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Growing the Economy: Oil palm and green growth in East Kalimantan, Indonesia

Zachary R. Anderson, Koen Kusters, Krystof Obidzinski, and John McCarthy

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by Zachary R. Anderson[ac], Koen Kusters[b], Krystof Obidzinski[c], and John McCarthy[d]

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BRICS Initiatives for Critical Agrarian Studies (BICAS)
Email: bricsagrarianstudies@gmail.com
Websites: www.plaas.org.za/bicas | www.iss.nl/bicas

MOSAIC Research Project
Website: www.iss.nl/mosaic

Land Deal Politics Initiative (LDPI)
Email: landpolitics@gmail.com
Website: www.iss.nl/ldpi

RCSD Chiang Mai University
Faculty of Social Sciences, Chiang Mai University Chiang Mai 50200 THAILAND
Tel. 66-53-943595/6 | Fax. 66-53-893279
Email : rcsd@cmu.ac.th | Website : http://rcsd.soc.cmu.ac.th

Transnational Institute
PO Box 14656, 1001 LD Amsterdam, The Netherlands
Tel: +31 20 662 66 08 | Fax: +31 20 675 71 76
E-mail: tni@tni.org | Website: www.tni.org

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[a]University of Toronto, Department of Geography
Address: 100 St. George Street, Room 5047, Toronto, ON M5S 3G3, Canada
Email: z.anderson@utoronto.ca
Phone: +62 (0) 821-1172-9877; +1 (647) 918-7760
Fax: +1 (416) 946-3886

[b]WiW - Global Research and Reporting
Address: Eerste van Swindenstraat 391, 1093 GB Amsterdam, the Netherlands
Email: kusters.koen@gmail.com

[c]Center for International Forestry Research (CIFOR)
JL. CIFOR, Sindang Barang, Bogor 16165, West Java, Indonesia
Email: k.obidzinski@cgiar.org

[d]Australian National University
Address: Crawford School of Economics and Government, Australian National University, Canberra ACT 0200, Australia
Email: john.mccarthy@anu.edu.au

Abstract

Over the last decade Indonesia has positioned itself as a global leader in the development of the 'green economy'. This has included a commitment to reducing Indonesia's CO2 emissions by 26% against business-as-usual by 2020, or 41% with international support, the creation of national-level policies to address greenhouse gas emissions, the implementation of REDD+ carbon sequestration schemes, and renewable energy development, and the launch of numerous partnerships with international actors in support of green growth. At the same time, Indonesia intends to realize and maintain a 7% annual GDP growth rate, and become one of the world's ten largest economies by 2025. This research explores the ways that these expectations are playing out in the oil palm sector in East Kalimantan, Indonesia. We find that oil palm poses serious deforestation challenges to the concept of green growth, as 44% of land allocated for plantations is still forested. At the same time, there may be opportunities to avoid deforestation and pursue more sustainable oil palm development pathways, as 87% of concessions have yet to be planted, however it has yet to be seen whether the political will exists to pursue this shift in policy.

To conceptualize what the development of the green economy means for changing sub-national environmental governance in Indonesia, specifically East Kalimantan, we consider several policy instruments and discuss the political, economic, and social issues associated with their implementation. The first possible option would be for the government to regulate the establishment of plantations in a way that is concurrent with its own REDD+ strategies. This means excluding high carbon stock areas from land allocation for plantation development. The second option would be for the government to follow through on existing regulations and enforce the mandatory private sector compliance with the Indonesian Sustainable Palm Oil (ISPO) standard, or RSPO. Both require the protection of high conservation value and high carbon stock (HCV/HCS) areas thus enabling significant GHG reduction. The third possibility is the institution of the legal framework and the incentive system for land swaps through which companies could swap the part of their concession that contain forest or peat areas for degraded land elsewhere.

In reviewing these options, we consider the roadblocks to "greening" oil palm in Indonesia. These include Indonesia's nebulous land tenure system, conflicting definitions of 'degraded' land, a history of spatial planning that has created incentives for the corporate sector to prioritize forests over non-forested land, and the underlying political economy of environmental governance in Indonesia.

Keywords: Green growth; green economy; oil palm; REDD+; Environmental Governance; Indonesia

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1 INTRODUCTION

1.1 The green economy, environmental governance and ecological modernization

According to the UN Environment Programme a green economy is an economy that results in 'improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities' (UNEP, 2011: 16). The concept has recently taken center stage in discussions on international development, and was one of the four agenda items at the United Nations Conference on Sustainable Development (Rio+20) in 2012 (UN, 2012). Although the idea is not new, the growing attention is related to concerns about the increasing scarcity of natural resources and ever growing greenhouse gas (GHG) emissions, partly caused by rapid growth in emerging economies such as Brazil, China, India and Indonesia. The green economy is proposed as a way to overcome the negative effects of conventional development, for example through increasing investments in low-carbon technologies, shifting energy-use towards renewable sources, and more sustainably management of natural resources such as fisheries and forests (OECD, 2011; UNEP, 2011). One of the basic principles underlying the concept is that the market can provide incentives to companies to operate in environmentally benign ways without curtailing growth, hence green growth (Reilly, 2012). This requires companies and states to see climate change mitigation strategies as preparation for longer-term business and development opportunities rather than a source of short-term costs.

The green economy is a particular form of 'environmental governance' (Bakker and Bridge 2007; Bridge and Jonas 2002; Feldman and Jonas 2000), which is reshaping existing forms and scales of governance, tenure, and livelihoods. It is a type of environmental governance in which diverse groups, including NGOs and corporations, wield power and authority over environmental policies and decision-making (Dalby, 2002; Lieverman, 2004), and in which state actors are not necessarily the most significant participants (Buckley, 2005). The green economy, and its linked projects, will require a process of aligning these diverse actors around 'agreed-upon objects to be governed, tools of governance, and forms of environmental, economic and social knowledge' (Thompson et al., 2011: 102).

In many ways the concept of the green economy is a continuation of the agenda of 'ecological modernization' (EM) as developed by a variety of scholars (Spaargaren and Mol, 1992; Hajer, 1995; Spaargaren et al., 2000; Mol and Spaargaren, 2000, 2004; Spaargaren, 1997, 2000; Mol, 1995, 1996, 2001, 2002; Mol and Sonnefield, 2000; Murphy, 2000). Ecological modernization emerged in the 1980s as a counter to regulatory approaches to sustainability and environmental management based on the idea of limiting growth and continued capitalist expansion (see Meadows et al. 1972). Rather than being one coherent theory, the term ecological modernization refers to a series of theoretical and practical concepts and mechanisms that share a focus on society's ability to address the contradictions of capitalist expansion within a 'business as usual' framework, while minimizing threats to business and maintaining control over the regulatory capacity of states that might threaten continued processes of accumulation (MacDonald, 2010). This perspective relies on technocratic and market-based solutions to environmental problems, while espousing a belief in the ability to 'decouple' continued capitalist growth from its environmental externalities (Keil and Desfor, 2003). Moreover, proponents of EM not only theorize that ecological sustainability is compatible with liberal market order and continued capitalist expansion (Spaargen, 2000; Bernstein, 2001), but posit that continued capitalist development and modernization offer the *only* possible option for escaping global environmental crisis (York and Rosa, 2003; Mol, 1995). EM has become the primary perspective underlying attempts to address anthropogenic climate change and other environmental crises such as biodiversity loss and industrial pollution (Oels, 2005). These attempts rest on the idea of 'de-coupling' negative environmental and social 'externalities' from continued economic growth and rely on market reform, industrial advancement and consumer preference to drive social and ecological change. The concept of

the green economy is the most recent iteration of this discourse.

The reliance on a market-based approach to tackle environmental problems has been critiqued on a number of fronts. First, the forms of nature (and society) supported by EM are those that are efficient and marketable, rather than ecologically, economically or socially just and/or equitable (MacDonald, 2010; Gibbs, 2000), and as such EM has relatively little to say about social justice, or nature-society relations (Gouldson and Murphy, 1996; Fisher and Freudenberg, 2001; Baker, 2007). Likewise, the idea of the green economy has been criticized extensively for its reliance on market-based approaches to environmental protection (Bumpus and Livermann, 1998; McAfee, 2011; Lohmann 2009; Sullivan 2013; Robertson 2004, 2006), and the expectation that the problems caused by unrestrained development can be solved through further commodification and market expansion (Igoe et al. 2010; Brockington et al. 2008; Corson and MacDonald 2012; McCarthy and Prudham 2004; Castree 2008a, 2008b; Bakker 2005; Mansfield 2004).

Second, some critics have argued that EM and the green economy reflect a conception of 'global ecology' that privileges the values and institutions of the Global North while relying on solutions that will require minimum disruption and inconvenience for corporations or consumers in these same countries, relocating environmental problems to the developing world (see, e.g., Pepper, 1998).

Third, the environmental and political discourse underlying EM may obscure the role that economic growth and resource-intensive technological development play in degrading the environment, and therefore lessen the political will needed to make substantive environmental reforms (Hajer, 1995). As such, the adoption of ecological modernization principles can be seen as merely a 'symbolic' commitment to sustainability (Baker, 2007). As with EM more broadly, the green economy is based on an extension of the same policies, technologies and forms of resource management that have produced the majority of contemporary environmental crises including anthropogenic climate change (see O'Connor, 1994; Pellow et al., 2000; Robertson, 2004). Related to this, the green economy concept has been critiqued as a form of 'green-washing'; allowing businesses and states to appear pro-active in the face of anthropogenic climate change, while continuing processes of accumulation and resource extraction unrestrained (Kenis and Lievens, 2012; Klein 2007; Fletcher 2012).

Despite these criticisms, the green economy has become popular among politicians and international organizations such as the OECD (e.g., OECD, 2011), the UNEP (e.g., UNEP, 2010) and the World Bank (e.g., World Bank, 2012). Its popularity is not surprising as it promises continued growth and job creation in addition to environmental protection – an attractive offer in a period of economic crisis and rising unemployment (Reilly, 2012; Van der Ploeg and Withagen, 2013).

There are still many unanswered questions about the envisioned shift to a green economy. These are mostly normative concerns regarding, for example: What role can or should the market versus the state play in planning and regulation? What are the effects of commoditizing natural resources on equality and poverty? What is the likelihood or the possibility of vested interests blocking reforms? And, to what degree are state agencies or key actors committed to GE related reforms (McAfee, 2011; Brand, 2012; Brockington, 2012)? These questions are sharpened by the reality that the global demand for raw materials and plantation commodities continues to surge, while governments of developing nations are committed to achieving and maintaining high economic growth rates. In this respect, the case of Indonesia is illustrative of the dilemmas that many emerging economies face. International demand for key commodities produced in Indonesia (such as palm oil, timber and minerals) is increasing (PWC, 2012). At the same time domestic demand for food, fuel and other commodities is surging due to population growth and the growing the middle class.

1.2 The case of Indonesia

Indonesia – one of the emerging economic giants (World Bank, 2013) – provides an excellent case for pursuing some of these questions. The country's green growth ambitions were firmly established in 2009 at a meeting of the heads of state of G-20 countries, when Indonesian President Susilo Bambang Yudhoyono publicly committed to reducing Indonesia's emissions between 26 and 41% against business-as-usual by 2020. In June 2013 the Indonesian government, together with the Global Green Growth Institute (GGGI), launched a countrywide Green Growth Program, confirming and reinforcing the government's intention to stimulate low-carbon investments. Still, concerns exist that combining the government's economic growth targets with a 26% reduction of GHG emissions is unrealistic (Strategic Asia, 2012).

Indonesia is currently the fifth largest emitter of GHGs (WRI, 2014), most of which is stemming from the high rate of deforestation and land-use change (Margono et al., 2014, Hansen et al., 2013), associated with Indonesia's booming oil palm sector (Miettinen, et al., 2012; Carlson et al., 2012). Between 1967 and 2010, the area under oil palm expanded by 8,300% making it the world's largest producer of palm oil (Indonesian Ministry of Agriculture, 2011; World Bank, 2011). Enthused by the success of the palm oil sector, the Indonesian government plans to further increase the area under palm oil plantations, mostly in Kalimantan and Papua (USDA, 2010; Coordinating Ministry For Economic Affairs, 2011; Carlson et al. 2012; Kongsager and Reenberg, 2012; BisInfocus, 2012), but there are concerns that this expansion will take place in areas currently covered with forest, exacerbating GHG emissions (Boucher et al., 2011; Colchester and Chao, 2011).

There are three other issues that need mentioning in order to understand the Indonesian case. First, in the wake of the 1997 Asian Financial Crisis and the fall of the Suharto regime in May 1998 Indonesia underwent a far-reaching process of decentralization that devolved much of the authority over land-use to subnational levels, particularly semi-autonomous district-level and municipal governments. This has led to a number of issues related to environmental management, including conflicts of authority between different state agencies, a narrowing of focus by agencies tasked with environmental management towards 'project'-based administration, such as waste treatment, rather than more comprehensive approaches to environmental management, a shortage of appropriate state capacity, resources, and funding, and a lack of political accountability of local officials which has led to networks of corruption, rent-seeking and clientelism (McCarthy and Zen, 2010; McCarthy, 2004). Second, with the rise of the oil palm boom, the political and economic power of the coalition of interests active in the sector has culminated in the consolidation of an oil palm complex which affects the capacity of the state to reform some of the excesses associated with the sector (Cramb and McCarthy, forthcoming). Third, the same period saw the rise of market-based policy tools, such as the RSPO, ISO 14000, and FSC, which are based on the idea that self-regulation by corporations and the market can lead to effective environmental management (Falkner, 2003). Yet despite their continuing dominance these policies have not led to systematic control of environmental degradation (McCarthy and Zen, 2010; McCarthy, 2004), and the fragmented nature of governance in Indonesia has led corporations to continue externalizing environmental costs (McCarthy and Zen, 2010), while powerful local elites have used land control and access as opportunities for rent-seeking.

1.3 Focus of the article

To date, the majority of research on green growth and the green economy has taken the form of macro-level and supra-national scale analyses; focusing on the institutions of governance creating the discourse and policies of the green economy globally, and the processes by which certain conceptions of nature and value have become hegemonic (see Corson and MacDonald, 2012; MacDonald, 2010; Brand, 2012; Wanner, 2014). Other research has explored the details of particular projects that fall

under the green economy concept, such as REDD+, eco-tourism, species derivatives, and biodiversity offsetting (see Sullivan, 2013; Bumpus and Livermann, 1998; Lohmann, 2009, 2010; Robertson, 2004, 2006), and the commodification and financialization of biodiversity and 'nature' more generally (McCarthy and Prudham, 2004; Castree, 2008a, 2008b; Bakker, 2005; Mansfield, 2004). Yet, little attention has been given to the trans-scalar articulations and impacts of the green economy as a form of environmental governance, despite the fact that the green economy will necessarily rest on processes of resource extraction, livelihood change, and territorialization in particular locations (cf. Cook, 2012; Fairhead et al., 2012, Hiraldo and Tanner, 2011; McCarthy et al., 2011; Sullivan, 2013).

In this article we seek to fill this gap through a more robust exploration of the green economy as it is actually taking shape in East Kalimantan, Indonesia; a province considered a frontrunner in low-carbon development planning (DDPI Kaltim, 2011; GoI and GGGI, 2013). We explore the factors that are shaping the green economy in Indonesia and East Kalimantan, and analyse how oil palm developments on the ground relate to green growth objectives. Through this case, we aim to shed light on the following questions of wider relevance:

1. Do state agencies have the capacity and commitment to support a green economy?
2. To what degree does the existing political economy of oil palm affect the likelihood or the possibility of a green economy?;
3. What are the conditions for effective environmental governance?

The article begins with an overview of six recent initiatives aimed at reducing GHG emissions at the national and provincial level. Subsequently we relate these to on-going developments in the oil palm sector in East Kalimantan, suggesting that existing plans to expand plantations are at odds with provincial efforts to reduce emissions through the reduction of deforestation and forest degradation (REDD+). We then discuss options to begin addressing the contradictions between Indonesia's green aspirations and economic development imperatives, the state's capacity to effectively implement green growth policies across scales, and the political economy in which these efforts are embedded, followed by a short discussion of the implications for local communities. We argue that the green economy concept refers to a form of environmental governance in which authorities and interests of aligned groups may overlap and come into conflict at different scales. Hence, differing priorities may lead the material expression of the green economy to diverge significantly from policy as it is initially laid out. We argue for a radical revision of land investment policies, based on a strong political commitment and an awareness of social and environmental trade-offs.

This article is based on a review of literature and government reports, analysis of spatial data from the Indonesian Ministry of Forestry and the World Resources Institute (WRI), and interviews with provincial and district-level government officials, academics, representatives of the private sector, and NGO staff in Samarinda, Balikpapan and Tanjung Redeb, East Kalimantan.

2 STATE APPROACHES: INITIATIVES TO PURSUE INDONESIA'S GREEN GROWTH GOALS

Several blueprints and policy instruments have been developed for achieving green growth objectives in Indonesia. Below we mention some of the main ones.

2.1 Example 1: the Master Plan

Late 2009 saw the development of Indonesia's Climate Change Sectoral Roadmap, which was developed jointly with input from all ministries and the support of GIZ (at the time GTZ), however

this roadmap was largely side-lined when, in 2011, the coordinating Ministry for Economic affairs launched the Master Plan for the Acceleration and Expansion of Indonesia's Economic Development (MP3EI). This plan aims for an annual GDP growth rate of 12.7%, raising the National GDP to USD 4.5 trillion by 2025, with a per capita income of USD 15,500; bringing Indonesia into the world's top ten largest economies. The MP3EI contains plans for six thematic regional economic corridors (Coordinating Ministry For Economic Affairs, 2011). The plan encourages investment in the expansion of plantations for timber, oil palm and food crops, and in natural resource extraction, particularly logging and mining.

The development of the MP3EI was largely driven by the Indonesian National Development Planning Agency (Bappenas), the Ministry of Economic Affairs, the Ministry of Finance, and the Ministry of Public Works. A critical problem noted by commentators was that the blueprint failed to mention the reduction of GHG emissions as a policy objective (Mongabay, 2013), including by other Indonesian ministries not actively involved in the development of the program. In response, government agencies did eventually develop several separate initiatives aimed at 'greening' economic development. The government has relied heavily on the assistance of non-governmental actors such as the Global Green Growth Institute (GGGI) and PriceWaterhouseCoopers (PWC) to facilitate this greening, only later coordinating with the Ministry of Environment and Natural Resources and the Ministry of Internal Affairs when conducting a 'Strategic Environmental Assessment' (SEA) of the MP3EI program, with the support of DANIDA through the ESP3 – Environmental Support Programme.

Efforts to green the MP3EI include a national action plan to reduce GHG emissions (RAN-GRK), under which all Indonesian provinces are expected to deliver provincial action plans to improve coherence with the national strategy, and which is designed to align local development priorities with national climate change mitigation efforts. By mid-2013, 31 of Indonesia's 33 provinces had finalised their regional action plans. However, as yet it remains unclear how these provincial action plans will be 'main-streamed' to the district level, where most non-forest land use decision-making takes place, and private investment still accounts for 60% of the plans falling under MP3EI.

2.2 Example 2: Biofuel policy

Since the implementation of the 2006 'energy mix policy', the Indonesian government has promoted the use of biofuels to decrease GHG emissions while also lowering budget spending on fossil fuel subsidies. One of the policy's goals has been to increase the local production of biofuels, as this is expected to result in both energy security and job creation in the country's rural areas. Presidential Regulation No.5/2006 on Indonesia's National Energy Policy called for biofuels to make up 5% of the country's energy mix by 2025. The national government instructed central and regional government institutions to support and promote the establishment of a domestic biofuel industry by allocating land for biofuel development and offering incentives to potential investors. Several other government regulations have since been released to stimulate investments and to make it easier for investors to access land for the development of biofuel feedstocks (Dillon et al., 2008; Bromokusomo, 2007). These policies helped Indonesia to become the 6th largest producer of biodiesel in the world in 2011, mostly based on palm oil (Slette and Wiyono, 2012). In 2011 around 7% of Indonesia's total estimated CPO production (23.9 million tonnes) was used for biofuel production (Casson et al., Forthcoming).

According to some observers (e.g., Jupesta et al., 2011) the energy mix policy has increased pressure on forested areas by further stimulating the demand for agricultural lands and is therefore conflicting with another major 'green' policy – Indonesia's national REDD+ strategy (Bappenas, 2010).

2.3 Example 3: The REDD+ initiative

The implementation of REDD+ is the main strategy for achieving the 26-41% emission reduction target. The REDD+ program aims to reduce deforestation and forest degradation in order to decrease GHG emissions while simultaneously delivering other environmental and socio-economic benefits. So far, the most notable initiative in this respect has been the Letter of Intent signed with the government of Norway in May 2010. It provided US$1 billion for the development and implementation of a REDD+ program. By 2013, approximately 52 REDD demonstration projects had been established (http://forestclimatecenter.org/) and a number of laws had been put in place to facilitate REDD+. In September 2013, as part of an effort to overcome problems of policy coherence and conflicting ministerial agendas, the Indonesian President signed a decree to establish the Managing Agency for the Reduction of Emissions from Deforestation and Degradation of Forest and Peatlands, and since then a number of provinces have developed strategies and action plans for implementing REDD+. Nevertheless, progress has been slow and several REDD+ projects have failed. For example, one of the largest and most well funded ($30 million) REDD+ projects, the Kalimantan Forest Carbon Partnership (KFCP), was discontinued because it had failed to secure support from the local government and communities (Butler, 2013; Gallemore et al., 2014). Despite progress with developing the national institutional structure for REDD+ in Indonesia, there are continued concerns about the likelihood that REDD+ will ever be operational on the ground, and if so, under what conditions (SATGAS, 2012).

2.4 Example 4: Moratorium

Related to the government's REDD+ policy and the Letter of Intent signed with the Government of Norway, President Yudhoyono announced a two-year moratorium on new forest concession licenses for primary forest and peatland in May 2011, which was later extended for two additional years (2013-2015). The moratorium was meant to allow the government time to develop improved processes for land-use planning and permitting, strengthen data collection and information systems, and build institutions necessary to achieve Indonesia's low emissions development goals (Austin et al., 2012). The Ministry of Forestry published an 'Indicative Map for Suspension on New Licenses' in July 2011, which has been revised four times since, due to ambiguities in the available spatial data. According to Murdiyarso et al. (2011) the moratorium temporarily protects a total of 66.4 million ha of forested land or peat land, including around 7.2 million ha of primary forest and 11.2 million ha of peatland that was not already included in Indonesia's conservation and protected forest categories. However, some areas with primary forest and peatland were exempt from the moratorium, because they had already been allocated to concessionaires, had been previously re-zoned as APL (*Areal Pengunaan Lain* or non-forest area), or because the land was deemed 'vital' for national development goals, such as food security (Mudiyarso et al., 2011). The moratorium is a temporary measure designed to buy the government time to harmonise map data and review data inconsistencies stemming from problems of divergent cross-jurisdictional data policies and the fragmented nature of governance in Indonesia.

2.5 Example 5: One Map Initiative

Spatial data in Indonesia are scattered across various institutions at different levels of government. Political decentralization gave district governments more say in spatial planning processes and allowed them to generate their own spatial data on concessions, forests-cover, peatland and even district boundaries. Much of this information has not been passed on to provincial or national governments. Moreover, at all levels of government, different methods have been used to calculate forest-cover and forest allocations. This situation allowed corrupt practices related to issuing

concessions to run rampant, as government officials have been able to manipulate and alter maps to accommodate different interests (DtE, 2012). In 2010 the government launched the 'One Map Initiative' to address these issues (Samadhi, 2013).

The 'One Map Initiative' has been tasked with the standardization of the existing maps. This is expected to clarify concession boundaries and to help to hold companies responsible for their activities and actions (Sizer et al., 2013). However, lack of policy coherence between levels of government, and unclear authority has made the collection and verification of official spatial data difficult, and progress has been slow. Two recently passed Constitutional Court decisions are adding complications to this process; Constitutional Court Decision No. 35/PUU-X/2012 (MK35) which excises customary forest land located in indigenous areas from *kawasan hutan* (state forest area), and Constitutional Court Decision No. 45/PUU-IX/2011 (MK45), which requires a greater degree of cooperation between the national and regional governments over land use and spatial planning decision making, and requires that all land designated as *kawasan hutan* be officially gazetted – a major issue for the national government's management of forest areas as at present only around 10% of the 130.7 million ha of *kawasan hutan* are officially gazetted.

2.6 Example 6: Certification

Palm oil companies have benefited from the manipulation of concessions data and overlapping land designations. In order to force palm oil producers to comply with Indonesian laws and regulations the government has established a national certification scheme – the Indonesian Sustainable Palm Oil (ISPO) standard. This scheme was introduced in response to criticism of the international Roundtable on Sustainable Palm Oil (RSPO) standard coming from several prominent actors in the Indonesian oil palm sector, who claimed that the RSPO has been prioritizing the interests of consumer countries over those of producer countries (Caroko et al., 2011), and was also a linked to producers' desire to avoid the expense and difficulties associated with obtaining certification under RSPO. In March 2014 only 53 of Indonesia's 1612 oil palm companies (3.2%) had been RSPO certified (http://www.rspo.org/en/home), however the ISPO standard will be mandatory for all large-scale oil palm plantation companies operating in Indonesia by 2014 and all smallholders by 2015. ISPO credibility depends on the extent to which the new standard can demonstrate reductions in the conversion of peatland and carbon-rich forests to establish plantations (Caroko et al., 2011).

3 GREEN GROWTH INITIatives AND OIL PALM IN EAST KALIMANTAN

A critical question is whether national initiatives can be implemented at lower levels of the jurisdictional scale. In the following section we will consider attempts to implement green economy initiatives in East Kalimantan. East Kalimantan is characterized by a large area of intact tropical forest. However, because of the province's reliance on land-based development such as mining and oil palm cultivation, the forest is being lost at a rate of 500,000 hectares per year (Disbun Kaltim, 2014a) and the province has become Indonesia's third largest GHG emitter (DDPI Kaltim 2011; Provinsi Kaltim, 2012). For these reasons East Kalimantan was selected as a focus area for efforts aimed at reducing GHG emissions (DDPI Kaltim, 2011) and the national Green Growth Program designated the province as one of its pilot sites in 2013 (GoI and GGGI, 2013).

3.1 East Kalimantan's green growth ambitions

In 2009 the governor of East Kalimantan pledged to make East Kalimantan a 'green province'. This

resulted in the establishment of the 'Green East Kalimantan' (*Kaltim Hijau*) program (Provinsi Kaltim, 2010). The vision of the program is to develop the province as a global example for how to combine GHG emission reduction goals with economic development, while ensuring that development is sustainable and environmentally friendly (Berau REDD+ Working Group, 2011). The program has four overarching goals: (i) improving the overall quality of life in the province, balancing economic, social, cultural, and environmental aspects; (ii) reducing the threat of ecological and climate change-related disasters such as floods, landslides, droughts, and forest fires; (iii) reducing pollution and the degradation of terrestrial ecosystems, water and air; and (iv) increasing knowledge and awareness among institutions, the government and the people of East Kalimantan about the importance of conservation of natural resources, and the wise use of renewable natural resources. Since the establishment of the *Kaltim Hijau* program, a number of steps have been taken at the provincial level to pursue green growth, including the establishment of the Provincial Council on Climate Change (DDPI) in January 2011, and the creation of new policy documents, including the regional action plan for reducing greenhouse gas emissions (RAD-GRK), the regional action plan for REDD+ (SRAP-REDD+) and the East Kalimantan Sustainable Development Strategy. According to Governor Regulation No. 54/2012 carbon emissions from forest loss and land degradation are to be reduced by 15.6% in 2020 (DDPI Kaltim, 2011). The provincial action plan for implementing REDD+ (SRAP-REDD+) outlines that East Kalimantan aims to reduce GHG emissions through reducing deforestation and forest degradation, while simultaneously continuing to promote the development of oil palm plantation expansion and mining. For oil palm expansion, it determines that environmental and social impact assessments should be strengthened and mechanisms for issuing plantation permits should be improved.

Designated a green growth pilot province, East Kalimantan also became home to several donor-funded REDD+ initiatives, including the Community Carbon Measurement project in Kutai Barat, the Malinau Avoided Deforestation Project, the Forest Resources Management for Carbon Sequestration Project in Nunukan, the Berau Forest Carbon Program, and several demonstration activities of the Forests and Climate Change Protection Program (FORCLIME) in Berau and Malinau. However, district-level interviews suggest that REDD+ has yet to have much impact 'on the ground', outside of capacity building for local government officials, support for ending shifting cultivation, and efforts to develop rubber and non-timber forest products as alternative livelihood sources. Uncertainty remains about the future of REDD+, the demand for carbon credits, and the likelihood of REDD+ payments forming a viable source of income (Phelps et al. 2011), particularly in comparison to the yields generated by palm oil (Butler et al., 2009).

3.2 Oil palm expansion

Despite ambitions to decrease GHG emissions stemming from land-use change, *de facto* development in East Kalimantan is heavily based on expansion of oil palm plantations and the provincial government plans to invest in further expansion of oil palm plantations and processing capacity (DDPI Kaltim, 2011; Disbun Kaltim, 2014b; Bappeda Kaltim, 2014). In 2014 the Governor of East Kalimantan and the East Kalimantan Plantation Department Head suggested that 'phase 2' for oil palm development in East Kalimantan was to add an additional 1.4 million hectares over the next five years (Antara News, 2014; Provinsi Kaltim, 2014).

The process of expansion is governed by a system of permits, handed out by the local government. Companies need to have three types of permits before they are legally allowed to start planting. The first is a location permit (*Ijin lokasi*), which is awarded by the district head (*Bupati*) and provides a company with a set time frame to obtain the other necessary permits. A location permit can only be given for areas that have officially been allocated for plantation development in the district

spatial plan. The second is an IUP (*Ijin Usaha Perkebunan*) permit, which is granted by the *Bupati* after a company has gone through all the required steps to set up a plantation. This includes conducting an environmental and social impact assessment, and reaching an agreement with the communities within the permit area about the location of plantations and the terms of involvement by community members. If all requirements are followed, the Land Agency (BPN) will award an HGU (*Hak Guna Usaha*) permit, which gives the holder the right to produce palm oil for 35 years, extendable for another 25 years.

In December 2013 the province had granted location permits to a total of 344 companies, covering 3.9 million hectares; IUP permits to 215 companies, covering 3.1 million hectares; and HGU concessions to 127 plantation companies, covering 1.1 million hectares (Disbun Kaltim, personal communication, December 2013). Table 1 shows how the area under HGU concessions has been growing since 2000. The provincial government seeks to reach 2 million hectares of area under HGU concession by 2018 (Rahman, 2015); this implies an acceleration of plantation expansion over the next three years.

Tabel 1. Oil palm in East Kalimantan: Area planted, area allocated and production

Yr	Area Planted (Ha)	Total Area allocated as HGU (Ha)	Production (Ton)
2013	456.145	1.115.415	7.600.298
2012	374.482	961.802	5.734.464
2011	312.440	827.347	4.471.546
2010	219.377	663.533	3.054.707
2009	188.044	530.554	2.298.186
2008	156.104	409.564	1.664.311
2007	132.867	339.293	2.041.163
2006	113.437	225.337	1.268.600
2005	108.567	201.087	1.012.789
2004	99.142	171.581	957.058
2003	95.130	159.079	791.064
2002	68.994	132.174	760.293
2001	51.001	117.055	446.729
2000	49.085	116.888	433.645

Source : Dinas Perkebunan Provinsi Kalimantan Timur (2014)
http://disbun.kaltimprov.go.id/statis-35-komoditi-kelapa-sawit.html

To grasp the implications of the province's expansion plans we combined 2011 land-cover data from the Indonesian ministry of Forestry (http://appgis.dephut.go.id/appgis/download.aspx) with oil palm concession data obtained from the World Resources Institute (WRI, see: www.globalforestwatch.org/sources). The spatial data collected by WRI indicates that in 2011 there were 2,774,798 ha of land under oil palm concessions in East Kalimantan. Of this area, 356,717 ha were planted with oil palm. This is slightly more than the number mentioned in Table 1, which is explained by the fact that the government's plantation office (*Dinas Perkubunan* – Disbun) and WRI use different data and methods for collecting and compiling data. As of 2011, the area under *ijin lokasi* that had not yet been planted totaled 2,418,081 ha, or 87% of the area. To calculate the area likely to be cultivated under a business-as-usual scenario, we subtracted the water-bodies and areas that are already under cultivation, or used for mining and settlements. The remaining area totals 2.18 million ha. Our analysis shows that, 48% of this area (1,061,700 ha) consists of areas classified as forested lands and swamps, which includes peatland (Table 2). Figure 1 shows the province's land-cover in

2011 and the land-cover if all 2011 concession areas were to be converted to oil palm. We calculated the carbon stocks of these areas based on the carbon stock estimations for different land use types defined by the Indonesian Ministry of Forestry. If the 2.18 million ha were to be fully planted with oil palm, this would lead to a decrease in the province's carbon stock by around 54 million ton CO_2Eq. Taking further into the account the opening and draining of 250,000 ha of peatland located inside the concessions, this will result in additional GHG emissions of 152 million tons of CO_2Eq. In total, oil palm development on all areas allocated for plantations would lead to the direct loss of approximately 206 million tons of CO_2Eq[1], which corresponds to approximately 74% of the annual GHG emission in the entire province. Following a business-as-usual trend this expansion would take around 25 years, though increasing issuance of HGU permits, and the goals set by the most recent medium term development plan (RPJMD), indicate that the provincial government intends to increase the rate plantation expansion explonentially over the next ten years. Allowing this to happen could severely set back the province's GHG emissions reduction goals.

Table 2. Concession area with forests and swamps

	Total (hectares)	Percentage of concession area	Percentage of non-planted concession area	Percentage of non-planted concession area likely to be planted
Primary Dry Forest	79,903	2.88	3.30	3.66
Primary Mangrove Forest	6,613	0.24	0.27	0.30
Primary Swamp Forest	11,239	0.41	0.46	0.52
Secondary Dry Forest	758,464	27.33	31.37	34.78
Secondary Mangrove Forest	80,281	2.89	3.32	3.68
Secondary Swamp Forest	108,905	3.92	4.50	4.99
Swamp	16,295	0.59	0.67	0.75
Total	1,061,700	38.26	43.91	48.69

Sources: The Indonesian Ministry of Forestry; Global Forest Watch (GFW), World Resources Institute; ESRI ArcGIS Online.

[1] This number does not include those emissions from transportation or fuel use.

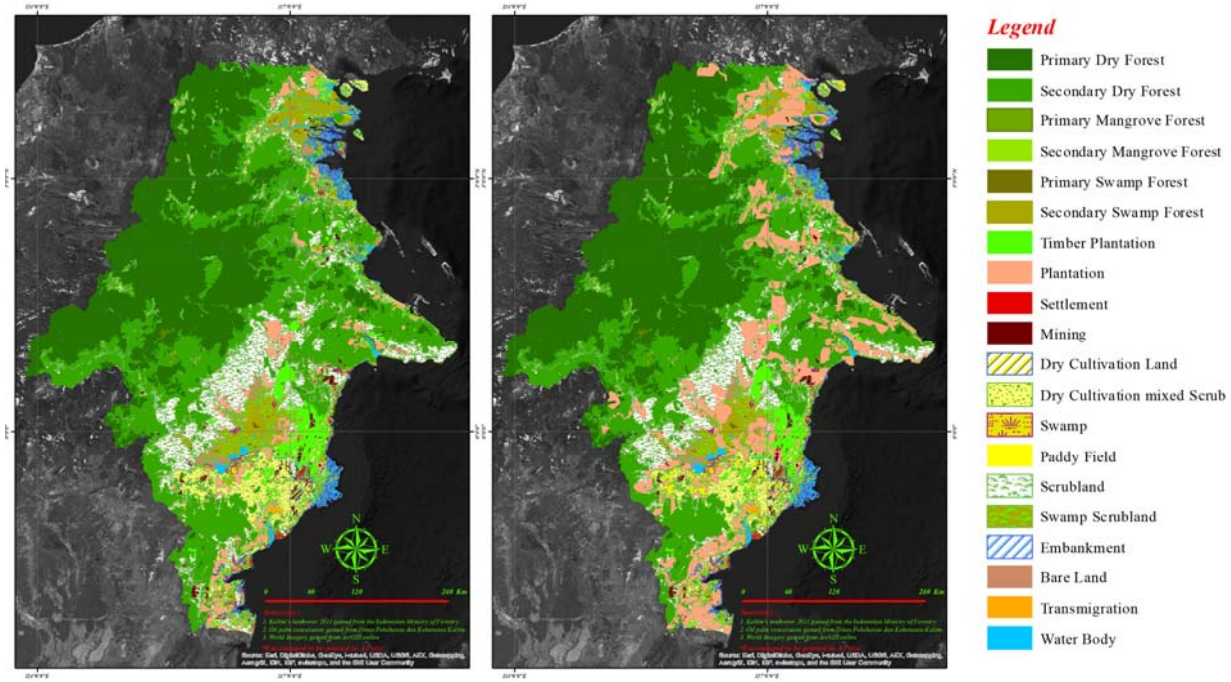

Figure 1. East Kalimantan landcover in 2011 (left) and if all concession areas are planted with oil palm (right).
Sources: The Indonesian Ministry of Forestry; Global Forest Watch (GFW), World Resources Institute; ESRI ArcGIS Online.

4 DISCUSSION

The above shows that in East Kalimantan more than 8o% of the area under oil palm concessions is not yet planted with oil palm and that around half of these concessions are located in forested and swamp areas. The example shows that expansion of oil palm plantations in areas that have been designated for this purpose will lead to the conversion of forested lands and swamp areas, including peatland, and confirms that allocated oil palm leases represent a critical source of carbon emissions (Carlson et al., 2013). If all lands under permit are indeed converted to oil palm plantations, this would release ~206 million tons of CO_2Eq into the atmosphere, frustrating the government's ambition to reduce GHG emissions from deforestation and forest degradation. Indonesia will not be able to reconcile its green aspirations with its economic growth targets, unless land investments are redirected in order to slow down the expansion of plantations on forested and peat land. Without serious government efforts to redirect oil palm plantations away from forested and peat areas, REDD+ funds are not going to be effective.

4.1 Policy options

We consider several policy options to reconcile GHG emissions reduction goals with continued oil palm expansion, as well as the feasibility of implementing them at the local scale. These policy options could be considered separately or pursued together.

Under the first policy option, the state would rigorously implement a planning process, enforcing laws and commitments to ensure all new plantations accord with REDD+ strategies (Venter et al., 2013). However, the problem remains that given the underlying political economy of Indonesia, there are considerable obstacles that make such regulation difficult to achieve, if not accompanied with reforms of local land governance (Sandbrook et al., 2010). Under a second option, companies could

obtain definitive land-use permits (HGU) for areas that include forests and swamps with the requirement that they minimize the negative environmental impacts of their operations. This might include, for example, compliance with ISPO certification and alignment between RSPO and ISPO standards, both of which require the protection of high carbon stock and high conservation values (HCS/HCV) areas. Under this option, the state could provide support under avoided deforestation schemes based on carbon credits. However, it remains unlikely that such carbon payments will be competitive with earnings from oil palm development under current conditions (Butler et al., 2009). Under a third possibility, a company could obtain a land swap. Under this arrangement, a company would swap part of its concession that contains forest or peat areas with suitable degraded land elsewhere. However, this option faces complications related to the identification of suitable areas. For example, many of the degraded lands available for land swaps tend to be scattered and are often considered by companies to be too small to be profitably developed as plantations. A fourth option is for the government to re-assess concessions that have not yet received HGU status, and if necessary relocate or revoke them. This may prove difficult as many concession areas serve as 'land banks' for politically connected actors to be used for future revenue creation as needed.

4.2 The need to identify areas suitable for expansion

A primary requirement to make any of the above options a success is the identification of areas that are suitable for oil palm plantations without negative social and environmental consequences. This means that expansion plans should be in line with the REDD+ objectives and other sustainability criteria while also accounting for unresolved land claims and customary resource access. The work of Smit et al. (2013) in West Kalimantan provides an example of how suitable areas might be identified. The authors used spatial data to produce a map indicating the areas that fell in line with the sustainability criteria used by initiatives promoting sustainable oil palm, including the RSPO and ISPO. They found that a large share of the inactive concessions did not meet these criteria, while large areas outside of existing permits did. After ground checks, the resulting map could provide a good basis for the planning of oil palm plantations.

Community maps (Peluso, 1995; Momberg et al., 1996) could also serve as an important resource when combined with spatial data and used as a form of ground-truthing, particularly in light of recent efforts by the government to officially designate customary land as separate from state forest or APL areas. They indicate the boundaries of villages or customary territories and are created by community members, often with the support of an independent organization, using Global Positioning System (GPS) technology. In Kalimantan a vibrant community mapping movement has emerged in response to conflicts over tenure that arose when the government handed out concessions to companies for areas that were used or claimed by communities (Sirait, 2009; Rietbergen, 2011; Kusters et al., 2013). The integration of community maps in spatial plans may help to avoid such conflicts.

4.3 State capacity across scales

The success of green economy policies greatly depend on the ability of actors to coordinate across scale; an abiding issue in post-decentralization Indonesia (McCarthy and Zen, 2009; Gallemore et al., 2014). Research into decentralization reforms revealed that contradictory legal arrangements have been leading to a lack of policy 'coherence' across scale (Larson, 2003) and conflicts of authority and accountability (Bedner, 2010; McCarthy and Zen, 2010; McCarthy 2004). This includes the existence of 'discursive divides' between different levels of government and different stakeholders, and across multiple forms of technical and 'traditional' knowledge, that impede cross-scale collaboration under a unified environmental governance program (Gallemore et al. 2014). This may be particularly true in

the case of the green economy, as to date the discourse of green growth has been taken up most ardently at the national level, and to a lesser degree by provincial level governments. District level state actors often find themselves in charge of 'main-streaming' green growth to the district, while still being unsure of what exactly green growth is.

Those wishing to push reform forward have attempted to develop state capacity through the establishment of 'ad hoc' agencies, like specialized task forces. However these new agencies suffer from unclear legal mandate, accountability and the chain of command between such agencies and the existing bureaucracy (Luttrell et al., 2012). Integration and coordination remains a critical challenge. For example, the Master Plan for the Acceleration and Expansion of Indonesia's Economic Development (MP3EI) remains disconnected from green growth plans (e.g., the national action plan to reduce GHG emissions). In response, the Ministry of National Development Planning (Bappenas) has been requested to 'green' the MP3EI based on an environmental impact assessment of the plan (Mongabay, 2013), and is currently working with the Ministry of Environment and other relevant government agencies to conduct Strategic Environmental Assessments of all projects falling under the MP3EI.

4.4 Political economy

This brings us to underlying questions of political economy in Indonesia. For example: considering the vested interests of powerful economic actors in the plantation sector, will the government be willing and able to revoke permits located on forested and swamp areas? The capacity of state agencies to review existing permits to bring them in line with GE initiatives requires that state based actors can operate independently from business interests. A number of studies suggest, however, that many ties exist between government and business actors – both at the national and local levels (Harvard Kennedy Shool, 2011; Aspinall, 2013), and that the private sector has so far worked against the implementation of green economy initiatives – such as REDD+ and the moratorium (Murdiyarso et al., 2011). Powerful plantation companies will oppose plans to limit access to forested lands. Clearing forestlands gives oil palm plantation companies the opportunity to sell the timber through a wood utilization permit (IPK), which can be issued by the local government. This makes forested areas more attractive to plantation companies as this timber offers an additional source of revenue. In the past there have been a number of cases of companies using oil palm concessions as a means to gain access to timber, logging the concession areas without actually planting them (Sijabat, 2006). A study of spatial plans revealed that following decentralisation the reclassification of forest areas as APL lands followed by local issuance of land clearing permits has resulted in the widespread deforestation (Casson, 2000). In Berau, for example, most deforestation (72%) between 2000 and 2012 was detected within APL lands granted to companies (Casson et al., Forthcoming).

In line with this, Resnick et al. (2012), argue that the costs associated with green growth policies are likely to lead to anti-reform coalitions that include both powerful actors as well as the poor (Resnick et al., 2012). These and similar processes can also be witnessed in Indonesia. Indeed, we find that business actors that oppose restrictions to plantation expansion find supporters among the general public, claiming that efforts to prevent further expansion of plantations are driven by a foreign agenda that will curtail employment and economic growth. Nationally there are concerns that implementing REDD+ will have a negative effect on economic growth and will threaten national sovereignty. Based on these concerns – and the vested interests that exist between the government and businesses – parts of the national Parliament and Bureaucracy have criticized 'green' reforms. Even if such reforms remain on the books, there may be very little effort to pursue them. This, in turn, is likely to be influenced by the degree of public support, which is currently limited as the general public is not well informed about REDD+ and has little influence in REDD+ decision-making processes or GE

initiatives more broadly.

There are, however, also instances where state based actors have the capacity and desire to review existing permits. This suggests that it is not entirely impossible that at some point a policy coalition could emerge in support of different trajectory. In early 2013 the Governor of East Kalimantan declared a moratorium on the issuance of further permits for plantations to allow the provincial government to audit and review existing permits and determine if these permits had been issued correctly and in accordance with the law. Any permits found to not be in compliance with the law or to be tainted by other problems are to be revoked (Karim, 2013). This process is to be combined with provincial and district-level Strategic Environmental Assessments (SEA), intended to green oil palm expansion, along with other forms of resource extraction and development, in the province.

4.6 Strengthening the position of local communities

As argued above, curtailing further growth of GHG emissions requires the revision of land investment policies, including better identification of suitable lands and the review of existing concession areas. Such a revision of land investment policies should also include efforts to better protect communities' interests vis-à-vis those of large companies. Currently, the oil palm plantation permit system obliges companies to reach an agreement local communities before they can establish a plantation, in the form of a letter signed by the village head. In this phase a company thus has to negotiate with communities and will try to establish a contract-farming arrangement, or may seek to move communities off of the land in return for compensation, or enter into a benefit sharing arrangement for the development of areas out of the official plantation concession (Caroko et al., 2011; McCarthy et al., 2012; Dhiaulhaq et al., 2014). However, communities tend to have weak bargaining power in these negotiations, due to the lack of formal land titles and accurate maps, and limited oversight or corruption by local government actors. The lack of state-recognized customary tenure places them in an inferior bargaining position compared to plantation companies that already hold enforceable concession rights (McCarthy, 2012; Sirait, 2009). As such communities tend to accept what they can get in terms of compensation or benefit sharing. Furthermore, as McCarthy (2010) showed, continuing practices of land accumulation for plantation development are tied to state policies that are dependent upon the insecure tenure of local communities. This may be remedied once the MK35 customary land law is fully implemented and Free Prior and Informed Consent (FPIC) procedures followed. However local-level interviews suggested that it will be particularly difficult for local Dayak communities to prove customary land claims.

There are also questions regarding the local feasibility of initiatives intended to 'green' development in East Kalimantan. Some local constituencies bring up critical concerns. For instance, will REDD+ and other forms of forest offsetting limit access by local communities to customary forest areas and resources? Could they be used to secure these lands for future development scenarios (Cabello, 2012; Corbera et al., 2011; Dressler et al. 2012; Benjaminson, 2014). Will REDD+ support effective community-based conservation measures, or fail to address the underlying drivers of deforestation and forest degradation (Dehm, 2012)? Further, will the money allocated for carbon payments 'reach the ground' to supplement the lost income of local people (Lu and Liu, 2012)? Meanwhile, the continued expansion of oil palm, whether certified or not, is increasingly competing with rice cultivation and may reduce local rice production, thereby bringing into question local food entitlements and working against national food security objectives (see McCarthy and Obidzinski, forthcoming; Vel et al, In Press; Weis, 2010). This pressure is most likely to be felt by the small holders whose land use practices are targeted under REDD+ schemes (Koh and Wilcove, 2008). If plans to reduce emissions are to succeed they will need to address such issues as well as competing with labor income offered by oil palm plantations.

As noted in the introduction, the green economy agenda raises serious questions regarding the effects of natural resources based growth on equality and poverty. The scalar politics of green economy projects raises acute questions of distributional justice. For instance, while oil palm plantations may be 'good' for the economic development of the nation (or at least some sectors of the population) and may be brought into line with sustainability criteria set out by the ISPO or RSPO, plantation development may continue to disrupt the livelihoods practices of indigenous or neighbouring people, effectively enclosing and dispossessing them from land and resources. The same questions must be asked of attempts to mitigate climate change through carbon sequestration schemes such as REDD+: what scale do these projects privilege, and what are the priorities driving their development?

5 CONCLUSIONS

In the introduction we identified questions regarding the extent to which state agencies have the capacity and commitment to drive green economy reforms, the degree to which the existing political economy thwarts implementation, and the conditions for more effective green governance. Below we will consider these questions in turn.

First, the process of rolling out the green economy depends greatly on the possibility of finding ways to get policies to work in some kind of coherent fashion across scale and align the interests and priorities of a range of different actors. Pursuing a green economy entails compromises and trade-offs, particularly in the short term as state actors attempts to find ways to reconcile green aspirations with economic growth targets. This is not simply a technical question of implementing the right policies or providing market incentives. It is a question of capacity of key state actors to steer and coordinate a framework of environmental governance. Although the current period is a critical moment of transition in which the Indonesian government is trying to align with a global discourse of green growth, we found that the *de facto* policy setting continues to provide for exploitive resource-intensive pathways for economic growth. As it is currently formulated, green economy policy at the national and provincial scales remains abstract and disconnected from existing economic development plans and the priorities of district-level governments. And, when green economy goals are translated across scale they come into conflict with existing forms of environmental governance and resource extraction.

Second, the political economy question remains critical in the Indonesian context. Spatial planning frameworks that created incentives for the corporate sector to prioritize forests over non-forested land, and the underlying political economy of land control in Indonesia illustrate the nature of the challenge. Despite years of policy advocacy, and even with signs of change, these frameworks are yet to be substantially reformed. These attest to the abiding power of plantation companies and other interests. It will be crucial to deal with these problems if the Indonesian government truly wishes to develop a green economy based on environmental sustainability and social justice. There are signs of an implicit anti-reform coalition that include both powerful actors and elements of the public that opposes restrictions to plantation expansion and natural resource exploitation because it will curtail employment and economic growth.

Third, more effective environmental governance would require a shift towards inclusive land governance in Indonesia to build a green economy program that has legitimacy and legibility across all levels of government, and involving all affected actors. Beyond clarifying land tenure, particularly in relation to customary resource use and access, the key Indonesian State actors would need to overcome the currently fragmented sphere of environmental governance, demarcate authority over land-use decision-making, and ensure that conservation and development policies cohere across all levels of government. State actors would need political commitment as well as the capacity to sort out the technical difficulties underlying land and resource governance, e.g. conflicting and incomplete

spatial data, ungazetted land, and unclear decision-making authority. If enforced by state regulation, certification schemes such as the ISPO may act to harmonize governance in rural Indonesia, and help to clarify a concession process that, at present, disadvantages the communities living in concession areas.

The green economy is presented as a market-mechanism that can be ignited by smart policy incentives and public-private partnerships, but the example of Indonesia suggests that this might be too simplistic. In Indonesia efforts to promote a green economy are driven by designated governmental agencies, while powerful companies and other actors are opposing green economy reforms because they are perceived as constraining their short-term economic interest. Hence, contrary to the prevailing rhetoric, green growth does not automatically imply a win-win strategy, but requires strong political commitment and an awareness of social and environmental trade-offs.

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About the Author

Zachary R. Anderson is a fourth year PhD student at the University of Toronto in the Department of Geography. His research interests include conservation and environmental governance; climate politics; the 'green economy'; agrarian expansion; commodity creation and contestation; resource frontiers; borders and borderlands; market-based forms of environmental protection; tenure and access; and critical social theory.