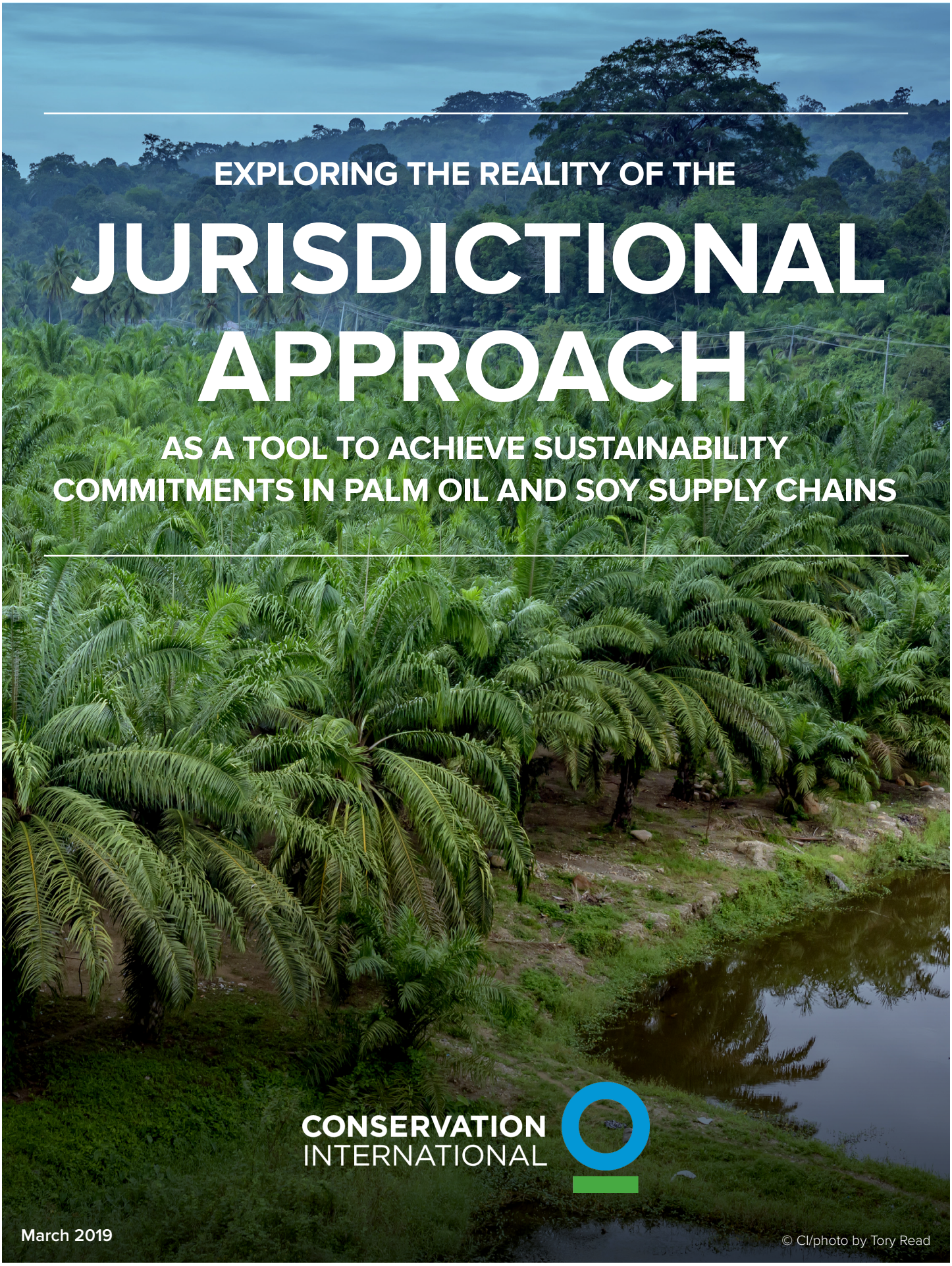


EXPLORING THE REALITY OF THE

JURISDICTIONAL APPROACH

AS A TOOL TO ACHIEVE SUSTAINABILITY COMMITMENTS IN PALM OIL AND SOY SUPPLY CHAINS

CONSERVATION INTERNATIONAL

March 2019

Authors: John Buchanan, Joanna Durbin, Dave McLaughlin, Lesley McLaughlin, Katie Thomason, Melissa Thomas

Contributors: Simon Badcock, Piers Gillespie

Publisher: Conservation International

Acknowledgements:

We would like to thank Walmart Foundation, whose support made this research initiative possible. Many government, industry, and NGO experts and practitioners have shared knowledge and contributed to this body of research. Our particular thanks to INOBU, Instituto Centro de Vida (ICV), Land Empowerment Animals People (LEAP), Sustainable Trade Initiative (IDH), The Nature Conservancy (TNC), the Sabah Forestry Department, North Sumatra provincial government, North Sumatra district governments (Mandailing Natal and South Tapanuli), South Sumatra provincial government, and the 14 private sector stakeholders interviewed [7 consumer goods companies, 4 palm oil producers and processors, and 3 soy oil producers and processors].

Abbreviations and Acronyms

CAR- Rural Environmental Registry
CGF- Consumer Goods Forum
COE- Centre of Excellence
CPO- Crude Palm Oil
EDF- Environmental Defense Fund
EII- Earth Innovation Institute
FPIC- Free Prior and Informed Consent
FSC- Forest Stewardship Council
GCF- Governor's Climate and Forests Task Force
GHG- Greenhouse Gas
HCS- High Carbon Stock
HCV- High Conservation Value
ICRAF- World Agroforestry Centre
ICV- Instituto Centro de Vida
IDH- The Sustainable Trade Initiative
INOBU- Institut Penelitian Inovasi Bumi
IPAM- Instituto de Pesquisa Ambiental da Amazonia
ISPO- Indonesian Sustainable Palm Oil
JA- Jurisdictional Approach
JCSC- Jurisdiction Certification Steering Committee
MSPO- Malaysian Sustainable Palm Oil
NAP- National Action Plan
NDPE- No Deforestation, No Peat and No Exploitation
NYDF- New York Declaration on Forests
PCI- 'Produce, Conserve, Include'
PMS- Programma Mato-Grossense de Municipios Sustentaveis
PMV- Green Municipalities Programme
RBD- 'Refined, Bleached, Deodorized'
RSPO- Roundtable on Sustainable Palm Oil
SEA- Strategic Environmental Assessment
SIAP- Sustainable Investment Action Plan
SLP-Sustainable Landscape Partnership
TFA- Tropical Forest Alliance
TNC- The Nature Conservancy
TPS- Territorial Performance System
UNICEF- United Nations International Children's Emergency Fund
WWF- World Wildlife Foundation
ZAE Cana- Sugarcane Agroecological Zoning
ZSL- Zoological Society of London

Table of Contents

1. INTRODUCTION

Deforestation is one of the most pressing global environmental challenges. Agricultural expansion is the leading driver, accounting for 70-80 percent of annual losses[1,2], with four traded commodities—palm oil, soy, beef and pulp/paper—responsible for over 50 percent.[3] Major companies in the food and agricultural supply chain have responded, making voluntary commitments to end deforestation associated with agricultural commodity expansion.

To date, at least 365 companies globally have made zero-deforestation or No Deforestation, No Peat and No Exploitation (NDPE) palm oil supply chain commitments.[4] The most notable commitments are the New York Declaration on Forests (NYDF), the Consumer Goods Forum (CGF) member commitment to zero-net deforestation commodity sourcing, and NDPE palm oil commitments.

While these commitments indicate progress, the resulting efforts have emphasized certification approaches to reduce deforestation in a company's supply chain. However, these struggle to address the systemic issues of agriculture-driven deforestation for several reasons.

First, the global demand for certified sustainable goods is still limited and prevents market-led progress. In fact, the voluntary commitments are largely from Western companies, who in the case of palm oil and soy only represent 13% and 21% of global consumption respectively.[5]

Second, the effectiveness of the voluntary certification approach is compromised by concerns about the level of assurance provided, and the costs involved to enhance this. Lack of confidence that they are receiving the certified product purchased creates risk and confusion for commodity buyers and consumers. For some commodities, such as palm oil and soy, the lack of confidence is linked to the nature of supply chains in which products are generally blended from several sources. This creates challenges for traceability and transparency, bringing a risk that products from unsustainable practices are included in the mix. These commodity flows are incredibly complex and are designed for efficiency, not traceability to origin. There are also concerns about the reliability and quality of the audit processes, for example linked to the capacity of auditors. Resolving these issues would be costly, added to the costs already involved in certification which relies on audits of every farm and every supplier.

Finally, the certification approach does not recognize and promote the critical role that government must play in regulating the use of natural resources in a country or subnational landscape through policy, enforcement and engagement with stakeholders. These enabling conditions can help to facilitate and reduce costs of certification, but the certification approach fails to create incentives for government action in a supporting or regulating role.

Jurisdictional approaches (JAs) arose from the recognition of these shortcomings. They aim to bridge market- and policy-based interventions for greater impact on the ground. The JA encourages governments and companies to work together alongside key landscape actors towards landscape sustainability, improving local livelihoods and maintaining forests and other natural ecosystems through coordinated strategies across sectors, including deforestation-free commodity production. This approach holds great potential to address the shortcomings of certification approaches and build

more comprehensive and long-lasting solutions. There is a breadth of literature documenting the various benefits and challenges of jurisdictional approaches (see Annex B). However, the approach is still in early stages of development and is built on assumptions, some untested, about the needs of commodity buyers and the market information and incentives that could encourage governments and producers to work together to adopt policies and practices to halt deforestation. These assumptions, as well as questions about how best to implement the strategy, if not validated and answered, could undermine this important new approach to slowing commodity-driven deforestation.

In this report, we explore some of the assumptions of the JA, with a focus on the palm oil sector in Indonesia and Malaysia and the soy sector in Brazil.

- In section 2, we provide an overview of the emerging approach and navigate some of the terminology commonly used.
- In section 3, within the palm oil and soy sectors and geographies of focus, we share insights from interviews with key private sector and government actors around their perception of JAs, interest and requirements to engage, and thoughts around the role they could play to support JAs.
- In section 4, we examine a subset of the more developed JA initiatives in these sectors and geographies to explore how these initiatives are responding to corporate sustainability interests—and whether they are on track to help companies meet specific commitments like the New York Declaration on Forests.
- In section 5, we analyze the commercial viability and potential impact of JA initiatives to influence market-driven progress in the palm oil sector.
- Section 6 provides conclusions from this study on the potential of JAs to transform commodity production towards greater sustainability.

2. OVERVIEW OF JURISDICTIONAL APPROACHES

Defining the Jurisdictional Approach

In this report we define a JA as an integrated landscape approach which aims to reconcile competing social, economic and environmental objectives through participation by a full range of stakeholders across sectors, implemented within government administrative boundaries, and with a form of government involvement. This definition draws from two commonly referenced definitions—the Little Book of Sustainable Landscapes[6] and Jurisdictional Sustainability: A primer for practitioners[7].

The Little Sustainable Landscapes Book: a jurisdictional approach and a landscape approach are often used synonymously. However, the jurisdictional approach is a type of landscape approach that uses government administrative boundaries, primarily sub-national, to define the scope of action and involvement of stakeholders rather than social (e.g. indigenous community) or environmental (e.g. ecosystems, watershed) boundaries.

Jurisdictional Sustainability: A primer for practitioners: a jurisdictional approach is a type of integrated landscape management, with an important distinguishing feature: the landscape is defined by policy-relevant boundaries and the underlying strategy is designed to achieve a high level of governmental involvement.

While the exact form of each JA depends heavily on the local implementation context and the capacity and interest of the involved stakeholders, a JA commonly includes:

- a multi-stakeholder forum or coordination structure(s) to secure wide input and support from stakeholders with influence or affected by landscape changes;
- strategies and action plans or roadmaps that identify agreed social, environmental and production goals for the jurisdiction and actions needed to address them; and
- monitoring and information systems to track implementation of the plan and resulting progress towards the goals.

The key ingredient of government engagement in a JA may vary quite considerably. In some cases, it may take a form of lighter engagement such as establishment of broad regulations or policies for natural resource management. In other cases, it may involve greater engagement, for example taking the lead in committing to sustainability targets or even deeper involvement by adopting these plans into law and enforcing and monitoring progress against regulations. Government involvement refers to engagement from different national, provincial and local levels as well as across sectors through ministries and agencies or departments of environment, planning, agriculture, forestry, mining etc.[8]

Opportunities and challenges of JAs

JAs have the potential to respond to the shortcomings of supply chain and certification approaches and can help to address the magnitude and urgency of environmental and social issues across sectors and at scale. First and foremost, they have the potential to break out of a corporate-specific and commodity-specific supply chain focus that tends to have patchy impacts and to drive change at a jurisdictional scale towards sustainability. Developing goals from the ground-up through a multi-stakeholder forum provides an opportunity to improve inclusivity and democratize land use planning and management. This can allow for engagement of smallholders who often do not participate in certification due to cost and capacity constraints. JAs can promote action on some of the challenges to smallholder adoption of sustainable practices, like insecure land tenure for example by facilitating land titling.[9] Improved land use planning can support the links between land use objectives, for example recognizing the benefits of forest conservation for ecosystem services like water regulation that support improved commodity

production. Land use planning and jurisdictional monitoring help to address the problem of leakage within the jurisdiction, where reduced deforestation due to improved practices or better enforcement in one part of the landscape could lead to increases in deforestation in other places. Engagement across sectors can better align resources and investments for greater impact and coordination, potentially reducing costs in the long-term like certification expenses. Finally, improved governance can extend beyond political turnover to reduce risk and provide assurances that enable market interest and investment.

What is a landscape approach?
A landscape approach is a conceptual framework whereby stakeholders in a landscape aim to reconcile competing social, economic and environmental objectives. It seeks to move away from the often-unsustainable sectoral approach to land management. A landscape approach aims to ensure the realization of local level needs and action (i.e. the interests of different stakeholders within the landscape), while also considering goals and outcomes important to stakeholders outside the landscape, such as national governments or the international community.[8]

How is a jurisdictional approach different from a landscape approach?
A JA is a type of landscape approach with the specific addition of government engagement and administrative boundaries for implementation—thus a landscape approach is not always a JA.

'Jurisdictional sourcing' creates incentives for further JA efforts and improvements in sustainability. JAs can provide benefits to companies by facilitating commodity sourcing with transparent, consistent and resilient supplies that meet improved environmental and social criteria, and minimizing risk because of increased government accountability in management of natural resources. Governments in jurisdictions showing higher sustainability are incentivized by increased market demand which serves to boost the economy in an inclusive and sustainable manner. Communities and smallholder farmers benefit from improved participation, recognition and support for their role in agricultural systems.

Despite the many potential benefits, JAs are not without their challenges. Implementation can be complex and costly, and it can take time to deliver results. The multi-stakeholder approach requires ample negotiation, compromise and tradeoffs in establishing and working towards multiple goals that may not be mutually reinforcing. To add to the complexity, these goals can also be impacted or influenced by external factors beyond the control of the jurisdictional actors. The important ingredient of government engagement can be challenging due to political turnover, poor alignment across divisions, capacity and resource constraints, transparency and limited access to information. In addition, the boundaries for implementation can be physically misaligned with the ecosystem landscape boundaries that would have greatest environmental impact.

JAs need significant funding and support. It can be hard to engage companies in supporting a particular jurisdiction, particularly for those that source from many places and do not have strong links with specific supply regions due to the nature of the commodities and their position in the supply chain. In general, the benefits will largely flow to producers making it unclear whether governments will get sufficient resources and incentives to engage. Also, at this stage, there are few success stories to point to as examples for garnering more support and assuaging concerns of potential partners and investors.

There are also risks associated with the model. Even when JAs are successful, there is a risk that larger scale sustainability will not be not achieved, for example as a result of companies shifting sourcing away from underperforming jurisdictions and only incentivizing higher performing jurisdictions.

Learning from early experiences of JAs

In the past few years, there has been growing momentum around the concept of JAs. Much of this is driven by an awareness that certification, by itself, is not sufficient to stop agriculture-driven deforestation and the recognition that governments must also be involved. There is also a greater sense of urgency given the looming 2020 deadline for many corporate sustainability commitments. However, the JA is not a new concept. There are various examples where the concept has already been implemented for some time. To provide just one example, ZAE Cana (Sugarcane Agroecological Zoning) was a collaboration between the government and sugar cane producing companies implemented in Brazil in 2009. This initiative involved a technical review to identify those areas, or zones, that were appropriate for sugarcane production, with consideration of social and environmental implications, as well as production suitability. Prioritization was given to degraded lands appropriate for sugarcane production. Once sugarcane areas were identified, the zoning was adopted by law and enforced through regulations. This prohibited production in regions such as the Amazon and Pantanal, as well as the clearing of native vegetation. In addition, the law prohibited the national banking system from financing any sugarcane related projects outside of the identified zones. Because agricultural loans are generally more affordable through the national banking system, this law disincentivized planting sugarcane outside of ZAEs.

This report aims to build on these early experiences providing insights on motivations and incentives to support JAs among companies and governments and providing information about some of the emerging examples.

Zero Deforestation versus Zero Net Deforestation, and Legal versus Illegal Deforestation

Zero Deforestation: no forest areas are cleared or converted.

Zero Net Deforestation: allows for the clearance or conversion of forests in an area as long as an equal area is replanted elsewhere.

However, there is disagreement over how to define and measure the equal area of a forest because of the carbon, biodiversity, ecosystem and social characteristics, value and impacts.

Theoretically, the total forest area remains the same with zero net deforestation, but the quality of forest area may vary greatly.

Legal Deforestation: Forest clearance that is permitted by law.

Illegal Deforestation: Forest clearance that is prohibited by law.

Both legal and illegal deforestation are dependent upon place, given the national and local laws of a given geography.

3. INSIGHTS FROM INTERVIEWS WITH PRIVATE SECTOR AND GOVERNMENTS

Interviews were conducted from April to October 2017 with private sector companies involved in commodity production and sourcing, with governments involved in developing JAs and with civil society. A synthesis of findings from the interviews is presented here, providing a range of perspectives on the opportunities and challenges of JAs from key stakeholders.

Private Sector Feedback

Key private sector actors along the Indonesian palm oil and Brazilian soy supply chain were interviewed to capture their thoughts regarding the JAs. Of the 14 companies interviewed, 7 are closer to the supply side involved in production, processing and trading and 7 are further downstream consumer goods and retail companies. Among these companies, 10 are signatories of the New York Declaration on Forests, support the Consumer Goods Forum on pledge deforestation, have RSPO certifications or are committed to 100 percent sourcing of RSPO certified palm oil and have NDPE commitments. Almost half of the companies are highly involved in or exploring engagement with JA initiatives on the ground, while others have been closely monitoring the approach.

Companies were asked about their:

- approach to sustainable commodity sourcing
- most important sustainability criteria
- knowledge about and interest in JAs
- information or assurances needed to engage in a JA
- ways they are or might engage in JAs.

The Role of Private Sector in Supporting JAs

The interviews revealed that there is broad familiarity with and interest in the overall concept of JAs from a wide lens, yet some confusion around how they are implemented and the role of the private sector. There is clear recognition from private sector respondents that poor governance, such as inadequate regulations, corruption and lack of enforcement, is one of the biggest gaps in driving meaningful change to address many of environmental, social and legal issues that are having significant impacts on the industry. While generally recognizing that JAs could be helpful to address governance challenges, respondents were clear that their involvement in JAs needs to directly and clearly advance their sustainability objectives. JAs would need to help in meeting their zero deforestation commitments, including protection of peat areas and national parks, establishment of biological corridors, as well as addressing critical social issues like smallholder inclusion and land titling—which in many instances would go significantly beyond legal compliance with any national regulation.

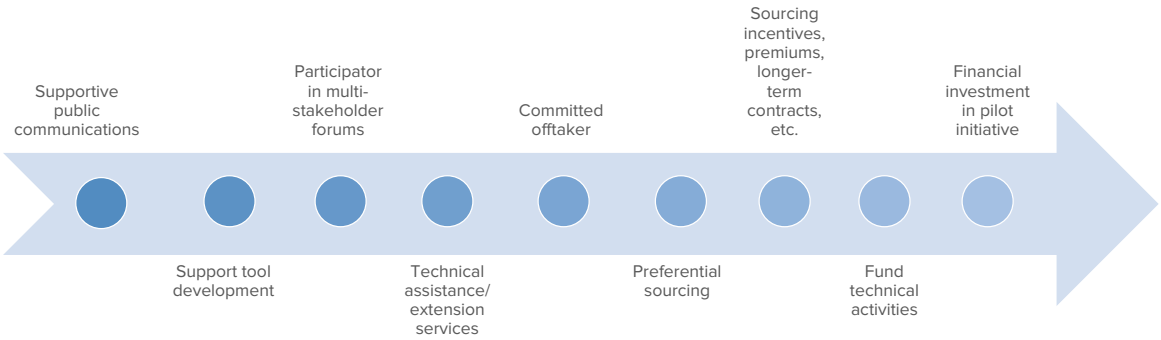
Companies most commonly cited offtake commitments as a role they could play to support JAs. Several companies noted that they would be unlikely to offer any premium pricing as it is not perceived as effective in getting rewards down to the producer and would be hard to justify from a business perspective when similar quality products are available at lower price. Numerous companies interviewed have stopped using premiums, instead using these funds for technical assistance for smallholders. Rather, they would prefer alternative ways to support JAs. For example, several companies mentioned the ability to offer support for suppliers with flexible or longer-term contracts, perhaps showcasing suppliers in their marketing as an extra perk. The majority of companies recognized the need for investment in JAs. However, they also struggled to understand if this would be in the form of philanthropic support or a business investment that would require a return. Finally, support in the form of positive public communications, new technology development (e.g. to enhance traceability and transparency of supply chains), technical assistance, and disincentives (e.g. threats to drop suppliers in certain regions) were also all options mentioned by companies interviewed.

Many of those interviewed see direct benefits from JAs, for example potentially reducing some of the complexity they face in managing today's supply chains and meeting traceability requirements. Some see the potential for greater flexibility in making sourcing or procurement decisions based on a greater geographic scale versus specific suppliers. By establishing a supply sourcing area of known legality, there would be multiple sourcing options available in that supply area.

There were also differences expressed based on where companies interviewed fit within the supply chain. At the retail end, assurance that suppliers are adhering to a certain level of sustainable practices is essential. Certification and traceability help provide this assurance and retailers expressed concerns about whether JAs could provide this assurance across the board. While still concerned about assurance of sustainable production practices to meet the demands of downstream buyers, the producer/traders hope that good governance and strong jurisdictional sustainability performance would make these sustainable production requirements easier to demonstrate as supply areas with improved governance are established. They recognize the importance of agreed criteria and the consistent application of these criteria before a blanket JA assessment could provide necessary assurances. Across all company types, concerns were raised around consistency between the assurances provided by jurisdictional approaches and alignment with existing commitments and corporate requirements such as traceability and certification.

In summary, feedback from our interviews supports the understanding that companies can play a variety of roles to support JA development and implementation, with varying levels of effort and bandwidth as well as investment. In the graphic below, we plot several of the potential roles a company can play, recognizing that different types of companies may want to engage in different ways and at different levels due to their position in the supply chain and the nature of the commodities. Along a spectrum from less to more support for a JA, companies can engage in:

- Strong positive communications and messaging around the importance of the JA to address systemic issues in agricultural production sectors
- Inform the development of tools that assist in the implementation of a JA — like Global Forest Watch Pro Commodities, etc.
- Participate as a company representative in a multi-stakeholder forum to share corporate goals and incentives that could be offered
- Provide technical assistance or extension services towards the pilot initiative
- Commit to offtake products or a percentage of products
- Establish and implement a preferential sourcing policy aimed at rewarding high performing jurisdictions or supporting an underperforming transition subject to meeting performance milestones on an agreed upon timeline.
- Provide premiums or longer-term contracts in jurisdictions with higher sustainability performance
- Funding for technical activities, such as mapping smallholder farms or monitoring
- Financial investment in JA activities, providing grants, credit or insurance to support design and implementation of JA plans and activities.



Scale

It is widely accepted by companies interviewed that JAs have potential to address sustainability issues at scale, striving for bigger sustainability impacts and dealing with broader systemic issues. JAs can also be cost effective as resources and investments can be pooled. Companies in both palm oil and soy sectors agreed that it is important to move away from the current piecemeal approach to a process that deals with a broader geography.

Concerns were expressed that given the scale, progress on establishing effective JAs could be hampered by the number of different stakeholders and the different levels of decision makers, including those at the national level, the provincial or state level, and at the municipal, district or more local level, and different expectations for each group at each level. There are likely to be challenges in coordination and in negotiating agreement across diverse stakeholder groups, recognizing the need for tradeoffs and differences in power and influence.

Interviews also noted the potential downside to the scale of JA. If a producer within a particular jurisdiction was non-compliant, this could create a risk for all the other producers in that jurisdiction. In other words, reputational risk could be shifted from specific companies to specific jurisdictions. On the other hand, it was also pointed out that jurisdictions could compete against each other in a "race to the top" in order to facilitate access to markets by establishing a reputation of good governance and results in meeting sustainability outcomes like reduced deforestation. Creating incentives for improved performance at jurisdictional scale has potential for much greater impact then incentives for individual producers.

Despite these concerns, broad support was voiced for moving forward with the Jurisdictional Approach concept because it can address sustainability issues at greater scale. The need for active government involvement is clearly recognized as key, and the opportunity to begin to solve some of the systemic issues such as smallholder inclusion and legality is welcomed. There was general consensus that the sector has to move away from working with specific supply chain focus and certification to a much broader format to make meaningful change.

Consistency and Assurance

The issue of consistency between JA initiatives is a critical one raised by companies. Given that each jurisdiction will have different actors and stakeholders with different objectives, and that each landscape may be very different, how can jurisdictional sustainability be compared? Alignment around goals and measures of success is important to provide consistency and will be critical for longer term credibility and viability of JAs as the basis for jurisdictional sourcing.

There is a lot of variability between jurisdictions, not just in geographic terms, but also in political terms. The expectations of local government actors vary at a district, provincial or national level. These expectations may or may not be aligned with market expectations. While some JAs are setting their goals around compliance with local and national laws, others are going beyond legal compliance and framing their efforts around meeting the requirements of sustainability standards such as the RSPO. More ambitious goals may add further complexities, as some issues may go beyond the boundaries of a specific jurisdiction and require a national focus.

The variability among current pilot JAs was highlighted. One pilot is working on smallholder issues, broader forest and landscape issues, and land use planning; and another is focusing on the legal framework for land ownership, and legal titling under agrarian reform laws, and not broader land use planning and deforestation.

The issue of assurance was clearly voiced from the retail sector, where currently certification provides assurance and transparency through a formal verification process against a defined minimum standard. There is uncertainty as to how a JA could provide similar assurance given the breadth of producers involved. On the other hand, producers and traders hope that requirements on traceability to production facilities would become obsolete and would be replaced by traceability to jurisdictions. The retail sector relies on more traditional supply chain and farm-level certification to report against sustainable sourcing commitments and would prefer that JAs provide the type of assurance they get from certification.

The issue of consistency and assurance is clearly an area that needs careful consideration and alignment. It is central to providing the market

certainty that a credible process is in place to ensure that production practices are sustainable and support the many public commitments that many companies have made. While JAs are still in their infancy, it is important that proponents of JAs consider both consistency and assurance in terms of comparability across jurisdictions and in terms of comparability with farm-level certification and related company commitments. These issues will be key in terms of long-term credibility and effectiveness.

Incentives

Incentives have been widely discussed for years, especially with regards to certification. Is the market willing to provide incentives for producers/ jurisdictions to transition to a more sustainable path? In general, the interviews reflected that the market incentives for JAs would need to be derived from preferential market access, such as long-term contracts, for those regions that are participating rather than premium prices. It was also widely recognized that other JA incentives could include investment in upstream operations that were strategic for that supply chain actor and that would directly touch their supply chain.

Both the producers and traders and the consumer goods and retailers expressed interest in investing or co-investing in a particular jurisdiction. They noted that a JA would create the confidence to invest in a particular region because of the improved governance, which would help to create jobs, improve standard of living and improve productivity. The costs currently incurred due to the lack of governance also need to be considered, such as the cost of fires, the impact on public health, and access to markets.

Overall, companies interviewed are supportive of JAs, and willing to show support through offtake of production, to provide preference from a procurement standpoint, to co-invest in strategic projects that touch their supply chains, and to provide technical and financial support to JA pilots. Whether these provide sufficient incentives for governments and producers to work together on JAs remains an important assumption to test.

Conclusions about private sector and JAs

Overall the private sector representatives interviewed view the JA as a concept, still in its infancy, and while companies in commodity supply chains are able to visualize the possibilities and solutions that this approach may take, it is also clear that expectations are not yet fully aligned. All agree that the role of government is critical in helping to solve many of the very real problems encountered in the field as many of these problems were the result of weak governance. The companies are intrigued by the possibility of being able to effect change on a broader scale, rather than working on a piecemeal basis with discrete supply chains, which may help transform a supply chain, but not drive sector transformation. All the companies interviewed are willing to support these initiatives through some type of sourcing support or potential co-investment in strategic downstream activities. In fact, more companies were willing to financially support an initiative versus pay a premium for the commodities, although most preferred that the initiative has a direct supply chain link.

The current concerns that need to be better understood are the issues of consistency and assurance.

- Will all JAs deliver the same outcomes and have a robust assurance process?
- If they do, what are the implications for the supply chain management practices that are currently in place and how do these outcomes meet the public commitments that many companies have made?
- Would the markets be satisfied if compliance with national laws was achieved?
- What is the common framework that ties these various initiatives together?
- Is it legal compliance and good governance, or does it go beyond legal compliance and include sustainability standards such as the RSPO?

Answers to these questions will emerge with greater clarity over time as the current JA initiatives advance, new initiatives are started, and lessons are learned from both the successes and failures of the approach.

GOVERNMENT FEEDBACK

Interviews were conducted with members of national, provincial and district level governments from the provinces of North Sumatra and South Sumatra in Indonesia, Sabah in Malaysia, and the Bahia and Tocantins states in Brazil. Officials interviewed ranged from positions in pertinent departments such as spatial planning, agriculture and environment to heads of district governments. From these interviews, various themes emerged that show both opportunities as well as barriers for implementation of JAs from their perspective.

Government leadership and coordination

One of the leading observations was an appreciation that government plays a critical leading role in JAs. However, coordination across agencies and between levels of government from national to state/provincial and local government is lacking and there was recognition that JAs may help increase alignment and collaboration between departments and institutions. For example, one province's government representatives emphasized their interest in the ability of a JA to improve governance by better integrating the planning and coordination among governmental departments and agencies. This could include government engagement in resolving conflicts due to fires and water access, as well as social conflicts and land tenure issues. Another province noted the opportunity that a JA would provide to better align the objectives and benefits that the Ministry of Forestry and the palm oil industry can bring each other—particularly how forest conservation can benefit palm oil production and how the palm oil industry could support longer term uptake of forestry conservation efforts. Similarly, as the forestry sector must also comply with the highest principles of forest management and conservation, interviewees from one jurisdiction thought that the RSPO initiative on jurisdictional palm oil sustainability could provide a model also relevant to FSC and the forestry sector.

There was also acknowledgement that consistent and aligned leadership at the provincial and district level is needed. Currently, local governments look to the national level for guidance and solutions.

Government bodies' lack of empowerment, coordination and capacity were all topics that emerged. All government representatives voiced the need for added capacity building and investment.

Representatives from one province shared that while the governor has not committed formally to a JA, they are already assessing environmental and ecosystems services and carrying capacity to support spatial planning efforts which could support a JA. This province had clear recognition of the complexities of implementing a JA, like the lack of coordination, alignment and leadership, and spoke to a strong dependence on central government to provide solutions and a pathway forward.

Improved governance and sustainability at scale

JAs, with their emphasis on multi-stakeholder approaches, dialogue platforms and sustainability across jurisdictions are seen as potentially helping reinforce the importance of environmental laws and regulations, broaden the focus from economic development to include environmental and social concerns and have a wider reach rather than "site specific" approaches. Finally, the idea of mainstreaming sustainability and achieving scale beyond the achievements of the current certification model was attractive to government representatives from the province.

In Indonesia, where the ISPO is a legal requirement, but lagging in implementation, it was recognized that the JA could be useful in helping the government engage with the private sector to meet established legal requirements. In Brazil, one state's governmental representatives who were interviewed cited a number of reasons they're interested in pursuing JAs. First and foremost, soy's importance to the state economy and the idea that the government must be able to require legal compliance if the production is to be sustainable.

Government perspectives on market incentives for JAs

In the case of palm oil, JAs were generally perceived as facilitating access to markets, but this viewpoint was not universal, nor was it the predominant motivation. There were various reasons cited as to why a province would want to pursue a JA. For example, in one province, interviewees indicated the potential of a successful JA to differentiate their product and provide access to new markets based on its assurance of effective governance and sustainability.

Concerns that JAs may not benefit smallholders and local communities

The benefits of large-scale agricultural operations were openly questioned by government officials in both palm oil and soy regions, and there was concern that JAs will make these monocultures more acceptable to markets. The viewpoint expressed was that local communities have often not benefited by the presence of these operations. In the case of palm oil, there is a perception that the local communities have little access to employment, road infrastructure is damaged and poor waste management practices reduce water quality. In the case of soy, while soy production is a large economic driver, there are concerns that it provides few local jobs and not many benefits flow to local communities.

In the case of palm oil, social issues and smallholder issues were highlighted as a priority by government officials in all regions. Smallholders are a significant part of the industry, and they cannot be marginalized. But it is unclear how JAs might impact smallholder production. The need for community engagement and education regarding deforestation was noted, as well as the need to resolve land tenure issues, and conflicts regarding fires and access to water.

Challenges due to lack of political will and complexity

In Indonesia, the provincial commitment to JAs was mixed. Lack of leadership was cited as an issue, as well as the inability to coordinate between government institutions and the reliance on central government for solutions. There was also concern expressed about the private sector and its impact on communities and the complexity of land tenure issues and social conflicts. Furthermore, there was apprehension around the political cost associated with championing environmental efforts because the conservation benefits for agricultural production are not always widely understood or clearly communicated to broader audiences.

In the case of Brazil, while there were differences in awareness and understanding of JAs between Bahia and Tocantins, both were aware and monitoring JA initiatives in other regions of Brazil. While they are aware of the role of state government for legal compliance within the soy sector and its importance for sustainable production which could be addressed through a JA as part of the state's development plan, they thought there would be substantial challenges to reconcile the differences between the environmental and production communities. Capacity building would be needed to bring these groups to agreement.

4. LEARNING FROM JURISDICTIONAL APPROACH INITIATIVES

There are a number of JA initiatives being implemented globally with varying levels of advancement in implementation. We selected a subset of the more developed initiatives within our areas of focus in the Indonesian and Malaysian palm oil and Brazilian soy sectors. For palm oil we highlighted the RSPO pilots in South Sumatra and Central Kalimantan, Indonesia and Sabah, Malaysia, as well as the Sustainable Landscapes Partnership in North Sumatra, Indonesia. Within soy we focused on the initiatives in Mato Grosso and Para, Brazil. These initiatives were selected because they have established government engagement and support, articulated targets and have started the beginning steps of multi-stakeholder collaboration and implementation.

Between April and October 2017 we conducted interviews with various implementing partners developing these initiatives to understand more about their experience, successes and challenges in executing. Nearly every initiative indicated challenges in securing significant engagement from the private sector—primarily in articulating a compelling business case or incentive structure to entice their participation or support and subsequently establish a market demand link for the production component. This finding applied to initiatives with strong and explicit government support, as well as those with less articulated engagement.

Summaries and insights from the implementers for each initiative are found in the table below.

Palm Oil Initiatives

The **Central Kalimantan Jurisdictional initiative** originated from the Roadmap for Low-Deforestation Rural Development—a conservation plan for the province focused on preserving forests and regulating palm oil production.[10] The initiative is designed to build on existing government instruments and authority to ensure they are effective, sustainable and enforceable. Developed by the provincial and district governments alongside Earth Innovation Institute (EII), Institut Penelitian Inovasi Bumi (INOBU), with input from palm oil companies and civil society, the plan established 2020 targets of reducing deforestation by 80 percent from 2006-2009 base levels, zero deforestation from sustainable palm oil, and increasing palm oil produced by smallholders to represent 20 percent of total palm oil production.[11, 12]

To achieve the goals of the roadmap, in 2015 the Provincial Government of Central Kalimantan, in partnership with INOBU, launched a JA pilot for RSPO certified sustainable palm oil in three districts. Most work is being conducted at the district level, as the authority for non-forest areas is with district governments in Indonesia. Activities are led by district level working groups for jurisdictional certification of palm oil created through a Head of District regulation, with members from the district government, companies and civil society organizations. Significant areas of work include reducing deforestation, protecting peatland and high conservation value areas as well as supporting restoration through revising the spatial plan to protect and restore forests and other critical areas through the following instruments: carrying capacity assessments, plans to protect and manage the environment and strategic environmental assessments, district spatial plan. Key accomplishments to date include mapping smallholders in pilot districts, identifying and reaching consensus on “go and no-go areas” for palm oil development, and the establishment of a monitoring system known as SIPKEBUN for measuring progress towards jurisdictional targets.[13,14] The Ministry of Agriculture, in collaboration with INOBU, is employing SIPKEBUN across the initiative’s pilot districts to monitor both plantation and smallholder data. This allows the government to identify environmental risks and the need for enforcement, as well as identify opportunities to support smallholders and increase productivity. For social targets the initiative is creating an agricultural facility to support smallholders to organize, access training and information, register, as well as access agricultural inputs such as fertilizer and seedlings. The facility has been established in Seruyan district and is currently providing training. It will later expand to providing other goods and services. Additionally, there is piloting of protocol and mechanisms for preventing and mediating social conflict from plantations. INOBU, with support from companies such as Unilever, has mapped nearly 5,000 smallholders[15] in the province, increasing transparency as well as identifying ways to support smallholders in securing land rights and obtaining RSPO certification.[16]

Palm Oil Initiatives

Insights from Implementers
JAs are designed to source solutions from the bottom up, developing long-term goals that can improve malfunctioning production and governance systems. While developing solutions and a strategy in this way is more likely to create lasting and effective change, it is a time intensive and laborious process. It must begin with investing the time to establish trust among constituents that do not typically interact in meaningful ways, let alone collaborate. Each initiative operates within and must respect the local context, requiring a new interpretation of the model. The RSPO pilot in Central Kalimantan noted these challenges and the time required for the early, yet integral stages of establishing trust within a new collaborative effort across stakeholders. This must be an iterative process where they can be allowed time to transition.

The **South Sumatra Jurisdictional initiative** originated from a 2015 commitment from the Governor of South Sumatra to establish a green growth plan– where economic growth and improved livelihoods are coupled with thriving ecosystem services and sustainable production activities, including a focus on improving the productivity of key commodities such as palm oil. [17, 18, 19] The plan, designed through a multi-stakeholder effort led by the Sustainable Trade Initiative (IDH) and supported by the World Agroforestry Centre (ICRAF), was finalized in 2017. [20, 21, 22] IDH leads convening and implementation, with a number of pilots such as Provincial Risk assessment of Mills and RSPO independent smallholder certification with Indo Agri, followed by additional technical assistances from KELOLA SENDANG project that is led by Zoological Society of London (ZSL) and other private sector partners supporting with technical assistance to farmers.[23, 24] South Sumatra's commitment to become RSPO certified at provincial level by 2025 through a produce and protect strategy aligns with their green growth plan and has begun at the district level.[25, 26] In the district of Musi Banyuasin, mapping of independent smallholders, high conservation value (HCV) and restoration areas has been achieved with the development of Centre of Excellence (COE). Accelerating land legality for the smallholders, sustainable finance for replanting, additional mechanisms for monitoring and management of deforestation and social conflict are currently under development.[27]

Insights from Implementers
Articulating the incentives for private sector can prove challenging for jurisdictional initiatives. IDH, the Sustainable Trade Initiative, an NGO implementing various jurisdictional initiatives including the RSPO JA pilot in South Sumatra, noted their challenges in identifying the incentives for private sector when operating under a peat moratorium. Compliance with the moratorium would put many companies out of business which creates political challenges for enforcement. Similarly, convening companies to collaborate at the trader level to address certification questions can prove difficult because of antitrust concerns. Developing solutions to operational questions requires a level of collective coordination across companies which can be challenging when companies are concerned about protecting their proprietary business interests.

The **Sabah Jurisdictional initiative** originated from a 2015 goal to achieve 100 percent RSPO certified palm oil production by 2025 from the state of Sabah, Malaysia, which is responsible for one tenth of the world's palm oil.[28, 29, 30, 31] A key achievement to date has been the Sabah Forestry Department and Natural Resources Office establishment of a Jurisdiction Certification Steering Committee (JCSC), which serves as a multi-stakeholder forum for determining a sustainable production roadmap for palm oil that is free of deforestation and social conflict, supports smallholder livelihoods, and can be managed institutionally.[32] Established in 2016, the committee is composed of 15 stakeholder groups, including NGOs, such as WWF-Malaysia and UNICEF, and private sector partners, such as Wilmar International, HSBC Bank and Sime Darby, among others, with Forever Sabah and RSPO serving as technical advisors.[33, 34] (A complete list of JCSC members can be found at cited source). In addition to reducing deforestation with the production of a long-range forest management plan, Sabah intends to restore as much as 500,000 hectares of forest. In the first phase of the initiative, Sabah is working towards producing a map of HCV/HCS areas, translating FPIC into regulations, and organizing and supporting smallholders.[36]

Shared Insights from Implementers
Implementing a multi-stakeholder initiative to transform an entire agricultural production system at scale brings significant challenges. Cynthia Ong, Board Chair and Chief Executive Facilitator of Forever Sabah —technical advisor to the JCSC—shared that their initiative is "challenged by uneven readiness, constrained capacities, inconsistent institutional commitments, and systematic fragmentation, and by skepticism and hopelessness." Her comments speak to the multifaceted struggles of bringing the stakeholders from across sectors of landscape together to move complex solutions forward. Each stakeholder has capacity, resource and organizational limits that can impact the ability to arrive at shared solutions. Her candid reflections show the immense task and struggles of being at the center of the coordination across stakeholders.

Palm Oil Initiatives

Sustainable Landscape Partnership (SLP) for Indonesia
Initiated in 2011 by Conservation International with support from USAID and the Walton Family Foundation, the SLP is a collaboration with the Ministry of Forestry, local governments, private sector palm oil companies, producers and communities to protect the natural capital of North Sumatra by promoting sustainable production practices, good governance and facilitating sustainable finance to ensure long-term benefits to people.[37, 38, 39, 40] SLP collaborates with provincial and district governments to align field activities and interventions with existing policy and regulatory frameworks for lasting impact. SLP focuses on four regions in North Sumatra to implement replicable business models that foster green development, particularly through economic alternatives to deforestation. Key accomplishments of the initiative have included developing strategic environmental assessments (SEA) to inform North Sumatra's 2017 green spatial plan for implementing low emission development that supports management of forests and peatland; supporting community livelihoods through training 5,500 local farmers with a 30% increase in yields and improved access to markets; creating Sustainable Investment Action Plans (SIAP) for three districts as well as the province to support investment in sustainable commodities; and working with partners to implement sustainable forest management plans.[41, 42, 43, 44] The initiative is now working towards leveraging the framework of the Sustainable Palm Oil National Action Plan (NAP), supported by the cross-sector Indonesia Palm Oil Platform (FoKSBI), to support local and national laws for sustainable development, reducing deforestation, implementing ISPO, protecting peatland, and maximizing sustainable production outcomes of North Sumatra palm oil producers, plantations, refineries and mills.

Shared Insights from Implementers
SLP differs from other JAs in that it is not tied to a provincial government driven goal for ending deforestation, rather it is working to enforce already established regulations which support forest and peatland protection, as well as sustainable production, and work alongside government to strengthen land use plans and forest governance. For example, developing the SEA with the government of North Sumatra resulted in identification of over 1.2 million hectares of forested areas which should be conserved to reduce risks of floods and landslides. Conservation International is leveraging North Sumatra's existing spatial plan for low carbon development, the NAP which is endorsed by national government, and additional long-standing national and provincial regulations aimed at conservation gains that have not been implemented in a way that optimizes sustainable production and conservation outcomes. CI has played a central role in translating national and provincial level decrees into local action and understanding within the local North Sumatra context. Building on the lessons and successes of the SLP, the project team is now exploring a more collective, multi-stakeholder approach to enhance impact and scalability.

Soy Initiatives

The **Mato Grosso Jurisdictional Initiative** was created in 2015 when the government of Mato Grosso, Brazil, adopted a JA for agricultural intensification and forest restoration to remove deforestation from cattle, soy and other commodity supply chains through its Produce, Conserve, Include (PCI) strategy.[45] The PCI strategy is a set of 21 defined targets working towards a sustainable low carbon economy with environmental conservation and smallholder inclusion, contributing to climate change mitigation and adaptation. Locally, the government of Mato Grosso formed a PCI steering committee made up of 43 producer associations, government ministries and private sector representatives to guide the governance and implementation of the strategy. Through the PCI strategy, the Mato Grosso initiative is working to double livestock and grain productivity while also significantly increasing forest area and sustainable management; reduce Amazon deforestation by 90 percent and Cerrado degradation by 95 percent; and increase smallholder market access to 70 percent by 2030.[47, 48] A number of programs and activities led by NGO partners are contributing to the goals of the PCI, including ones supported by Earth Innovation Institute (EII), Environmental Defense Fund (EDF) Instituto de Pesquisa Ambiental da Amazonia (IPAM), Instituto Centro de Vida (ICV), The Nature Conservancy (TNC), IDH and the private sector, such as Cargill, Marfrig, Carrefour and Amaggi.[49, 50, 51, 52] Programs contributing to PCI goals include Programa Mato-Grossense de Municipios Sustentaveis (PMS), the Green Growth Initiative, the Territorial Performance System (TPS), Responsible Soy Program, and the Novo Campo Program, Carrefour Sustainable Farming Platform.[53] Mato Grosso has made strides in reducing deforestation, achieving greater than 70 percent reduction in deforestation in 2016, compared to baseline levels the decade prior.[54] **EII** has also developed a customized monitoring platform for the PCI accessible at **www.pcimonitor.oShared**

Soy Initiatives

Shared Insights from Implementers
As a significant commodity exporting state of Brazil, Mato Grosso increasingly saw a rise in customer sustainability commitments and requirements, like monitoring for deforestation and other sustainability criteria. The government viewed this as an opportunity to lead as an early mover in meeting these requirements by transitioning to more sustainable production methods, attract a new international market of sustainable commodity buyers and to provide risk mitigation assurance. The government's championing of the approach and initiative have attracted attention and support from a global audience and is helping with engaging larger private sector support. However, strong government engagement also brings risks that progress could slow when there is political turnover if new leadership is not as supportive.

The **Pará Jurisdictional initiative** was developed by the state government of Pará in Brazil in 2011 building on the voluntary state legislation and plans towards a goal of reaching zero net deforestation and strengthening sustainable production.[55, 56] The initiative is a joint effort by state and local government agencies, civil society, and the private sector to control deforestation, implement environmental management, conduct comprehensive land title organization, and increase sustainable agriculture—particularly beef and soy.[57] NGO partners—including Imazon, which provided deforestation monitoring and technical assistance, and The Nature Conservancy (TNC), which assisted farmers with land registration and conducting territorial planning—have been very influential in implementing the initiative previously in districts such as Paragominas.[58, 59] The work in Paragominas, which began in 2004, effectively saw a 90 percent reduction in deforestation by 2010.[60, 61]

Shared Insights from Implementers
The success of this early pilot in Paragominas inspired the development of the statewide Green Municipalities Programme (PMV). Sourcing commitments to eliminate illegal deforestation and meet environmental criteria by key private sector actors, such as Carrefour and Marfrig, have catalyzed efforts on the ground.[62, 63] By 2012, because of these implementation successes, as well as support by government agencies, the Pará state PMV was able to achieve its goal of increasing farmer and rancher participation in the Rural Environmental Registry (CAR) by 50 percent.[64] By 2017, over 80 percent of the state municipalities had joined the program. The state also launched a broader economic plan in 2016, the Pará 2030, which couples economic development with sustainable production, in sectors such as cattle, soy, palm and cacao.[66, 67] If successful, the Para initiative promises to significantly increase cattle and soy production while simultaneously protecting forests, reducing the state's greenhouse gas emissions, and creating nearly 20,000 new agricultural jobs.[68, 69]

Corporate commitments that can support JAs

Widely adopted corporate commitments on halting agriculture-driven deforestation are helping to drive this movement towards improved agricultural production. Studies suggest over 60 percent of global palm oil trade is covered by no deforestation commitments. The table below shows a sample of the most prominent initiatives driving voluntary corporate commitments in the industries of focus — the New York Declaration on Forests (NYDF), the Tropical Forest Alliance (TFA) 2020/Consumer Goods Forum and the No Deforestation, No Peat, No Exploitation (NDPE).

Commitment	Overview	Deforestation Objectives	Social Objectives	Timeline	Signatories/ Partners
New York Declaration on Forests (NYDF)	Series of 10 goals to protect forests and end forest loss, endorsed by countries, local governments, companies, indigenous groups and NGOs.	• **Goal 1:** At least halve the rate of loss of natural forests globally by 2020 and strive to end natural forest loss by 2030 • **Goal 2:** Support and help meet the private-sector goal of eliminating deforestation from the production of agricultural commodities such as palm oil, soy, paper and beef products by no later than 2020, recognizing that many companies have even more ambitious targets	• **Goal 4:** Support alternatives to deforestation driven by basic needs (such as subsistence farming and reliance on fuel wood for energy) in ways that alleviate poverty and promote sustainable and equitable development • **Goal 10:** Strengthen forest governance, transparency, and the rule of law, while also empowering communities and recognizing the rights of indigenous peoples, especially those pertaining to their lands and resources	2014- 2020/ 2030	Over 190 endorsers: • including over 50 governments, • over 50 multi-national companies, • over 50 civil society and indigenous organizations
Tropical Forest Alliance (TFA) 2020/ Consumer Goods Forum (CGF)	Founded to mobilize public and private support for CGF commitments to zero net deforestation by 2020 for palm oil, soy, beef and paper and pulp supply chains.	• No Deforestation: Zero net deforestation by 2020 for palm oil, soy, beef, paper and pulp supply chains	• Address land conflicts, tenure security and land rights • Sustainably increasing smallholder yields	2012 -2020	• 400 CGF members • 122 TFA 2020 partners, including 56 private sector, 15 governments, 49 civil society and 2 multilateral agencies[72 73 74]

Commitment	Overview	Deforestation Objectives	Social Objectives	Timeline	Signatories/ Partners
No Deforestation, Peat, Exploitation (NDPE)	Palm oil sourcing policies that require suppliers to refrain from clearing forests and peatlands for oil palm plantations as well as exploitation of workers and communities.	• No Deforestation: including HCS, HCV, burning, progressively reduce GHG emissions on existing plantations • No development on peat: regardless of depth, best management practices for existing plantations on peat, where feasible, explore options for peat restoration	No Exploitation of People and Local Communities: Universal Declaration on Human Rights, respect and recognize the rights of all workers including contract, temporary and migrant workers, inclusion of smallholders, respect land tenure rights, respect the rights of indigenous and local communities to give or withhold their Free, Prior, and Informed Consent to operations on lands to which they hold legal, communal or customary rights, resolve all complaints and conflicts through an open, transparent and consultative process	2013[75]	Research found that NDPE Policies cover 74 percent of Southeast Asia's Refining Capacity[76]

Comparing corporate commitments to JA targets

We overlaid the main objectives of these corporate targets with the objectives of the subset of JAs we examined, shown in the table below.

Initiative	No Deforestation on Target	HCS/HCV Target	Peat Target	Social Target	Restoration Target	Certification Target	Other
Central Kalimantan	2020 target to reduce deforestation to 20 percent of 2006-2009 base levels & zero deforestation from palm oil	RSPO Criteria + Mapping "go and no-go zones" based on HCS/HCV assessments	RSPO criteria + conserving peatlands in areas designated as non-forest	Reach 20% of total palm oil production from smallholders, with increased productivity and reduced poverty RSPO Criteria	Restoration is included in spatial plan to protect and restore forests and other critical areas	Goal of 100 percent RSPO certification; support ISPO certification	Member of the Governors' Climate and Forests Task Force (GCF) & signed the Rio Branco Declaration
South Sumatra	2030 green growth strategy for avoiding conversion of natural forest from almost 150,000 hectares	RSPO Criteria + forest management plan for protecting HCV/ HCS areas	RSPO Criteria + peat moratorium and peatland management	Social resilience Livelihood improvement RSPO criteria	Looking into forest and peatland restoration as mechanism for HCV compensation	Goal of 100 percent RSPO certification	Member of the Global Bonn Challenge to restore 150 million hectares of deforested and degraded land by 2020 and 350 million hectares by 2030
SLP Indonesia	By 2020, rate of loss of all natural habitats and forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced. Goal of emission reductions resulting from avoided deforestation of 60,000 hectares of peat forest in four years' time	By 2020 management of 200,000 hectares of conservation area, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced through conservation and restoration	Protection and management of peatland required under national decree no. 57- 2016 and onservation International target of avoided deforestation from 60,000 hectares of peat forest	Improved smallholder production and livelihoods	By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced through conservation and restoration, including restoration of at least 15 percent of degraded ecosystems	Support ISPO implementation and RSPO certification	

Initiative	No Deforestation on Target	HCS/HCV Target	Peat Target	Social Target	Restoration Target	Certification Target	Other
Sabah	Goal of zero deforestation supply chains	RSPO Criteria + Mapping HCS/ HCV	RSPO criteria	Support smallholder alternative livelihoods RSPO criteria	Plan to restore 500,000 hectares of degraded land	100 percent RSPO and support MSPO *initiative still determining how to go about RSPO vs MSPO	Goal of 30 percent land as protected area by 2025
Mata Grosso	Remove deforestation from soy and cattle supply chains. 2030 Goal includes reducing Amazon deforestation by 90 percent and Cerrado degradation by 95 percent	No commitment	No commitment	By 2030, increase land regularization and market access of smallholders to 70%, increase share of smallholder products by 30%, and provide technical assistance and rural extension to 100% of families	By 2030, double livestock and grain productivity while increasing forest area and management. Restore 1 million ha of degraded APP	No commitment	Founding member of Governors' Climate and Forests Task Force (GCF)
Pará	Goal of zero net deforestation	No commitment	No commitment	Support alternative livelihoods and social development	Plant 100 million new trees	No commitment	Founding member of the Governors' Climate and Forests Task Force (GCF) and signatory to the Rio Branco Declaration

From this analysis, it is clear there are gaps and misalignments in the JA initiative objectives and existing corporate commitments. Timelines for leading jurisdictional initiatives extend beyond 2020 and in some instances their no deforestation commitments are not as explicitly defined compared to corporate commitments. By contrast, corporate commitments are currently aimed at 2020 and many are explicitly focused on NDPE using HCV and HCS methodologies. Furthermore, corporate commitments related to social issues give emphasis to human rights including indigenous peoples' rights, land rights, Free Prior and Informed Consent (FPIC) whereas jurisdictional initiative social objectives focus heavily on smallholder productivity, livelihoods and inclusion.

5. COMMERCIAL VIABILITY ANALYSIS OF THE GLOBAL PALM OIL MARKET IN RELATION TO JURISDICTIONAL APPROACHES

A critical factor in assessing and understanding the timing and potential impact of JAs is commercial viability. We examined the commodity production potential of leading jurisdictional initiatives based on volume and area of crop production. Jurisdiction-specific data was then compared with global commodity sector data to help understand the overall percentage of commodity supply from a particular jurisdiction and the degree to which current and emerging JA initiatives can potentially contribute to the sustainability transformation of an entire commodity sector such as palm oil. This analysis focused primarily on palm oil due to the relatively higher number of distinct JAs in development in palm oil producing jurisdictions.

Palm oil plays a critical role in supplying global demand for vegetable oils. In terms of production, it is produced in 28 countries in Asia, Latin America and Africa. During the last 20 years, it has expanded rapidly and is now dominant in the edible oils sector. Two countries dominate the palm oil industry; Indonesia produces 55 percent of global palm oil production and Malaysia produces 29 percent. Malaysia was the major global producer of palm oil until 2006, when it was surpassed due to rapid expansion in Indonesia. It should be noted that Thailand and various countries in Latin America and Africa have also been expanding their production during the last decade.

Global Palm Oil Production 2018

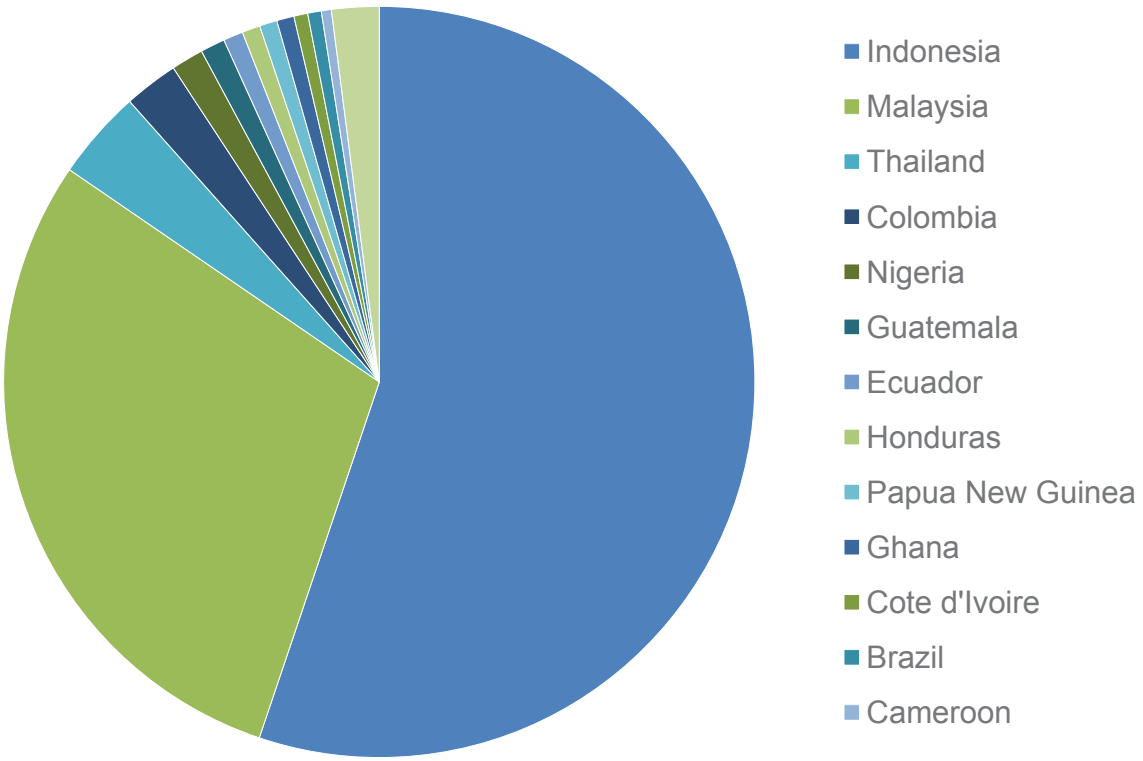


Figure 1. *Global Palm Oil Production in 2018, with Production, Supply and Distribution data from the USDA Foreign Agricultural Service*

Palm oil represents 35 percent of all vegetable oils produced globally, recently surpassing soybean oil in market share, and represents 62 percent of all vegetable oil exports. It has become a major force in traded oils and is raising significant environmental and social concerns, especially in European and U.S. markets.

Global Vegetable Oil Production		
Vegetable Oils	**2018**	**%**
Palm Oil	69.77	35%
Soybean Oil	56.16	28%
Rapeseed Oil	28.76	15%
Sunflower Oil	17.79	9%
Palk Kernel Oil	8.12	4%
Peanut Oil	5.97	3%
Cottonseed Oil	5.06	3%
Coconut Oil	3.44	2%
Olive Oil	2.71	1%
Total	**197.78**	

Global Vegetable Oil Exports		
Vegetable Oils	**2018**	**%**
Palm Oil	50.12	62%
Soybean Oil	10.89	13%
Sunflower Oil	9.23	11%
Rapeseed Oil	4.61	6%
Palk Kernel Oil	3.18	4%
Coconut Oil	1.70	2%
Olive Oil	0.96	1%
Peanut Oil	0.26	0%
Cottonseed Oil	0.09	0%
Total	**81.04**	

Figures 2 and 3. *Global Vegetable Oil Production (2) and Exports (3), with Production, Supply and Distribution data from the USDA Foreign Agricultural Service*

Palm oil is versatile and is used in a variety of markets. Figure 4 below gives a listing of all markets that import at least 500,000 metric tons of palm oil per year.

Countries that Import 500,000 M tons or More								
Country	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
India	5,584	7,201	8,364	7,820	9,139	8,860	9,341	10,600
European Union	4,944	5,707	6,812	6,969	6,935	6,636	7,251	6,500
China	5,711	5,841	6,589	5,573	5,696	4,689	4,881	4,800
Pakistan	2,062	2,217	2,245	2,725	2,826	2,720	3,075	3,100
Bangladesh	996	984	1,030	1,232	1,280	1,511	1,314	1,600
United States	980	1,032	1,293	1,220	1,143	1,307	1,367	1,445
Egypt	1,277	1,204	969	1,075	1,489	1,038	1,323	1,300
Philippines	547	324	234	681	792	941	1,150	1,100
Russia	655	545	806	646	854	933	848	850
Burma	390	470	583	581	789	788	780	800
Vietnam	565	570	574	697	715	727	800	790
Kenya	498	532	590	575	633	695	767	750
Malaysia	1,593	1,852	957	358	991	816	598	750
Japan	570	580	595	598	618	622	700	720
Turkey	424	445	576	565	608	634	612	650
Benin	305	309	506	660	541	514	630	630
Tanzania	314	318	333	471	488	507	580	560
Korea, South	284	308	347	403	445	480	527	530
Mexico	373	440	462	446	480	475	495	510
Saudi Arabia	72	263	290	353	415	416	500	500

Figure 4. *Global import volumes of palm oil with Production, Supply and Distribution data from the USDA Foreign Agricultural Service*

The end use of palm oil varies depending on the market. In the U.S., it is used primarily as an ingredient in processed foods or for personal care products. In the EU, the uses are similar, but also about 40 percent of palm oil is used for biodiesel. In Latin America and Asia, it is primarily used as cooking oil, in addition to being used in processed foods and personal care products. These usage patterns have significant impact on market demand.

In 2010, China was the world's largest importer of palm oil. This situation has changed for a number of reasons:

- China is the world's largest importer of soybeans to produce feed for its livestock sector, which is undergoing an expansion as well as intensification. As a result, it produces a lot of soybean oil, which is displacing palm oil.[77, 78]
- India has seen an increase in per capita consumption of edible oils and, given its growing population, imports have dramatically increased.[79, 80]

Another factor impacting trade flows has been change in export taxes. Malaysia and Indonesia routinely change their export duties for several reasons — low palm oil prices, increasing stocks, or in response to each other's tax moves. Another reason is the desire by Malaysia and Indonesia to increase the value of exports by exporting palm oil that has been refined, bleached and deodorized (RBD) rather than crude palm oil (CPO). Countries such as India and Europe have refining capacity and prefer to import CPO, however, the U.S., China, and developing countries prefer to purchase RBD refined oil or fractions. To stimulate export of RBD over CPO and spur development of domestic refining capacity, both Indonesia and Malaysia imposed export taxes on CPO and, in 2011, Indonesia slashed export taxes on RBD. At the time of writing this report, the export tax on CPO from Malaysia has been suspended, and Indonesia has a duty of $50/Mt CPO. Figure 5 shows some of the impacts of Indonesia's export taxes resulting in a dramatic loss in market share in India, the world's biggest palm oil market.

INDIA: CRUDE PALM OIL IMPORTS (thousands M tons)				
Year	Indonesia	Malaysia	Total	% Indonesia
2006	1,941	359	2,299	84%
2007	2,690	256	2,946	91%
2008	3,797	462	4,259	89%
2009	4,179	663	4,842	86%
2010	4,131	614	4,744	87%
2011	1,019	3,949	4,967	21%
2012	3,786	2,077	5,864	65%
2013	3,593	1,688	5,281	68%
2014	3,379	2,594	5,973	57%
2015	3,924	3,331	7,255	54%
2016	2,966	2,317	5,284	56%

Figures 5. *India's palm oil imports, based on data from Resource Trade.Earth*

In a surprise move, in March 2018, the government of India dramatically raised their import duties on both CPO and RBD. CPO duties increased from 30 percent to 44 percent, and RBD duties increased from 40 percent to 54 percent. This tax increase was made protect the local production of oilseeds (rapeseed and soybean), as well as the domestic crushing industry. Given that India is the largest importer of palm oil globally, we can expect this to create further volatility and shifts in trade flows.

Another interesting trend in trade flows has been the emergence of other exporters, namely Latin America, into the European market. Given that Indonesia and Malaysia produce 85 percent of global palm oil, they will always be a major player, but it is interesting to note the inroads that Latin America producers are having in Europe. Figure 6 below shows the steady increase in market share for Latin American palm oil in the Netherlands market for CPO, reaching 28 percent of the Netherlands imports in 2016. There are many factors at play here, including lower freight costs as well as reduced reputational risks vis-à-vis sourcing from Southeast Asia. In this case, exports from Thailand, Malaysia and Indonesia were displaced from palm oil produced in Honduras, Guatemala and Colombia.

Netherlands: % CPO Imports by Source

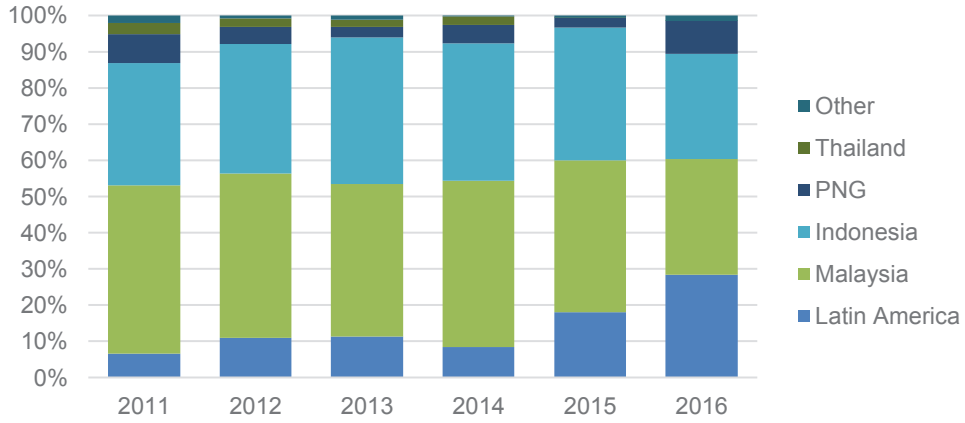


Figure 6. *Netherlands' percent palm oil imports by country, based on data from Resource Trade.Earth*

The German crude palm oil market has followed a similar pattern to the Netherlands, where Latin American palm oil increased market share over five or six years to 31 percent in 2016. Germany also has a stronger reliance on palm oil produced in Papua New Guinea, which is produced from a well-regarded operation known for its social and environmental performance. Like other European markets, Germany also imports palm oil from the Netherlands, which has long been a major trading country in agricultural commodities. It is also interesting to note that Malaysia has a relatively small share of this market, and for the last few years, Thailand has not participated.[82]

Germany: % CPO Imports by Source

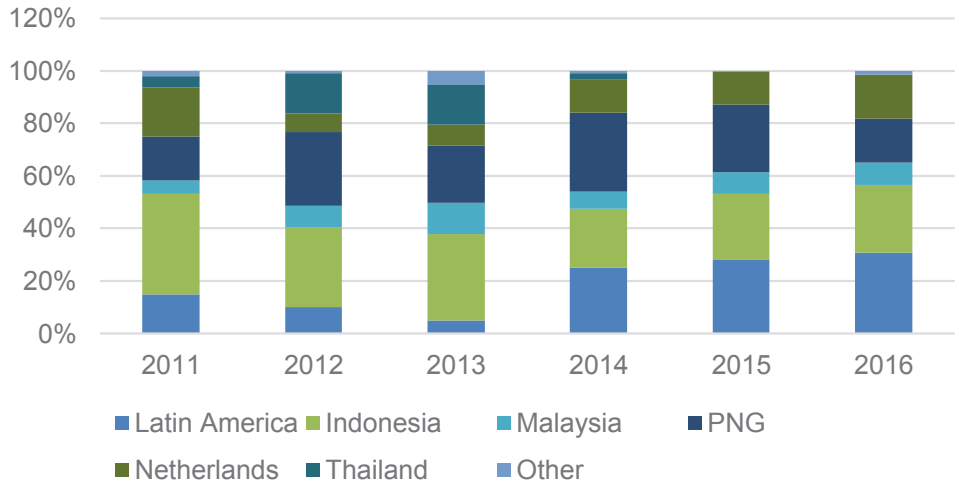


Figure 7. *Germany's percent palm oil imports by country, based on data from Resource Trade.Earth*

A comparison of production potential in existing JA initiatives shows that success by Sabah alone (with a capacity to produce 9.343M metric tons/ 2017)[i] could meet all of U.S. and EU demand for certified sustainable palm oil (~8.591M metric tons/2017) [ii]— the only markets currently requesting 'no deforestation' palm oil. The total volume of palm oil produced in the leading jurisdictions (North and South Sumatra, Central Kalimantan and Sabah) is more than twice the total demand from the U.S. and Europe. There is a critical need to expand market demand for sustainable palm oil.

6. CONCLUSIONS AND RECOMMENDATIONS

Our findings from interviews and research combined with our experience with commodity supply chains in both Indonesia and Brazil have led to the following conclusions and recommendations:

Conclusion: Sustainability is emerging as a competitive differentiator for a small number of commodity-producing jurisdictions.

Trade data indicates that dominant palm oil producers Indonesia and Malaysia face increasing competition to sell into the "preferred" markets of the US and EU. Large American and European palm oil users, who are often willing to enter into longer-term contracts that are preferable to spot markets or more transactional business dealings, represent the primary markets asking for sustainable palm oil and soy products. It is clear from our interviews that a small number of sub-national governments are positioning to differentiate products from their jurisdictions based on sustainability performance. This is an extremely encouraging development for both the soy and palm oil sectors.

Recommendations:

- **Engage and invest.** Companies, donors and NGOs should support governments in those jurisdictions that have demonstrated commitment through an inclusive process and clear actions to reduce deforestation and improve sustainability of commodity production. As noted elsewhere, sustainability at the jurisdictional level is a difficult and long-term process. Implementing jurisdictional sustainability plans or "road maps" will be expensive, and government leaders willing to take on the challenge will need to see that their courage and commitments are being recognized and rewarded during the journey and not only at the end point. This is especially important if we hope and expect other jurisdictions to follow the leaders.

- **Explore and apply innovative and complementary investments to support jurisdictional transitions.** In addition to the investments required to reduce deforestation and implement sustainable production systems, sustainable management of forests and natural capital is fundamental to sustainability of a jurisdiction. Companies that have already made commitments to forest conservation, community development or similar sustainability goals through either corporate or philanthropic channels should consider directing these investments or philanthropic programs to support priority JAs.

- **Participate.** Multi-stakeholder platforms are a key part of the JA, and these initiatives need strong and consistent participation in and support for these dialogue platforms. For example, downstream companies could clarify market requests for sustainability if they meet directly or through multi-stakeholder platforms with their suppliers' suppliers. Participation must go beyond simply attending discussions in capital cities; it means committing to the transformative potential of a JA by rewarding progress with purchases (below); better understanding and taking responsibility for company supply chains and their local effects; using influence and advocacy to bring together various parts of government with stakeholders to address issues at jurisdictional scale, and getting involved with the upstream production of products fundamental to a company's portfolio.

- **Reward progress with strong commitments and purchases.** The salient goal of a JA is to bring market drivers to reward and promote good governance. Where governments have made strong commitments to reducing deforestation and driving sustainability with clear, timebound plans and are adhering to those plans, directing purchases and other business to these jurisdictions will create important and positive incentives. On the flip side, companies that are losing business because governments in their production areas are not seriously addressing sustainability may be more inclined to lobby for sustainability improvement (above).

Conclusion: The current balance of risk vs. reward for governments in a wider range of commodity- producing jurisdictions does not tip in favor of "halting deforestation."

As noted below in results from the government interviews, the challenges to governments in reducing deforestation are significant, immediate and can be politically costly. By contrast, market benefits to governments that commit to sustainability can be uncertain and long-term. To encourage faster progress in leading jurisdictions and additional participation by those governments that are not yet significantly engaged, we must do more to rebalance the perceived cost-benefit calculation for government officials. This can be done by increasing incentives with both carrots and sticks for addressing deforestation and by lowering the perceived "costs" and barriers to addressing key challenges to sustainable development.

Recommendations:

- **Clarify the "local value proposition" from reducing deforestation.** NGOs, companies and other practitioners should place greater emphasis on investing in and demonstrating the significant benefits to local economies and populations that can be derived from conservation and sustainable commodity production. For example, floods and landslides are common in many parts of Indonesia and can be greatly exacerbated by deforestation. Similarly, drought and shifts in rainfall patterns that can be affected by large-scale clearing of natural vegetation are major concerns of soy farmers.

- **Bring additional demand signals for reduced deforestation and sustainable commodity production to government by recruiting additional companies and additional sectors into JA initiatives.** Sustainability at the broader jurisdiction scale is relevant to all economic sectors (e.g. broader agriculture such as cocoa, coffee or staple crops; timber; mining, energy, tourism and hospitality) and companies operating in or sourcing from those jurisdictions. NGOs and companies should recruit stakeholders from relevant sectors beyond palm and soy to show to governments the widest possible constituency for reducing deforestation and to increase potential supporters and investors willing to back government sustainability commitments.

- **Capture gains available through improved implementation and enforcement of existing laws, regulations and government programs.** In both Indonesia and Brazil, there are existing legal requirements that, if fully implemented and enforced, would translate into important benefits for reducing deforestation and conserving forests in production landscapes. Building on current policies, programs and regulations helps avoid the perception that sustainability is somehow additional or beyond what governments should already be doing and helps build common ground with government stakeholders. For example, the government of North Sumatra province conducted the legally mandated Strategic Environmental Assessment with support from CI and concluded that an additional 1.28 million hectares of remaining forest — 17% of the entire province — should be designated as protected forest to reduce the risk to development from floods and landslides. Full legal compliance will not address all concerns associated with market demands for NDPE, but it is an important and meaningful step that cannot be overlooked.

- **Build local government understanding of laws and regulations and build capacity for improved enforcement.** Provincial and local governments are essential to enforcement and implementation of any sustainability agenda. Investors, donors and governments need to invest in capacity building, strengthening institutions and technical training. Producing countries that are investing in international sustainability communications efforts should also invest in "domestic roadshows" or similar initiatives to drive greater capacity and alignment among government officials.

Conclusion: To harness the potential of the JA to reduce deforestation at scale, we need to make sustainability more relevant and meaningful to all producing jurisdictions, not just the sustainability pioneers.

Leading jurisdictions are pursuing a competitive edge in preferred markets based on sustainability performance. If the number of markets demanding more sustainable production does not grow, the potential for the JA to scale as it is currently framed is unclear. In theory, the Malaysian state of Sabah could satisfy the entire demand of the U.S. and EU markets, yet sustainable palm oil production in Sabah alone will not solve the broader challenge of transforming the palm oil sector to sustainability. Downstream U.S. and European companies looking for quick fixes to deforestation in their supply chains need to remember that they too need solutions to scale. "Cleaning up" individual supply chains by shifting to "safe" or low-risk production areas will not solve the widespread challenges of deforestation, which are central to the global challenge of climate change, nor will it solve the broader reputational challenges facing the soy and palm oil sectors.

Recommendations:

- **Expand the markets asking for sustainable commodities.** Efforts are underway to build demand in key markets outside of the U.S. and EU in the Asian markets that are significant consumers of palm oil and soy. In the long term, these efforts are essential, and practitioners should explore creative options in markets where high-level NDPE commitments might not be soon forthcoming, but where, for example, demands for evidence of legality may be more immediately feasible. Indonesia, for example, is both the largest producer and the largest consumer of palm oil globally, and legal compliance should be a minimum requirement.
- **Recruit peers, partners and industry associations in markets outside of the U.S. and EU.** Downstream companies can play a critical role in building the demand for sustainable soy and palm oil outside the U.S. and EU. By sharing the lessons gained through experience, European and American companies, industry associations and related initiatives can help companies in other markets to better understand the issues, as well as the actions they can take toward sustainable production and sourcing of palm oil or soy.
- **Leverage existing supply chain commitments.** Downstream companies using palm oil and soy products can expand the impact of their sustainability commitments by requiring suppliers to apply sustainability commitments across their entire supply base and not simply what is shipped to them. This requirement is only clearly specified in a handful of downstream supply specifications and should be widespread.

Conclusion: The JA represents an important and promising systemic approach to address the complex challenges behind agriculture-driven deforestation and social conflict. It is not a quick fix.

The challenges behind deforestation are complex and multifaceted. Absent significant investment in jurisdictions to build their capacity and significantly accelerate and scale efforts from local projects to jurisdiction-wide initiatives, even the leading JAs are unlikely to have eliminated deforestation by 2020. That does not mean these efforts are not valuable and worthy of support and investment.

Recommendations:

- **Continue to send clear demand signals for sustainability.** Companies in the value chain should continue to work on supply chain improvements in transparency, visibility and certification/verification of supplier performance. In the short term, JAs are unlikely to replace the need for ongoing supply chain assurance

efforts. These efforts help build the visibility and relationships needed to address fundamental challenges, they can generate important lessons, and they represent an important market signal for sustainability. Directing these supply chain efforts to jurisdictions pursuing the JA may also help contribute to those larger initiatives.

- **Innovate.** Business as usual will not solve the complex and systemic challenges associated with deforestation, conflict and exploitation in supply chains. Companies should move beyond a compliance mindset and invest in supporting JAs and driving innovation aimed at solving the fundamental challenges behind these issues. Investments are required across the supply chain. Upstream producers and traders should participate in, encourage development of, and invest cash and in-kind resources in JAs in their priority production or sourcing regions. Downstream companies may view investments in JAs as added cost or may view them as beyond their direct responsibility based on where they sit in the value chain. Yet, the supply chain is currently absorbing costs in the form of chain traceability, verification, certification and related programs. These investments are moving toward assurance of commitments made, but alone are insufficient to achieve the goals of NDPE commodity production. We can debate on where the line is between public and private sector interest and where costs should be borne up and down the supply chain, but this debate will not solve fundamental problems without leading companies driving innovations needed to unlock solutions.

Conclusion: A "stepwise path" with incentives provided proactively and along the way will be essential if we are to transform entire jurisdictions.

Some form of progressive or continuous improvement approach will be required given the breadth and scope of the challenge and the enormous variability in capacity and capability across producers in a jurisdiction. For example, it is unrealistic to think that all producers could achieve one fixed standard at one time, so jurisdictional implementation plans will need to account for this variability and provide appropriate flexibility and incentives, both carrots and sticks, to drive continued improvement and adherence to jurisdictional sustainability plans.

Recommendations:

- **Build flexibility and accountability into government-owned and -driven jurisdictional sustainability road maps.** Development and implementation of these road maps is a critical part of the JA process. In many cases, the beginning of the process may uncover additional and unknown problems or conflicts. Governments and JA participants should be supported and encouraged to build the appropriate institutions, processes and mechanisms for adaptive management to deal with these issues and challenges as they arise.
- **Recognize that legality is important, and in some jurisdictions, it can represent significant advances toward longer-term goals of eliminating deforestation, development on peat, or exploitation.** As noted elsewhere, legal compliance can be a critically important first step in a JA even though it is not the last. Where needed, we should capture the advances to be gained through legal compliance and move forward.
- **NGOs must not let the perfect be the enemy of the good.** By emphasizing the role of government, the JA has the potential to address a significant gap in previous supply chain dominated efforts to reduce deforestation and social conflict associated with commodity production. The JA is not a panacea, and these efforts will still represent a long journey. Where governments are making legitimate efforts and progress, it should be acknowledged even if the final goals are not yet achieved. Let's not destroy the laboratory before the experiment is completed. We need innovation, experimentation, good monitoring, adaptive management and documentation of lessons learned along the way. There will be failures— let's learn from them.

- **Companies, especially downstream, must not claim premature victory or overinflate successes.** As noted, the JA represents a journey, not an immediate fix or one-stop-shop solution. Companies should participate in and support JAs, but such participation does not replace the need for companies to work actively and constructively with their suppliers to drive their own corporate sustainability action plans. Supply chain initiatives and JAs should not be seen as replacements for one another, but complementary approaches necessary to achieve the end goal of a commodity supply chain of which any company, government or stakeholder can be proud. Claiming premature victory will only serve to spark criticism that does not serve to advance real solutions.
- **Leverage projects and "stepwise" or continuous improvement approaches to drive scale.** Companies, NGOs, governments and donors should build pathways to better align and scale landscape or supply chain projects into broader JAs. For example, clearly framing landscape level projects around key legal requirements or government programs as an interim milestone in leading JAs may provide powerful models and pathways for other nearby jurisdictions to follow, while allowing those leading JAs continue to pursue sustainability roadmaps that address key issues beyond legality.

Annex A: Endnotes

[1]Donofrio, Stephen, Philip Rothrock, and Jonathan Leonard. 2017. Supply Change: Tracking Corporate Commitments to Deforestation-free Supply Chains. Washington, DC: Forest Trends. https://www.forest-trends.org/wp-content/uploads/2017/03/2017SupplyChange_FINAL.pdf

[2]Kissinger, Gabrielle, Martin Herold, and Veronique de Sy. 2012. *Drivers of Deforestation and Forest Degradation: A Synthesis Report for REDD+ Policymakers*. Lexeme Consulting. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/65505/6316-drivers-deforestation-report.pdf

[3]Lawson, Sam. 2014. *Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timber Plantations.* Forest Trends. https://www.forest-trends.org/publications/consumer-goods-and-deforestation/

[4]Chain Reaction Research. 2017. *Indonesia's Palm Oil Landbank Expansion Limited by Proposed Moratorium and NDPE Policies.* https://chainreactionresearch.files.wordpress.com/2017/02/indonesia_s-palm-oil-landbank-expansion-limited-by-proposed-moratorium-and-ndpe-policies-170213.pdf

[5]TFA2020. 2017. *Supporting jurisdictional leadership in net zero deforestation through sustainable value chains.* AlphaBeta. Accessed October 3, 2017. https://www.tfa2020.org/wp-content/uploads/2017/04/TFA2020-Supporting-jurisdictional-leadership-in-net-zero-deforestation-Report.pdf

[6]Denier, Louisa et al. 2015. *The Little Sustainable Landscapes Book: Achieving sustainable development through integrated landscape management.* Global Canopy Programme. https://ecoagriculture.org/publication/the-little-sustainable-landscapes-book/

[7]EII and contributors. *Jurisdictional Sustainability: A Primer for Practitioners.* http://earthinnovation.org/wp-content/uploads/2017/02/JS-primer_Englishonline.pdf

[8]Denier, Sustainable Landscapes Book.

[9]Daemeter. 2016. Jurisdictional Approaches to Reducing Palm Oil Driven Deforestation in Indonesia: A Scoping Study of Design Considerations and Geographic Priorities. Daemeter, Bogor, Indonesia. http://daemeter.org/new/uploads/20161105170630.Daemeter_JA_2016_Full_Report_ENG.compressed.pdf

[10]INOBU and EII. 2017. "Central Kalimantan: From Sustainable Palm Oil towards Sustainable Jurisdictions." http://newsite.inobu.org/wp-content/uploads/2017/03/INOBU-FS-1-Central-Kalimantan.pdf

[11]Ibid.

[12]Earth Innovation Institute. Central Kalimantan. Web Access Nov 5, 2017. http://earthinnovation.org/our-work/regional-initiatives/indonesia/central-kalimantan/

[13]INOBU and EII, Central Kalimantan.

[14]INOBU. 2016. "Press Release: Central Kalimantan's Seruyan District Leading a Global Initiative for Supporting Sustainable Palm Oil Production: Update from the RSPO Annual Meeting". Web Access Nov 6, 2017. http://inobu.org/press-release-central-kalimantans-seruyan-district-leading-a-global-initiative-for-supporting-sustainable-palm-oil-production-update-from-the-rspo-annual-meeting/

[15]INOBU. 2017. Mapping. Web Access Nov 5, 2017. http://inobu.org/projects/mapping/

[16]INOBU. 2016. A Profile of Small-scale Oil Palm Farmers and The Challenges of Farming Independently. http://newsite.inobu.org/wp-content/uploads/2016/11/INOBU_Smallholders_Final.pdf

[17]IDH. 2016. Landscapes in Indonesia that IDH supports: Aceh, South Sumatra and West Kalimantan. Web Access: Nov 16

2017. https://www.idhsustainabletrade.com/news/3765/

[18]Ariestya, Angga. 2017. "Gubernorial Regulation promulgated on green economic growth in South Sumatra, Indonesia. Agroforestry World. Web Access: December 6, 2017. http://blog.worldagroforestry.org/index.php/2017/11/30/gubernorial-regulation-promulgated-green-economic-growth-south-sumatra-indonesia/

[19]Dewi, Sonya. 2017. "Integrative, Inclusive and Informed Planning for Green Growth". International Conference and Congress of The Indonesian Society of Agricultural Economics ICC-ISAE. http://www.perhepi.org/wp-content/uploads/2017/08/12.-Dr.-Sonya-Dewi_ICC-ISAE_Speaker-Session-2.pdf

[20]IDH, Landscapes in Indonesia.

[21]Ariestya, Gubernorial Regulation.

[22]Kelola Sendang – protecting Sumatran Tiger Habitat. ZSL. Web Access December 7, 2017. https://www.zsl.org/conservation/regions/asia/kelola-sendang-%E2%80%93-protecting-sumatran-tiger-habitat

[23]Chain Reaction Research, Indonesia's Palm Oil Landbank.

[24]Daemeter, Jurisdictional Approaches to Reducing Palm Oil Driven Deforestation.

[25]Musi Banyuasin; Jurisdictional Certification Plan. IDH. Web Access December 16, 2017. https://www.idhsustainabletrade.com/uploaded/2016/11/Musi-Banyuasin-Jurisdictional-Certification-Plan-1.pdf

[26]South Sumatra, Indonesia. IDH. Web Access: December 8, 2017. https://www.idhsustainabletrade.com/landscapes/south-sumatra/

[27]Banyuasin, Jurisdictional Certification Plan.

[28]Ong, Cynthia. Nov 12, 2017.Sabah Talking Points for Bonn - "Produces 10% of global palm oil supply."

[29]Ong, Cynthia. 2017. *Sabah's RSPO Jurisdiction Certification 2025 (JC2025); a progress update in brief.*

[30]TFA2020. 2017. *Supporting jurisdictional leadership in net zero deforestation through sustainable value chains.* AlphaBeta. Accessed October 3, 2017. https://www.tfa2020.org/wp-content/uploads/2017/04/TFA2020-Supporting-jurisdictional-leadership-in-net-zero-deforestation-Report.pdf

[31]Payne, John. 2016. *Introduction to the Sabah Jurisdictional Approach for Sustainable Palm Oil Production.* Accessed October 3, 2017. https://rt14.rspo.org/ckfinder/userfiles/files/PC4_4_2%20Datuk%20Dr%20John%20Payne.pdf

[32]Ibid.

[33]Ong, Sabah's RSPO Jurisdiction Certification.

[34]Payne, Introduction to Sabah Jurisdictional Approach.

[35]TFA2020, Supporting Jurisdictional Leadership.

[36]Ong, Sabah's RSPO Jurisdiction Certification.

[37]Sustainable Landscapes Partnership. Conservation International. https://www.conservation.org/projects/Pages/sustainable-landscapes-partnership-northern-sumatra-indonesia.aspx

[38]Conservation International. 2016. Sustainable Landscapes Partnership in Indonesia. https://www.conservation.org/publications/Documents/CI_SLP-Indonesia-Framework.pdf

[39]Strengthening Environment Safeguards using strategic environmental assessments (SEAs). Conservation International. https://www.conservation.org/publications/Documents/CI_SLP-Strengthening-Environment-Safeguard-using-SEA.pdf

[40]Sustainable landscapes partnership Factsheet. Conservation International. https://www.conservation.org/publications/Documents/CI_SLP_Sustainable-Landscapes-Partnership_Factsheet.pdf

[41]CI, Sustainable Landscapes Partnership.

[42]CI, Sustainable Landscapes Indonesia.

[43]CI, Strengthening Environment Safeguards.

[44]CI, Sustainable Partnerships Factsheet.

[45]TFA 2020. 2017. Supporting jurisdictional leadership in net zero deforestation through sustainable value chains. AlphaBeta. Accessed October 3, 2017. https://www.tfa2020.org/wp-content/uploads/2017/04/TFA2020-Supporting-jurisdictional-leadership-in-net-zero-deforestation-Report.pdf

[46]"The Mato Grosso PCI Strategy" and "PCI Dashboard". Produce Conserve Include. Web Access: January 4, 2018. http://produceprotectplatform.com/matogrosso_pci#cop_21

[47]TFA2020, Supporting Jurisdictional Leadership.

[48]PCI, The Mato Grosso PCI Strategy.

[49]TFA 2020, Supporting Jurisdictional Leadership.

[50]PCI, The Mato Grosso PCI Strategy.

[51]Governor of Mato Grosso. 2017. Bases for Monitoring the PCI Goals; Produce, Conserve and Include (PCI) Strategy in Mato Grosso. 2017. http://produceprotectplatform.com/img/matogrosso/docs/Bases%20para%20o%20Monitoramento%20das%20Metas%20da%20PCI_BR-EN.pdf

[52]Produce Conserve Include (PCI). Web Access: Jan 26, 2017. http://pci.mt.gov.br/

[53]TFA2020, Supporting Jurisdictional Leadership.

[54]PCI, The Mato Grosso PCI Strategy.

[55]Whately, Marussia and Campanili, Maura. 2013. Green Municipalities Program: Lessons Learned and Challenges for 2013/2014. Programa Municipios Verdes. http://www.municipiosverdes.pa.gov.br/files/999816d7a617e650c796109566e1337c/c20ad4d76fe97759aa27a0c99bff6710/versao-ingles%20(1).pdf

[56]TFA 2020. 2017. *Supporting jurisdictional leadership in net zero deforestation through sustainable value chains.* AlphaBeta. Accessed October 3, 2017. https://www.tfa2020.org/wp-content/uploads/2017/04/TFA2020-Supporting-jurisdictional-leadership-in-net-zero-deforestation-Report.pdf

[57]Whately, Green Municipalities Program.

[58]Ibid.

[59]Zwick, Steve. 2016. "Brazil's "Green Municipalitiies": What Works? What Deosn't? Why?" Huffington Post. Web Access Feb 8, 2017. *https://www.huffingtonpost.com/steve-zwick/brazils-green-municipalit_b_9398404.html*

[60]Whately, Green Municipalities Program.

[61]TFA 2020. 2017. *Supporting jurisdictional leadership in net zero deforestation through sustainable value chains.* AlphaBeta. Accessed October 3, 2017. https://www.tfa2020.org/wp-content/uploads/2017/04/TFA2020-Supporting-jurisdictional-leadership-in-net-zero-deforestation-Report.pdf

[62]Zwick, Brazil's Green Municipalities.

[63]TFA2020, Supporting Jurisdictional Leadership.

[64]Whately, Green Municipalities Program.

[65]Programa Municipios Verdes. Governo do Pará. Web Access: Feb 5, 2018. http://www.municipiosverdes.pa.gov.br/pages/municipios_participantes

[66]TFA2020, Supporting Jurisdictional Leadership.

[67]"Para 2030" sets targets for economic growth with sustainability. SEAD. Published 2016. Web Access: Feb 8, 2017. http://www.sead.pa.gov.br/noticia/%E2%80%9Cpar%C3%A1-2030%E2%80%9D-apresenta-metas-para-crescimento-da-economia-com-sustentabilidade

[68]Whately, Green Municipalities Program.

[69]TFA 2020, Supporting Jurisdictional Leadership.

[70]Chain Reaction Research. 2016. The Chain: Most global palm oil trade covered by zero-deforestation. https://chainreactionresearch.com/the-chain-musim-mas-no-deforestation-policy/

[71]New York Declaration on Forests. 2018. Web Access: March 2018. http://forestdeclaration.org/about/

[72]TFA 2020 Partners. 2018. Tropical Forest Alliance 2020. https://www.tfa2020.org/en/about-tfa/partners/

[73]Tropical Forest Alliance 2020. World Economic Forum. https://www.tfa2020.org/wp-content/uploads/2018/01/TFA2020-two-pager_print-version-Jan-2018.pdf

[74]TFA 2020 Objectives. 2018. Tropical Forest Alliance 2020. https://www.tfa2020.org/en/about-tfa/objectives/

[75]Steinweg, et al. 2017. Unsustainable Palm Oil Faces Increasing Market Access Risks: NDPE Sourcing Policies Cover 74 Percent of Southeast Asia's Refining Capacity. Chain Reaction Research. https://chainreactionresearch.files.wordpress.com/2017/11/unsustainable-palm-oil-faces-increasing-market-access-risks-final-2.pdf

[76]Ibid.

[77]Production, Supply and Distribution. USDA Foreign Agricultural Service. Web Access: Jan 2018. https://apps.fas.usda.gov/psdonline/app/index.html#/app/home

[78]UN Regional Population Data. Web Access: Feb 2019. http://www.un.org/popin/data.html#Regional Data

[79]Production, Supply and Distribution, USDA Foreign Agricultural Service.

[80]UN Regional Population Data.

[81]Chatham House. Resource Trade.Earth. Web Access: Jan 2018. https://resourcetrade.earth/

[82]Ibid.

[83]Malaysian Palm Oil Board. 2017. Economics & Industry Development Division. http://bepi.mpob.gov.my/index.php/en/statistics/production/177-production-2017/792-production-of-crude-oil-palm-2017.html

[84]USDA. 2018. Oilseeds: World Markets and Trade. https://apps.fas.usda.gov/psdonline/circulars/oilseeds.pdf

Annex B: Literature Review

Daemeter. 2016. Jurisdictional Approaches to Reducing Palm Oil Driven Deforestation in Indonesia: Scoping study of design considerations and geographic priorities. Daemeter. Bogor, Indonesia. http://daemeter.org/new/uploads/20161105234503.DAEMETER_extended_summary_Final.pdf

EII. 2016. Jurisdictional Sustainability; A Primer for Practitioners. http://earthinnovation.org/wp-content/uploads/2017/02/JS-primer_Englishonline.pdf

EII. 2015. Mato Grosso: Brazil's Agricultural Giant on the Pathway to State-Wide Sustainability. http://earthinnovation.org/publications/mato-grosso-tps-2015/

EII. 2015. Territorial Performance System: A framework for driving large-scale, jurisdictional transitions to low-emission rural development in the tropics. http://earthinnovation.org/publications/tps-2015/

Environmental Defense Fund. 2017. Deforestation: New Solutions for an Elusive Problem. http://supplychain.edf.org/files/2017/04/EDF_Deforestation_2pager_0417.pdf

Fishbein, Greg and Lee, Donna. 2015. Early Lessons from Jurisdictional REDD+ and Low Emissions Development Programs. Arlington, VA. https://www.forestcarbonpartnership.org/sites/fcp/files/2015/January/REDD%2B_LED_web_high_res.pdf

Forest Carbon Partnership Facility. 2017. Carbon Fund Methodological Framework. https://www.forestcarbonpartnership.org/carbon-fund-methodological-framework

Global Canopy Program (GCP), IDH, EcoAgriculture Partners, The Nature Conservancy (TNC), WWF 2015. The Little Sustainable Landscapes Book. https://globalcanopy.org/publications/little-sustainable-landscapes-book

Heiner, Krista et al. 2017. Public-private-civic partnerships for sustainable landscapes: A Practical Guide for Convenors. EcoAgriculture Partners and the Sustainable Trade Initiative. https://ecoagriculture.org/publication/public-private-civic-partnerships-for-sustainable-landscapes/

Meyer, Christopher and Miller, Dana. 2015. Zero Deforestation Zones: The Case for Linking Deforestation-Free Supply Chain Initiatives and Jurisdictional REDD+. Journal of Sustainable Forestry. 34:6-7, pages 559-580. https://www.tandfonline.com/doi/full/10.1080/10549811.2015.1036886

Pacheco, Pablo et al. 2017. Zero deforestation and low emissions development: public and private institutional arrangements under jurisdictional approaches. https://www.researchgate.net/publication/321332028_Zero_deforestation_and_low_emissions_development_Public_and_private_institutional_arrangements_under_jurisdictional_approaches

Packard Foundation. 2016. Highlights on Discussions on Fiscal Incentives and Preferential Sourcing to Promote "Jurisdictional Approach" to Reducing Deforestation.

Proforest. 2016. Implementing responsible sourcing- usign landscape or jurisdictional initiatives. http://www.proforest.net/proforest/en/files/bn03_rsp_web.pdf

Proforest. 2016. Introduction to landscape or jurisdictional initiatives in commodity agriculture. http://www.proforest.net/proforest/en/publications/proforest_landscape_approaches_introductionaug2016_web.pdf

Protect, Produce &. n.d. http://www.produceprotectplatform.com/

Scherr, Sara J. et al. 2017. Business for Sustainable Landscapes: An Action Agenda to Advance Landscape Partnerships for Sustainable Development. Washington, D.C.: EcoAgriculture Partners and IUCN, on behalf of the Landscapes for People, Food and Nature Initiative. http://peoplefoodandnature.org/wp-content/uploads/2017/05/Business-for-Sustainable-Landscapes-An-Action-Agenda-for-Sustainable-Development-May-2017.pdf

Statement from Consumer Goods Forum Co-chairs, acting individually: production protection. 2015. http://tfa2020.org/wp-content/uploads/2015/12/01122015-_Produce-Protect-CGF-statement.pdf

TFA 2020. 2017. Tropical Forest Alliance 2020 Annual Report 2016-2017. Tropical Forest Alliance 2020. https://www.tfa2020.org/wp-content/uploads/2017/01/TFA_Annual_Report_2017_Compressed.pdf

Sustaianble Tropics Alliance and EII. 2012. Fostering Low-Emission Rural Development from the Ground Up. https://static1.squarespace.com/static/561fed9fe4b02e8febd96de0/t/562162dae4b058efb0b6d40f/1445028570628/SustTropicsAlliance_Fostering_LED-R_Tropics.pdf

TFA. 2017. Supporting jurisdictional leadership in net zero deforestation through sustainable value chains: Opportunities for TFA 2020. Tropical Forest Alliance. https://www.tfa2020.org/en/publication/supporting-jurisdictional-leadership-report/

The Commodities/Jurisdiction Approach. https://commoditiesjurisdictions.wordpress.com/

Verified Carbon Standard. Jurisdictional and Nested REDD framework (JNR). http://www.v-c-s.org/project/jurisdictional-and-nested-redd-framework/

Wolosin, Michael. 2016. Jurisdictional Approaches to Zero Deforestation Commodities. WWF. http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_jurisdictional_approaches_to_zdcs_nov_2016.pdf

World Bank. 2017. Engaging the Private Sector in Results-based Landscape Programs: Early Lessons from the World Bank's Forest Carbon Partnership Facility and Landscapes Climate Finance Funds. World Bank Group. Washington, D.C. http://documents.worldbank.org/curated/en/699361497951740640/Engaging-the-private-sector-in-results-based-landscape-programs-early-lessons-from-the-World-Bank-s-forests-and-landscapes-climate-finance-funds

WWF. 2017. Tackling Deforestation Through a Jurisdictional Approach: Lessons from the field. World Wildlife Fund. http://wwf.panda.org/our_work/forests/forest_climate/forest_climate_publications/

WWF. 2017. Tapping global expertise on jurisdictional approaches to deforestation. Forest and Climate News. http://wwf.panda.org/our_work/forests/forest_climate/forest_climate_news/

WWF. 2016. WWF Discussion Paper: Jurisdictional Approaches to Zero-deforestation Commodities. World Wildlife Fund. http://wwf.panda.org/wwf_news/?283050/JAZD

Zwick, Steve. 2017. Suits, Greens, And Govs Forge Green Supply Chains on International Day of Forests. Forest Trends. http://www.ecosystemmarketplace.com/articles/in-brasilia-a-motley-mix-of-suits-greens-and-govs-meet-to-save-the-worlds-forests/