scale map is expected to facilitate and accelerate the resolution of agrarian conflicts and the rearrangement of overlapping agrarian structures, thus ensuring agrarian reform is implemented for the wellbeing of the people. Despite this presidential regulation being passed in 2016, until now Kapuas Hulu has yet to apply the policy fully. Major challenges being faced, as admitted by respondents, are the lack of skills in the region and the capacity to synthesize data from every sector.

Law No. 23/2014 on Regional Government and Law No. 6/2014 on Villages

As discussed above, the landscape approach depends on multi-stakeholder processes, where each stakeholder has their own interests. Those stakeholders closest to the landscape and most affected by developments within the landscape are village communities. Villages are at the lowest tier of the state legislation and development planning hierarchy. However, with Law No. 6/2014, village governments are afforded greater authority to regulate and organize community interests based on villagers' indigenous rights, customs, and sociocultural values; to establish and manage village institutions; and to secure revenue sources (Article 67). Accordingly, villages also obtain and have the authority to manage village budgets (Article 72) and manage village assets in the form of village treasury lands, communal lands, village markets, livestock markets, moorings, village buildings, fish auctions, farming produce auctions, village-owned forests, village-owned water springs, public bathing places, and other assets belonging to the village (Article 76).

In 2014, the government also issued Law No. 23/2014 on Regional Government, which basically positions autonomy at the kabupaten level, the exception being authority over forestry. Article 14 stipulates that governance over forestry is concurrent between central and provincial government. Consequently, the kabupaten government feels no special interest over forests and forestry. In relation to landscape management, confusion reigns over who has the authority to control/regulate the entirety of the landscape. In practice, despite coordination through development planning deliberations (Musyawarah Perencanaan Pembangunan/ Musrenbang), there is still little consideration for the connections between levels, between villages, and between upstream and downstream regions. An example of this is integrated watershed management. The passing of Law No. 23/2014 has resulted in Government Regulation No. 37/2012 on Watershed Management no longer being applicable (Paimin and Priyono N/D), as planning (Article 22), implementation (Article 42), monitoring and evaluation

(Article 50), and guidance and oversight (Article 52), became the responsibility of the Minister for watersheds spanning countries and provinces, governors for watersheds spanning kabupaten and municipalities within their provinces, and kabupaten heads/mayors for watersheds within their kabupaten/municipalities.

In the landscape approach, stakeholders within villages should be able to influence how land, as the primary village asset, is used and managed. However, the fundamental argument in determining village assets is whether forest estate subject to customary rights constitutes a village asset. While from an indigenous rights perspective, the answer should be yes, until now the State (the Ministry of Environment and Forestry) has yet to release forest estate claimed by communities as their indigenous right. This is extremely important considering Kapuas Hulu has 25 developing villages, 125 underdeveloped villages and 124 extremely underdeveloped villages. These become the focus for the kabupaten government distributing projects with the objective of increasing the status of these villages, where more than half of their regions legally constitute forest estate and national parks.

In addition, as autonomous regions, villages have the authority to regulate development planning and implementation in their regions. But it is important to remember villages are also parts of a broader landscape, and within the state hierarchical framework every village should consider and be coordinated with other villages. In fact, there is already a mechanism for building integration between development and landscape management called Musyawarah Perencanaan Pembangunan (Musrenbang) or development planning deliberation, which is a process of annual consultations held according to hierarchy from the village to national levels (Law No. 25/2004). Musrenbang constitute forums for determining work plans and budgets and coordination forums between stakeholders and government. With the allocation of budgets to villages managed by village governments, Musrenbang become more meaningful, even though Musrenbang processes are basically uniform for the whole of Indonesia.

Conclusions

The legal framework in Indonesia, despite not being completely supportive, does allow implementation of a landscape approach as a guide for how to manage landscapes. The landscape approach is only mentioned explicitly in Government Regulation No. 37/2012 on Integrated Watershed Management. However, within the hierarchy of legislation, this government regulation does not have the same force as laws, such as those on spatial planning and development planning. Further, despite not being revoked, Government Regulation No. 37/2012 has been sidelined with the changes to the decentralization order under Law 32/2014.

Many other policies call for the need for coordination and consultation and pay attention to the environment and conservation. However, as long as these are not explicitly linked as part of the development planning policies that generate RPJMD medium-term regional development plans as the basis for determining budgets, such calls will go unheeded. The tendency of regional implementers is to carry out the 'letter of the law' and frequently forget the 'spirit of the law' with the existence of economic benefits frequently driving a disregard for provisions for environmental preservation. For this reason also, the adaptive approaches made possible by policy regulations are rarely applied to optimum effect.

The Government of Indonesia has passed a huge number of regulations and policies, all of which have the aim of making Indonesia a just and prosperous nation. There needs to be clarity or a thread that binds policies to encourage the establishment of mutually convergent regulations. As Erbaugh and Nurrochmat (2019) pointed out, the issuing of many regulations without the annulment of previous regulations allows the occurrence of a "layering process". This should be avoided by directing public behavior towards matters of integration or conservation and not only planning as the process for preparing budgets.

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List of References

- Collaborative Land Use Planning in Indonesia/Colupsia. 2015. Directorate General of natural Resources and Ecosystem Conservation/KSDAE. 2018. Betung Kerihun - Lake Sentarum, Kapuas Hulu Biosphere Reserve Certificate. Ministry of Environment and Forestry, Jakarta.
- Erbaugh JT and Nurrochmat DR. 2019. *Paradigm shift and business as usual through policy layering: Forest-related policy change in Indonesia (1999-2016)*. Land Use Policy 86:136-146.
- Forest Watch Indonesia/FWI. 2011. Portrait of Indonesia's Forests 2000-2009. Forest Watch Indonesia, Bogor, Indonesia.
- Government of the Republic of Indonesia. 2015. Rencana Pembangunan Jangka Menengah 2015- 2019 (*Medium Term Development Plan 2015-2019*) in National Land Agency), ed. BAPPENAS, Jakarta, Indonesia.
- Graben, S. 2016. *Nested Regulation in Law and Development: Identifying Sites of Indigenous Resistance and Reform*. Law and Development Review 9:233-268.
- O'Connor A, Djoudi H, Moeliono M, Moombe KB and Siangulube FS. 2020. *Potential for integration? An assessment of national environment and development policies*. Pages 112-125 in Reed J, Ros-Tonen M and Sunderland T, eds. Operationalizing integrated landscape approaches in the tropics. CIFOR, Bogor, Indonesia.
- Obidzinski K, Andrianto A and Wijaya C. 2006. *Timber smuggling in Indonesia: Critical or overstated problem? Forest governance lessons from Kalimantan*. CIFOR, Bogor, Indonesia.
- Paimin and Priyono. N/D. *Pengelolaan Daerah Aliran Sungai dalam Bingkai Peraturan Perundang-Undangan*. Faculty of Geography, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia.
- Sahide MAK, Fisher MR, Maryudi A, Dhiaulhaq A, Wulandari C, Kim YS and Giessen L. 2018. *Deadlock opportunism in contesting conservation areas in Indonesia*. Land Use Policy 77:412-424.
- Sayer J, Sunderland T, Ghazoul J, Pfund JL, Shiel D, Meijaard E, Venter M, Boedhihartono AK, Day M, Garcia C, van Oosten C and Buck LE. 2013. *Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses*. Proc Natl Acad Sci USA 110:8349-8356.
- Wadley RL and Eilenberg M. 2006. *Vigilantes and gangsters in the borderland of West Kalimantan, Indonesia*. Kyoto Review of Southeast Asia. Issue 7. States, People, and Borders in Southeast Asia. Center for Southeast Asian Studies, Kyoto University.
- Wegscheider S, Purwanto J, Margono BA, Nugroho S, Budiharto B, Buchholz G and Sudirman RA. 2018. *Current achievements to reduce deforestation in Kalimantan*. Indonesian Journal of Geography 50:109-120.

Appendix 1

List of policies on landscape management and natural resource utilization, and assessment of relevance of those policies to landscape approach principles.

*Level: N = National; P = Province; K = Kabupaten

** Landscape approaches principles:

P1 : Adaptive management;

P2 : Common concern entry point;

P3 : Multiple scales;

P4 : Multifunctionality

P5 : Multiple stakeholders;

P6 : Negotiated and transparent change logic;

P7 : Clarification of rights and responsibilities;

P8 : Participatory and user-friendly monitoring;

P9 : Building resilience;

P10 : Strengthened stakeholder capabilities.

Year	Legislation	Concerning	Level*	Landscape	Natural resources utilization	Landscape approaches principles**										
						P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
1999	Law No. 22/1999	Regional Government	N				✓	✓		✓		✓				
	Law No. 24/1999	Financial Balance between Central and Regional Government	N	✓			✓	✓		✓		✓				
	Law No. 41/1999	Forestry	N	✓				✓	✓	✓		✓				
2001	TAP MPR IX/2001	Natural Resource Management and Agrarian Reform	N	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2004	Law No. 32/2004	Regional Government (Article 9 paragraphs 1 and 4 concerning Special Areas including Conservation Areas)	N	✓			✓	✓		✓		✓				
	Law No. 18/2004	Plantation Estate	N	✓			✓	✓	✓	✓		✓				
	West Kalimantan Provincial Regulation No 5/2004	West Kalimantan Provincial Spatial Plan	P	✓			✓		✓	✓			✓			
2006	West Kalimantan Provincial Regulation No. 8/2006	Utilization and Distribution of Bulian (Bornean ironwood) Timber in West Kalimantan	P		✓	✓	✓		✓	✓						
	Regional Regulation 2006	Formation of Kapuas Hulu and Danau Sentarum Sub-districts	K	✓		✓										
2007	Law No. 26/2007	Spatial planning	N	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Government Regulation No. 38/2007	Division of Government Affairs between Provincial and Kabupaten/Municipal Government	N					✓		✓		✓				
2009	Ministry Regulation No. P.39/Menhut-II/2009	Guidelines for Preparation of Integrated Watershed Management Plans	N	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Kapuas Hulu Regional Regulation No. 4/2009	Establishment of Village, Hamlet, Sub-district	K	✓		✓										
	Kapuas Hulu Regional Regulation No. 8/2009	Conservation Management and Supervision; Fish resources in Kapuas Hulu open water	K		✓		✓		✓	✓		✓	✓			

Year	Legislation	Concerning	Level*	Landscape	Natural resources utilization	Landscape approaches principles**										
						P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
2009	Kapuas Hulu Regional Regulation No. 22/2009	Swift nest	K		✓		✓		✓	✓		✓	✓			
2010	Government Regulation No. 15/2010	Spatial Planning Implementation	N	✓		✓	✓	✓	✓	✓			✓	✓		
	Governor Regulation 2010	Small scale mining	P		✓											
2011	Law No. 4/2011	Geospatial	N	✓			✓	✓	✓	✓	✓	✓	✓		✓	
	Governor Regulation 2011	Tourism Business	P		✓	✓								✓	✓	
	Kapuas Hulu Regional Regulation No. 5/2011	Kapuas Hulu RPJPD 2011 - 2031	K	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Kapuas Hulu Regional Regulation No. 9/2011	Non-Metal Mineral and Non-Rock Tax	K		✓						✓					
	Kapuas Hulu Regional Regulation No. 11/2011	Empowerment, Preservation and Development of Tradition and Customary Institutions	K	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	
	Kapuas Hulu Regional Regulation No. 19/2011	Mineral and Coal Mining	K		✓						✓					
2012	Government Regulation No. 37/2012	Watershed management	N	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Governor Regulation No. 4/2012	Synchronization of land use for mining and other sectors	P	✓	✓			✓	✓	✓	✓					
	Governor Regulation 2012	Swift nest tax	P		✓					✓						
2013	Government Regulation No. 8/2013	Accuracy of Spatial Planning Map	N	✓			✓	✓	✓	✓			✓		✓	
2014	Law No. 6/2014	Village	N	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Law No. 23/2014	Regional government	N				✓		✓							
	Law No. 37/2014	Soil and Water Conservation	N	✓			✓	✓	✓	✓			✓			
	Government Regulation No. 43/2014	Implementing Regulations for Law No. 6/2014 on Villages	N	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	President's Instruction No. 4/2015	Implementation of One Stop Services at the Capital Investment Coordinating Board	N		✓									✓		✓
	Joint ministerial regulation No. 3/Menhut-II/2014	Procedures for Settling Land Tenure in Forest Areas (Minister of Home Affairs, Minister of Forestry, Minister of Public Works and Public Housing, Minister of Agrarian Affairs and Spatial Planning / National Land Agency)	N	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2014	Ministry of Forestry Regulation No. 61/2014	Criteria and Indicators for Watershed Evaluation and Monitoring	N	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Year	Legislation	Concerning	Level*	Landscape	Natural resources utilization	Landscape approaches principles**									
						P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
	West Kalimantan Provincial Regulation No. 3/2014	Protection and Management of Environment	P		✓					✓					
	West Kalimantan Provincial Regulation No. 10/2014	West Kalimantan Provincial Spatial Plan 2014-2034	P	✓				✓	✓	✓			✓		
	Kapuas Hulu Regional Regulation No. 1/2014	Kapuas Hulu Spatial Planning 2014-2034	K	✓				✓	✓	✓			✓		
2015	Ministry Regulation No. 18/MENLHK-II/2015	Organization and Work Procedure of the Ministry of Environment and Forestry	N		✓						✓			✓	
	Ministry Regulation LHK P.84/Menlhk-Setjen/2015	Handling forest tenurial conflicts	N	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Kapuas Hulu Regional Regulation No. 21/2015	Conservation-Based Community Empowerment in the Danau Sentarum Region	K	✓			✓		✓						✓
2016	Regulation of the Ministry of Villages, Development of Disadvantaged Areas and Transmigration No. 2/2016	Village Development Index	N	✓									✓		✓
	Regulation of the Ministry of Villages, Development of Disadvantaged Areas and Transmigration No. 5/2016	Rural Area Development	N	✓	✓							✓	✓		✓
	Ministry of Environment and Forestry Regulation No. P.83/Menlhk-Sektjen/2016	Social Forestry	N	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	President Regulation No. 9/2016	Accelerating the Implementation of the One Map Policy at the Level of Map Accuracy on a Scale of 1:50,000	N	✓		✓	✓	✓	✓	✓			✓	✓	✓
	Minister of Agrarian Affairs and Spatial Planning / National Land Agency Regulation No. 35/2016	Accelerating the Implementation of Systematic and Complete Land Registration	N	✓			✓	✓	✓			✓			
2016	Kapuas Hulu Regional Regulation No. 7/2016	Formation of regional sector offices	K	✓		✓					✓				
	West Kalimantan Governor Decision No. 459/HK/2016	Cancellation of Kapuas Hulu District Regional Regulation No. 21/2015 on Conservation-Based Community Empowerment in the Danau Sentarum Region	P		✓							✓		✓	

Year	Legislation	Concerning	Level*	Landscape	Natural resources utilization	Landscape approaches principles**									
						P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
2016	West Kalimantan Governor Decision	Establishment of forest management units/ KPH (13 KPHs in West Kalimantan, in which 3 in Kapuas Hulu)	P		✓			✓	✓	✓					✓
	Kapuas Hulu Regional Regulation No. 21/2016	Revocation of Regional Regulation No. 19/2011 on Coal Mining	K		✓						✓	✓			
	Kapuas Hulu Regional Regulation No. 19/2016	Revocation of Regional Regulation No. 8/2009 on the Management and Supervision of Fish Resources Conservation in Kapuas Hulu Public Waters	K		✓						✓	✓			
2017	President Regulation No. 88/2017	Settlement of Land Tenure in Forest Estates	N	✓		✓	✓	✓	✓	✓		✓			✓
	Government Regulation No. 46/2017	Environmental Economics Instruments (IELH)	N												
	Joint ministerial regulations (Ministry Agrarian, Ministry Internal Affairs, Ministry Village Development) No. 590-3167A/2017, No. 34 and No. 25/SKB/V/2017	Funding for Systematic Land Registration Preparation	N	✓								✓		✓	
	Governor Regulation/2017	Non-Timber Forest Product Permits	P		✓					✓					
2018	President Regulation No. 86/2018	Agrarian Reform	N	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Ministry of Environment and Forestry Regulation No. P.105/MENLHK/SETJEN/KUM.1/12/2018	Procedures for implementation, supporting activities, incentives and fostering land and forest rehabilitation	N		✓	✓				✓				✓	✓
	Ministry of Agriculture Regulation No. 05/PERMENTAN / KB.410/1/2018	Opening and/ or processing of plantation land with zero-burning mechanisms	N		✓							✓			
	West Kalimantan Regional Regulation No. 2/2018	Sustainable Land-based Business Management	P		✓										
	West Kalimantan Governor Decision No. 410/Dishut/2018	Integrated Watershed Management	P	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Kapuas Hulu Regional Regulation No. 13/2018	Recognition and Protection of Customary Law Communities	K	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Kapuas Hulu Bupati Regulation No. 15/2018	Charging of environmental impact assessment fees	K						✓						
	Kapuas Hulu Bupati Regulation No. 20/2018	Rural Area Development	K								✓		✓		
	Kapuas Hulu Bupati Regulation No. 30/2018	Delegation of Authority from the Bupati to BAPPEDA to sign the Assessment of Kapuas Hulu Spatial Suitability	K	✓		✓				✓	✓		✓	✓	✓

Year	Legislation	Concerning	Level*	Landscape	Natural resources utilization	Landscape approaches principles**										
						P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
2019	West Kalimantan Provincial Regulation No.7/2019	Environmental protection and management plan	P		✓										✓	
	West Kalimantan Provincial Regulation No. 8/2019	Management of Forestry	P		✓						✓					
	West Kalimantan Provincial Regulation No. 9/2019	Management of mineral and coal	P		✓						✓					
	Governor Regulation No. 1/2019	Acceleration of Improvement of Village Sufficiency and Betterment Status	P	✓		✓				✓					✓	
	Governor Regulation No. 39/2019	Forest and Land Fire Prevention and Control	P		✓	✓	✓	✓		✓			✓	✓	✓	✓
	Kapuas Hulu Bupati Regulation No. 1/2019	Regional action plan for food and nutrition 2019-2021	K							✓					✓	
	Kapuas Hulu Bupati Regulation No. 7/2019	Acceleration of the improvement of village sufficiency and betterment status in Kapuas Hulu	K												✓	
	Kapuas Hulu Bupati Regulation No. 14/2019	Financing of the preparation of complete systematic land registration	K									✓				
	Kapuas Hulu Bupati Regulation No. 30/2019	Determination, confirmation and ratification of village and sub-district borders	K				✓	✓			✓		✓	✓		
	Kapuas Hulu Bupati Regulation No. 34/2019	Geospatial information network in Kapuas Hulu	K	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Kapuas Hulu Bupati Regulation No. 108/2019	Position, organizational structure, duties, functions and procedures of the Environmental Sector	K	✓		✓						✓			✓	
	Kapuas Hulu Bupati Decree No. No 461/2019	Establishment of the Committee for the Recognition and Protection of Customary Communities in Kapuas Hulu	K				✓	✓			✓	✓		✓	✓	✓