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Unrelenting games: Multiple negotiations and landscape transformations in the tropical peatlands of Central Kalimantan, Indonesia

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ABSTRACT

Land use change is often a result of negotiation between different interests. Focusing on negotiation practices helps to provide a nuanced understanding of land use change processes over time. We examine negotiations within a concession model for land development in the southern tropical peatlands of Central Kalimantan province in Indonesia. This region can be described as a 'resource frontier', where historical landscape transformations from large development projects and oil palm plantations intersect with state models of forest conservation and recent Reducing Emissions from Degradation and Forest Degradation (REDD+) projects. The study drew on actor-network theory (ANT) and combined an ethnographic approach with document analysis for understanding how these landscape transformations and land allocation for large concessions has left a legacy of continuing uncertainty and conflict over land. There is considerable gaming between actors to achieve their desired outcome. Increased competition for land and contested legal arrangements mean that the negotiations are virtually never-ending. 'Winning' at one stage of a negotiation may mean that those who feel they have lost will organise and use the system to challenge the outcomes. These findings show that attempts to implement predetermined plans or apply global environmental goals at resource frontiers will become entangled in fluid and messy negotiations over land, rather than achieving any desired new status quo.

1. Introduction

Tropical forests and their rural populations across South East Asia are being transformed to make way for agricultural production and land development. In response to this, a wide array of actors including international donors and agencies have sought to implement ambitious forest conservation and environmental schemes. Both land development and environmental schemes are speculative in land deals and transactions that may only be partially realised, but nonetheless result in enduring landscape changes (Hall, Hirsh, & Li, 2011; McCarthy, Vel, & Afiff, 2012). Many authors have pointed to diverse local reactions to large land deals, and how land claims overlap, align and conflict as different actors pursue varied goals (Astuti & McGregor, 2017; Borras & Franco, 2013; Hall, Hirsh, & Li, 2011; Hall et al., 2015). Considerable research on agribusiness interests and palm oil production in Indonesia (Afrizal & Anderson, 2016; Li, 2017; McCarthy & Cramb, 2009; McCarthy, Gillespie, & Zen, 2012) shows how villagers strategically engage in negotiations over land, but may be disadvantaged and ultimately excluded from land deals. Research on Reducing Emissions from Degradation and Forest Degradation (REDD+), a global environmental scheme, analyses the limitations of top-down approaches, the complexity of interactions among different actors (e.g. Howell, 2015; Myers et al., 2018; Pasgaard, 2015; Sanders et al., 2017), and how villagers become caught in dynamic land contests (e.g. Eilenberg, 2015). Despite rich articulation of

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complexity and variability, little research has explicitly studied interactions among these competing land use changes, including oil palm and REDD+, among others. Addressing this gap, this article explores how negotiations for both land development and environmental schemes occur in practice and affect relationships to land.

Recent scholarship concerned with complexity in frontier landscapes (Fold & Hirsch, 2009; Rasmussen & Lund, 2018) suggests approaches to studying multiple land use changes. Research using a relational or assemblage approach to resource frontiers shows how dramatic landscape changes assimilate and disrupt former practices (Barney, 2009; Dressler, Smith, & Montefrio, 2018; Fold & Hirsch, 2009; Rasmussen & Lund, 2018). Quantitative and spatial analysis (e.g. Gatto, Wollni, & Qaim, 2015; Gaveau et al., 2014) adds to understanding of development trajectories. We build on this frontier research to consider how environmental schemes intersect with competing land uses, specifically large REDD+ projects and oil palm plantations in Indonesia. We do this by focussing on the legal framework and the detail of negotiations over land to reveal how villagers experience multiple land use changes, and how diminishing land availability generates environmental inequalities (e.g. Dressler & Guieb, 2015; Li, 2014a). Negotiation—a process of conferring, discussing or bargaining to reach an agreement among relevant parties—is often volatile and unpredictable (see, Section 2 below). We address the following question: how do the actors involved in land use change relate to each other and interact in processes of negotiation at the frontier? Our choice to investigate 'negotiation' enabled us to observe the complexity of interactions in frontier landscapes, while avoiding overarching explanations (Borras & Franco, 2013) and assumptions about villager interests.

1.1. Expanding frontiers in Central Kalimantan's tropical peatlands

Our study is in the southern tropical peatlands of Central Kalimantan province, a frontier landscape that has been difficult-to-govern (cf. Scott, 2009 on 'state' space). Beginning with a concession model in the 1960s, much of the remote peat-swamp forest has been logged, drained, cleared and converted for agricultural use. A variety of REDD+ projects have concentrated in tropical peatlands that contain large stores of carbon (see, Larjavaara et al., 2018 for measurements in Central Kalimantan), and the remaining forest provides habitat for iconic endangered species like orangutans. When the peat dries out, it releases significant greenhouse gases from peat decomposition/oxidisation and fires (Hoscilo, Page, Tansey, & Rieley, 2011; Larjavaara et al., 2018; Page, Rieley, & Banks, 2011). International concern about biodiversity loss and climate change has coincided with accelerating oil palm expansion and other types of resource use after decentralisation (Galudra et al., 2011; McCarthy, 2013; Resosudarmo, Oka, Mardiah, & Utomo, 2014).

In Central Kalimantan, land use is highly contested among traditional land owners and translocated rural poor, large agribusinesses and other corporations, forest conservation and REDD+ proponents, multiple NGOs, government officials, and others. Decentralisation in 1999 complicated the hierarchy of government relations from the national or central government (*pusat*) to the province (*provinsi*) and district (*kabupaten*), and then, sub-district (*kecamatan*) down to the village (*desa*) as the smallest administrative unit (Ardiansyah, Marthen, & Amalia, 2015; Resosudarmo, 2004). The increasing number and diversity of actors, an intensification of land development, efforts to limit this, and related land conflicts, mirror other parts of Indonesia and South East Asia (Hall et al., 2011; Lucas & Warren, 2013). This makes the province a good location to examine how negotiations occur and what they mean for implementing global environmental objectives. By examining how villagers are enrolled in multiple negotiations, their negotiating positions, and all the interactions on the ground, we aim to add insight into how environmental inequalities and injustices are produced and justified (Holifield, 2009) through land use change in frontier landscapes being targeted for REDD+ projects.

2. Complex interactions and justice in negotiations over land

Resource frontiers are discursive constructs and material realities (Eilenberg, 2014; Rasmussen & Lund, 2018), where imagined colonial space emerges from carving up remote landscapes and territory and converting shifting and low intensity land use into settled production (Prout & Howitt, 2009). As material realities, central state control tends to be weak and contested on the ground (Blomley, 2003; McCarthy, 2013). While the interactions of physical (nonhuman) and political (human) elements have long been explored (Kristof, 1959), a relational approach analyses how connections and interactions among land use changes transform socio-natural landscapes (Barney, 2009). Rather than focus on a specific issue or type of land use, we adopt such an approach by examining processes of negotiation over land.

Aspects of 'negotiation' are often studied in analyses of property rights and powers to access, use, transfer, or exclude others from land (Ribot & Peluso, 2003). These negotiations are often distributive and can result in compromise or conflict, when one party's gains represent losses for another, depending on the standing and participation of relevant parties, and their ability to reach an agreement. While physical force is sometimes present, government regulations, authority, knowledge, technologies and markets, are contended with in routine practices (Blomley, 2003; Hall et al., 2011; Li, 2014b; Peluso & Lund, 2011). These studies suggest that when observing negotiations at the intersection between forest conservation and land development, we should pay attention to how local reactions vary (Borras & Franco, 2013; Hall et al., 2015), the parties' rights to land, and the basis for these rights in both statutory and customary systems (Kunz et al., 2017).

Attention to problems of justice is important in procedural limitations and distributional outcomes relating to 'negotiation', and in a need for recognition of people's identities and histories (Forsyth & Sikor, 2013; Sikor, 2013; Sikor, Martin, Fisher, & He, 2014; Walker & Bulkeley, 2006). For example, when parties are described as 'weighing up their options', 'entering into', or 'breaking off negotiations', this language implies a transactional process in which participants are willing to accept the contractual outcome. It can obscure cultural values and relationships (Taylor, 1983) including those associated with land and heterogeneous relations within a defined community (Li, 2002; Ojha et al., 2016; Pasgaard & Nielsen, 2016). It can also obscure power relations in which some actors must compromise more than others if their alternatives to a negotiated outcome are limited (Horowitz, 2012; Larson & Lewis-Mendoza, 2012). Jean-François Lyotard (1988) concept of a differend (*différend*) is 'a case of conflict, between (at least) two parties that cannot be equitably resolved for lack of a rule of judgment applicable to both arguments'. We use this concept to articulate problems of justice in what is lost to villagers through competing land claims and realities that require adjudication.

2.1. Approaching negotiation from actor-network theory (ANT)

Actor-network theory (ANT) provides a complementary research lens for examining how we think, act, order, and enact different realities, and how different realities overlap and interfere with each other (Latour, 1996; Law, 2004, 1999; Mol, 2010). ANT concepts have been applied to examine how forms and standards of assessment can produce and justify environmental inequalities

(Holifield, 2009), and in recent studies to tease out complexities and contradictions in REDD+ translations by attending to strategies, methods and tactics for engaging and persuading others (Pasgaard, 2015; Sanders et al., 2017). Using ANT helps to trace how actors contextualise each other without making a-priori judgements about their situation (Holifield, 2009; Latour, 1999). Annemarie Mol (2010) writes:

> [A]ctors are afforded by their very ability to act by what is around them. If the network in which they are embedded falters, the actors may falter too. If they are not being enacted, actors are no longer able to do all that much themselves. They stop "working". (p. 257–8)

Whether an actor 'enters' or 'breaks off' a negotiation (they may be unable to do either) depends on the networks of relationships in which they are embedded. We use the term 'enacted' to describe an ability to act in a negotiation. It is not wholly different to the legal definition of 'enactment' as making something pass into law, but has additional meaning in how agency is distributed in unstable groupings, networks, or assemblages (Bennett, 2010; Blaser, 2013; Latour, 2005, 2004, 1999; Law, 2004). While ANT is seldom explicitly mentioned in frontier scholarship, a relational or assemblage approach (e.g. Dressler et al., 2018) indirectly draws on ANT's concern for nonhuman agency. The concept of an 'actant' describes a source of action that can be human or nonhuman and often depends on unstable groupings of both (Bennett, 2010; Latour, 2005, 2004, 1999). Making this concept explicit in the analysis (e.g. Bennett, 2017; McElwee, 2016) helps to articulate networked processes of 'negotiation', not only in human interactions, but also in 'the physical stuff' (Law, 2004) such as legal documents or layout of a plantation. Informed by ANT, we focus on what actors do in 'negotiation' in characteristics of objects for understanding the enactments of law and property in frontier landscapes.

3. Research methods

We used a qualitative and ethnographic approach when observing negotiations. Research methods included interviews, observations, and document analysis. Within the study area (Fig. 1), two nearby districts, Kapuas and Katingan, were selected based on forest conservation and REDD+ projects in proximity to oil palm plantations in land utilised for community agriculture and livelihoods. Both districts have a history of logging, and current logging mining and oil palm concessions (Sekala, 2013), but Katingan's forested peat landscapes are relatively intact compared to Kapuas due to an earlier 'Mega Rice Project' (*Projek Lahan Gambut* – MRP). Both districts are crossed by large rivers, and villages are scattered along these rivers often without road access. The indigenous population primarily identifies as ethnic Dayak Ngaju (Riwut, 2007), but there is mixed ethnicity due to informal migration and government transmigration. Field sites are shown on the maps (Figs. 1 and 3).

The fieldwork beginning in October 2013 was divided into three rounds over two years, each round lasting several months. It included individual and group interviews, informal meetings, focus groups, participant and site observations (e.g. of meetings and consultations combining with observed land use) (Table 1). Many research participants were interviewed several times. The focus of data collection was at provincial, district and village levels. The interviews covered questions about drivers of land use change, government roles and decentralisation powers, participation and communication in decision-making, and specific topics (e.g. for a district official and oil palm manager, a permit process for a plantation; for villagers, their reason for forming an alliance or entering a negotiation). We spent additional time in Kapuas due to the MRP history, and this included oral histories with elders in four villages to understand land tenure and land use changes. We identified and collected documents, often during interviews, later analysing government regulations and statistical data, permits, legal documents, photographs and maps, as well as interviews and observations that were often translated into English for data analysis.[1]

Data analysis incorporated ethnographic techniques to learn from the activities of others (Latour, 1996) and to articulate the connections and relationships in multiple sites (Law, 2004). NVivo qualitative data analysis software (QSR International Pty. Ltd., 2015) was used for thematic analysis to identify patterns of meaning (e.g. 'games' to describe multiple negotiations). We began the analysis by focussing on sites of multiple negotiations involving REDD+ and other land uses. Our observations in each district often presented questions about a specific outcome or event, and how land use changes were experienced by villagers. An ANT approach led us back in time to explore spatial planning and licensing procedures, and the basis for land documents, and colonial history, which helped develop a deeper understanding of what was underpinning the negotiations. The story of the first oil palm concession in Kapuas (company 3) provides an illustration of this approach. In this case, a lengthy land dispute, which erupted into violence in 2014, centred on the return of 3,000 ha of customary land:

> *This company agreed to not harvest the oil palm fruit but broke their promise. They transported the fruit by boat and hired security guards with guns. People [from one village] stood on riverbank holding a sign instructing them to stop. When this didn't work, they threw burning pellets onto the boat while the guards were threatening them with guns. The boat almost burned up because of that.* (villager, April 2015)

Understanding how things had arrived at this point required analysing historical landscape transformations; state forest and land allocation; how villager options are limited, and what they lose in negotiations that often diverge from formal legal obligations. We return to this example at the end of the results. The analytical process was iterative, moving among spatial characteristics, document analysis, and ethnographic detail of interviews, when writing the results.

4. Results

The results are divided into five parts and reported almost in reverse order to how they were encountered in the analysis to provide a chronological account of observed negotiations. Firstly, we outline the formation of a concession model and how decentralisation complicated the legal framework. Using ANT, we do not separate out the historical-legal context from our analysis of 'negotiation'. Secondly, we examine state forest and land allocation to show multiple concessions and forest conservation and REDD+ projects. Thirdly, we trace the weak negotiating position of villagers to the formation of a concession model. Fourthly, we focus on what happens in villages relating to oil palm plantations as a significant driver of land use change. Finally, we illustrate how negotiations are ongoing and contested, even after a land use change has occurred.

4.1. Formation of a concession model and decentralisation

Current landscape changes in this region are the result of processes that began in the 1960s, but they also incorporate prior his-

[1] Interviews which were lengthy and not clear enough for data analysis were translated into English from Indonesian or local languages, otherwise quotations only were translated. The first and fourth authors carried out translation, where needed.

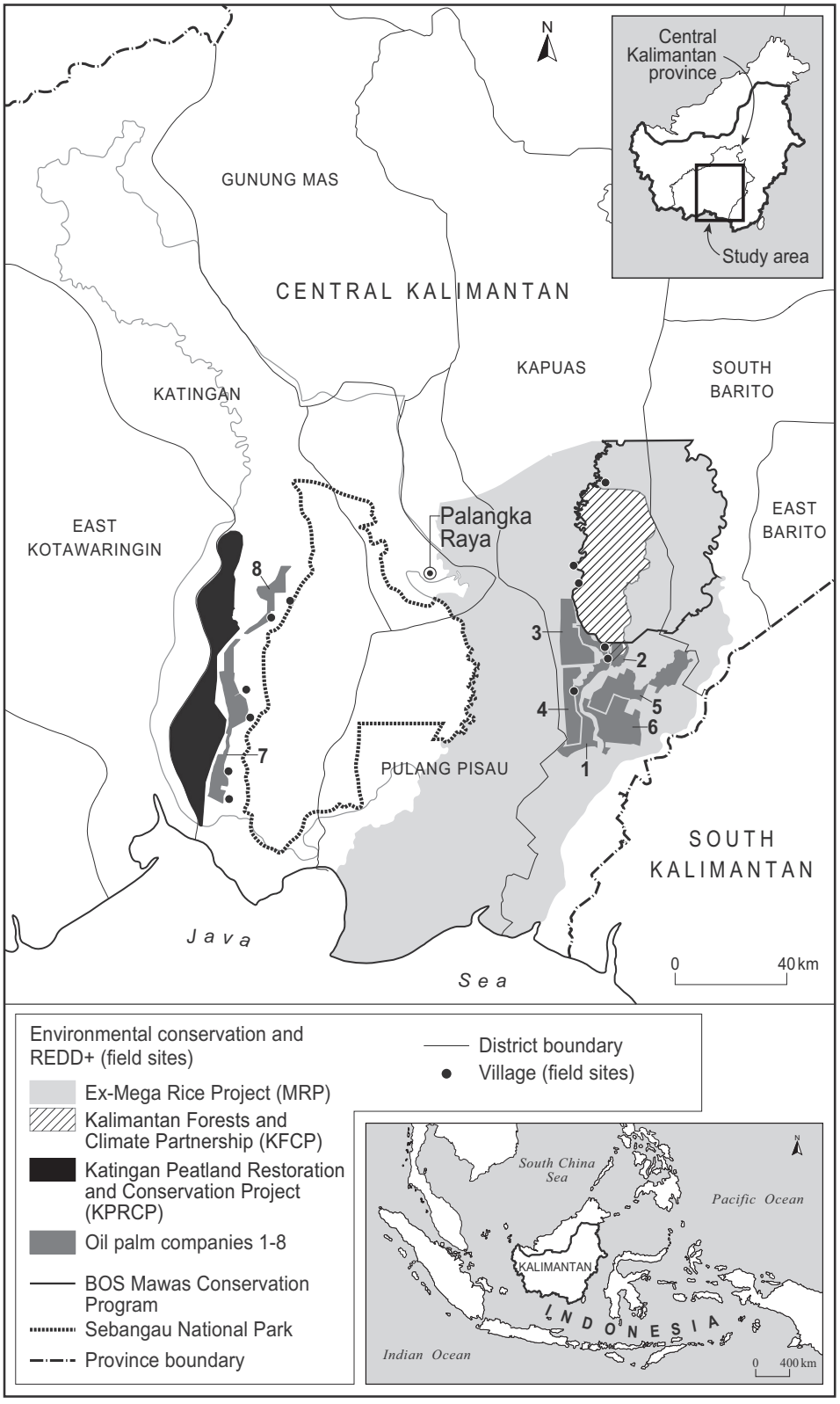


Fig. 1. Study area and land use changes among which the negotiations occurred.

tories including the formation of a concession model. Drawing on ANT, we traced these processes using government regulations, maps, and licensing data.

Following Independence, promised land reform in the Basic Agrarian Law (BAL) (5/1960) was replaced by Soeharto's authoritarian state ideology of nation-building during the New Order (1965–1998). Laws on Forestry (5/1967), Mining (11/1967), Foreign Investment (1/1967) and Domestic Investment (6/1968) were passed. World Bank sponsored government transmigration in the 1980s and 1990s shifted rural poor from populated islands to

Table 1
Summary of field data.

Actor type	Total respondents	Total interviews/ field data entries
Experts	6	10
Government	20	24
NGO	14	22
Industry	8	8
Villager	50	47
	98	111

remote areas to promote economic development, including oil palm (Fearnside, 1997; Gatto et al., 2015; Kunz et al., 2017). Political and cultural oppression, human resettlement, large development projects and concessions, were associated with the New Order (Henley & Davidson, 2008; Lucas & Warren, 2013).

Logging concessions were issued in the 1970s and 1980s. In 1996, the central government allocated more than 1 million hectares of lowland peat-swamp forest for the Mega Rice Project (MRP) (Fig. 1). Forest clearance and drainage canals severely disturbed customary land tenure and swidden agricultural systems (Galudra et al., 2011; McCarthy, 2013), and the project was abandoned because of unsuitable ecological conditions for industrial rice cultivation. Transmigrants who settled during the MRP expected ongoing employment and government support that did not eventuate. Nonhuman elements of water, soil and fire all interacted with demographic changes and social upheaval. A logging boom, and then devastating fires, coincided with the end of the New Order.

The reform (*reformasi*) movement beginning in 1998 introduced political democratic freedoms. In a massive administrative reorganisation, Decentralisation Laws (22 and 25/1999) granted wide-ranging powers and fiscal responsibility to district governments (Resosudarmo, 2004; see, Ardiansyah et al., 2015 for revised laws). After decentralisation, the concession model was expanded and modalities for commodity production ('palm oil') and land development were integrated into fluid and locally-governed arrangements for resource use at the district level (McCarthy, Gillespie, et al., 2012; McCarthy, 2004, 2001; Resosudarmo et al., 2014), as we discuss below.

4.2. State forest and land allocation

The 1870 Dutch principle of the Domain Right of State (*Domeinverklaring*) declared all 'unclaimed' 'waste land' as property of the state, providing a basis for Dutch colonial plantation establishment (see, Dove, 2011). This was reiterated in the 1967 Forestry Law, which the National Forestry Department[2] used to claim vast land and territory as state forest (*Hutan Negara*) to be controlled in the national interest. The 1960 BAL applies in the remaining Non-Forest Land Utilisation Area (*Area Pengunaan Lain*, APL) and allows private property and leasehold, which are not permitted in state forest. Historical control of land is the most important source of customary rights in Indonesia (Henley & Davidson, 2008), however state recognition of customary land rights is weak (Bedner, 2016; Butt, 2014; Kunz et al., 2017).[3]

Decentralisation in 1999 added to pre-existing legal uncertainties. Spatial planning provides a mechanism for central and regional governments to 'harmonise' (*paduserasi*) forest classifications and division of state forest and private land (APL).[4] Spatial plans are macro-scale maps (*Recana Tata Ruang Wilayah*, RTRW) prepared separately at the national, provincial and district levels. They are divided according to area function (such as settlements or plantations) and set out a future vision and reference for all land use decisions for a specified time. State forest and national development projects are marked first. While central government has asserted control over the technical process, many interviewees emphasised the differing competencies and priorities at each level, and lack of local inputs to mapping.[5] These nonhuman elements of government regulations exceed the control of any government level and actor, and become objects of contestation.

After decentralisation, provincial and district governments sought to improve the accuracy of national forestry maps claiming almost the entire province as state forest.[6] They sought to free up more land to become APL to provide flexibility and development options. The 2003 provincial spatial plan[7] proposed that roughly 5 million ha, about one-third of the province, become APL. The National Forestry Department responded by revising forestry regulations and maps; for example, the 2012 map[8] proposed a ratio of APL (18%) to state forest (82%). The provincial government rejected the proposal, but it formed a basis for further negotiations. In 2015, it appeared likely that the revised provincial spatial plan[9] would be accepted at the national level. In 2016, a new Provincial Governor proposed an even greater ratio of APL (47%) to state forest (53%).[10] These negotiations are continuing, meaning that there is no agreed reference for land use in Central Kalimantan.

4.3. Oil palm licensing and spatial planning

Spatial planning is an actor or 'actant' in licensing procedures for oil palm concessions. Fig. 2 merges the formal approval process with observed informal, yet well-established practices.[11] When making the 'initial recommendation' (*Arahan Lokasi*), district officials refer to the relevant government regulations and spatial plan. There is no requirement for district officials to consider conservation values or settlement locations, or to consult with villagers whose land might be included. The 'location permit' (*Izin Lokasi*) giving a provisional right for companies to directly negotiate with villagers does not always lead to plantation establishment.[12] Conversely, land clearance usually occurs before final approval, and in both districts, only one company had obtained leasehold (HGU) as secure legal tenure.[13]

[2] Ministry of Environment and Forestry based on National Regulation (Perpres 165/2014), effective in 2015. We refer to the National Forestry Development (Ministry of Forestry) in the historical context of when the fieldwork was undertaken.

[3] The Basic Agrarian Law (BAL) (UU 5/1960) recognises customary (*ulayat*) land but the 'right of ownership' (*hak milik*) is prioritised. The BAL implicitly contains the Domain principle because a land title cannot prevail upon the 'social function' of land that is determined by the state (Bedner, 2016; Lucas & Warren, 2013).

[4] National Law (UU 26/2007) on Spatial Planning.

[5] National Regulations (PP 15/2010) and (Permen PU 11/2009 – Ministry of Public Works) outline technical procedures and guidelines, the latter has been replaced by Ministerial Regulation (Permen ATR 6/2017 – Ministry of Agraria). National spatial planning was previously under Public Works (with a focus on infrastructure) but it has since been incorporated into the Ministry of Agraria (ATR) to provide a comprehensive approach to spatial planning and land registration, and a review mechanism for disputes.

[6] National forestry claims are based on mapping exercises (*Tata Guna Hutan Kesepakatan* or TGHK) from the 1980s.

[7] Provincial Regulation (Perda 8/2003).

[8] Ministerial Decision (529/Menhut-II/2012) on designated forest area.

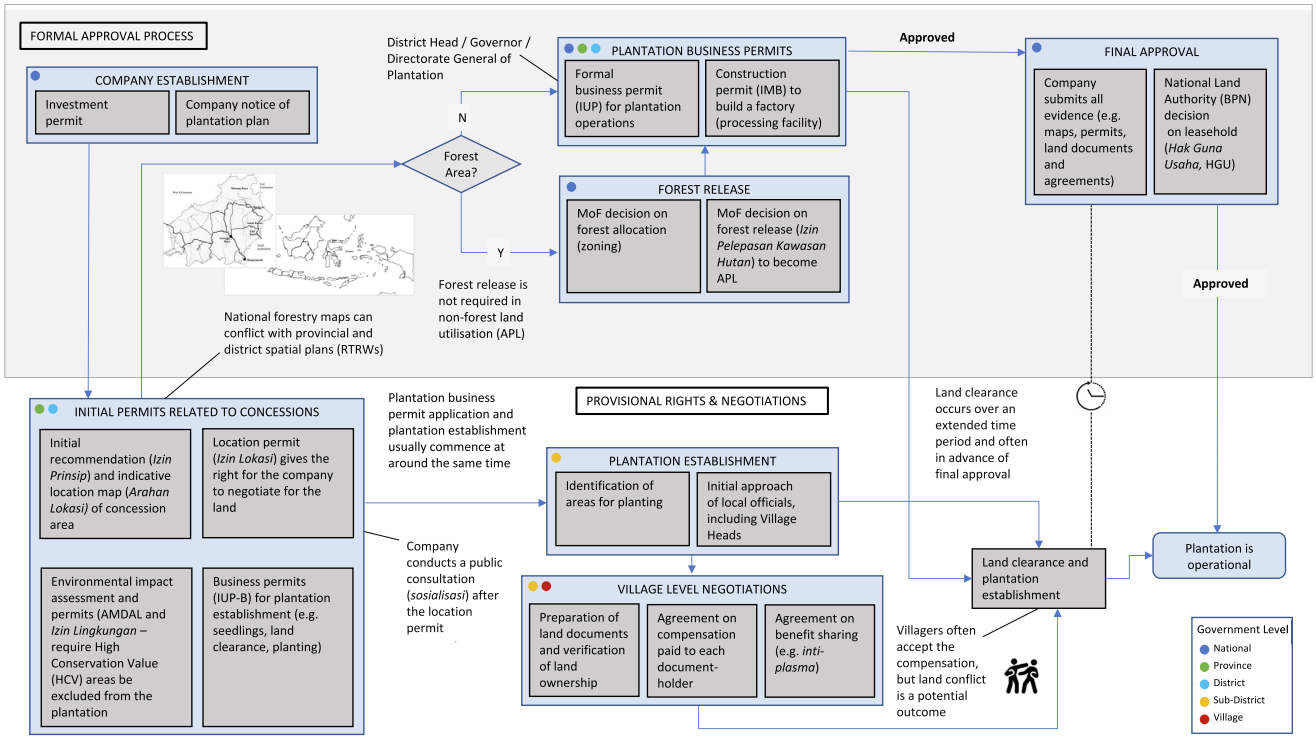
[9] Provincial Regulation (Perda 5/2015). The 2015–2035 spatial plan is available at: http://jdih.kalteng.go.id/produk-hukum/detail/1437/rencana-tata-ruang-wilayah-provinsi-kalimantan-tengah-tahun-2015-2035/kalimantan-tengah [accessed 14 February 2018].

[10] Provincial Regulation (Perda 1/2017). *Rencana Pembangunan Jangka Menengah Daerah* (RPJMD 2016–2021) is available at: http://jdih.kalteng.go.id/uploads/2–2017-09-28-151448.pdf [accessed 20 March 2018]. This proposal would convert 4.6 million hectares of disputed state forest ('holding zones'; see, Gnych & Wells, 2014) to APL.

[11] We do not specify all variation in the government levels and types of permits that companies require but aim to illustrate some of the complexities in old palm licensing procedures.

[12] National Regulation (Permen ATR 5/2015 Art 5) specifies that an oil palm company must acquire 50% of the location permit within a three-year period; otherwise, the land can be used for another purpose or given to another concession.

[13] National Land Agency (BPN) must determine all the required steps are completed and there are no conflicting claims to the land to issue HGU. BPN functions have been incorporated into the Ministry of Agraria along with national spatial planning.



Sources: (Ardiansyah et al., 2015; Handayani, 2010; Khatarina, 2018; Leony, Palmer, Paoli, Prasodjo, & Schweithelm, 2015)

Fig. 2. Licensing procedures for oil palm concessions.

HGU requires APL classification, yet many concessions overlap nationally designated forest area, depending on the spatial plan relied on at the time of issue. In the first oil palm concession in Kapuas (company 3), the plantation is in a protected area, where plantations are not permitted, and customary land rights are not formally recognised. National forestry rules allow some forest zones to be reclassified, and 135 out of 299 applications for 'forest release' to become APL were from Central Kalimantan. For all of Central Kalimantan, the legal status of hundreds of thousands of hectares of oil palm, either planted or allocated for plantations, was undetermined (Sekala, 2013).[14]

One consultant working on these issues in Central Kalimantan described spatial disputes as a messy thread (*benang kusut*) in which district governments were given an 'empty cheque' (*nota kosong*) to fill in by allocating mining and oil palm concessions to investors (November 2014). While this offered a way to generate revenue and promote regional development, no sovereign actor writes this 'cheque' (Latour, 2004). By this, we mean that legal uncertainties have created opportunities, or entry points, for investors wanting land. No single powerful actor creates, controls or benefits from the legal uncertainties, and those who do benefit do not necessarily hold rights, nor do the end land users necessarily control access, and they may ultimately be excluded.

4.4. Multiple concessions, oil palm expansion and interactions with REDD+

The overlay map of logging, mining and oil palm concessions in Kapuas (Fig. 3) shows the effect of competing investors seeking concession permits. Logging concessions in the north are nationally administered, whereas most mining and oil palm concessions originated at the district level. The mining permits are highly speculative, and few coal mining companies operate in this region. Establishment of oil palm plantations began in the south-east of the province in the early 1990s and expanded rapidly after decentralisation. Large agribusinesses are estimated to comprise around 85% of oil palm production (Glenday, Jagau, & Safford, 2015). Some villagers in our study sought to become independent oil palm smallholders by selling the fruit to nearby companies, however they cannot access credit or legal rights in state forest. The first oil palm concession in Kapuas (company 3) coincided with the national Plantation Law (18/2004). A further 14 oil palm permits were issued over the next four years, and district records showed a total of 32 permits in 2014. Most concessions are between 10,000–20,000 ha, but plantations may be smaller in area because the initial permits are indicative. By 2013, an estimated 23% of the area of Kapuas, close to 400,000 ha, was covered by oil palm concessions in varied stages of development. Katingan has around 200,000 ha of oil palm concessions, 11% of the district (Sekala, 2013). Plantations are continuing to expand, and several recent permits are filling in the gaps between the concessions shown on the map (Fig. 3).

4.5. Villagers are left with diminishing land

Accelerating oil palm expansion has coincided with increased environmental regulations. Conservation NGOs have lobbied national and provincial governments to establish protected areas that exclude or limit land use by villagers. REDD+ projects did

[14] National Regulation (PP 60/2012) on 'forest release' to become APL; revised under Regulation (PP 104/2015). Article 51 provides the technical decision for 'irregular' concessions, when there are differences between the provincial spatial plan (RTRW-P) and designated forest area. Constitutional Court Decision (138/PUU-XIII/2015) on the revised Plantation Law (UU 39/2014) clarified that HGU is required *before* a plantation is operational. Previously, it was not required based on the 2014 Law and regulations from Ministry of Agriculture. Poor law-making processes are recognised as impediments to plantation sector reform at the national level (Khatarina, 2018). Although a formal Business Permit (IUP) and HGU are *both* required, it is difficult for oil palm companies to obtain HGU due to 'irregular' concessions that do not conform to national regulations and maps, and due to processes of negotiation for land acquisition in which land disputes can emerge.

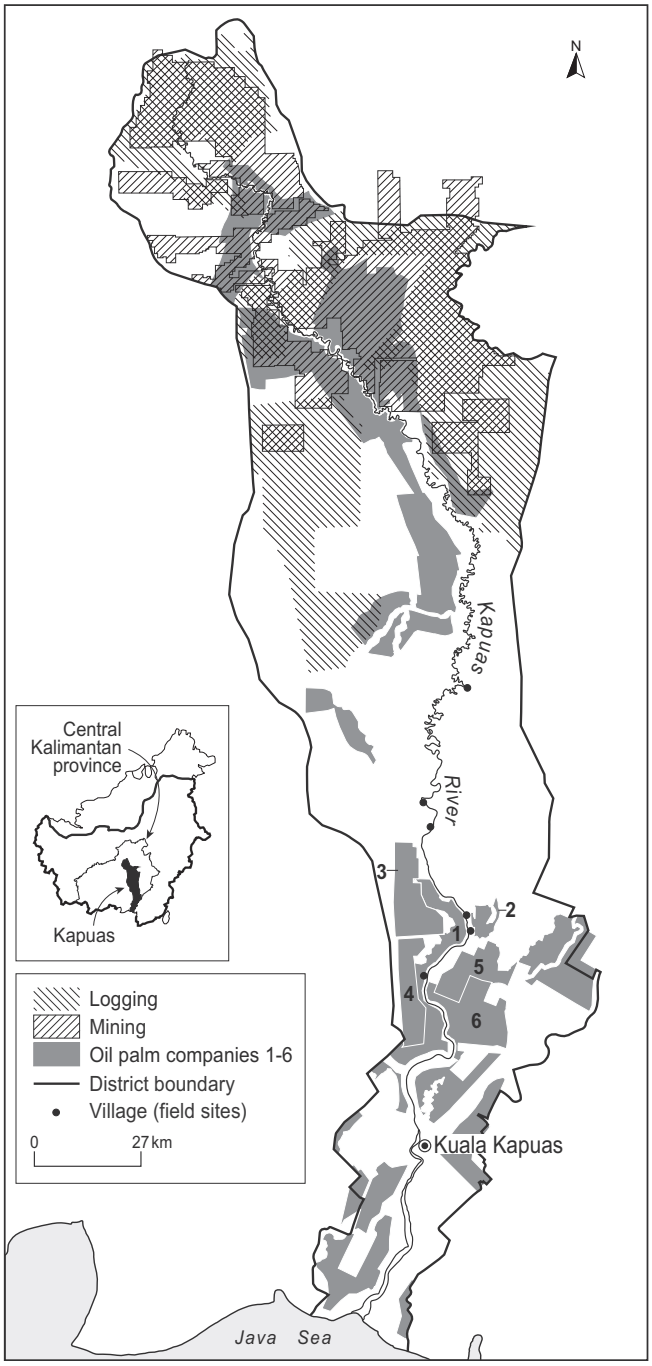


Fig. 3. Overlay map of oil palm, mining and logging concessions in Kapuas district in 2013–2014.

not directly exclude villagers from access to land but were enmeshed in complex landscape realities. In Katingan, the for-profit REDD+ project, Katingan Peatland Restoration and Conservation Project (KPRCP) is nearby to oil palm concessions (companies 7 and 8) and Sebangau National Park (Fig. 1).[15] In Kapuas, the seemingly empty or 'unused' section (that is, without concessions) in the middle of the map (Fig. 3) comprises intact forest and degraded peatlands. In 2003, the orangutan conservation program (BOS Mawas) lobbied to protect the remaining forest as orangutan habitat (Myers, Sanders, Larson, Prasti, & Ravikumar, 2016). BOS Mawas is active in this section of Kapuas (Fig. 1), as was the Australian government funded REDD+ demonstration project, Kalimantan Forests and Climate Partnership (KFCP) that ended in June 2014. One oil palm permit (company 2) overlapping the former KFCP project site abuts the district-administered Protected Forest Management Unit (KPHL).[16] Some villagers worried about potential future conflict with forest authorities if they shift their livelihoods to less desirable locations in the KPHL. They described feeling 'squeezed' (*terjepit*) by continuing oil palm expansion and environmental land enclosures, with both processes diminishing their access to land.

4.6. Villagers have a weak negotiating position

In the formation of a concession model, the Village Law (5/1979) replaced traditional institutions of local governance and customary (*adat*) leadership establishing during the Dutch colonial period (Henley & Davidson, 2008; Hooker, 1978). It standardised the village (*desa*) administrative unit as an arm of the central government. The term *sosialisasi*[17] is still used throughout Indonesia, but the public consultation process it describes was completely one-directional during this period. The position of Village Head (*Kepala Desa*) was established through the 1979 Law that required those appointed to accept central government decisions, even if this meant the village giving up traditional land. Decentralisation promised some institutional reform at the village level (Henley & Davidson, 2008) but did not strengthen the negotiating position of the village in a hierarchy of government relations. The revised Village Law (6/2014) returns autonomy to the village government and provides a budget directly from the central government. It signals further shifts in decentralisation policies, but the effects on village democracy and politics are still to be seen.

Donor-funded forest conservation aimed to support village development and protect the environment, but there were often disparities between villager priorities and the limited options offered by projects. This sometimes led them to focus on extracting resources, funds or other types of livelihoods inputs such as education or training. These did not align with project 'benefits'. For example, in Kapuas, an environmental education program aimed to reduce logging and encourage villagers to adopt less extractive livelihood activities. But the form of education assistance the village wanted were funds to build a school. The villagers did not refuse the program, because it offered them some benefits, but they did not see externally-planned environmental education as helpful to give access or rights to alternative land or resources, nor provide their children future options beyond the village.

[15] Currently named Katingan-Mentaya Peatland Restoration and Conservation Project, in short Katingan-Mentaya Project. The project received final approval in late 2013 from the Minister of Forestry for the Ecosystem Restoration Concession (ERC or IUPHHK-RE), a 60-year forestry licence. The final decision reduced the concession to 108,225 ha from an application of 227,260 ha (Afiff, 2015; Myers et al., 2016). Project information is available at: www.katinganmentaya.com; and project design document is available at: https://www.vcsprojectdatabase.org/#/project_details/1477 [accessed 18 December 2018].

[16] Localised Forest Management Units (KPH) are a national forestry initiative (Bae, Kim, Fisher, Moeliono, & DeShazo, 2014; Kim et al., 2015). The Protected Forest Management Unit (KPHL) was established in the protected area, during the timeframe of KFCP implementation.

[17] *Sosialisasi* is a technical term that is hard to translate. 'Socialisation' is not wholly accurate, therefore we have opted for 'public consultation'. During the Soeharto-era, the technical term was entirely one-directional to advise villagers of what had already been decided. In current forestry permits and other licensing procedures, including oil palm, *sosialisasi* 'implies a one-way transfer of information from the developer to those developed, informing communities and other stakeholders of the projected development' (Colchester & Chao, 2013, p. 403). Similar issues have been observed in REDD+ policy processes due to the limited scope for villagers to provide input on decision-making (Indrarto et al., 2012).

One charismatic local leader expressed the dilemma:

Our national identification card (KTP) lists our occupation as a farmer, and to be a farmer, you need land... If we don't have land, then what else can we do to make a living? (March 2015)

As he elaborated in our interview, continuing extractive livelihoods such as logging and gold mining could not be remedied through environmental education, because continuing such activities was a consequence of their limited choices. Villagers often accepted immediate rewards because they saw this as a better option than receiving nothing.

Another outcome of this arrangement is a tendency for villagers to offer provisional agreement or tentative collaboration, then wait to see what eventuated. At around the same time that KPRCP conducted public consultations (*sosialisasi*), having received final national approval, oil palm negotiations (company 7) commenced to acquire the adjoining land.[18] The investors (both oil palm and REDD+) required alliances with villagers and local elites such as Sub-District Heads (*Camat*) and Village Heads. We observed in four villages during consultations, first at the sub-district level, then at the village level (February 2014) that some villagers and local elites supported KPRCP while others were allied to the oil palm company, but many villagers provisionally supported both. REDD+ investors (as the company founders) sought to allay villagers' concerns about reduced access to land,[19] suggesting that unlike the national park, they would establish a formal agreement with each village and allow logging for local needs. KPRCP worked with a national NGO for third-party oversight, which exceeded the legal requirement.[20] Formal written agreements (MoUs) were signed with 13 villages in May 2015, but their ability to keep this promise, particularly in specific areas useful to the villagers, partially depends on what happens in nearby plantations and the national park (Fig. 1).

4.7. What happens in villages after an oil palm permit is issued

In the case of oil palm concessions, villagers opted to enter strategic negotiations that might lead to their loss of rights and future access to land. We have divided this section into four parts to examine their limited ability to refuse a concession, the division of land and profits, land tenure and property relations, and why villagers often accepted compensation for their land without clarity regarding what they were giving up.

4.8. Villagers have limited options for refusal

Usually, oil palm companies initiated negotiations with villagers and landholders to acquire the land after receiving the location permit (Fig. 2), a critical nonhuman element, or actant, in these negotiations. Sometimes, beforehand, company representatives were sent out to speak to Sub-District Heads and Village Heads, customary leaders, local police and military officers, and potential land-brokers. Local elites (acting as land-brokers) sought to strategically negotiate their future rewards. Neighbours or family sought to convince other villagers to accept compensation for their land. Some villagers reported that land-brokers and other predatory third-parties (*preman lahan*) had intimidated them and their family. Mutual mistrust was commonly reported. Company managers worried that villagers would try to cheat them, Village Heads were fearful of being blamed for wrongdoing, and many villagers described being cheated, manipulated or deceived, blaming others, or being blamed or suspected of wrongdoing. One district official put it, 'if the locals don't agree, it's the job of the company to convince them' (November 2013). Another district official observed that villagers 'don't have power; their position is very weak' (November 2014). The companies controlled almost the entire process, from the public consultation (*sosialisasi*) to land transactions and, later, plantation management. One NGO described the villagers as participant observers (*penonton*): they entered strategic negotiations but lacked effective power in decision-making due to several factors that are discussed below.

4.9. 'Big land' and the promise of money

The maps and permits led to delineation and division of land to establish plantation infrastructure as companies sought to acquire as much land as possible within the allocated concession, while making exclusions to comply with environmental regulations. Many concessions incorporated several villages, and if villagers refused to participate, their land could be 'enclaved' (*inclap*), thereby removing it from the plantation. Companies were reported to sometimes opt to 'enclave' village land automatically, then develop the rest of concession, meaning that village land became progressively surrounded by one or more plantations. One district official observing oil palm's expansionist tendencies suggested that 'the problem with oil palm that needs big land is the promise of money' (November 2013). The promise of money here refers to the division of land and profits using benefit-sharing schemes.

The benefit-sharing schemes began in the 1970s as a way for state-owned companies to establish partnerships (*kemitraan*) with villagers, but now also cover private enterprise. One such scheme (*inti-plasma*) requires that companies register villagers to receive a minimum two hectares of land from the plantation (*plasma*), and another one hectare reserved to cultivate their own crops (Myers et al., 2016). Levels of independence range from full company management to cooperative or individually-managed *plasma* (Glenday et al., 2015). Whether villagers saw themselves as selling their land or accepting compensation in return for registering for *plasma*, it resulted in decreased land access. Company maps located the community plantation (*plasma*) at the periphery of the main company (*inti*) plantation (see, Dove, 2011, p. 29) in varied proximity to villages and indicating the suitability of agricultural lands. Based on these, village land had shrunk from 70% under previous schemes to 20% under the *inti-plasma* model (McCarthy, Vel, et al., 2012; McCarthy, Gillespie, et al., 2012). Several local NGOs cited problems such as poor labour conditions, accumulated debts for setup and running costs, and some companies setting low prices to purchase the fruit. Many villagers, having heard stories from relatives or nearby villages, anticipated this. Other villagers looked to corporations as a way out of poverty and considered that they had little option but to participate. In committing to a future relationship with the company, the potential for *plasma* profits and other promised benefits were included in their land transaction decisions.

4.10. Claiming and contesting land ownership

Customary land rights are communal and individual depending on the location and vary with cultural values and labour inputs

[18] The original permit (company 7) was issued in 2010 during the timeframe of KPRCP applying for the Ecosystem Restoration Concession (ERC). The oil palm concession was excluded from the 2013 ERC approval and subject to revision of the boundaries of a national moratorium on new forest concession licences. Media reports available at: https://news.mongabay.com/2015/10/maybe-thats-why-theres-so-many-fires-was-a-peat-swamp-illegitimately-stripped-of-protected-status-in-indonesia/;http://www.foresthints.news/peak-clearing-peat-forests-despite-palm-oil-moratorium; http://www.mongabay.co.id/2015/08/31/waduh-kawasan-moratorium-hutan-di-katingan-kalteng-dibuka-untuk-sawit/ [accessed 11 December 2018].

[19] Concerns about reduced access were based on villagers' experience of being excluded from Sebangau National Park. In Kapuas, villagers expressed similar concerns about the KFCP REDD+ project due to prior negative experience of state-based forest conservation (see, Mulyani & Jepson, 2015).

[20] The conditions of the 60-year forestry licence (ERC) only require villagers to be informed through a public consultation (*sosialisasi*) at the sub-district level, and do not stipulate third-party oversight.

(Galudra et al., 2011). These rights frequently overlap, clash or compete with other rights including the rights of investors to negotiate for the land. Since the 1980s, the National Land Agency[21] has been charged with registering land titles and leases in non-forest land utilisation (APL), and a land title usually specifies a two-hectare plot.[22] Only transmigrants were granted a registered land title (SHM) when they moved to a new settlement area.[23] In state forest, long-term resident Dayak Ngaju villagers can obtain customary land documents (SKT-A), but not a registered land title. They mainly rely on unregistered land documents (SP and SPT) as proof of ownership, or have no such document. In APL, these land documents (Table 2) are a first step toward national land registration, but legal hurdles and costs meant that registration seldom occurred even at the district level.

The unregistered land documents, adding further nonhuman elements, performed three functions for villagers in claiming and contesting land ownership. Firstly, they 'fixed' a landholding; for example, an old document (Segel or Pakularing) showing 10 ha could be converted into five unregistered documents (SP or SPT) specifying a two-hectare plot. Secondly, they bounded and detached the landholding from neighbouring crops. Former communal swidden lands have often been replaced with rubber and sometimes oil palm crops. Individual landholdings, such as these, can be inherited, and often were divided equally among siblings. These documents allowed for transfer or sale to other parties. Thirdly, they provided a way to document 'unwritten proof' that can be ignored and destroyed such as what had occurred during the MRP (McCarthy, 2013). Unwritten proof (neighbour testimony, physical layout, planting rubber or fruit trees) was inscribed into a document (signed and stamped by local officials), which villagers considered to give them a stronger legal claim.

One way that villagers were 'enacted' in negotiations over land was by having (or not having) a land document. Villagers incurred costs (at around USD 25) to obtain the most basic document (SP), or if they could not afford payment, they gave up a portion of land to Village Heads.[24] One Village Head, who had refused several offers by investors, observed:

> *I would be in a good position if I supported the investors. I could just help in preparing the land for the company and convince the villagers to support the plantation. Then, I could ask for payments from the company... and from the villagers to verify their land documents.* (March 2015)

Villagers often used the documents like bargaining chips to increase the amount of compensation. Oil palm companies made lots of small payments (around USD 80–250 or sometimes higher) per document to acquire thousands of hectares of land. They determined the price based on the strategic location and land suitability, or sometimes the price depended on what an individual could successfully negotiate. Compensation (*ganti rugi*) was paid for development of the land such as the number of rubber or fruit trees (*tanam tumbuh*) planted or at production stage, and this payment was added to the price. Despite restrictions on sale, some companies reportedly paid higher compensation to those holding customary land documents (SKT-A), because the historical claim was considered stronger than for the transmigrants who held a registered title (SHM). One district official noted that the state should only intercede if there is a conflict; otherwise, it is up to a company determine the avenues for land acquisition, and for villagers to decide whether to sell their land, using the documents, and under what circumstances (March 2014).

Table 2
Types of land documents used in oil palm negotiations.

Land document	Description
Surat Hak Milik (SHM)	Formal property right registered with the National Land Authority (BPN)
Surat Pernyataan[a] Tanah (SPT) or Surat Keterangan Tanah (SKT)[b]	Unregistered property right signed by the Sub-District Head
Surat Pernyataan[a] Tanah (SP)	Unregistered property right signed by the Village Head
Surat Keterangan Tanah Adat (SKT-A)[c]	Customary land right signed by the customary leader (*Damang*) at the sub-district level
Segel	Old document prior to 1960 BAL of unlimited hectares held by an individual or group
Pakularing	Old document from the Dutch colonial era

[a] Many villagers referred to SP/SPT in terms of land ownership (*kepemilikan*) but the documents more accurately identify a landholding (*lahan penguasaan* or *penggunaan*).
[b] Different formats of SPT/SKT are based on national regulation (PP 24/1997) but their specific local meaning and purpose varied; the current format is based on Ministry of Agraria circular letter (SE 1756/2016) on land registration.
[c] Provincial regulations (Perda 16/2009 and 5/2011) and Governor decision (Pergub 13/2009) for registration of the documents.

Once a location permit was issued, or rumoured, villagers scrambled to claim land. One villager expressed that 'we don't have time to think because the changes are happening so fast' (November 2014). The need for documents (proof of their land ownership) added to their sense of urgency:

> *I think if the landholders don't have any documents, they just need to process this as soon as possible... when the plantation is established, it will be hectic because multiple people will claim each plot of land.* (March 2015)

The documents, which 'fixed' and formally bounded the land, were prone to overlap and manipulation. Village governments were unable to undertake adequate ground checks, or maintain maps or village records. It was common for villagers to report land being claimed, to sell to companies, using 'flying documents' (SP-*terbang*) that were not directly tied to a piece of land. Two Village Heads reported feeling pressured to sign the documents. Some villagers obtained documents to prevent their land being claimed by others, or they accepted the compensation on offer because they were afraid that someone else would claim their land to sell to the company if they refused. Two company managers described the land as mostly fallow and unproductive (*lahan tidur*) after the MRP (March 2014); villagers considered it as their own. They applied different rationales for claiming the same parcel of land based on former labour inputs.

Infighting and a mess of documents could mask procedural violations and land grabs (reported in company 5), but company managers found it difficult to identify legitimate claimants. It was a source of frustration for them when villagers claimed land multiple times within their concession. At least one company opted to buy up all the documents to settle claims. Refusal to do so became a source of great upset for villagers if their land had been claimed and sold by others. A manager from a highly-respected company

[21] National Land Agency; now under Ministry of Agraria.
[22] Typically, the 1960 BAL restricts individual land ownership to less than 20 ha and varies depending on the location. Article 17 of the BAL only provides the general rules; a more specific regulation for maximum individual land ownership for agricultural land is Law (56/Prp/1960). Specification of two-hectare plot is according to National Regulation (PP 224/1961 and PP 24/1997) on land distribution and land registration.
[23] National Law (UU 3/1972) on Transmigration.
[24] National Regulation (PP 13/2010) specifies a percentage amount adding a fixed amount usually around Rupiah 250,000 (less than 25 USD) for the first land registration, but reported informal fees varied for measurement and verification, and for the elected official to sign the document (see, Central Kalimantan Land Governance Assessment, 2015 on this issue, as well as for information on customary land documents or SKT-A).

lamented, 'the land conflicts will never end until the world does' (November 2014).

4.11. Acceptance of compensation is often the only option

Villagers could feel unfairly treated but still accept compensation because they saw no alternative to a negotiated outcome. Villagers reported land grabbing (company 5) having first become aware of the concession after land clearing had commenced. The company enrolled local police to intimidate them when they tried to protest, and most had accepted the compensation. Sub-District and Village Heads were reported to be receiving monthly payments from the company—a not uncommon practice—that blurred the lines between their own and the company's interests when brokering negotiations. We obtained copies of a suspected forged document and a legal agreement signed by a Village Head allowing village land to be included in the company (*inti*) plantation. Like the maps, permits and land documents used in negotiations, these documents held together unstable groupings of human and nonhuman elements to establish plantation rules and infrastructure. A small group of villagers maintained a makeshift blockade to prevent the company from harvesting fruit on their land. They reported that they never consented to be moved and recounted multiple attempts on the part of the company to get them to accept compensation (March 2014). The blockade was a strategy in seeking higher compensation since it was not possible (or desirable) to have their land returned in the middle of the company (*inti*) plantation.

In a nearby site (company 2), land clearing and planting happened very quickly in 2014. By 2015, land disputes had emerged. Villagers alleged that the field coordinators charged with verifying the land documents (SPT) used their position to claim hundreds of hectares of land that did not belong to them. It was alleged that that the company selected the field coordinators among villagers who supported the plantation (February 2015). A further allegation was made that the coordinators manipulated the price:

> *I was so angry after we sold our land for Rupiah 2 million [less than USD 200] per SPT. Our Village Head was involved in counting the money, and company staff photographed us holding the money. Later, [the coordinators] asked us to return some of the money, so I only received Rupiah 800,000 [around USD 60]. I cried because of that. We didn't have many options because the coordinators who processed our documents said that the money was cut to pay for the plasma... If we disagreed, then the company wouldn't register us for plasma. We don't have an agreement yet for plasma. I don't know much about plasma, but it will be established using land behind our village. In the future, we will benefit by selling the fruit to the company.* (April 2015)

Acceptance here meant putting hopes in future profits from *plasma* despite the lack of formal agreement. Another villager, whose neighbours had already sold their land, described doing so because he felt squeezed and retaining his land would be futile (November 2014). As more concessions were allocated, the growth of plantation infrastructure, insecurity and inconvenience from a loss of access and amenities made it likely that villagers would accept compensation, even if they initially refused. These nonhuman elements (photos, money, land documents, as well as in plantation infrastructure, are important for understanding the outcomes.

4.12. What happens when villagers contest the outcomes

Even after the documents were exchanged, compensation paid, and the plantation established, these negotiations are continuing. In Kapuas, two local activists affiliated with indigenous rights movements reported procedural violations and legal impunity of government officials and investors, forcing or convincing villagers to accept land losses (December 2013; final interview in November 2015). They identified the violations, conducted meetings, wrote letters, fed information to journalists and researchers (including us), organised protests, and connected villagers to advocacy networks. Such actions fed into a cycle of government response and review of the permits. We observed this in government decision letters (*Surat Keputusan*) on permits, an administrative sanction (company 5), and a stop-work order applying to all plantations without legal tenure (HGU). Multiple workshops and taskforces to reduce land conflict and improve oil palm sustainability coincided with other workshops and meetings supporting REDD+ and forest conservation, among NGO meetings supporting indigenous land claims. Workshops and taskforces distributed the responsibility to act among the government levels, industry and other actors, but had little visible effect on the ground.

Land disputes could be hidden or latent in plantation management. Sub-District and Village Heads were often unable or reluctant to escalate a dispute to district government, and conversely, there was a tendency for higher-ranking government officials to avoid a decision that fell outside of their direct authority. National officials conveyed that it was important to educate villagers that a registered land title (SHM) provided them the best evidence to file a legal complaint in the event of a dispute (December 2014). Yet transmigrants were easily convinced to hand over their registered titles, and few villagers understood the company's legal obligations to them. Once they had signed a notarised agreement or had been photographed holding money, these non-human elements bound them in a contractual relation to the company. As they did not have written evidence of what had been promised, this gave them few options to challenge the process in the courts.[25]

In the first oil palm concession in Kapuas (company 3), used for illustration in the Method section, two actions triggered violence. Firstly, the palm trees were mature enough to harvest, and company managers broke their promise not to harvest the fruit until the dispute was resolved. Secondly, district government appointed the regional customary body (*Dewan Adat Dayak* – DAD) to mediate the dispute. Following several unanswered requests to company directors and investors in Jakarta to attend a meeting, DAD ruled for the land to be returned by a set date, but the company ignored the ruling. One villager speculated:

> *I can tell you that there is a game being played here, a game that involves everybody... It is difficult to stop the companies that don't follow the procedures because the people who play this game, they start from the lower level moving up to the Military Generals and Ministers at the national level... The only thing left for us is to be united. This conflict has been going for ten years with no resolution. It's better if we just take our own actions. We will bring our machetes and block all the company plantations and force them to stop their operations.* (March 2014)

The villagers concluded that the only option left to them was to block the passage of the fruit, a decision that led to the violent encounter between them and security guards transporting the fruit on the boat. Such actions reveal the limits of a legal process in which villagers saw relentless games being played. These games had enabled some villagers to gain an advantage but left them with diminishing land, while shifting the profits between the district

[25] There have been some successful court cases of land documents being revoked (Central Kalimantan Land Governance Assessment, 2015). Claims against companies often can involve family conflict, when not all owners of the land are identified prior to land purchase (Khatarina, 2018). This reflects some of the issues identified in this study arising from the different rationales applied for claiming land.

and Jakarta, and overseas. Forest conservation and REDD+ projects add to the complexity of the situation for villagers.

5. Discussion

Our findings for the southern peatlands of Central Kalimantan are consistent with descriptions of Indonesia's frontiers in rapid transition, competition and conflict over land, particularly associated with oil palm expansion after decentralisation (Galudra et al., 2011; McCarthy, 2013; Resosudarmo et al., 2014). Drawing on ANT, we observed how historical landscape transformations are products of emergent and unstable groupings of human and nonhuman elements (Bennett, 2010; Law, 2004; Mol, 2010). Other frontier scholarship in Indonesia and South East Asia points to a similar mosaic of land uses and claims (e.g. Barney, 2009; Eilenberg, 2015; Kunz et al., 2017). We observed considerable gaming between actors to achieve their desired outcomes that was reactive and opportunistic. There was no orderly contractual negotiation between the parties. Lack of monitoring and enforcement are consistent with legal studies observing that much noncompliance goes unnoticed at the district level, while central government does not monitor performance (Khatarina, 2018). The processes for engaging with villagers were disorderly and chaotic, with potential to end in land disputes and violence. Villagers, if organised, could maintain pressure on certain actors or the state and push back against what they consider to be unfavourable conditions or unfulfilled promises, from a weak negotiating position. We have extended previous understanding of resource frontiers, and of REDD+, by showing how REDD+ projects were enmeshed in complex landscape realities, and how villagers experience multiple land use changes and diminishing access to land. Below, we expand on the role of the land documents in oil palm negotiations, reflect on what is lost to villagers through frontier expansion, and draw implications for internationally-devised schemes.

5.1. The role of land documents

Observed frictions and legal uncertainties in Central Kalimantan are consistent with other studies of land tenure and property relations within resource frontiers (Blomley, 2003; Li, 2014b). Other studies have observed that spatial planning, as a central government tool, creates frictions at local levels (Rasmussen & Lund, 2018), and that legal uncertainties enable 'different constituencies to argue that right is on their side' (Hall et al., 2011, p. 12). Our analysis of land documents is consistent with observations that statutory and customary systems can be either ignored or strengthened, but they can also merge as actors borrow from each, and craft their own rules (Kunz et al., 2017) as each party is expected to 'provide their own proof to justify the land use'(CenCentral Kalimantan Land Governance Assessment, 2015). We extend insights about the definition, use and acceptance of 'proof' in negotiations over land that we discuss in the following paragraph.

Drawing on ANT, we considered how 'inanimate' elements, such as maps, permits, and land titles, can be sources of action that have trajectories, propensities and tendencies (Bennett, 2017, 2010; Latour, 2005, 2004). We found that the success of each document was defined by the competence that it was endowed with, the trials it underwent, the performance it was allowed to display, the associations it revealed, the sanctions it received, and the wider context in which it circulated (cf. Latour, 1996 on scientific texts). The concept of a hybrid from ANT (Blaser, 2013; Latour, 1993; Law, 2004) helps to illuminate these issues of proof. A hybrid signifies those elements that are unnamed or excluded to make way for large plantations, or to enclose land for forest conservation, from a previously mixed landscape. The concept is relevant to thinking about legal pluralism in Indonesia (Henley & Davidson, 2008) on matters of land. Similar to Helen Verran's arguments (1998, p. 251) on negotiations over leasehold and native title in Australia, we observed a translation being made using the land documents that worked 'in both directions mediating between people and the land compared to titles which are taken to represent ownership of empty space'. National forestry maps and spatial plans render historical control of land invisible to state or company interests (Bedner, 2016; McCarthy, 2013). In comparison, unregistered land documents mediate relationships between people and land. One study distinguished between sporadic titling, where a single landholder applies for the title, and systematic titling, where usually a large number of contiguous plots are registered at the same time (USAID, 2010). The unregistered land documents in our study, which fitted the description of sporadic titling, are not translated to maps and plans. These documents added land disputes and delays for oil palm companies to obtain leasehold (HGU).

Despite recent Constitutional Court decisions, villagers continue to face hurdles seeking legal recognition of their customary rights (Bedner, 2016; Butt, 2014; Khatarina, 2018).[26] As prior land titling programs have shown (Krishna, Kubitza, Pascual, & Qaim, 2017; Lindsey, 1998; Warren & Lucas, 2013), the individualisation of land titling does not recognise the nature and complexity of relationships to land. Our analysis identifies that a focus on legal certainty and asset recognition, such as land titling, may help some villagers, however it is not likely to have a big effect on land distribution and capital accumulation for large concessions. Consistent with Tania Li (2014b) comments on 'lokasi', we found that the location permit for an oil palm concession, which costs money to access, inscribed new boundaries and property relations. The burden of proof fell to the villagers when supplying the land documents. The effects were often contradictory: better 'proof', in a legal/contractual and transactional sense, actually jeopardised their access to land because the mechanism for exchange favoured the investors using the corporation as a defined legal entity. By analysing how 'palm oil' as a new resource assemblage became entangled with indigenous land claims, a key finding is that villagers lost either way; that is, no 'proof' would not have prevented the land being commodified as the location permit, installing new property relations, followed land use changes over several decades. Making previously unwritten evidence legible through land documents did not improve their negotiating position, but it was better than no document that presented opportunities for others to claim their land.

5.2. What is lost to villagers through frontier expansion

Large land deals and claims to land within such deals are not inherently 'good' or 'bad', but they have varied exclusionary effects (Astuti & McGregor, 2017; Borras & Franco, 2013; Hall et al., 2015). We observed this complexity in the effort investors in the KPRCP REDD+ project made to ensure third-party oversight within a forestry licensing system that does not recognise customary land rights within their concession. Some villagers desired commodification of land as a way out of poverty and saw their historical control of land as a basis for capitalist land relations, not as antithetical to these, while others resisted incorporation of their land into large plantations. Oil palm companies experienced difficulties navigating the licensing procedures and identifying legitimate claimants, but they appeared to be the ultimate winners in division of land and profits. This is consistent with other studies (e.g. Afrizal & Anderson, 2016; Eilenberg, 2014; McCarthy, Gillespie, et al.,

[26] For example, Constitutional Court Decision (35/PUU-X/2012) on Forestry Law (UU 41/1999) requires the state to recognise and respect customary land rights, but like the plantations laws depends on law-making processes at the national level.

2012) indicating how villagers lack effective control of land. We contribute to understanding their weak negotiating positions by indicating the nature of formation of the concession model, and the networked processes in which they were enrolled without adequate time and information to make decisions.

Something is always lost, necessarily, to create something new, such as an oil palm plantation (Hall et al., 2011, p. 199). It is the vast injustice of this loss that here is at issue, particularly, as observed in other locations in Kalimantan, when remote villages become surrounded by multiple plantations (Li, 2014b). The concept of differend (*différend*) from Lyotard (1988) helps to express this injustice. One example of a differend is an application to the courts: the plaintiff must phrase his or her claim in economic terms for compensation or damages, and in doing so, the claim must conform to the rules. A wrong or injustice for one of the parties results when no rule of judgment is applicable to resolve a conflict between them. As villagers gambled on a future stake in palm oil production, they were required to phrase their claims for compensation without any clarity about the terms and future rewards. What Lyotard's concept brings to the fore is the way one system (capitalism) equates the villagers' loss into compensation and future profits. This is not a translation of two linked systems, but the imposition of one system (what we have loosely defined in a concession model) onto another system (what exists for the villagers). There is no agreed mechanism for adjudication. This system requires cheaply available land for such large plantations to exist, and our study has shown how this happens through the entire negotiations to make a resource frontier. We add to studies expressing concern for justice in capitalism (Holifield, 2009) and globalisation in forest conservation (Forsyth & Sikor, 2013; Sikor et al., 2014; Sikor, 2013; Walker, 2009) by showing how villagers in our study were progressively exposed to loss of rights and diminishing land.

5.3. Externally-planned initiatives are entangled in messy negotiations

As Central Kalimantan's frontier fills in, land and territory are progressively allocated to specific types of land use. This results in a way of relating to land that is much more delineated and controlled (often with multiple attempts to control) compared to that operating in the peat-swamp forest that preceded the MRP. Villagers in both districts were physically caught between competing interests in what has elsewhere been described as 'a fiercely contested battleground' (Eilenberg, 2015). Any attempt to intervene, by any one of the actors, was entangled in messy negotiations. Such dynamics underscore the abiding need for nuanced interpretations of development (Bebbington, 2000), and specifically, how villagers enter into strategic negotiations and calculate their options for the remaining land (Borras & Franco, 2013; Dressler & Guieb, 2015). It is important to question, reflecting on our analysis, the extent to which the scenario described can even be called a 'negotiation', and we emphasise the need to strengthen village decision-making.

Partial closure of the frontier has resulted from the establishment of protected areas. Significant ecological disturbances including fires (Harrison, Page, & Limin, 2009; Hoscilo et al., 2011; Page et al., 2011) are dealt with in contested landscape arrangements by increasing environmental regulations. Dual processes of oil palm expansion and environmental land enclosures force local adaptation and strategising. A similar 'pincer effect' of diminishing access to land has been observed in other parts of Indonesia due to different causes (Li, 2014a, p. 20). Our analysis identifies how oil palm expansion heightens potential future conflict with forest authorities by diminishing community agricultural land associated with historical forms of cultivation (Dove, 2011). This may result in higher regional incomes but unequal division of land and profits, and results in the loss of social and cultural aspects of agriculture (Dressler et al., 2017). Attempts to implement global environmental objectives, such as REDD+ projects, add to the entanglement of messy negotiations and competing land uses as more oil palm concessions were added to the surrounding area. These findings call into question any immediate 'benefits' for villagers often claimed by REDD+ proponents. Efforts to implement global environmental objectives in frontier landscapes become enmeshed in frontier processes and represent yet another powerful force for villagers to contend with.

6. Conclusion

The peat landscapes of Central Kalimantan have been transformed by successive interventions, from failed national land development for rice growing to decentralised oil palm concessions, and internationally-funded forest conservation and REDD+ projects. These multiple drivers of land use change interact and affect relationships between people and land embodied in statutory and customary systems. Our study focussed on negotiation, demonstrating the complexity of frontier processes. We analysed the legal framework, paying attention to how 'inanimate' nonhuman elements such as legal documents are sources of action in multiple negotiations over land. The idea that unfolding frontier realties are performed in a variety of practices (cf. Mol, 1999) adds to understanding complexity in frontier landscapes (Fold & Hirsch, 2009; Rasmussen & Lund, 2018) in which land use moves beyond the knowledge and control of human actors (Bennett, 2010; Law, 2004). We did not fully explore the physical landscape such as nonhuman elements of water, soil, vegetation, and fire in peat ecologies, and how these interact with legal objects and actors. ANT approaches to nonhuman agency offer potential direction for research exploring such interactions in physical and legal landscapes.

A 'messy thread' connected the formation of a concession model to oil palm expansion in the relentless games in negotiations over land. There is no sovereign actor nor any 'hidden motives of profit and domination' (Li, 2007, p. 9). Following this 'thread' is important for understanding historical legacies and frontier processes. Our study presents a new direction for research in this field by following this 'thread' at multiple interconnected sites and interactions within networked processes and practices of negotiation. The location permit was identified as a critical entry point for oil palm investors and therefore a potential starting point for targeted reform. This could include consideration of communication and feedback mechanisms between government levels to equip those living in villages to make informed decisions *prior to* the allocation of a permit. Simply slowing down the process might provide time and information to villagers. However, the fluidity of such negotiations is a product of a legal framework and licensing procedures that promotes continuing land investments. Providing a mechanism for villagers to document their claims (such as a land title) is not the solution, and often makes it easier for companies to acquire the land. Any reform must address the higher-level objectives of the land allocation and planning system, how investors enter this system using permits, and the accumulated historical-legal disadvantage to villagers in capital accumulation for large concessions.

We have sought to trace landscape transformations and glimpse at a future being created through how these negotiations have unfolded. What is happening is a problem of justice because the imposition of one system onto another distributes advantages to investors while leaving villagers with diminishing land. As plantations continue to expand into tropical peatlands, remote villages are being wedged between multiple concessions, forest conservation and REDD+ projects. It is likely that this situation

applies to other 'resource frontiers' that do not have stable land use, particularly involving large-scale land development. Implementing global environmental objectives had mixed consequences for villagers in our study. At an international level, REDD+ is experimental in design (Tehan, Godden, Young, & Gover, 2017; La Viña et al., 2016), but often this 'experiment' is repeated through international forestry policies and projects that reflect the aspirations of those providing the funding and expertise, rather those whose land and livelihoods are at stake. Observed top-down approaches to REDD+ in Central Kalimantan (Sanders et al., 2017) are repeated in other parts of the world (Ribot, 2018). Rather than applying a seemingly rational 'outside' perspective, any reform must begin with understanding the messiness of the local situation, and the processes used to work through existing modalities of land use change. Long-term critical engagement is needed. Reform or intervention to achieve desired national or global objectives must proceed from the perspective of the needs and rights of those currently using land.

Declaration of interest

None.

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