



The Jurisdictional Approach in Indonesia: Incentives, Actions, and Facilitating Connections

Frances J. Seymour^{1*}, Leony Aurora² and Joko Arif³

¹ World Resources Institute, Washington, DC, United States, ² Terra Komunika, Jakarta, Indonesia, ³ David and Lucile Packard Foundation, Jakarta, Indonesia

OPEN ACCESS

Edited by:

Claudia Romero,
University of Florida, United States

Reviewed by:

Jeffrey Arthur Sayer,
University of British Columbia,
Canada

Ahmad Maryudi,
Gadjah Mada University, Indonesia

*Correspondence:

Frances J. Seymour
Frances.Seymour@wri.org

Specialty section:

This article was submitted to
People and Forests,
a section of the journal
Frontiers in Forests and Global
Change

Received: 07 October 2019

Accepted: 05 October 2020

Published: 09 November 2020

Citation:

Seymour F, Aurora L and Arif J
(2020) The Jurisdictional Approach
in Indonesia: Incentives, Actions,
and Facilitating Connections.
Front. For. Glob. Change 3:503326.
doi: 10.3389/ffgc.2020.503326

As recently as 2014, the “jurisdictional approach” (JA) was an unfamiliar term among organizations working to reduce deforestation and promote sustainable land use in Indonesia. Understood as a more comprehensive approach to low-emissions development than jurisdictional-scale accounting for REDD+, JA was seen as a way to address challenges faced by early efforts to implement corporate commitments to deforestation-free supply chains. JA initiatives sought to align government-led, multistakeholder processes within provinces and districts with prospective external incentives for jurisdictional-scale performance. By early 2020, elements of the concept had been incorporated into official plans and regulations in several provinces and districts and was recognized in the government’s national medium-term development plan. Over the intervening years, the community of JA proponents and practitioners had grown rapidly and coalesced around a common understanding of what the approach entails. Credible, locally led JA initiatives were underway with international support in at least a dozen provinces and districts, and a national platform had been established to link districts that had committed to sustainability. Those initiatives were accompanied by active discourses on proposals for fiscal transfers and preferential market access to provide incentives for improved jurisdictional-scale performance based on indicators such as reduced deforestation. While it is too early to assess the ability of JA to generate significant results, practitioners have identified a number of constraints. Those include still-limited material incentives for change compared to the factors that drive business-as-usual deforestation, limited availability of spatial data for better land-use planning, low capacity of district-level officials, and misalignment of government policies between subnational and national entities and across ministries. In order to adequately test the JA theory of change, greater emphasis on creating external incentives and linking JA initiatives across jurisdictions and scales is needed to complement the facilitation of activities within individual provinces and districts.

Keywords: deforestation, Indonesia, jurisdictional approach, sustainable land use, peatland

INTRODUCTION

Indonesia has emerged as a globally significant laboratory for early experimentation with the so-called jurisdictional approach (JA) to more sustainable and equitable land use. While JA builds on a long history of land-use planning efforts in Indonesia and elsewhere, its innovative feature is the attempt to align government-led, multistakeholder processes within provinces and districts

with prospective external financial and market incentives for jurisdictional-scale performance on indicators such as reducing deforestation while also meeting social and economic objectives. These initiatives have collectively spanned—and begun to integrate—REDD+, commodity supply chain initiatives, and domestic policies and finance toward common metrics of performance at jurisdictional scale (Nepstad et al., 2013).

The purpose of this paper is to summarize the development and current state of JA in Indonesia and to identify challenges constraining further progress. As recently as 2014, the “jurisdictional approach” was a new, unfamiliar, and contested term among domestic and international organizations working on initiatives to reduce deforestation and promote sustainable land use in Indonesia. Over the next 6 years, the community of JA proponents and practitioners grew rapidly and attracted interest from government and corporate officials. JA was understood as a more comprehensive approach to low-emissions development than jurisdictional-scale accounting for REDD+¹ (Nepstad et al., 2012). JA gained steam as a way to address challenges faced by early efforts to implement corporate commitments to deforestation-free supply chains (Taylor and Streck, 2018). In Indonesia, that meant a particular focus on palm oil, as subnational governments exercised significant influence over licensing of oil palm plantations in forested areas.

Consistent with the emerging literature on JA, we restrict the term in several ways (Nepstad, 2017; Paoli and Palmer, 2017; Boyd et al., 2018). First, we limit JA to initiatives that address land-use challenges in areas that are defined by the boundaries of political/administrative jurisdictions. Second, we include in our definition of JA initiatives that are anchored in relevant jurisdictional-scale government agencies and involve multiple stakeholder groups. Thus, we exclude projects focused on “landscapes” that do not conform to one or more jurisdictional boundaries and activities not linked to local government. Third, for the purposes of this paper, we focus on subnational jurisdictions one and two levels down from the national scale in Indonesia, i.e., provinces and districts (*kabupaten*), recognizing that the country of Indonesia as a whole, subdistricts (*kecamatan*), and villages (*desa*) are also jurisdictions. This choice is consistent with the analysis of Irawan et al. (2019) demonstrating the potential of provincial- and district-level governments to contribute to national-level targets to reduce greenhouse gas (GHG) emissions from deforestation.

The paper draws primarily on information and insights gained from the authors’ participation in activities supported by the David and Lucile Packard Foundation and Climate and Land Use Alliance (CLUA), which included roles as grantees and consultants focused on promoting JA in Indonesia. JA was one of seven elements included in the Foundation’s 2014 strategy to reduce deforestation and peatland conversion caused by the expansion of oil palm plantations (Seymour, 2014) and

one of the four targeted outcomes of the Foundation’s revised palm oil strategy for 2018–2021 (Morris, 2018). The approach was incorporated into the Indonesia initiative of CLUA, a collaborative of foundations that seeks to support sustainable land use as an essential part of the global response to climate change (Climate and Land Use Alliance [CLUA], 2018).

The paper begins with a brief description of the Indonesian context for JA in terms of the history of deforestation and decentralization. It then describes the origins and entry points of the first generation of JA initiatives. Subsequent sections introduce a simple analytical framework that distinguishes among three types of JA initiatives and uses that framework to assess recent progress achieved and challenges faced by these initiatives. The paper closes with discussions of constraints on assessing impact and actionable recommendations and suggests how Indonesia can contribute to, and benefit from, the current global discourse on JA and associated community of practice.

THE CONTEXT FOR JA IN INDONESIA

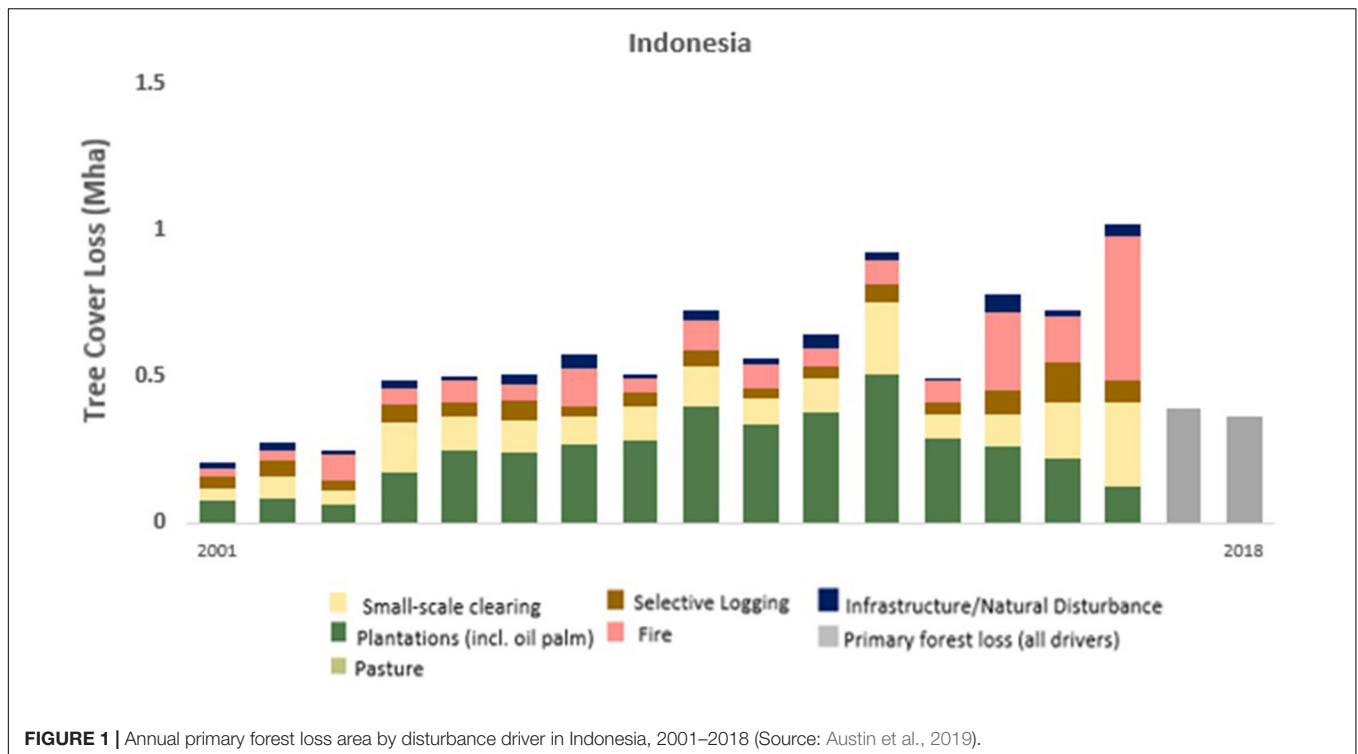
The jurisdictional approach in Indonesia targets the long-standing problems of deforestation and peatland conversion, with a focus on the country’s forest-rich outer islands, including Sumatra, Sulawesi, and the Indonesian portions of Borneo and New Guinea. Commercial-scale exploitation of these forests for timber dates back to the late 1960s, when the forestry sector provided an early source of finance to President Suharto’s highly centralized “New Order” regime and was abetted by the advice of international financial institutions for servicing debt and Japan’s demand for tropical timber (Dauvergne, 1993). Over the past four decades, forest loss and peatland degradation have unfolded through a complex interplay among ever-changing political, economic, and biophysical causes.

Forest Exploitation Under the Suharto Regime

Although comparable and reliable data on the extent and drivers of tree cover loss based on satellite imagery extend back only to 2001 (Hansen et al., 2013), a stylized recounting of deforestation in Indonesia starts with the logging of lowland dipterocarp forests. More than 500 timber concessions covering almost 100 million hectares were granted to military interests, senior bureaucrats, and other “crony capitalists” in the late 1960s and 1970s by the national forestry agency, which became a separate ministry in 1985 (Dharmasaputra and Wahyudi, 2014). In the 1980s, the focus shifted to extracting timber to support wood processing industries, as Indonesia became the world’s largest plywood manufacturer. In the 1990s, the focus shifted again to the pulp and paper sector, which initially sourced significant feedstock from natural forests while plantations of fast-growing timber were still under development. In the 2000s, expansion of oil palm plantations into forests and peatlands emerged as a key driver of deforestation. **Figure 1** depicts the drivers of primary forest loss in Indonesia, 2001–2018.

This large-scale exploitation of Indonesia’s forests transformed the physical landscape. Regulations designed to ensure

¹REDD+ stands for Reducing Emissions from Deforestation and forest Degradation, conservation of existing forest carbon stocks, sustainable forest management, and enhancement of forest carbon stocks. REDD+ is the framework negotiated under the United Nations Framework Convention on Climate Change to provide financial incentives to developing countries to realize forest mitigation potential.



sustainability of the timber harvest were poorly enforced, leaving behind damaged and fire-prone forests. Clearing and draining of Indonesia's peatlands to make way for timber and oil palm plantations disrupted local hydrology and compounded the risk of fire, culminating in the catastrophic fire and haze of 1997–1998.

Natural resource exploitation also shaped the landscape of Indonesia's political economy. Many of Indonesia's largest personal fortunes were amassed through unsustainable exploitation of Indonesia's forest resources, which was controlled by a limited number of large conglomerates with close ties to the regime (Dharmasaputra and Wahyudi, 2014). At the same time, the rights of indigenous peoples whose customary territories covered much of Indonesia's forest area were ignored, as their land and forests were distributed to license holders and migrants from Java and Bali (Dauvergne, 1993).

Commitments to Forest Protection

Under the Presidency of Susilo Bambang Yudhoyono, Indonesia positioned itself on the international stage as committed to reducing deforestation in the context of climate action, starting with its hosting of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in Bali in 2007. At the 2009 meeting of the Group of 20 in Pittsburgh, Pennsylvania, President Yudhoyono made a speech committing Indonesia to an emissions reduction target—the first developing country to do so—that could only be reached by dramatically reducing emissions from deforestation. The following year, the Government of Indonesia entered into a US\$1 billion bilateral agreement with the Government of Norway to

reduce forest-based emissions, which included a moratorium on new licenses to exploit primary forests and peatlands.

Early in the Presidency of Joko Widodo (“Jokowi”), Indonesia experienced the catastrophic forest and peatland fires of 2015, which inflicted significant costs on the economy and the public health of the region. New policies were rolled out in the aftermath of the fires, including extending the scope of the moratorium to include a ban on further development of peatlands and licensing for oil palm plantations. A significant drop in the rate of tree cover loss in 2017 and 2018 compared to previous years—including an 80% drop in deep peatland and a 40% drop in primary forests protected by the moratorium (Weisse and Goldman, 2019)—suggests that these policies had an effect. Although favorable weather and low commodity prices also no doubt contributed, the lower rates of forest loss were maintained in 2019 (Weisse and Goldman, 2020).

Democratization and Decentralization

After the fall of President Suharto in 1998, decentralization was an early focus of the nation's efforts toward democratization. In 1998, a decree by the national parliament calling for regional autonomy was quickly followed by two laws in 1999 (Laws 22 and 25) that devolved significant government functions to the district level and governed revenue sharing across levels (Government of Indonesia, 1999a,b). Devolution of authority included natural resources management, increased subnational share of revenues from natural resource exploitation, and altered accountability relationship between provinces and districts in ways that led to prioritization of economic gain at the expense of conservation objectives (Resosudarmo, 2004). A 1999 decree

authorized provinces and districts to grant permits for small-scale timber harvesting, resulting in a frenzy of logging, later curtailed in a 2002 Ministerial decree (Moeliono et al., 2009).

Later in 1999, a new forestry law was passed that was inconsistent with the decentralization laws and served as the basis for the Ministry of Forestry's attempts to recentralize control over forests (Barr et al., 2006). Prior to the decentralization laws (which were themselves ambiguous), legal ambiguity had already been created by the 1992 Law on Spatial Planning, which provided provinces with an opportunity to prepare land-use plans that diverged from the Consensus-Based Forest Land-Use Plans (*Tata Guna Hutan Kesepakatan*, or TGHK) and maps issued by the Ministry of Forestry under the 1967 Basic Forest Law (Setiawan et al., 2016). Encouraged by decentralization laws and the priority given to development of the palm oil industry by other national ministries, local officials used legal ambiguity to issue permits for oil palm plantations in designated forest areas. In Central Kalimantan, this defiance of the Ministry of Forestry's authority was eventually rewarded with a negotiated compromise in 2011, in which more than a million hectares of forest land were released from the forest estate, an effective amnesty for the irregularly issued permits (Gellert and Andiko, 2015; Setiawan et al., 2016). The case illustrated a more general lack of coherence and coordination in forest management policy and authority both vertically across levels of government and horizontally across ministries (Barr et al., 2006).

The ongoing struggle for control over forest-based natural resources, characterized as an intense "tug of war" between the Ministry of Forestry and local governments (Resosudarmo, 2004), continued in subsequent years. A revised decentralization law passed in 2004 reallocated some land management functions across levels, and a 2007 Ministerial regulation initiated the creation and regulation of forest management units (Moeliono et al., 2009). These units (*Kesatuan Pengelolaan Hutan*, or KPH) created a new arena for contesting power over forests, including the various administrative avenues for recognizing community forest management, across central, provincial, district, and village levels (Sahide et al., 2016). A further revision of the decentralization law in 2014 shifted the authority to issue logging, mining, and fisheries licenses from the district to the provincial level, leaving licensing for oil palm and other agricultural commodity crops in the hands of district-level authorities (Government of Indonesia, 2014). Most recently, in early 2020, a proposed omnibus bill on job creation threatened to weaken the role of local governments in spatial planning (Eloksari, 2020).

In the meantime, many forest-rich provinces and districts were being subdivided in a process called *pemekaran* to create new autonomous units. For example, West Papua was divided from Papua in 2003, and North Kalimantan was divided from East Kalimantan in 2012. More than 170 new districts have been created nationwide since 1999².

The history and context sketched above both motivates and constrains JA in Indonesia. Because provincial- and district-level governments wield significant authority over land-use

decision-making and resource allocation (Irawan et al., 2019), a focus on improving land-use planning and enforcement at those levels is a critical component of the JA theory of change. At the same time, this history has left most jurisdictions with challenges locked in by previous land-use policies. Such legacies include highly altered and often fire-prone landscapes, long-term concession agreements and installed processing capacity, contested decision-making authority across government levels and agencies, long-simmering conflicts and competing claims to land, and mistrust among stakeholder groups.

ANTECEDENTS OF JA IN INDONESIA

Current JA activities in Indonesia build on a long history of attempts to strengthen local government and land-use planning at the subnational level. In the late 1970s, international donors supported the national government's Provincial Development Programmes (PDP) in 11 provinces, including Aceh and East Kalimantan (Ramachandran and de Campos Guimaraes, 1991). The PDP were designed to strengthen planning capacity at provincial and district levels for integrated rural development. The German government's participation in the PDP in Kalimantan provinces extended through various initiatives up to the present FORCLIME³ project, which is active in strengthening institutions for forest management in districts in North, East, and West Kalimantan as well as in Central Sulawesi.

In the 1980s, the Ministry of Forestry's social forestry program, supported by the Ford Foundation, included multistakeholder working groups in four outer island provinces to improve community participation in forest management. The Center for International Forestry Research (CIFOR) implemented an action research agenda in the Malinau District of what is now the province of North Kalimantan in the wake of the late 1990s decentralization and supported the district head in his declaration of a "Conservation District" in Moeliono (2006). The Worldwide Fund for Nature (WWF) facilitated joint declarations to conserve critical ecosystems at the landscape scale among leaders of Indonesia, Malaysia, and Brunei in the Heart of Borneo Initiative in 2007 (World Wildlife Fund, 2007) and among the governors of Sumatra's 10 provinces in 2008⁴.

Antecedents in REDD+

In Indonesia, as elsewhere, it was the international discussions of REDD+ under the UNFCCC that propelled significant attention to the role of subnational governments in forest management. Although most early REDD+ initiatives were at the level of individual projects, and negotiations that would establish REDD+ accounting and finance at jurisdictional scale would not be completed until 2013, subnational leaders showed active interest from the beginning (Seymour and Busch, 2016).

³FORCLIME. Strategic Area 2—Establishment and development of Forest Management Units (FMU). Accessed, October 7, 2019. <https://forclime.org/index.php/en/about-tc/strategic-area-2>.

⁴World Wildlife Fund. "History | WWF". Accessed October 1, 2019. <https://www.worldwildlife.org/about/history>.

²Pemekaran daerah di Indonesia. Accessed October 7, 2019. https://id.wikipedia.org/wiki/Pemekaran_daerah_di_Indonesia.

Governors from the Indonesian provinces of Aceh and Papua were among the participants in a 2008 meeting in California convened by Governor Arnold Schwarzenegger that led to the launch of the Governors Climate and Forest Task Force (GCFTF)⁵, and seven Indonesian provinces eventually became members. The GCFTF provided assistance and training to government officials in member provinces in areas such as measurement, reporting, and verification (MRV) of forest-based emission reductions in order to qualify for REDD+ finance, as well as more general support for transitioning to low-emissions development pathways. In 2009, The Nature Conservancy (TNC) launched a jurisdictional-scale REDD+ initiative in conjunction with the head of Berau District in East Kalimantan.

Indonesia's national REDD+ Task Force, established in 2011 following the signing of the REDD+ agreement with the Government of Norway mentioned above, announced a "One Map Policy" intended to support better subnational land-use planning through resolution of conflicting maps issued by different sectoral agencies. The Task Force also developed a strategy that included implementation and monitoring at the provincial level. The Task Force designated Central Kalimantan as the first pilot province in 2012 and established a joint secretariat with the provincial government. An additional 10 provinces, including Aceh, West Sumatra, Jambi, South Sumatra, West Kalimantan, East Kalimantan, Central Kalimantan, Papua, and West Papua, were each supported to develop a REDD+ Provincial Action Plan and Strategy (*Strategi dan Rencana Aksi Provinsi* or SRAP), although not all were completed nor integrated into regional development plans and budgets (Ekawati et al., 2019).

After transitioning briefly to an independent agency under President Yudhoyono, Indonesia's national REDD+ program was subsumed into the climate change directorate of the new Ministry of Environment and Forestry created in late 2014 after President Jokowi assumed office. Thereafter, the REDD+ agenda appeared to at least temporarily run out of steam, mirroring a decline in enthusiasm for REDD+ internationally. Nevertheless, provincial-level REDD+ activities supported through the GCFTF and the national REDD+ program had created institutional infrastructure and human resources that could later be leveraged to support JA.

Antecedents in Deforestation-Free Commodity Supply Chain Commitments

Another antecedent to JA in Indonesia was the early experience of companies attempting to implement commitments to get deforestation out of commodity supply chains, especially for palm oil. In late 2013, Wilmar International, a major palm oil trader and producer, bowed to pressure from activists and announced a No Deforestation, No Peat, No Exploitation (NDPE) policy (Wilmar International, 2013). Other companies soon followed, and at the UN Climate Action Summit in September 2014, they announced a collective commitment to work together to fulfill an Indonesian Palm Oil Pledge (IPOP). The IPOP established a secretariat, which developed programs to

assist companies in implementing their commitments, including coordination at the subnational level in three provinces. However, within two years, IPOP was forced to disband under pressure from the national government, which saw IPOP as an unacceptable usurpation of the government's policy-making role (Dermawan and Hospes, 2018).

The IPOP experience put a sharp focus on the political importance of government leadership in the shift to deforestation-free supply chains. In the meantime, a growing number of participants in that effort had begun to appreciate the practical limitations of an approach limited to voluntary actions by private corporations. They realized that even if the committed companies all fulfilled their pledges within their supply chains, rogue companies could continue to clear forests—even those set aside by responsible companies—and sell the resulting products to environmentally insensitive markets (Seymour, 2017). A jurisdictional approach—one that would involve the government's authority to make and enforce land-use policies and apply those policies throughout a jurisdiction—thus appeared to address two constraints on the potential success of the sustainable supply chain movement.

More recently, the government's own approach to achieving sustainability in the palm oil sector was downscaled to the district level. In 2014, the Indonesian Ministry of Agriculture established a National Forum on Sustainable Palm Oil (FoKSBI) to coordinate multistakeholder activities to implement a National Action Plan (NAP) at national and subnational levels. In 2018, the districts of Siak and Pelalawan in Riau Province were selected as NAP pilots (Saragih, 2019).

Antecedents Related to Indigenous Rights

A third antecedent to the emergence of JA in Indonesia (although its potential has not yet been realized) was precipitated by a 2013 Constitutional Court ruling that opened the door to recognition of indigenous peoples' rights to forest land. The ruling was the result of a suit brought by the *Aliansi Masyarakat Adat Nusantara* (AMAN), a national federation of indigenous communities, challenging the national government's control over customary territories, or *adat* land, within the forest estate according to the 1999 Forestry Law. The ruling had special resonance in the provinces of Papua and West Papua, which had been granted "special autonomy" status under a 2001 law and subsequent government regulation. Special autonomy recognizes the need for local governments to be able to respond to unique circumstances and customary laws of indigenous Papuans (Fatem et al., 2018).

Following the Constitutional Court ruling, the government passed responsibility for recognizing *adat* communities and territories to legislative action at the district level. Several important precedents were set under this mechanism, including a decree recognizing an Indigenous Forest within a national park, and another in an area covered by a timber concession (Fay and Denduangrudee, 2018). Over the course of 2018 and 2019, AMAN facilitated the promulgation of local regulations (*Peraturan Daerah*) to provide the basis for recognizing indigenous customary rights in dozens of districts across

⁵GCFTF Task Force. "Member States". Accessed October 1, 2019. <https://www.gcftf.org/member-states>.

Indonesia (AMAN, 2020). These developments strengthened the case for focusing on subnational jurisdictions as the most strategic scale for resolving long-standing conflicts over rights to forest land.

EARLY JA INITIATIVES AND DISCOURSES

The antecedents described above provided various entry points through which a set of jurisdictional-scale engagements began to coalesce into a JA community of practice in Indonesia around 2013 and 2014. The New York Declaration on Forests, endorsed at the same 2014 UN Summit that gave birth to IPOP, aligned the commitments of dozens of national and subnational governments, multinational corporations, non-governmental organizations, and federations of indigenous communities around 10 goals to stop deforestation by 2030 (NYDF Partners, 2019). The emergence of JA as “something new” in Indonesia can be understood as a national reflection of the Declaration’s explicit adoption of a multistakeholder approach and the weaving together of multiple international initiatives to address deforestation, including the provision of financial and market-based incentives and strengthening indigenous rights. Four early examples of JA were characterized by district-level activities nested within a provincial-scale initiative.

REDD+ provided the entry point for one of Indonesia’s first JA initiatives, which focused on the province of East Kalimantan. In November of 2014, TNC hosted a workshop in Jakarta to present and discuss a global study on jurisdictional approaches to REDD+ and low-emissions development programs (Fishbein and Lee, 2015). The study drew in part on TNC’s long-standing engagement in the district of Berau in East Kalimantan and especially the Berau Forest Carbon Program. TNC also promoted JA at the provincial level in East Kalimantan, supporting Governor Awang Farouk Ishak’s ambitions for low-carbon development through a provincial climate change council (Adams and Algam, 2016). The governor hosted the annual global meeting of the GCFTF in Balikpapan in 2017, at which a provincial “Green Growth Compact” announced the previous year was signed by dozens of stakeholders and international supporters (Komalasari et al., 2018).

Bridging REDD+ and commodity supply chain antecedents was the Earth Innovation Institute (EII), a US-based organization with experience in jurisdictional approaches in Brazil. In 2013, EII engaged with Teras Narang, Governor of Central Kalimantan province, to develop a “Roadmap to Low-Deforestation Rural Development” (Irawan et al., 2014). While the collaboration started through the governor’s engagement with the GCFTF and Central Kalimantan’s status as a REDD+ pilot, EII’s Indonesian partner organization, Yayasan Penelitian Inovasi Bumi (INOBU), focused on district-level pilots to achieve sustainable palm oil production at jurisdictional scale in Seruyan, Kotawaringan Barat, and Gunung Mas. In 2014, the district head of Seruyan, Sudarsono, announced his support, and a program of mapping smallholder plantations ensued. In 2016, the initiative received the backing of IPOP. INOBU then brokered a sourcing agreement

between a group of smallholders in Kotawaringan Barat and Unilever, which had committed in 2015 to move toward preferential sourcing from jurisdictions making progress toward sustainability (Unilever, 2017).

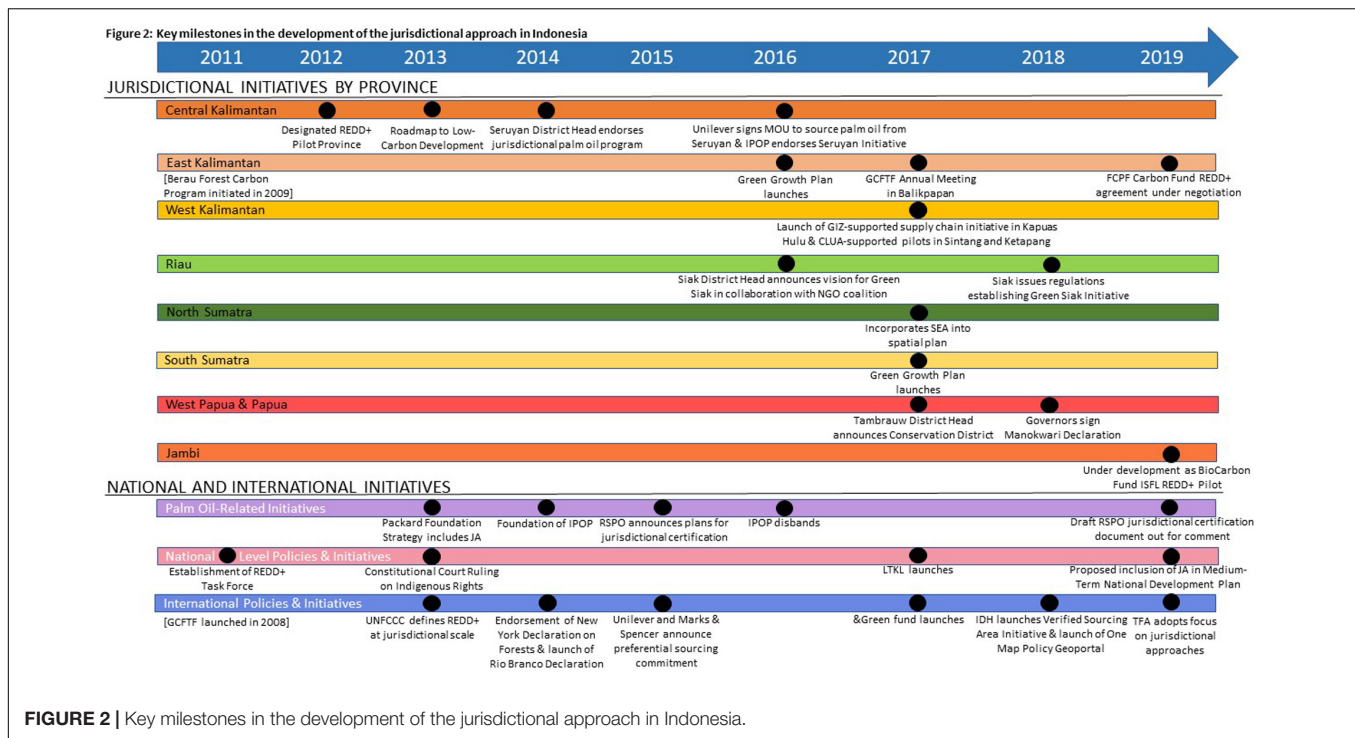
A third example dating from 2014 also focused on a transition to sustainable palm oil production, in this case in the province of South Sumatra. There, the Netherlands-based Sustainable Trade Initiative (IDH) initiated work on a green growth strategy in partnership with the provincial government and the World Agroforestry Centre (ICRAF). As with the EII/INOBU initiative in Central Kalimantan, the objective of the partnership was to achieve sustainable palm oil production at jurisdictional scale with an initial focus on Lalan subdistrict in the district of Musi Banyuasin (IDH, 2016). The collaboration resulted a Green Growth Plan for South Sumatra signed by the governor in 2017 and development of a supportive multistakeholder coalition.

A fourth example dates from 2013, when a coalition of international and domestic civil society organizations (CSOs) began working with the head of the newly established Tambrauw District in West Papua province, much of which was zoned as strict “conservation forest” (Samdhana Institute, n.d.). The newly elected district head had proposed establishing Tambrauw as a “Conservation District,” with “adaptive management” of conservation forest as a way of balancing biodiversity conservation objectives with economic development (Fatem et al., 2018). The CSOs, who were focused on assisting *adat* communities in the district to secure their land rights, formed a “Development Partnership” with the district and supported the formulation of two draft local regulations, one establishing the conservation district and one recognizing the rights of *adat* communities (Fatem et al., 2018). An important contribution of the CSOs was the participatory mapping of customary territories to inform indicative maps for land-use zoning (Samdhana Institute, n.d.).

Consolidation of the JA Concept

Since the earliest efforts to develop the concept and practice of JA in Indonesia, a common understanding of what was meant by “JA” gradually emerged among civil society proponents, government officials, private companies, international donor agencies, and other partners working in Indonesia (Seymour and Aurora, 2019). Such a common understanding underpinned an informal community of practice among organizations and individuals working to advance the concept within specific jurisdictions and institutions, as well as to develop a supportive enabling environment and incentives at national and international levels. Companies began to recognize the potential of JA to assist them in meeting their NDPE commitments across a supply base extending beyond their own operations to include small- and medium-sized companies and smallholders.

This development was significant, as for several years, there was confusion over the degree to which project-scale or sector-specific initiatives “counted” as JA. There were debates among CSOs over terminology (e.g., JA vs. “landscape” and “territorial” alternatives) and the most appropriate translation into the Indonesian language. An important indicator of progress in



mainstreaming the concept into national development policy and practice was the integration of JA (translated as *Pendekatan Yurisdiksi Berkelanjutan*) into Indonesia's 2020–2024 Medium Term Development Plan (Government of Indonesia, 2020).

Figure 2 illustrates key milestones in the development of JA in Indonesia.

ANALYTICAL FRAMEWORK

An emerging literature on JA at the global level has advanced various analytical frameworks and theories of change for understanding how JA could catalyze transformation toward sustainability in the land-use sector. Nepstad et al. (2013); Paoli et al. (2016) identify the need for a “value proposition” sufficiently material to the interests of jurisdictional leaders to motivate change, combined with the establishment of multistakeholder structures and processes to coordinate action. Boyd et al. (2018) similarly distinguish between factors external and internal to the jurisdiction leading to performance. Boshoven et al. (in review) focus on how a “global value proposition” created by preferential sourcing of deforestation-risk commodities from high-performing jurisdictions articulates with local interests. Such market-based incentives are expected to complement incentives provided by performance-based REDD+ finance, for which the theory of change has evolved (Angelsen and McNeill, 2012) and has been critiqued (Martius et al., 2018).

Hovani et al. (2018a) place more emphasis on cultivating “collective systems leadership” among actors *within* jurisdictions, with less reliance on external incentives. While it is indeed the case that action in a few jurisdictions in Indonesia has been

motivated by internal factors, e.g., a desire to control land fires caused by forest and peatland degradation, in many other cases, it has proven difficult to gain or sustain traction for JA initiatives in the absence of at least the prospect of external reward.

For the purpose of analyzing the progress of JA in Indonesia, we adopt a simple three-part framework that builds on and adds to those analyses. We distinguish among three types of (not mutually exclusive) JA initiatives:

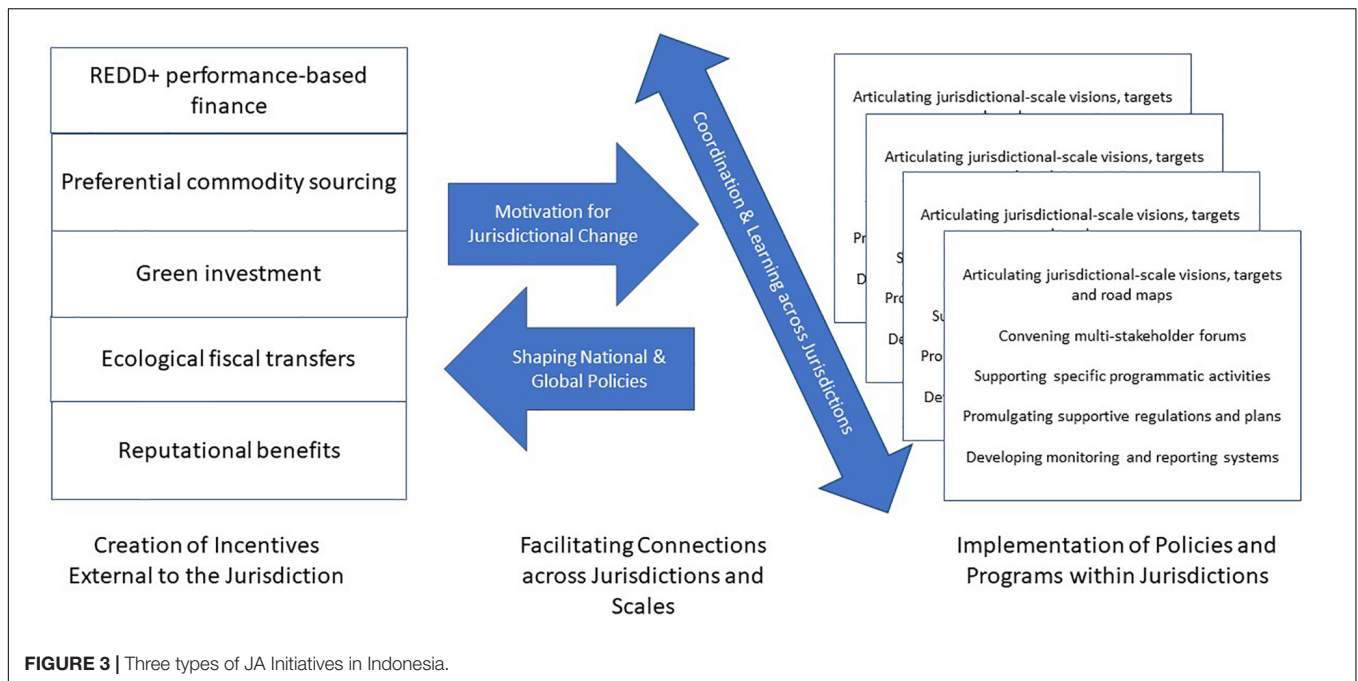
- Those that focus on creating incentives (or “value propositions”) external to individual jurisdictions (adapted from Boyd et al., 2018);
- Those that focus on facilitating activities within individual jurisdictions to build political will and capacity for implementation (adapted from Lingkar Temu Kabupaten Lestari [LTKL], 2019c); and
- Those that focus on facilitating connections between the first two types of initiatives vertically across levels, as well as horizontally across jurisdictions at the same level.

Figure 3 illustrates how these three approaches relate to each other.

In the following three sections, we describe each type of initiative, provide illustrative examples, and highlight associated progress and challenges reported by JA proponents.

INITIATIVES FOCUSED ON CREATING EXTERNAL INCENTIVES

One of the key findings of the Daemeter Consulting JA scoping study (Paoli et al., 2016) was the lack of a clear value proposition



for subnational political leaders in Indonesia to undertake a transition to low-carbon development. Political, economic, and financial incentives are for the most part stacked in favor of deforestation-as-usual policies and practices. Even though most revenues from forest exploitation are captured at the national level, local governments nevertheless derive benefits from forest exploitation and conversion (Irawan et al., 2013). Encouraging migration into forest areas means more voters; converting forests to plantations means more local employment and revenue, in the form of both legal taxes and fees and illicit payments. Studies have found a positive correlation between local election cycles and illegal logging and deforestation (Burgess et al., 2011; Adrison, 2013).

Two of the main antecedents of JA in Indonesia, namely REDD+ (and associated performance-based finance) and commodity supply chain commitments (and associated preferential sourcing), were expected to provide material incentives to subnational jurisdictions for performance in reducing deforestation. However, the international frameworks needed to provide these incentives have been slow to develop and connect to subnational jurisdictions (Seymour and Harris, 2019), so their value propositions remain mostly in prospect, as described below. In the meantime, donors and CSOs have pushed for adoption of complementary domestic fiscal policies to reward performance as an alternative source of external incentives for change. JA proponents have recognized that local leaders are also interested in attracting green investment and reputational benefits.

REDD+ Performance-Based Finance

The prospect of REDD+ finance provided an entry point for some of the earliest JA initiatives in Indonesia—see **Box 1** on Green Development in East Kalimantan. International

REDD+ payments to the national government were expected to motivate performance in reducing emissions from deforestation at the subnational level, although the mechanisms for doing so have not yet been detailed in regulations (Irawan et al., 2019). In early 2019, Indonesia qualified for its first performance-based payment under the 2010 REDD+ agreement with the Government of Norway, thanks to modest emission reductions in 2017 and 2018 (Jong, 2019), and a USD56 million payment was announced in June 2020 (Government of Norway, 2020). In August 2020, the Board of the Green Climate Fund approved a REDD+ payment to Indonesia in the amount of USD103.8 million to recognize performance in 2014–2016 (Green Climate Fund, 2020).

In the meantime, the prospect of results-based REDD+ finance to subnational jurisdictions arose for two provinces. After several years of preparation, by 2019 negotiations to conclude an Emissions Reduction Payment Agreement (ERPA) worth up to USD150 million between the province of East Kalimantan and the Forest Carbon Partnership Facility's (FCPF) Carbon Fund (managed by the World Bank) had advanced to the stage of project appraisal (Government of East Kalimantan, 2019). In addition, the province of Jambi was selected for inclusion in the World Bank BioCarbon Fund's Initiative for Sustainable Forest Landscapes (ISFL), accompanied by the establishment of a provincial-level task force (BioCarbon Fund, 2018). A prospective USD13.5 million grant in 2020 was designed to support activities that would generate emission reductions eligible for future performance-based payments.

However, a combination of the lack of certainty about the future availability of international REDD+ finance, a lack of national-level performance, and long delays in setting up the national infrastructure to receive and allocate REDD+ payments dampened enthusiasm. A lack of clarity over how any

BOX 1 | Green Development in East Kalimantan⁶.

The experience of JA in East Kalimantan illustrates the waxing and waning role of external incentives to motivate action at jurisdictional scale and the importance of agents to facilitate horizontal and vertical linkages.

East Kalimantan is Indonesia's fourth largest province by area and the richest (after the special district of Jakarta) in terms of per capita income (Badan Pusat Statistik [BPS], n.d.). A leading producer of timber and plywood during Indonesia's logging boom in the 1970s and 1980s, the province now derives the preponderance of its revenue from non-renewable resources, including oil and gas and especially coal. Conversion of forest to oil palm plantations emerged as a primary driver of forest loss over the past two decades. Berau is the third largest of seven districts in the province, covering 2.2 million hectares, with more than half of its area covered by concessions for logging, timber plantations, mining, and oil palm.

Jurisdictional approaches to controlling land-use change in East Kalimantan were initiated at both the provincial level and in the district of Berau in 2008. Motivated by the prospect of significant forest carbon finance in the wake of Indonesia's hosting of the UNFCCC Conference of the Parties (COP) in Bali the previous year, each set up a REDD+ Working Group. Governor Awang Faroek Ishak subsequently launched a "Green East Kalimantan" (*KalTim HJau*) program in 2009 and, in 2011, established a Provincial Council on Climate Change (*Dewan Daerah Perubahan Iklim*, or DDPI)—which evolved into a multistakeholder forum—to coordinate program activities. In parallel, the Berau Forest Carbon Program (BFCP) was launched in 2010.

Over the next 10 years, these interlinked JA initiatives served as the loci for promoting and coordinating myriad land-use interventions ranging from the level of individual villages and concessions to implementation of national and international programs. At the provincial level, commitments across sectors and stakeholder groups were later embodied in a Green Growth Compact encompassing 11 "prototype initiatives" related to forest conservation, social forestry, reducing carbon emissions, promoting sustainable agriculture, and institutional strengthening (Mongabay, 2016; Wahyuni et al., 2019).

The objectives of the Compact and specific innovations proven to be effective have been systematically mainstreamed into government policies, plans, and practice. For example, an initiative to identify and protect High Conservation Value forests within oil palm concessions was formalized in a 2018 provincial regulation on sustainable plantations. In 2019, East Kalimantan also formalized a provincial regulation on adaptation and mitigation of climate change, the first such provincial regulation in Indonesia to support the mainstreaming, planning, and implementation of emission reduction efforts (Yusuf, 2019). As another example, the Berau District Government is implementing a village-level planning and community forestry initiative called SIGAP (for Communities Inspiring Action for Change) in all 99 villages in the district, and provincial-level officials are exploring further replication (Yayasan Konservasi Alam Nusantara [YKAN], 2018).

Linkages across levels have yielded benefits beyond scaling options. Although REDD+ was expected to be implemented at the district scale when the BFCP was initiated, subsequent changes in national law and policy shifted emphasis to the provincial scale. When East Kalimantan was selected as the pilot province for a results-based payment agreement with the FCPF Carbon Fund, the DDPI was able to build on the previous investment in developing the BFCP. It is notable that while forest carbon finance was the original stimulus for JA activities, and after 12 years finally appears to be within reach, the progress in East Kalimantan and Berau has been achieved in the absence of certain external reward.

Dozens of government agencies, donors, and development partners from among CSOs and the private sector have contributed to these achievements. Among these, TNC and its national partner Yayasan Konservasi Alam Nusantara have played a key role by facilitating linkages across sectors and levels and helping to maintain continuity through an ever-changing national policy environment and local elections. The embrace of the JA programs by a new governor and a new Berau District Head elected in 2018 indicate the robustness of the approach.

resulting financial rewards would be distributed has attenuated the incentives facing subnational jurisdictions. The financial mechanism (*Badan Pengelola Dana Lingkungan Hidup* or BPDLH) needed to intermediate the transfer of funds from international climate finance to domestic uses was established only in September 2019 after years of delay (Arumingtyas, 2019). The BPDLH's REDD+ funds can be disbursed through results-based payments, grants, carbon-trade payments, or other financial instruments, and subnational governments are among potential beneficiaries, along with the national government, CSOs, private sector and research entities, and local communities (Mafira et al., 2020). However, how the new mechanism will use its flexibility to allocate funds remained unknown as of mid-2020, lending uncertainty as to the extent to which subnational jurisdictions would share in the proceeds from international payments.

Preferential Commodity Sourcing

In the case of commodity supply chain commitments, shifts in market demand were expected to reward jurisdictions exhibiting better performance in reducing deforestation with preferential

sourcing and investment. Unilever and Marks & Spencer (in their roles as co-chairs of the Consumer Goods Forum) announced in 2015 a pledge to preferentially source from jurisdictions making progress toward reducing deforestation (Unilever, 2015). Various international initiatives designed to provide a framework for such preferential sourcing have since included pilots in Indonesia.

In 2015, the Roundtable on Sustainable Palm Oil (RSPO), a non-profit, membership-based certification body headquartered in Malaysia, endorsed a jurisdictional approach to certification of palm oil as sustainable, primarily as a way of including smallholders in systems that had been designed for industrial-scale plantations (Roundtable on Sustainable Palm Oil [RSPO], 2015a). The initiatives supported by EII/INOBU in Central Kalimantan and IDH in South Sumatra, respectively, were among three pilots selected for developing a new RSPO standard for jurisdictional-scale certification (Roundtable on Sustainable Palm Oil [RSPO], 2015b).⁷ The third pilot was the state of Sabah in Malaysia, where an ambitious target to achieve 100% certification for both palm oil and timber by 2025 had just been set (Bahar, 2018). Almost 4 years later, in mid-2019, the RSPO released for public comment a document on a jurisdictional approach to certification (Roundtable on Sustainable Palm Oil [RSPO], 2019).

In 2018, IDH launched a global initiative to establish "Verified Sourcing Areas" (VSA) as a strategy for linking global demand for sustainable commodities to specific producer jurisdictions (IDH, 2018a). While the first VSA pilot was established in Mato Grosso,

⁷South Sumatra has since been dropped as a pilot and Ecuador added.

⁶The material in this text box is documented in: Hovani, L., Varns, T., Hartanto, H., Rahman, S., Makinuddin, N., and Cortez, R. 2018. Jurisdictional Approaches to Sustainable Landscapes: Berau and East Kalimantan, Indonesia. The Nature Conservancy, Arlington, VA, USA. Provincial Government of East Kalimantan (2018). "One Decade Toward East Kalimantan Green." Arranged by Provincial Government of East Kalimantan, Regional Council of Climate Change in East Kalimantan. Supported by The Nature Conservancy.

BOX 2 | Siak Green Development Program.

Siak District in Riau province illustrates the key elements of the jurisdictional approach as promoted in Indonesia. About 57% of its 855,600-ha area is covered by carbon-rich peat up to 12 m deep, of which some 278,000 ha have been drained to make way for oil palm and fast-growing timber plantations. Palm oil produced by a mix of corporations and smallholders on 347,000 ha is processed in 17 mills across the district (Siak Government, 2019), while the district's 16 timber plantation concessions supply the province's large pulp and paper mills (Sedagho Siak and Siak District and Government, 2019).

Environmental degradation in the district has resulted in annual fires and enormous GHG emissions. Motivated in part by the especially severe fires experienced in 2015, Siak District Government announced in 2016 its commitment to be a "Green District" and to implement policies to improve environmental, social, and economic sustainability. A large part of the strategy focuses on improving management of peatlands to mitigate GHG emissions, fire, and subsidence while improving the productivity and sustainability of oil palm smallholders. The initiative was welcomed by local and national CSOs, which in 2017 established a forum called *Sedagho Siak* (Friends of Siak) to provide support (Elang, 2017).

In 2018, the Siak Government translated the green vision into a local regulation that determines land-use zoning. The local government further developed a road map in collaboration with *Sedagho Siak* that sets out clear targets and timelines, action plans, and the roles of various stakeholders to achieve them. The road map, issued in 2019, also states that concession holders are expected to implement NDPE policies in their operations (Sedagho Siak and Siak District and Government, 2019).

In 2018, a group of palm oil producers, traders, and buyers seeking to implement NDPE policies formed an alliance called Siak Pelalawan Landscape Programme (SPLP) (Proforest, 2018). Facilitated by Proforest and Daemeter, an alliance of companies including Cargill, Danone, Golden Agri-Resources, L'Oreal, Musim Mas, Nestle, PepsiCo, and Unilever is lending private sector support to Siak and the neighboring district of Pelalawan, which had been chosen as a pilot for the National Sustainable Palm Oil Actin Plan (Daemeter, 2019). Coordinating with the local governments and *Sedagho Siak*, SPLP aims to transition large parts of both districts toward producing deforestation- and exploitation-free palm oil.

The Siak Government is also working with CSOs to address needed alignment between national and local priorities. For example, 10,000 ha of mostly deep peat that had been excised from a concession and returned by a private company to government control for protection was allocated by the central government for development under the national agrarian reform program (Hallorau, 2020). Thanks to the quick coordination by local and national CSO networks in support of the district government, 4,000 ha of the area is now under communal management. Communities in the area are trialing various types of paludiculture (a type of farming system that does not require drainage) as well as restoration. These and other JA activities are being supported by Winrock International and local CSO Elang in collaboration with the district government.

A founding member of the Sustainable Districts Association (Lingkar Temu Kabupaten Lestari [LTKL]), Siak continues to provide examples of how JA can be implemented with the continuous support of other stakeholders.

Brazil, the second was in the district of Aceh Tamiang in the province of Aceh, Indonesia. In December 2019, a "Production, Protection, and Inclusion Compact" was signed by the head of the district along with representatives of other stakeholder groups. The Compact includes commitments and intermediate targets related to the legalization and certification of smallholder palm oil producers and protection of the adjacent Leuser Ecosystem. The external incentive for improved performance was implicit in the presence of three palm oil buyers—Unilever, Musim Mas, and PepsiCo—said to be "exploring investment opportunities" in the district (IDH, 2019).

How to assess and reward performance at jurisdictional scale, when transactions occur between buyers and specific producers, has not been obvious to corporate officials tasked with implementation of commitments to preferential sourcing. With the exception of Unilever's memorandum of understanding (MOU) with 500 palm oil smallholders in the Central Kalimantan district of Kotawaringin Barat (which is not in fact implemented at jurisdictional scale), few market signals to reward performance—whether in terms of shifts in sourcing, increased investment, significant price premiums for certified products, or other favorable contract terms—have yet materialized. This challenge is one being taken on by companies participating in the Siak Pelalawan Landscape Program (SPLP) described in **Box 2** on Green Siak.

Green Investment

Preferential access to investment was expected to constitute an additional element of the global value proposition for local leaders to pursue green development. For example, in 2017, with support from the Norwegian International Climate and Forest Initiative (NICFI) and Unilever, the IDH Sustainable

Trade Initiative set up &Green, a global investment fund that provides capital for the intensification of agricultural commodity production and other business models thought to reduce deforestation. &Green's link to JA is through a jurisdictional eligibility approach, articulated on the fund's website as follows: "Limiting &Green investments to jurisdictions with progressive forest and/or peat protection strategies ensures reinforcement of public policy signals through private sector investment." The Indonesian jurisdictions of Jambi, South Sumatra, and West Kalimantan were approved by the fund's Advisory Board as meeting the eligibility criteria. &Green financed a sustainable rubber project in Jambi in 2019 (The and Green Fund, n.d.) and announced its investment in a palm oil project in Kalimantan (Green, 2020). A mid-term evaluation of the &Green fund suggests that the initiative has experienced difficulties in attracting additional capital to the fund and that investee companies have had trouble meeting its high standards (Steward Redqueen, 2020). The evaluation report did not address the effectiveness of the jurisdictional eligibility criteria in motivating improvements in public policy.

In the meantime, CSOs working on JA in Indonesia have found that attracting such investment is of particular interest to local leaders and have intensified their efforts to link JA activities to a regional competitiveness narrative. The Lingkar Temu Kabupaten Lestari (LTKL) (described in **Box 3**) developed a series of "Masterclass" training programs to assist member districts in attracting green investment (Lingkar Temu Kabupaten Lestari [LTKL], 2018a). The first series, held from December 2018 to June 2019 in collaboration with Indonesia's District Governments Association (*Asosiasi Pemerintah Kabupaten Seluruh Indonesia* or APKASI), the Tropical Forest Alliance (TFA), and the Carbon Disclosure Project (CDP) focused on investment to transition

BOX 3 | Lingkar Temu Kabupaten Lestari [LTKL]: Indonesia's Sustainable Districts Association.

In a conversation among a handful of Indonesian district heads and CSO leaders in the margins of an RSPO meeting in late 2016, the idea of a platform to support districts to advance and collaborate on their sustainability agendas was born. The idea reflected recognition of the need for government leadership of the sustainability agenda (learning lessons from the IPOP experience), the need to support district heads' stated commitments to sustainability with practical technical assistance, and the potential of collaborative action to inject district-level interests into national and international policy arenas.

Lingkar Temu Kabupaten Lestari (Lingkar Temu Kabupaten Lestari [LTKL], n.d.)—rendered in English as the Sustainable Districts Association—was formally established in July 2017 by eight districts from six provinces in cooperation with APKASI, the national association of district-level governments. It has since grown to 12 districts in eight provinces. LTKL is governed by a general assembly of its member districts, managed by an executive committee composed of eight district heads, and supported by a secretariat based in Jakarta. The work of the secretariat is amplified by a network of more than a dozen partner organizations, including Jakarta-based CSOs that can offer support services such as strategic planning assistance, and local alliances such as *Sedagho Siak* and *Sahabat Muba*. Priorities selected by the membership include social forestry and agrarian reform, clean energy and electrification, control of forest and peatland fires, sustainable commodity production, conservation and restoration, waste management, and disaster prevention and response.

Since its founding, LTKL has emerged as an active source of technical assistance for member districts, a convener at the national level, and a participant in shaping relevant international initiatives. Its focus has been on building both the business case and the political case for transitioning to a more sustainable development path, helping to connect district-level stakeholders to national and international sources of finance, markets, and recognition. Member districts have evidenced their sense of ownership of LTKL's agenda by agreeing to pay a membership fee and spend their budgets on LTKL-related activities, such as the *Festival Kabupaten Lestari* and attendance in Masterclass trainings.

production of strategic commodities, such as palm oil, rubber, cocoa, coffee, spices, coconut, and non-timber forest products, toward sustainability. Local governments were encouraged to develop an investment portfolio that was presented to potential investors at the end of the program. The Masterclass program was picked by Indonesia's Investment Coordinating Board, which collaborated with LTKL in 2019 for similar trainings involving 29 provincial governments.

However, actual green investment transactions have been slow to materialize at scale, with or without an explicit link to incentives for jurisdictional-scale performance. For example, the Tropical Landscapes Finance Facility—launched in 2016 with the support of the United Nations Environment Programme, ICRAF, ADM Capital, and BNP Paribas with the objective of unlocking private finance for sustainable land use—had concluded only one project by early 2020. The investment is in the form of a corporate sustainability bond linked to the same rubber project financed by &Green mentioned above (TLFF, n.d.).

Ecological Fiscal Transfers

Indonesia has also been the locus of significant efforts to advance the case for using domestic fiscal policy to reward subnational jurisdictions for maintenance of forest cover. Current fiscal policies incentivize governments across levels to support land-use change, so shifts toward low-emissions development would entail opportunity costs to local government (Irawan et al., 2013). The Climate Policy Initiative published studies analyzing the potential of fiscal policy reforms to incentivize more sustainable land-use practices at the regional level both in general (Falconer et al., 2015) and for the specific case of Berau District in East Kalimantan (Mafira et al., 2019).

At the national level, proposals for “ecological fiscal transfers” follow a model pioneered in India, in which forest cover is included as a variable in the formula that governs the distribution of revenues to states (Busch and Mukherjee, 2017). In 2017, the Research Center for Climate Change at the University of Indonesia, with support from the Government of Germany, organized a study tour to India for senior officials from the Indonesian government, including members of the house of

representatives, district heads and deputy heads, and officials from the ministries of finance, planning, and environment and forestry (Mumbunan, 2018). In September 2018, representatives of 13 forest-rich district governments signed the “Cikini Communique” requesting a national policy to include forest cover in the formula to determine the districts' budget allocations (Komunike Cikini, 2018).

Other proposals focus on incentivizing forest protection through revenue allocation between subnational levels of government. In 2018, The Asia Foundation presented a proposal in several venues for “Ecological-based Provincial Fiscal Transfer for Forest Conservation” (or TAPE), in which provinces would use budgetary discretion to reward environmental performance by districts and municipalities (Pwyp Indonesia, 2018).

However, despite extensive efforts by civil society groups to make the case for using domestic fiscal policy to reward sustainability performance, and interest expressed by subnational elected leaders, the proposals described above have not yet been embraced by the Ministry of Finance and other relevant ministries. As a result, many subnational leaders continue to see forest protection as an uncompensated fiscal disability.

Reputational Benefits

Early in the development of JA in Indonesia, proponents sought to reward provincial and district leaders with international recognition for their commitments to sustainability. For example, South Sumatra Governor Alex Noerdin launched his Green Growth Action Plan at an event organized by IDH at the UNFCCC COP in Paris in 2015 and met with actor Leonardo DiCaprio (IDH, 2015); East Kalimantan Governor Awang Faroek Ishak spoke about the Green Growth Compact at an event organized by TNC at an event organized by TNC at the UNFCCC COP in Marrakech in 2016 (PR Berau, 2016); and West Papua Governor Domingus Mandacan announced a commitment to protect the forests of his province at an event in Oslo in 2018 (Tempo, 2018). District-level leadership has been highlighted through the Musi Banyuasin District Head's participation in the 2018 European Palm Oil Forum in Madrid (Lingkar Temu Kabupaten Lestari [LTKL], 2019b) and the Siak District Head's participation in the TFA annual meeting in Bogota in 2019.

Such events have served as mechanisms to elicit public commitments to sustainability and have provided incentives in the form of favorable local media attention and the perquisites associated with international travel. However, skepticism over the degree to which such commitments can be sustained in the absence of material incentives for performance is justified. Consistent with JA experience globally (Boyd et al., 2018), commitments by subnational leaders to pursue low-carbon development are not always followed immediately by actions that alter the trajectory of land-use change.

Over time, CSO proponents of JA in Indonesia have come to appreciate the importance of *national-level* recognition for local leadership (Aurora and Seymour, 2019). Such recognition can come in the form of acknowledgment by peer groups, media attention, and the prestigious Nirwasita Tantra awards given by the Ministry of Environment and Forestry to recognize “green leadership” at the subnational level (JPNN, 2019). In 2020, the Regional Autonomy Watch (*Komite Pemantauan Pelaksanaan Otonomi Daerah* or KPPOD) began developing a Regional Competitiveness Award based on key indicators of sustainability at jurisdictional scale.

INITIATIVES FOCUSED ON FACILITATING ACTIVITIES WITHIN JURISDICTIONS

By far the preponderance of effort on JA in Indonesia to date has focused on facilitating activities within jurisdictions. From a handful of pilot initiatives underway in 2014, JA rapidly spread to additional districts and provinces beyond those mentioned above. For example, IDH expanded its efforts to develop Green Growth Plans to five provinces in addition to South Sumatra. At the district level, Winrock International and Elang have promoted JA in Siak in Riau, the Conservation Strategy Fund and WWF in Sintang, and Aidenvironment in Ketapang, both in West Kalimantan. These three districts were chosen as JA pilots by CLUA and supported by its member foundations.

Geographically, significant attention from domestic and international NGOs and donors has been trained on the provinces of Papua and West Papua in Indonesia’s far east, where the largest expanses of intact forests remain. The governors of the two provinces in 2018 signed the Manokwari Declaration, which articulated a vision and specific steps toward sustainable land use, including a commitment to conserve 70% of the jurisdictions as forest as well as to recognize indigenous rights (IDH, 2018b). The Declaration was preceded by the declaration of Tamberau District in West Papua as a “Conservation District” in Fatem et al. (2018). **Figure 4** illustrates the number and geographic spread of provinces and districts with some level of JA activity underway as of early 2020.

The activities supported by JA proponents in individual jurisdictions have tended to include some combination of:

- Developing a jurisdictional-scale vision for green development endorsed by the governor or district head and elaborating associated targets and roadmaps;

- Convening multistakeholder forums to support implementation;
- Supporting specific programmatic activities such as smallholder legalization and certification, social forestry, or forest protection, and compiling associated data necessary for implementation;
- Integrating elements of the plan into regular planning and budgeting processes and promulgating supportive local regulations; and
- Developing systems for monitoring and reporting on progress.

A group of more than 20 CSOs in Indonesia’s emerging community of practice on JA agreed on these as key elements for effectiveness (Lingkar Temu Kabupaten Lestari [LTKL], 2019c). The following sections provide illustrative examples of progress on these elements and associated challenges.

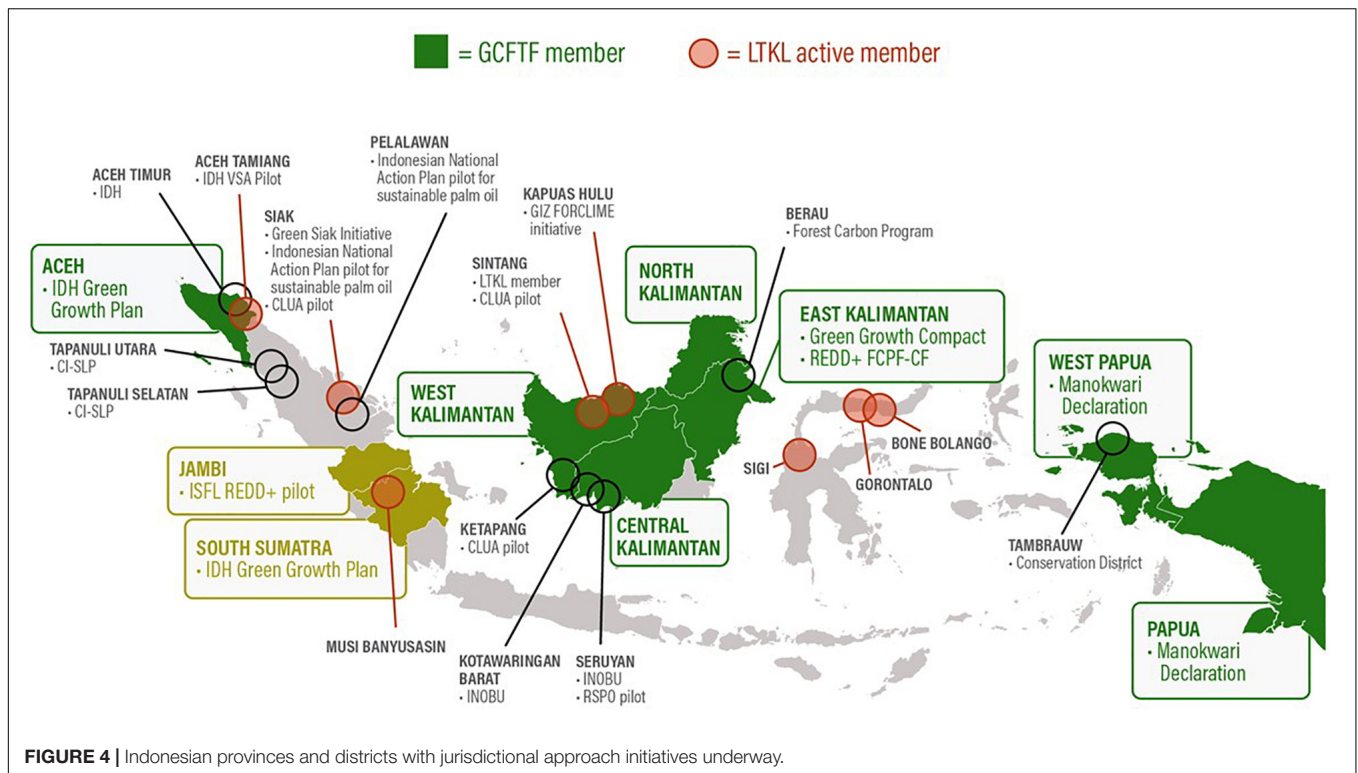
Articulating Jurisdictional-Scale Visions, Targets, and Road Maps

A first step in several JA initiatives has been to articulate a high-level vision for sustainable development in the jurisdiction endorsed by its elected leader. As described in **Box 1**, the governor’s signature Green Growth Compact rolled out over the course of 2016–2017 provided the framework for a transition to sustainability in East Kalimantan. The Green Siak Initiative described in **Box 2** was launched by the district head in 2017 and a Road Map issued in 2019. The Road Map articulated objectives including balancing conservation and economic growth and reducing damage to peatlands and water catchment areas (Sedagho Siak and Siak District and Government, 2019). Without such initial political-level commitment, JA proponents have found it difficult to gain traction. For example, despite concerted efforts by various CSOs to develop a JA initiative in the district of Ketapang, little progress has been possible in the absence of leadership from the district government.

Sustaining momentum in the face of political turnover has proven a challenge. For example, when Central Kalimantan Governor Teras Narang left office in 2015, efforts to follow up on the Road Map to Low Emissions Development stalled. However, election results can also reinforce momentum for JA. In 2018, the Siak district head, Syamsuar, was elected Governor of Riau, with the prospect that he could extend his vision for green development province-wide, and in January 2020, the province officially became a pilot for the implementation of the national government’s low-carbon development effort (Tari, 2020). These developments are especially significant in light of the fact that two previous governors of the province had been successfully prosecuted and jailed for corruption related to the illegal allocation of forest permits. The political success of Syamsuar has likely informed the decision of his successor as district head, Alfedri, to support continuation of the Green Siak Initiative and leadership in LTKL.

Convening Multistakeholder Forums

Another common element of JA initiatives in Indonesia has been the establishment of supportive multistakeholder bodies.



In East Kalimantan, a provincial-level forum on climate change, appointed by the governor and led by a respected senior academic, has served to coordinate various elements of the provincial green growth strategy. In Sintang, Pelalawan, and South Tapanuli Districts, Indonesian Sustainable Palm Oil Forums (FoKSBI) involving representatives from government agencies, the private sector, and civil society were formed in accordance with the National Sustainable Palm Oil Action Plan. Subsequently, with support from Conservation International, the Coalition for Sustainable Livelihoods was established in 2018 to coordinate government, private sector, and CSO activities focused on sustainable smallholder commodity production in Aceh and North Sumatra (Conservation International, n.d.). In several districts, separate platforms for CSOs to support jurisdictional-scale actions have been established, including *Sahabat Muba* (“Friends of Muba”) in Musi Bayuasin, *Sedagho Siak* (“Friends of Siak”) in Siak, and FKMS (Civil Society Communication Forum) in Sintang (Lingkar Temu Kabupaten Lestari [LTKL], 2019a). As described in **Box 2**, the Siak Pelalawan Landscape Programme is a collaboration among palm oil producer and buyer companies supporting the shift to sustainable production in both districts.

An obstacle to the effective functioning of several such forums has been the lack of trust between various stakeholder groups, often the legacy of past conflicts over natural resources. For example, in Riau province, many CSOs, academics, and even government officials bear an animus against the large pulp and paper sector companies that were responsible for large-scale forest and peatland destruction and associated social conflicts until relatively recently. Despite their stated

desire to contribute to JA initiatives in the province, those companies were not initially welcomed into the multistakeholder processes now underway.

In West Papua and Papua, cooperation among civil society groups has been hindered by differences in strategic approaches. Although the Manokwari Declaration commits to protecting both forests and indigenous rights, conservation groups have tended to prioritize seeking official protection for remaining forest areas to safeguard them from conversion to commercial-scale plantations. Rights-oriented groups have viewed those efforts with suspicion, insisting that recognition of indigenous rights to those areas must be secured first. More broadly, this lack of trust among different elements of civil society may have contributed to the limited integration of the indigenous rights agenda into the practice of JA in Indonesia.

Supporting Specific Programmatic Activities

Most JA initiatives provide support to specific project-scale activities as a way of advancing jurisdictional-level objectives. For example, as described in **Box 1**, East Kalimantan’s green growth strategy has been supported by almost a dozen “prototype initiatives” with support from TNC. One such initiative called SIGAP has facilitated village-level planning and community forest management in Berau district, including assistance to communities in securing tenure through national social forestry programs. Another program element works with the provincial estate crops agency and private companies to identify and protect High Conservation Value (HCV) forests within licensed concession areas.

The East Kalimantan initiative is an exception to a more general tendency on the part of both local leaders and partners external to the jurisdictions, which is to emphasize development objectives and neglect conservation goals in prioritizing JA-related activities. This tendency is an understandable artifact of the need to identify entry points meaningful to stakeholders in the jurisdictions, as well as of the lack of external rewards for conservation.

Many of the early JA initiatives with an entry point in the palm oil sector focused on engagement with smallholder farmers to legalize, certify, and intensify production on already-cleared land. This strategy responded to a political discourse—one that reached a crescendo during the short life of IPOP—claiming that smallholders would be hurt by the implementation of deforestation-free commodity supply chain commitments. Often the strategy was justified as way of reducing pressure to clear more forests, despite the lack of supporting evidence that such efforts would be effective.

For example, the proponents of the EII/INOBU initiative to promote sustainable palm oil production in Seruyan, Central Kalimantan, focused on the mapping and legalization of oil palm smallholders in the central part of the district where forests had already been cleared but did not address ongoing illegal logging taking place in the northern part of the district. Further, the linkage between the MOU with Unilever—which agreed to source certified sustainable palm oil from 500 smallholders in Kotawaringan Barat—and the goal of reducing deforestation at the scale of the jurisdiction was unclear. Nevertheless, the program had significant direct and indirect outcomes. Thanks to better data and mapping, thousands of smallholders in the two districts have received the registration letters that are a first step toward legalization. The online database developed through the program called SIPKEBUN was adopted and is now managed by the national Ministry of Agriculture (InfoSAWIT, 2016).

Promulgating Supportive Regulations and Plans

Increasingly, proponents of JA in Indonesia have focused on mainstreaming their objectives into the standard planning and budgeting documents at jurisdictional scale, as well as into local regulations. For example, with the assistance of the Conservation Strategy Fund and CSOs in the district, the Sintang District Head issued a decree in 2019 establishing a Sustainable Sintang Regional Action Plan 2019–2021, which in turn will be integrated into the next revisions of the official medium-term plan (*Rencana Pembangunan Jangka Menengah* or RPJMD) and spatial plan. Similarly, the Green District Siak Road Map, prepared with input from CSOs, based on a decree from the district head, will inform the RPJMD and spatial plan. At the provincial level, the South Sumatra government has created a road map based on a decree from the governor that will be integrated into RPJMD and spatial plans. The work to protect HCV forests within concessions in East Kalimantan is supported by Regional Regulation on Sustainable Plantations.

However, a common refrain at meetings of JA proponents to exchange experience relates to the lack of spatial data at the level

of subnational jurisdictions to support planning and monitoring. Slow progress in realizing the objectives of the national One Map Policy (the Geoportal for which was finally launched in late 2018) has meant that critical data—such as data on areas covered by concession licenses issued by various agencies—has been unavailable to local authorities or to the public. Further, the recent creation of new provinces and districts through the process of *pemekaran* has meant that many local governments are quite young, with little capacity for planning, budgeting, and fulfilling the many bureaucratic demands placed on them by higher levels of government. Even in more mature jurisdictions, JA proponents have been challenged by the lack of understanding and capacity—and sometimes interest—on the part of lower level bureaucrats to translate high-level political visions into operational plans. As a result, many JA proponents have invested significant time and resources in assisting government officials to undertake these processes. The LTKL secretariat, for example, has enlisted its network of partner organizations at the national level to provide member districts with support and training in activities such as strategic planning.

Developing Monitoring and Reporting Systems

Many JA initiatives in Indonesia have invested in developing systems to monitor and report progress. Often designed to serve multiple purposes, such systems provide feedback to multistakeholder forums within the jurisdiction to inform adaptive management of the initiative, to provide data for standard government reporting requirements, and to qualify for external incentives. For example, with support from the Earthworm Foundation, the Aceh Tamiang District Government is working closely with CSOs, companies, smallholders, and communities to monitor data on biodiversity management, respect for workers' rights, and palm oil plantation replanting (Earthworm, n.d.).

At the provincial level, members of the GCFTF, including Aceh, West Kalimantan, East Kalimantan, and North Kalimantan, have collaborated with CIFOR and EII to assess the progress of their sustainability initiatives. This assessment includes evaluating goals and commitments toward sustainable development, monitoring and reporting systems, innovative policies and initiatives, land-use policies, multistakeholder participation in governance, emission-reduction strategies, and the management of drivers of deforestation and degradation to achieve low-emission and sustainable development (Stickler et al., 2018).

However, jurisdictions are challenged by the bewildering variety of indicator frameworks under development to assess jurisdictional sustainability for the purposes of determining preferential access to commodity markets. As a service to its members, the LTKL Secretariat is facilitating a process to develop indicators that are meaningful to both local and international stakeholders, as well as feasible for districts to report on in light of the capacity and data constraints mentioned above. LTKL has summarized the draft indicators for jurisdictional sustainability from various frameworks, including

RSPO Principles & Criteria, *Terpercaya* (developed by the European Forestry Institute and INOBU), the Verified Sourcing Area concept (developed by IDH), and the Sustainable Landscape Rating Tool (developed by the Climate Community and Biodiversity Alliance). These in turn have been synthesized into a voluntary district reporting framework called the Regional Competitiveness Framework (*Kerangka Daya Saing Daerah* or KDSD). The draft KDSD was endorsed by member districts in 2019, and a trial to collect baseline data in Siak, Sintang, and Gorontalo districts was ongoing in early 2020. Preliminary findings suggest that an average of only 30% of the data needed to satisfy the indicator frameworks is available at the district level.

INITIATIVES FOCUSED ON FACILITATING CONNECTIONS ACROSS JURISDICTIONS AND LEVELS

As described in the previous section, significant effort on the part of JA proponents has been invested in facilitating activities within subnational jurisdictions. Roles taken on by local affiliates of international organizations such as TNC, IDH, Winrock International, and Conservation International, and/or local CSO coalitions such as *Sedagho Siak* and FKMS in Sintang have included supporting local governments to articulate their green visions into planning documents, facilitating multistakeholder forums, and coordinating CSO and private sector programs on the ground. However, in addition to the facilitation roles played within individual jurisdictions, JA proponents have identified a need for complementary facilitation of horizontal linkages across jurisdictions and vertical linkages with national and international policy arenas.

Facilitating Horizontal Connections Across Jurisdictions

As mentioned above, the participation of seven Indonesian provinces in the GCFTF was one of the antecedents of JA in Indonesia linked to REDD+. As a platform linking leaders from 38 states and provinces around the world, the GCFTF has served as a source of knowledge and inspiration for several JA initiatives in the country. Indonesian governors and/or their senior staff have participated in annual meetings of the GCFTF hosted by peer jurisdictions in Mexico, Brazil, and Colombia, as well as in GCFTF-organized side events at UNFCCC COPs and other international gatherings. Seven Indonesian provinces signed on to the Rio Branco Declaration, a pledge organized by the GCFTF in 2014 committing signatories to reducing deforestation by 80% by 2020 in return for commensurate financial support from the international community. While the Declaration did not prompt significant additional REDD+ finance to jurisdictions in Indonesia or elsewhere, signatory jurisdictions in Indonesia were eligible for and received investment planning grants funded by Norway and administered by the United Nations Development Programme

(Stickler et al., 2020). Hosting the GCFTF annual meeting in 2017 in East Kalimantan gave Governor Awang Faroek Ishak an opportunity to showcase the province's Green Growth Compact to the international community and solicit commitments of support (Komalasari et al., 2018).

At the national level, LTKL has played a similar role in providing a platform linking districts committed to green development, as described in **Box 3**. Meetings facilitated by LTKL have assisted district heads and their staff to identify common interests and challenges and to learn from each other's experiences. The LTKL Secretariat has responded to the identified needs of member districts by mobilizing tailored technical assistance as well as by offering programs such as the Masterclass series to build the districts' capacity to develop investment portfolios and present them to investors. The annual *Festival Kabupaten Lestari* (Sustainable District Festival) has provided an opportunity for the hosting member to showcase their district and a platform to exchange innovations for sustainability and lessons learned between member districts and recognize achievement (Lingkar Temu Kabupaten Lestari [LTKL], 2019a).

The horizontal facilitation functions played by the GCFTF and LTKL have supported JA in Indonesia in similar ways. Each has provided a peer group against which member jurisdictions can benchmark their progress toward sustainability. Each has supplied technical assistance to member jurisdictions in areas such as planning and monitoring. Each has served to extend norms across member jurisdictions. For example, the GCFTF's then-ongoing process of developing "Guiding Principles for Collaboration and Partnership Between Subnational Governments, Indigenous Peoples, and Local Communities" (Gcf Task Force, 2018) was echoed in remarks made by Governor Farouk Ishak at the annual meeting and resulting "Balikpapan Statement" in Government of East Kalimantan (2017), and each has served as a mechanism to channel common concerns to higher-level policy arenas. This "vertical" facilitation function is described further below.

One challenge facing organizations facilitating across subnational jurisdictions in Indonesia is the heterogeneity of districts and provinces and thus the appropriateness of different entry points for addressing their interests. This diversity limits the potential for scaling common approaches and narratives. Entry points related to REDD+ finance or palm oil production are less relevant to districts with low deforestation rates, which produce other commodities such as rubber or minerals, or have limited commodity production potential. For example, for Sigi District in Central Sulawesi province, a member of LTKL with a large proportion of its area under protected status, fiscal allocations tied to maintaining forest cover are of greater relevance than commodity market access. However, JA proponents have discovered that a common interest among officials is to increase their jurisdictions' competitiveness for attracting investment (Aurora and Seymour, 2019). A JA narrative focused on competitiveness has the advantage of broader appeal across government agencies not limited to the planning, plantation, and environmental offices directly implicated by a focus on sustainable land use and also resonates with national-level officials. For these reasons, LTKL has framed

its indicators of jurisdictional performance as key to regional competitiveness.

Facilitating Vertical Connections to National and Global Levels

Facilitation of vertical linkages between individual jurisdictions and national and global policy arenas is also needed to support JA, for at least two reasons. First, provinces and districts need help to overcome barriers posed by perverse or incoherent national policies that hamper progress toward sustainability. Second, provinces and districts need assistance in taking advantage of current external incentives and shaping prospective new incentives.

Proponents of JA in Indonesia have identified as a key challenge the lack of coordination across various levels and agencies of government, which often results in misalignment of policies and implementation on the ground (Aurora and Seymour, 2019). One recent example was the case in Siak District described in **Box 2**, in which a large area of deep peat that had been returned by a private company to government control almost got distributed to smallholders under the national agrarian reform program, despite the existing moratorium on new development on peat. In this and other cases of policy incoherence across sectors and levels, CSOs have helped to resolve problems by facilitating connections between jurisdictions with national government agencies. LTKL has provided technical support and linkages to national policy arenas either by itself or via APKASI. In 2019, LTKL facilitated more than 20 CSOs and development partners to develop a concept note on the use of JA to accelerate the implementation of national priorities related to sustainable food and agricultural production (Lingkar Temu Kabupaten Lestari [LTKL], 2019c). The concept note was used by the National Development Planning Ministry (*Bappenas*) as a basis for including a reference to JA in Indonesia's Medium-Term Development Plan 2020–2024 (Government of Indonesia, 2020).

LTKL has also served to help member districts access and shape external incentives. As described above, LTKL's Secretariat has coached members on how to attract green investment and has linked them to Indonesia's Investment Coordinating Board. It is also helping member districts to navigate the demand for data and indicators from the many national and international initiatives that have sprung up to reward jurisdictional-scale performance with preferential finance and market access. Local governments already face a heavy upward reporting burden to the national government, including indicators of progress toward the Sustainable Development Goals, motivating LTKL's effort to develop a consolidated set of indicators to reduce this reporting burden.

Another prospective contributor to the facilitation of vertical connections in Indonesia is the TFA, a multistakeholder platform hosted by the World Economic Forum dedicated to supporting the implementation of corporate commitments to deforestation-free supply chains in palm oil, beef, soy, and pulp and paper. In 2017, the TFA began exploring how JA could support its objectives globally by commissioning a consultancy

report on the topic (ALPHABETA, 2017). The report identified 34 jurisdictions globally of potential relevance to TFA's mandate, of which 9 were in Indonesia. Subsequently, the TFA cohosted a 1-day workshop associated with the 2017 GCFTF annual meeting (hosted in Balikpapan by the Governor of East Kalimantan) to showcase provincial green growth initiatives in East Kalimantan and South Sumatra to prospective private sector partners. In 2020, TFA began organizing a series of "Jurisdictional Dialogues" in Indonesia in the run-up to its annual meeting in Jakarta, which was postponed due to the global pandemic. The Dialogues focus on facilitating the engagement of consumer goods companies in JA initiatives. Subnational jurisdictions in Indonesia will likely figure prominently in TFA's "commodity-first" approach to increasing private sector engagement in JA globally (Tropical Forest Alliance [TFA], 2019).

CONSTRAINTS ON ASSESSING IMPACT

Assessing the impact of JA in Indonesia is a challenge for individual jurisdictions as well as for collective efforts that support JA nationally. Indicators of performance are beset by lag times and confounding variables, making it difficult to distinguish between lack of political will and difficulties and delays in translating high-level aspirations into practical strategies, workplans, and budgets. It is striking that three of the provinces that made the most high-profile gubernatorial-level commitments to green development—East Kalimantan, West Papua, and South Sumatra—also had the largest percentage increases in deforestation from 2017 to 2018 (Wijaya et al., 2019). However, even when there is good-faith follow-through, momentum for land-use change may take time to overcome. Forest clearing under concession licenses planned and approved prior to JA initiatives is beyond the authority of jurisdictional leaders to stop (Hovani et al., 2018b). Further, fluctuations in weather patterns and commodity prices influence the incidence of fire and incentives to expand production, respectively, and are difficult to distinguish from lack of enforcement effort. Given that most of the within-jurisdiction actions described in this paper have been undertaken within the last few years, it would be premature to attempt to detect impacts or to discern a divergence of land-use patterns in districts with JA initiatives from national-level trends.

Further, shortfalls and delays in jurisdictional performance could also be explained by shortfalls and delays on the part of the international community to exercise their coresponsibility to provide external incentives for change (Seymour and Busch, 2016; Duchelle et al., 2019). Many of the subnational commitments to sustainability in Indonesia have been made with the expectation of reward, while potential sources of such reward have been constrained by the lack of evidence of performance, creating a chicken-and-egg problem. This challenge is particularly acute for the companies that have made NDPE commitments. Many such companies want to encourage progress through continued engagement in the jurisdictions from which they are sourcing but face reputational risk in doing so. The IDH VSA approach and RSPO jurisdictional certification

TABLE 1 | Strategies for addressing challenges facing the jurisdictional approach in Indonesia.

Type of intervention	Challenges	Strategies
Creation of external incentives	<ul style="list-style-type: none"> • Slow realization of REDD+ finance and institutions for domestic allocation • Lack of clarity on how to implement preferential sourcing and other performance-based incentives • Few green investment transactions linked to jurisdictional performance • Reluctance of national government to embrace domestic fiscal incentives linked to sustainability 	<ul style="list-style-type: none"> • Mobilize international demand for REDD+ credits • Provide companies with more specific guidance and clear examples • Build capacity of jurisdictional leaders to present opportunities; build capacity of companies to meet high standards • Demonstrate links to other government priorities such as poverty reduction, resilience to natural disasters, and inclusive economic development
Implementation within jurisdictions	<ul style="list-style-type: none"> • Difficulty sustaining momentum through political transitions • Lack of trust among stakeholder groups • Tendency to focus on development objectives at the expense of environmental objectives • Lack of capacity, data, and sometimes will, on the part of lower-level bureaucrats needed to integrate sustainability into planning • Data constraints on spatial planning 	<ul style="list-style-type: none"> • Embed commitments in local regulations and build ownership within the bureaucracy • Employ facilitation services from a neutral third party • Emphasize linkages to performance-based incentives and resilience to natural disasters • Invest in long-term training, cross-jurisdictional learning, capacity building and follow up • Advocate for greater transparency of spatial data held by national agencies
Facilitation of connections across jurisdictions and levels	<ul style="list-style-type: none"> • Heterogeneity of district interests and needs • Misalignment of national policies across agencies and sub-national priorities • Confusion and reporting burdens resulting from the proliferation of performance indicator frameworks 	<ul style="list-style-type: none"> • Diversify types of incentives offered; emphasize competitiveness narrative • Allocate CSO staff resources to convening and process facilitation to resolve inconsistencies • Simplify indicators and align with existing SDGs performance reporting

are designed to provide mechanisms for companies to reward jurisdictions for stepwise progress toward sustainability targets. Prospective new sources of demand for jurisdictional-scale forest emission reductions (such as offsetting of international aviation emissions) and associated institutional infrastructure to facilitate transactions could significantly enhance the size and certainty of incentives for performance. Such global initiatives, however, have been characterized by long gestation periods, which have, if anything, exceeded the timelines characteristic of jurisdictions translating commitments into action.

ACTIONABLE RECOMMENDATIONS

While the jury is still out on the effectiveness of JA, the considerations outlined above suggest that the relative emphasis of JA initiatives in Indonesia should be rebalanced among the three types. While facilitation of activities within districts and provinces will continue to be needed, relatively greater emphasis should be placed on creating external incentives for performance and facilitating horizontal and vertical linkages across jurisdictions and levels. Companies eager to implement commodity supply chain commitments have provided new impetus to district-level JA initiatives in Riau and Aceh. The interest of local government leaders in

attracting green investment and external recognition for their efforts should be addressed through rewards based on clear metrics of performance. Although the East Kalimantan example demonstrates that progress can be made in the absence of external incentives, it is also true that the prospect of REDD+ finance was the original motivation for getting started and was a factor in motivating the new governor to maintain support.

Further, the East Kalimantan case sends a message to donors about the need for long-term engagement to build the trust and networks internal and external to the jurisdiction on which performance can be built. The relative absence of such a foundation in Central Kalimantan may partially explain the inability to maintain momentum behind the Roadmap and will need to be developed elsewhere if more recent initiatives—such as those envisioned under the Manokwari Declaration for Papua and West Papua—are to gain traction. The effectiveness of both external incentives and actions within districts both depend strongly on agents that are able to “connect the dots”—both physically across landscapes, as well as across various stakeholders and levels of governance—in order to address the challenges faced by JA in Indonesia.

Table 1 summarizes the challenges identified by JA practitioners for each of the three types of interventions and strategies to overcome them.

CONCLUSION

A number of domestic and international factors have aligned in recent years to prompt renewed efforts by governments, civil society, and private companies to reverse decades of unsustainable forest loss and peatland degradation in Indonesia. Internationally, calls for action to reduce GHG emissions to protect the global climate have been augmented by commitments on the part of private companies to get deforestation out of their supply chains. Domestically, the trauma of the 2015 fires refocused domestic political attention on the costs of unsustainable land use. Indonesia's decentralization of authority over land use and resolving indigenous land claims, the UNFCCC's decision on the implementation of REDD+ at jurisdictional rather than project scale, and recognition of the limitations of voluntary forest protection efforts by corporations focused narrowly on supply chains have all converged to support a focus on JA.

This paper has described the early experience of JA initiatives in Indonesia and provided an analysis based on the expert opinions of the authors and others involved in a nascent JA community of practice. Despite the absence of empirical evidence of the effectiveness of the approach, the many JA initiatives underway and promising milestones achieved indicate that Indonesia has an increasing body of experience to inform the international discourse on JA. For programs within jurisdictions, those milestones include formalization of multistakeholder forums and passage of supportive local regulations. For programs facilitating connections across jurisdictions and scales, milestones include the establishment of a platform for sustainable districts and progress toward a common indicator framework to monitor performance. Programs designed to create external incentives to reward progress have lagged, but negotiations toward the first provincial-scale REDD+ agreement are well advanced. The first two green investments conditioned on jurisdictional eligibility criteria have been closed, and companies that have made NDPE commitments are actively engaged in JA initiatives in several jurisdictions. Nevertheless, evidence relating these interventions to improvements in jurisdictional-scale outcomes remains scarce, both because of lagging external incentives and the fact that most initiatives remain at an early stage of implementation.

Initiatives in Indonesia could potentially benefit from the many related international initiatives such as REDD+ finance, "green" investment funds, and preferential market access for commodities sourced from jurisdictions making progress toward sustainability targets, as well as recognition for subnational leaders that could reverberate at home. In turn, the experience of JA proponents in Indonesia in overcoming the challenges summarized in **Table 1** could inform the design and implementation of those initiatives globally. For example, the experience of LTKL in designing a feasible set of indicators to monitor jurisdictional-scale progress could assist the various international initiatives working to identify indicators that meet the needs of buyer companies to assess and manage risk

without imposing undue burdens on jurisdictions with limited monitoring capacity and access to data.

Realizing this potential will require overcoming the many challenges outlined in this paper related to generating a material value proposition for subnational political leaders and the enabling conditions necessary to change land-use trajectories on the ground. Success will require progress at multiple scales. The international community will need to mobilize increased levels of climate and other green finance and market incentives sufficient to motivate change. At the national level, progress on providing domestic fiscal incentives for maintaining forest cover, establishing the infrastructure for allocating REDD+ payments, increasing transparency of relevant data, and coordinating more effectively across agencies would all accelerate JA progress. Efforts to build the capacity of local jurisdictions and facilitate multistakeholder cooperation will be essential to translating green visions into results but must be complemented by increased effort to "connect the dots" across jurisdictions and levels.

AUTHOR CONTRIBUTIONS

The manuscript draws primarily on information and insights gained from the authors' participation in activities supported by the David and Lucile Packard Foundation and CLUA, which included roles as grantees and consultants focused on promoting JA in Indonesia. FS, LA, and JA jointly devised the conceptual ideas and theoretical framework for the publication, which draw on workshops, field trips, and meetings with grantees to which all three contributed, and were summarized by FS and LA in a periodic newsletter for JA practitioners from July 2016 to April 2019. FS produced the outline and wrote the manuscript in consultation with LA and JA. LA and JA contributed updates on specific initiatives and recent policies in Indonesia. All authors contributed to the article and approved the submitted version.

FUNDING

The Climate and Land Use Alliance (CLUA) provided partial support for the first author's time during the writing of the paper through a consulting contract and will reimburse the cost of open access public access fees.

ACKNOWLEDGMENTS

The Jurisdictional Approach is one of the four targeted outcomes of the David and Lucile Packard Foundation's revised palm oil strategy for 2018–2021 and has been incorporated into the Indonesia initiative of the Climate and Land Use Alliance (CLUA). The authors are pleased to acknowledge both the David and Lucile Packard Foundation and CLUA and their community of grantees and other partners in Indonesia for their support in helping us understand and advance this important topic. Finally, the authors would like to thank Paige Langer for her support throughout the publication process.

REFERENCES

- Adams, J., and Algam, R. (2016). *Indonesia's East Kalimantan Province Commits to New Green Growth Pathway*. Washington, DC: National Geographic Society.
- Adrison, V. (2013). *Deforestation in Decentralized and Democratic Indonesia*. LPEM-FEUI Working Paper – 001. Jakarta: Faculty of Economics University of Indonesia.
- ALPHABETA (2017). *Supporting Jurisdictional Leadership in Net Zero Deforestation Through Sustainable Value Chains: Opportunities for TFA 2020*. Switzerland: Tropical Forest Alliance.
- AMAN (2020). *Perda dan Surat Keputusan Pemerintah Daerah*. Available online at: <http://www.aman.or.id/perda-dan-surat-keputusan-pemerintah-daerah/> (accessed February 24, 2020).
- Angelsen, A., and McNeill, D. (2012). "The evolution of REDD+," in *Analyzing REDD+: Challenges and Choices*, eds A. Angelsen, M. Brockhaus, W. D. Sunderlin, and L. Verchot (Bogor: Center for International Forestry Research), 31–50.
- Arumingtyas, L. (2019). *Pemerintah Bentuk Badan Pengelola Dana Lingkungan*. Available online at: <https://www.mongabay.co.id/2019/10/13/pemerintah-bentuk-badan-pengelola-dana-lingkungan/> Available online at: (accessed October 13, 2019).
- Aurora, L., and Seymour, F. (2019). *Summary Highlights: Moving Forward with the Jurisdictional Approach in Indonesia*. Jakarta: Tropical Forest Alliance, Jurisdictional Approaches Resources Hub. Available online at: <https://mailchi.mp/305f658dffde/moving-forward-with-the-jurisdictional-approach-in-indonesia-august-2020-edition?e=5bd1d6c214>
- Austin, K. G., Schwantes, A., Gu, Y., and Kasibhatla, P. S. (2019). What causes deforestation in Indonesia? *Environ. Res. Lett.* 14:024007. doi: 10.1088/1748-9326/aaf6db
- Badan Pusat Statistik [BPS] (n.d.). *Produk Domestik Regional Bruto Per Kapita Atlas Dasar Harga Berlaku Menurut Provinsi, 2010-2018 (Ribu Rupiah)*. Central Jakarta: Badan Pusat Statistik.
- Bahar, N. H. A. (2018). *Sabah, Malaysia in The State of Jurisdictional Sustainability*, ed. C. Stickler San (Francisco, CA: EII).
- Barr, C., Resosudarmo, I. A. P., Dermawan, A., McCarthy, J., Moeliono, M., and Setiono, B. (2006). *Decentralization of Forest Administration in Indonesia: Implications For Forest Sustainability, Economic Development, and Community Livelihoods*. Sindang Barang: Center for International Forestry Research.
- BioCarbon Fund (2018). *Prospective Development Pathways: Private Sector Engagement in Landscape Approaches to Reduce Emissions from Land Use Activities in Jambi province*. Washington, D.C: International Finance Corporation.
- BioCarbon Fund (n.d.). *ISFL Indonesia Program in Jambi Province*. Available online at: <https://www.biocarbonfund-isfl.org/isfl-indonesia-program-jambi-province> (accessed October 7, 2019).
- Boyd, W., Stickler, C., Duchelle, A., Seymour, F., Nepstad, D., Bahar, N., et al. (2018). *Jurisdictional Approaches to REDD+ and Low Emissions Development: Progress and prospects*. Working Paper. Washington, DC: World Resources Institute.
- Burgess, R., Hansen, M., Olken, B., Potapov, P., and Sieber, S. (2011). *The Political Economy of Deforestation in the Tropics*. National Bureau of Economic Research Working Paper 17417. Cambridge, MA: National Bureau of Economic Research.
- Busch, J., and Mukherjee, A. (2017). *Encouraging State Governments to Protect and Restore Forests Using Ecological Fiscal Transfers: India's Tax Revenue Distribution Reform*. Working Paper 473. Washington, DC: Center for Global Development.
- Climate and Land Use Alliance [CLUA] (2018). *Indonesia Initiative 2018-2022*. San Francisco, CA: Climate and Land Use Alliance.
- Conservation International (n.d.). *Coalition for Sustainable Livelihoods*. Available online at: <https://www.conservation.org/projects/coalition-for-sustainable-livelihoods> (accessed February 17, 2020)
- Daemeter (2019). *Siak Pelalawan Landscape Program for Livelihoods and Sustainable Palm Oil*. Available online at: <http://daemeter.org/en/project/detail/74/Siak-Pelalawan-Landscape-Program-for-Livelihoods-and-Sustainable-Palm-Oil#.XlkwtqKjIV> (accessed February 28, 2020).
- Dauvergne, P. (1993). The Politics of Deforestation in Indonesia. *Pacific Affairs* 66, 497–518. doi: 10.2307/2760676
- Dermawan, A., and Hospes, O. (2018). When the State Brings Itself Back into GVC: the case of the Indonesian palm oil pledge. *Glob. Policy* 9, 21–28. doi: 10.1111/1758-5899.12619
- Dharmasaputra, M., and Wahyudi, A. (2014). *The Impact of Payment-for-Performance Finance on the Political Economy of Deforestation in Indonesia*. Background Paper #9. Washington, DC: Center for Global Development.
- Duchelle, A., Seymour, F., Brockhaus, M., Angelsen, A., Larson, A., Moeliono, M., et al. (2019). *Forest-Based Climate Mitigation: Lessons from REDD+ Implementation*. Washington, DC: World Resources Institute.
- Earthworm (n.d.). *Aceh Tamiang*. Available online at: <https://www.earthworm.org/our-work/projects/aceh-tamiang-sumatra-indonesia>
- Ekawati, S., Subarudi, Budiningsih, K., Sari, G. K., and Muttaqin, M. Z. (2019). Policies Affecting the Implementation of REDD+ in Indonesia (Cases in Papua, Riau and Central Kalimantan). *Forest Policy Econ. Assess. Policies Reduce Emissions Land Use Change Indonesia* 108:101939. doi: 10.1016/j.forpol.2019.05.025
- Elang (2017). *National Working Meeting with the Government of Siak Regency for Siak Hijau Melindungi Air dan Hutan Tersisa Demi Masa Depan yang Berkelanjutan*. Shanghai: Elang.
- Eloksari, E. A. (2020). *Omnibus bill to Diminish Local Government's Authority Over Spatial Planning*: KPPOD. Jakarta: The Jakarta Post.
- Falconer, A., Mafira, T., and Sutyono, G. (2015). *Improving Land Productivity through Fiscal Policy: Early Insights on Taxation in the Palm Oil Supply Chain*. Available online at: <https://climatepolicyinitiative.org/wp-content/uploads/2015/12/Full-Report-English-Early-Insights-on-Taxation-in-the-Palm-Oil-Supply-Chain.pdf> (accessed August 21, 2020).
- Fatem, S., Awang, S., Pudyatmoko, S., Sahide, M., Pratama, A., and Maryudi, A. (2018). Camouflaging economic development agendas with forest conservation narratives: a strategy of lower governments for gaining authority in the re-centralising Indonesia. *Land Use Policy* 78, 699–710. doi: 10.1016/j.landusepol.2018.07.018
- Fay, C., and Denduangrudee, H. (2018). *An Uneven Path Toward Rights and REDD+ in Indonesia*. Background Paper. Washington, DC: Center for Global Development.
- Fishbein, G., and Lee, D. (2015). *Early Lessons from Jurisdictional REDD+ and Low Emissions Development Programs*. Rep. Arlington: n.p.
- Gcf Task Force (2018). *GCF TF Unveils Guiding Principles of Collaboration and Partnership*. Boulder, CO: Governor's Climate and Forests Task Force.
- Gellert, P. K., and Andiko, P. K. (2015). The quest for legal certainty and the reorganization of power: struggles over forest law, permits, and rights in Indonesia. *J. Asian Stud.* 74, 639–666.
- Government of East Kalimantan (2017). *2017 GCF Gives Birth Balikpapan Statement*. Pemerintah Provinsi Kalimantan Timur: Berani Untuk Kaltim Berdaulat.
- Government of East Kalimantan (2019). *Insentif Program FCPF Carbon Fund. Pembayaran Tiga Tahap*. Pemerintah Provinsi Kalimantan Timur: Berani Untuk Kaltim Berdaulat.
- Government of Indonesia (1999a). *Law of the Republic of Indonesia No. 22/1999: Concerning Regional Administrations*. Jakarta: Government of Indonesia.
- Government of Indonesia (1999b). *Law of the Republic of Indonesia No. 25/1999: Concerning Financial Balance between the Central & Regional Government*. Jakarta: Government of Indonesia.
- Government of Indonesia (2014). *Law of the Republic of Indonesia Number 23/2014: About Local Government*. Jakarta: Government of Indonesia.
- Government of Indonesia (2020). *2020-2024 Medium Term Development Plan*. Jakarta: Government of Indonesia.
- Government of Norway (2020). *Norway will pay 530 million NOK for reduced deforestation in Indonesia*. Norway: Ministry of Climate and Environment.
- Green (2020). *Green Fund Makes Palm Oil Sector Investment in PT Dharma Satya Nusantara Tbk*. Available online at: https://www.andgreen.fund/wp-content/uploads/2020/06/Joint-Green-DSNG-Press-Release_2020.pdf (accessed June 3, 2020).
- Green Climate Fund (2020). *Indonesia REDD-plus RBP for results period 2014-2016*. Songdo-dong: Green Climate Fund.
- Hallorieu (2020). *Berterima Kasih dengan Program TORA, Masyarakat Kampung Kotoringin Gelar Syukuran*. Available online at: <https://www.hallorieu.com/read-siak-124611-2020-01-20-berterima-kasih->

- dengan-program-tora-masyarakat-kampung-kotoringin-gelar-syukuran.html (accessed February 28, 2020).
- Hansen, M. C., Potapov, P. V., Moore, R., Hancher, M., Turubanova, S. A., Tyukavina, A., et al. (2013). High-Resolution Global Maps of 21st-Century Forest Cover Change. *Science* 342, 850–853. doi: 10.1126/science.1244693
- Hovani, L., Cortez, R., Hartanto, H., Thompson, I., Fishbein, G., Adams, J., et al. (2018a). *The Role of Jurisdictional Programs in Catalyzing Sustainability Transitions in Tropical Forest Landscapes*. Arlington, VA: The Nature Conservancy, doi: 10.13140/RG.2.2.34252.67205
- Hovani, L., Varns, T., Hartanto, H., Rahman, S., Makinuddin, N., and Cortez, R. (2018b). *Jurisdictional Approaches to Sustainable Landscapes: Berau and East Kalimantan, Indonesia*. Arlington, VA: The Nature Conservancy.
- IDH (2015). *Green Growth with Leonardo DiCaprio*. Utrecht: IDH.
- IDH (2016). *Musi Banyuasin Jurisdictional Certification Plan IDH – the Sustainable Trade Initiative*. Utrecht: IDH.
- IDH (2018a). *IDH Launches First Verified Sourcing Area Pilot in Mato Grosso, Brazil*. Utrecht: IDH.
- IDH (2018b). *Manokwari Declaration*. Utrecht: IDH.
- IDH (2019). *PPI Compact Signed: Aceh Tamiang to Become Sustainable Production Region as 1st Step towards VSA*. Utrecht: IDH.
- InfoSAWIT (2016). *Berikut, Apa itu SIPKEBUN?*. Jawa Barat: InfoSAWIT.
- Irawan, S., Dohong, A., Armijo, E., and Nepstad, D. (2014). *The Central Kalimantan Roadmap to Low-Deforestation Rural Development that Increases Production and Reduces Poverty*. San Francisco, CA: Earth Innovation Institute.
- Irawan, S., Tacconi, L., and Ring, I. (2013). Stakeholders' incentives for land-use change and REDD+: The case of Indonesia. *Ecol. Econ.* 87, 75–83.
- Irawan, S., Widiastomo, T., Tacconi, L., Watts, J. D., Steni, B. (2019). Exploring the design of jurisdictional REDD+: the case of Central Kalimantan, Indonesia. *Forest Policy Econ.* 108:101853.
- Jong, H. N. (2019). *Indonesia to Get First Payment from Norway under \$1b REDD+ Scheme*. Menlo Park, CA: Mongabay Environmental News.
- JPNP (2019). *KLHK Starts Evaluation for 2019 Nirwasita Tantra Award*. Available online at: <https://www.jpnp.com/news/klhk-mulai-penilaian-untuk-anugerah-nirwasita-tantra-2019?page=2> (accessed August 12, 2019).
- Komalasari, M., Peteru, S., Atmadja, S., and Chan, C. (2018). *East Kalimantan, Indonesia in The State of Jurisdictional Sustainability*, ed. C. Stickler (San Francisco, CA: EII).
- Komunike Cikini (2018). *General Allocation Fund for Forest-Rich Districts in Indonesia*. Available online at: <http://komunikecikini.org/wp-content/uploads/2018/10/komunike-ver-5.pdf> (accessed September 18, 2018).
- Lingkar Temu Kabupaten Lestari [LTKL] (2018a). *MasterClass of Sustainable Investment: The Commodity Series*. Jakarta: LTKL.
- Lingkar Temu Kabupaten Lestari [LTKL] (2018b). *European Palm Oil Conference 2018: Bupati Musi Banyuasin Sampaikan Komitmennya Terkait Isu Komoditas*. Jakarta: LTKL.
- Lingkar Temu Kabupaten Lestari [LTKL] (2019a). *2019 Lestari Regency Festival: Besamo Membelo Siak Towards Green Indonesia*. Jakarta: LTKL.
- Lingkar Temu Kabupaten Lestari [LTKL] (2019b). *Cerita Sukses Inisiatif Siak Hijau Jadi Pembelajaran di Forum Internasional*. Jakarta: LTKL.
- Lingkar Temu Kabupaten Lestari [LTKL] (2019c). *Concept Note: Developing Food and Agriculture in RPJNM 2020-2024 with Jurisdictional Approach for Sustainability*. Jakarta: LTKL.
- Lingkar Temu Kabupaten Lestari [LTKL] (n.d.). Forum Kolaborasi Kabupaten Untuk Mewujudkan Pembangunan Berkelanjutan Di Indonesia.
- Mafira, T., Mecca, B., and Muluk, S. (2020). *Indonesia Environment Fund: Bridging the Finance Gap in Environmental Programs*. Available online at: <https://www.climatepolicyinitiative.org/wp-content/uploads/2020/04/Indonesia-Environment-Fund-Bridging-the-financing-gap-1.pdf> (accessed August 17, 2020).
- Mafira, T., Muluk, S., and Conway, S. (2019). *From Digging to Planting: A Sustainable Economic Transition for Berau, East Kalimantan*. Available online at: <https://climatepolicyinitiative.org/wp-content/uploads/2019/08/From-Digging-to-Planting.pdf> (accessed February 19, 2020).
- Martius, C., Angelsen, A., Larson, A. M., Pham, T. T., Sonwa, D. J., and Belcher, B. (2018). "Pathway to impact: Is REDD+ a viable theory of change?" in *Transforming REDD+: Lessons and new directions*, eds A. Angelsen, C. Martius, V. De Sy, A. E. Duchelle, A. M. Larson, and T. T. Pham (Bogor: CIFOR), 17–28.
- Moeliono, M. (2006). *Wilderness and Order: Forest Conservation in Malinau District, East Kalimantan*. Available online at: https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/946/Moeliono_Moira.pdf?sequence=1 (accessed August 17, 2020).
- Moeliono, M., Wollenberg, E., and Limberg, G. (2009). *The Decentralization of Forest Governance: Politics, Economics and the Fight for Control of Forests in Indonesian Borneo*. London: Earthscan.
- Mongabay (2016). *Green Growth Compact Kalimantan Timur*. Menlo Park, CA: Mongabay.
- Morris, B. (2018). *Transforming the Palm Oil Sector in Conservation, Science and Land Use*. California: David & Lucile Packard Foundation.
- Mumbunan, S. (2018). *Indonesia – India High Level Expert Exchange: Fiscal Mechanism for Forest Conservation, September 4th – 8th 2017*. Available online at: <https://www.forclime.org/documents/Brochure/Bahasa/India%20Report%20versi%20per%20page%20siap%20cetak.pdf> (accessed August 17, 2020).
- Nepstad, D. (2017). *Jurisdictional Sustainability: A Primer for Practitioners*. San Francisco, CA: Earth Innovation Institute.
- Nepstad, D., Irawan, S., Bezerra, T., Boyd, W., Stickler, C., Shimada, J., et al. (2013). More food, more forests, fewer emissions, better livelihoods: linking REDD+, sustainable supply chains and domestic policy in Brazil, Indonesia and Colombia. *Carbon Manag.* 4, 639–658.
- Nepstad, D., Moutinho, P., Boyd, W., Azevedo, A., Bezerra, T., Smid, B., et al. (2012). *Re-Framing REDD+: Unlocking Jurisdictional REDD+ as a Policy Framework for low Emission Rural Development: Research Results and Recommendations for Governments*. Belém: Amazon Environmental Research Institute.
- NYDF Partners (2019). *Protecting and Restoring Forests: A Story of Large Commitments yet Limited Progress. New York Declaration on Forests Five-Year Assessment Report. Climate Focus (coordinator and editor)*. Available online at: forestdeclaration.org (accessed June 22, 2020).
- Paoli, G., and Palmer, B. (2017). *Jurisdictional Approaches to Sustainable Land Use in Indonesia; What is it, Why Pursue It and How to Build One*. Bogor: Daemeter.
- Paoli, G., Palmer, B., Schweithelm, J., Limberg, G., and Green, L. (2016). *Extended Summary. Jurisdictional Approaches to Reducing Palm Oil Driven Deforestation in Indonesia: A Scoping Study of Design Considerations and Geographic Priorities*. Bogor: Daemeter.
- PR Berau (2016). *Kaltim Hijau Becomes Discussion Material in Morocco*. Available online at: <https://berau.prokal.co/read/news/46618-kaltim-hijau-jadi-bahan-diskusi-di-maroko> (accessed 19 November 2016).
- Proforest (2018). *Development of a Landscape Programme in Siak and Pelalawan, Indonesia*. Oxford: Proforest.
- Pwyp Indonesia (2018). *Ecological-Based Provincial Fiscal Transfer for Forest Conservation in Activities, Research, Discussion – Seminars – Policy Dialogue*. Jakarta: PWYP Indonesia.
- Ramachandran, H., and de Campos Guimaraes, J. P. (1991). *Integrated Rural Development in Asia: Learning from Recent Experience*. Delhi: Concept Publishing Company.
- Resosudarmo, I. A. P. (2004). Closer to people and trees: will decentralisation work for the people and the forests of Indonesia? *Eur. J. Dev. Res.* 16, 110–132. doi: 10.1080/09578810410001688761
- Roundtable on Sustainable Palm Oil [RSPO] (2015a). *RSPO-Certified Palm Oil Could Become the Norm in Sabah, Kalimantan | Articles*. Kuala Lumpur: RSPO.
- Roundtable on Sustainable Palm Oil [RSPO] (2015b). *Progress on RSPO NEXT, smallholders, auditing standards and Jurisdictional Approach at the RSPO 13th Annual Roundtable and 12th Annual General Assembly | Articles*. Kuala Lumpur: RSPO.
- Roundtable on Sustainable Palm Oil [RSPO] (2019). *Public Consultation: Jurisdictional Approach for RSPO Certification | Articles*. Kuala Lumpur: RSPO.
- Sahide, M. A. K., Supratman, S., Maryudi, A., Kim, Y.-S., and Giessen, L. (2016). Decentralisation policy as recentralisation strategy: forest management units and community forestry in Indonesia. *Int. Forestry Rev.* 18, 78–95. doi: 10.1505/146554816818206168
- Samdhana Institute (n.d.). *Creating Conservation Development Codes Under Clear Tenure Rights in Papua, Cases from Tambrauw*. Available online at: https://www.iucn.org/sites/dev/files/content/documents/tambraw_creating_conservation_development_codes_under_clear_tenure_rights_in_papua_cases_from_tambraw.pdf

- Saragih, I. N. (2019). *Jurisdictional Approach in Indonesia: Current development and Way Forward*. Available online at: <https://www.tropicalforestalliance.org/assets/Uploads/JAupdate-April-2019.pdf> (accessed April 2019).
- Sedagho Siak, Siak District and Government. (2019). *Pedoman untuk Mendorong Prinsip-Prinsip Kelestarian dan Berkelanjutan dalam Pemanfaatan Sumberdaya Alam dan Peningkatan Ekonomi Masyarakat*. Oxford: Proforest.
- Setiawan, E. N., Maryudi, A., Purwanto, R. H., and Lele, G. (2016). Opposing interests in the legalization of non-procedural forest conversion to oil palm in Central Kalimantan. *Indonesia. Land Use Policy* 58, 472–481. doi: 10.1016/j.landusepol.2016.08.003
- Seymour, F. (2014). *Reducing Emissions from Oil Palm Cultivation in Indonesia. A strategy for the David and Lucile Packard Foundation and the Climate and Land Use Alliance*. Available online at: <https://pdfs.semanticscholar.org/b274/93dd5270c2b3a177890378569e81271d6fb5.pdf> (accessed June 22, 2020).
- Seymour, F. (2017). *Corporate Commitments: Necessary but Not Sufficient to End Tropical Deforestation*. Available online at: <https://medium.com/trase/corporate-commitments-necessary-but-not-sufficient-to-end-tropical-deforestation-45da39f49a4c> (accessed February 9, 2017).
- Seymour, F., and Aurora, L. (2019). *Moving Forward with the Jurisdictional Approach in Indonesia*. Available online at: <https://www.tropicalforestalliance.org/assets/Uploads/JAupdate-June-2017.pdf> (accessed June 2019).
- Seymour, F., and Busch, J. (2016). *Why Forests? Why Now? The Science, Economics, and Politics of Tropical Forests and Climate Change*. Washington DC: Center for Global Development.
- Seymour, F., and Harris, N. (2019). Reducing Tropical Deforestation. *Science* 365, 756–757. doi: 10.1126/science.aax8546
- Siak District, Government and Sedagho Siak (2019). *Peta Jalan (Roadmap) Siak Kabupaten Hijau Riau*. Riau: Jikalahari.
- Siak Government (2019). *Sharing Sustainability Efforts in Siak Landscape*. Pekanbaru: Siak District Head Alfredri.
- Steward Redqueen (2020). *Mid-term Evaluation of the &Green Fund*. Available online at: https://www.andgreen.fund/wp-content/uploads/2020/05/Mid-term-Evaluation-of-_andgreen_fund_24-April-2020.pdf (accessed August 18, 2020).
- Stickler, C., David, O., Chan, C., Ardila, J. P., and Bezerra, T. (2020). The Rio Branco Declaration: assessing progress toward a near-term voluntary deforestation reduction target in subnational jurisdictions across the tropics. *Front. For. Glob. Change* 3:50. doi: 10.3389/ffgc.2020.00050
- Stickler, C. M., Duchelle, A. E., Ardila, J. P., Nepstad, D. C., David, O. R., Chan, C., et al. (2018). *The State of Jurisdictional Sustainability*. San Francisco, CA: Earth Innovation Institute.
- Tari, D. N. (2020). *Riau Signs Low-Carbon Development Understanding*. Available online at: <https://sumatra.bisnis.com/read/20200115/533/1190431/riau-teken-kesepahaman-pembangunan-rendah-karbon> (accessed 15 January 2020).
- Taylor, R., and Streck, C. (2018). *The Elusive Impact of the Deforestation-Free Supply Chain Movement. Working Paper*. Washington, DC: World Resources Institute.
- Tempo (2018). *West Papua Governor Committed to Preserve Region's Forest*. Available online at: <https://en.tempo.co/read/919537/west-papua-governor-committed-to-preserve-regions-forest> (accessed 27 June 2018).
- The and Green Fund (n.d.). *&Green*. Available online at: <https://www.andgreen.fund/> (accessed February 24, 2020).
- TLFF (n.d.). *PT Royal Lestari Utama*. Available online at: <http://tlffindonesia.org/project-pt-royal-lestari-utama/> (accessed February 24, 2020).
- Tropical Forest Alliance [TFA] (2019). *A Commodity-First Approach to Identifying Landscapes for Private Sector Engagement*. Cologne: Tropical Forest Alliance.
- Unilever (2015). *Unilever Signals New Sourcing Approach to Help Eliminate Deforestation*. Argentina: Unilever Global Company Website.
- Unilever (2017). *Jurisdictional sourcing: A New Approach for Sourcing Sustainable Palm Oil*. Mumbai: Hindustan Unilever Limited.
- Wahyuni, T., Diana, R., Makinuddin, N., and Nouval, B. (2019). Model Initiatives Developed in REDD+ Implementation Efforts in East Kalimantan. *J. Anal. Kebijakan Kehutanan* 16, 145–160.
- Weisse, M., and Goldman, E. D. (2019). *The World Lost a Belgium-sized Area of Primary Rainforest Last Year*. Washington, DC: World Resources Institute.
- Weisse, M., and Goldman, E. D. (2020). *We Lost a Football Pitch of Primary Rainforest Every 6 Seconds in 2019*. Washington, DC: World Resources Institute.
- Wijaya, A., Samadhi, T. N., and Juliane, R. (2019). *Indonesia Is Reducing Deforestation, but Problem Areas Remain*. Washington, DC: World Resources Institute.
- Wilmar International (2013). *No Deforestation, No Peat, No Exploitation Policy*. Singapore: Wilmar International.
- World Wildlife Fund (2007). *Three Nations Commit to Conserving the 'Heart of Borneo'* | Press Releases | WWF. Gland: World Wildlife Fund.
- Yayasan Konservasi Alam Nusantara [YKAN] (2018). *99 Kampung Sepakati SIGAP Sejahtera*. Jakarta: YKAN.
- Yusuf, R. (2019). *DPRD Kaltim Sahkan Raperda Iklim, Dua Raperda Lainnya Diperpanjang*. Available online at: <https://diskominfo.kaltimprov.go.id/dprd-kaltim-sahkan-raperda-iklim-dua-raperda-diperpanjang/> (accessed January 23, 2019).

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright © 2020 Seymour, Aurora and Arif. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.