

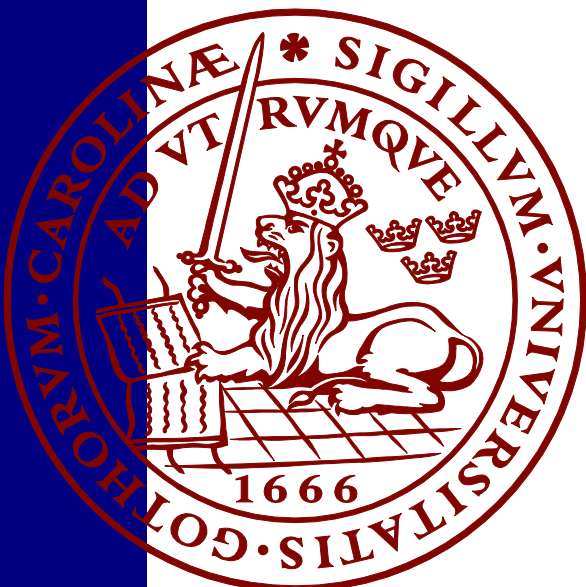
To grip or to slip

Smallholder inclusion in sustainable palm oil certifications in
Riau, Indonesia

Adelina Chandra

Master Thesis Series in Environmental Studies and Sustainability Science,
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A thesis submitted in partial fulfillment of the requirements of Lund University
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Submitted May 12, 2020

Supervisor: Sara Gabriëlsson, LUCSUS, Lund University

Abstract [eng]

Increasing global focus on sustainable palm oil (SPO) initiatives has led to discussions of smallholder integration at the bottom of the supply chain. In 2019, the Roundtable on Sustainable Palm Oil (RSPO) introduced a new standard for independent smallholders. Meanwhile, through Presidential Regulation no. 44 of 2020, the President of Indonesia recently made Indonesian Sustainable Palm Oil (ISPO) mandatory for smallholders by 2025. While both certifications aim to improve smallholder inclusion, millions of palm oil independent smallholders face difficulties in attaining certification. This study examines the barriers that these smallholders face in pursuing the regulatory process prior to certification process and how they affect smallholder inclusion in sustainable palm oil initiatives. Through semi-structured interviews and focus group discussions, it analyses the perspectives of four independent smallholder groups pursuing RSPO, an ISPO certified independent smallholder group, and a non-certified independent smallholder community in Riau Province in Indonesia. It also assesses the perspectives of various decision-making stakeholders including certification standard-setters both RSPO and ISPO, and provincial- and local-level government. Walker's (2012) notion of procedural justice, which includes access to information, access to facilitation and support, access to legal process, and participation in decision-making, is used to analyse the findings.

The study finds that limited access to information regarding SPO certifications, a lack of understanding of regulations concerning land, and limited financial support may hinder independent smallholders from pursuing regulatory compliance. Facilitation can help farmers in addressing these issues; however, at the local level, access to facilitation is unequal. The findings show that the inequality is influenced by three factors, namely local institutional arrangement, land status and legality, and practicalities, must thus be concerned when attempting to improve facilitation opportunity. Furthermore, the current centralised licensing system that has been adopted at the local level limits smallholders' ability to engage with the legal process; this is mainly due to technical and practical issues that arise in navigating convoluted regulations and bureaucracies. A lengthy bureaucratic chain indicates a structural problem due to a lack of coordination among government institutions and lack of clarity in regulations. Furthermore, farmers are facing environmental challenges to differing degrees, which prevents independent smallholder groups from being able to fulfil pre-certification requirements. Thus, from a practical point of view, procedural justice required to incorporate independent smallholders into sustainable palm oil initiatives has not yet been achieved.

Abstrak [id]

Meningkatnya fokus global terhadap inisiatif kelapa sawit berkelanjutan memantik integrasi pekebun swadaya dalam sertifikasi kelapa sawit berkelanjutan. Pada tahun 2019, Roundtable on Sustainable Palm Oil (RSPO) memperkenalkan standar baru untuk pekebun swadaya. Sementara itu, melalui Peraturan Presiden no. 44 tahun 2020, Presiden Indonesia menetapkan kewajiban sertifikasi Indonesian Sustainable Palm Oil (ISPO) bagi pekebun pada tahun 2025. Ketika kedua sertifikasi tersebut berupaya meningkatkan inklusivitas pekebun, jutaan pekebun menghadapi kesulitan untuk memperoleh sertifikasi. Studi ini mengkaji hambatan yang dihadapi pekebun untuk memenuhi standar kepatuhan regulasi sebelum memasuki proses sertifikasi dan bagaimana hambatan tersebut memengaruhi inklusivitas pekebun dalam inisiatif kelapa sawit berkelanjutan. Melalui wawancara semi terstruktur dan diskusi kelompok terfokus, penelitian ini menganalisis perspektif empat kelompok pekebun swadaya anggota RSPO, kelompok pekebun swadaya bersertifikasi ISPO, dan komunitas petani swadaya yang tidak bersertifikasi di Provinsi Riau di Indonesia. Lebih lanjut, studi ini juga mengkaji perspektif berbagai pemangku kepentingan termasuk pembuat standar RSPO dan ISPO, dan pemerintah tingkat provinsi dan kabupaten/kota. Gagasan Walker (2012) tentang keadilan

procedural, termasuk akses terhadap informasi, fasilitasi dan dukungan finansial, proses hukum, dan partisipasi dalam pengambilan keputusan, digunakan untuk menganalisis temuan.

Studi ini menemukan bahwa keterbatasan akses terhadap informasi mengenai sertifikasi SPO, minimnya pemahaman tentang peraturan dan legalitas lahan, dan dukungan finansial yang terbatas dapat menghambat pekebun swadaya untuk memenuhi kepatuhan regulasi. Fasilitasi dapat membantu pekebun dalam mengatasi masalah ini; namun, di tingkat lokal, akses untuk mendapatkan fasilitasi tidak merata. Temuan menunjukkan bahwa ketidaksetaraan akses fasilitasi dipengaruhi oleh tiga faktor, yaitu kelembagaan, legalitas lahan, dan aspek praktik, yang harus diperhatikan untuk peningkatan peluang fasilitasi. Selain itu, sistem perizinan terpusat yang berlaku di tingkat lokal membatasi kemampuan pekebun untuk terlibat dalam proses perizinan; masalah teknis dan praktis kerap muncul ketika dihadapkan dengan peraturan dan birokrasi yang berbelit-belit. Rantai birokrasi yang panjang mengindikasikan masalah struktural karena kurangnya koordinasi antar lembaga pemerintah dan kepastian peraturan. Terlebih, pekebun menghadapi tantangan lingkungan yang berbeda-beda, yang mencegah kelompok pekebun swadaya untuk dapat memenuhi persyaratan pra-sertifikasi. Dengan demikian, dari sudut pandang praktis, keadilan prosedural yang diperlukan untuk mengintegrasikan petani swadaya ke dalam inisiatif kelapa sawit berkelanjutan belum tercapai.

Keywords: sustainable certification, oil palm, independent smallholder, smallholder inclusion, procedural justice, regulatory compliance

Word count: 11,848 words



Figure 1 Independent smallholders in Riau
(Photo was taken by author, January, 25, 2020)

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List of abbreviations

BPKM: Badan Koordinasi Penanaman Modal [Indonesian Investment Coordinating Board]

BPDPKS: Badan Pengelola Dana Perkebunan Kelapa Sawit [Indonesian Oil Palm Estate Fund]

CPO: Crude Palm Oil

DJP: Direktur Jenderal Perkebunan [Directorate General of Estate Crops]

FFB: Fresh fruit bunch

FGD: Focus group discussion

GAP: Good Agricultural Practices

Gol: The Government of Indonesia

HCS: High Carbon Stock

HCV: High Conservation Value

ISH: Independent smallholder

ISPO: Indonesian Sustainable Palm Oil

KPPA: Koperasi Kredit Primer untuk Anggota [Primary Cooperative Credit for Members]

K2I: Kemiskinan, Kebodohan dan Infrastruktur [Battle against poverty, ignorance, and infrastructure development program]

MoA: Ministry of Agriculture

MoEF: Ministry of Environment and Forestry

NI: National Interpretation

OJK: Otoritas Jasa Keuangan [Financial Services Authority]

PIR: Perkebunan Inti Rakyat [Nucleus Estates and Smallholders]

PKO: Palm Kernel Oil

PSR: Program Peremajaan Sawit Rakyat [Oil Palm Replanting Program]

RSPO: Roundtable on Sustainable Palm Oil

SHM: Sertifikat Hak Milik [Land Ownership Certificate]

SPO: Sustainable Palm Oil

SPPL: Surat Pernyataan Pernyataan Pengelolaan Lingkungan [Statement of Readiness to Manage and Monitor the Environment]

SSI: Semi-structured interview

STD-B: Surat Tanda Daftar Budidaya [Plantation business registry certificate]

RAN-KSB: Rencana Aksi Nasional Perkebunan Kelapa Sawit Berkelanjutan [National Action Plan for Sustainable Palm Oil]

RSPO: Roundtable on Sustainable Palm Oil

RSSF: RSPO Smallholder Support Fund

WRI: World Resources Institute

1 Introduction

Palm oil is used in a large variety of products globally. Approximately 85% of the global palm oil supply comes from Indonesia and Malaysia (USDA, 2020). Recently, through its EU RED II (2018) and delegated act (2019), the EU Commission decided to phase out palm oil, the only vegetable oil classified as high indirect land-use change (ILUC), from biofuel, bioliquid, and biomass between 2023 to 2030. In the context of this political debate with the EU, Indonesia has started to shift its market to India and China. According to ISPO (January 15, 2020), proactive engagement between Indonesia and India has resulted in a trade cooperation intended to facilitate the trade of Indonesian palm oil and the recognition of Indonesian Sustainable Palm Oil (ISPO).

The emergence of a sustainable certification was driven by growing concern about environmental degradation due to the expansion of palm oil (Brandi et al., 2015). Currently, there are two different palm oil certification schemes in Indonesia, namely market-based and state-managed certification. Roundtable on sustainable palm oil (RSPO) is the largest market-based, voluntary certification for palm oil (Furomo et al., 2019). Meanwhile, ISPO is the national-level certification, which is bound to Indonesian regulations.

At the bottom of the supply chain, 2.6 million smallholders (the Minister of Finance, 2020), who manage 40% of the oil palm areas in Indonesia (BPS, 2019), are expected to be part of the SPO initiative. Smallholders are classified into two categories: scheme smallholders and independent smallholders. Scheme smallholders are affiliated with big holders that are responsible for facilitating them in farming practices and ensuring access to market (Yuliawati & Axelsson, 2016). Independent smallholders are farmers who run their plantations independently and have limited knowledge of certifications (Brandi et al., 2015).

Fifteen years after the RSPO establishment, the total land owned by RSPO smallholder members spans less than 1% of the total area of oil palm plantation in Indonesia (RSPO, 2019a). By January 10, 2020, 29 smallholder groups, both schemed and independent, have been certified as RSPO. During the same window, ISPO has certified 14 groups. Both RSPO and ISPO certification aim to improve smallholder inclusion. While RSPO has published a new standard for independent smallholders, the Government of Indonesia (GoI) requires all smallholders to be ISPO certified in the next five years (Presidential Regulation no. 44/2020). Thus, this research seeks to examine the barriers experienced by independent smallholders in pursuing certification schemes.

1.1 Study objective and research questions

The objective of this research is to critically examine the inclusion barriers, particularly regulatory ones prior to certification, that independent smallholders face in trying to gain RSPO or ISPO certification. Two research questions guide this research:

1. What are the barriers that affect independent smallholders in fulfilling regulatory compliance as required in sustainable palm oil certifications?
2. How do these barriers affect smallholder inclusion in sustainable palm oil initiatives?

The findings from this study could help to give voice to independent smallholders within the oil palm sector and, in turn, facilitate their inclusion in SPO initiatives.

1.2 Scope and limitations

This research draws on empirical data collected from oil palm independent smallholders who have a) experience in pursuing RSPO, b) experience in pursuing ISPO, or c) never participated in RSPO or ISPO. It focuses on independent smallholders because they operate independently, usually receive little to no support from external stakeholders, and currently are the subject of the RSPO and ISPO inclusion initiatives. Geographically, this research covers seven villages in Rokan Hulu and Siak districts, Riau province, Indonesia (see Figure 11). These locations were chosen because the region is the heart of oil palm production in Indonesia, and oil palm is the primary livelihood source for their residents. The areas are characterised by smallholder cultivations in mineral and peat soils and vulnerable in different degrees to both regulatory obstacles and environmental challenges. The study explores the regulatory barriers that affect RSPO and ISPO at the early stage. The analysis draws on four elements of procedural justice by Walker (2012).

This research has several limitations. First, it focuses on RSPO and ISPO, excluding other certifications. Second, the research is inclusive to policy document analysis either in the national, provincial, or local level that is relevant to the scope of the research. However, given that the implementation of policy in Indonesia is highly influenced by the local context and shaped by local dynamics, hence, the policy implementation discussed in this study might be different from the other districts or provinces in Indonesia.

2 Background

Despite the controversy over the oil palm industry, there have been some interventions that affect the development of the commodity chain. Globalization has influenced the rapid economic growth of oil palm industry globally and introduced global sustainability initiatives to the local level (Glasbergen, 2012).

2.1 The development of oil palm in Indonesia

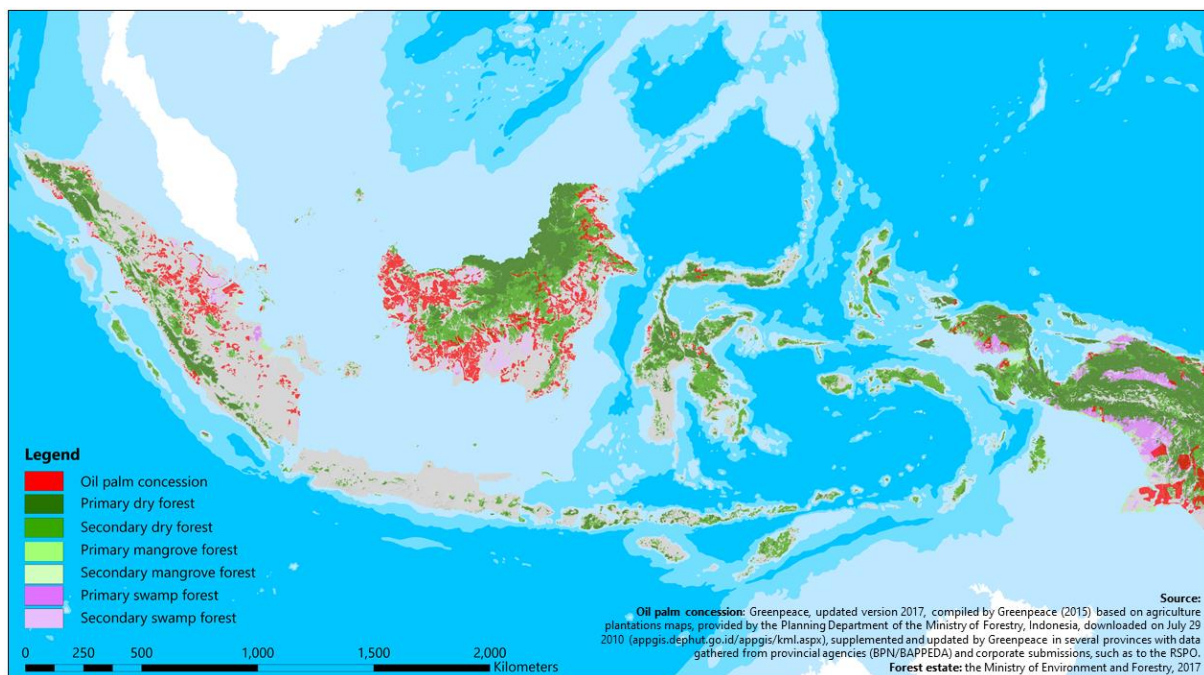


Figure 2 Oil palm concession (red) in Indonesia (Oil palm concession compiled in 2015 and updated in 2017 by Greenpeace based on data from the Ministry of Forestry, provincial data [BPN/BAPPEDA] and corporate submissions, such as to the RSPO, forest estate data based on the Ministry of Environment and Forestry [MoEF], 2017, modified by the author for illustrative purposes).

Perkebunan Inti Rakyat (PIR) was initiated in the late 1970s by the GoI to promote company–community partnerships first in the rubber sector and then, followed by the oil palm sector. The PIR-Trans was combined with transmigration program, a public program intended to solve the uneven distribution of population across Indonesia by migrating people from Java Island to other big islands (Fearnside, 1997; Hardjono, 1977). The program required companies that were granted a concession to provide supports for transmigrants (Fearnside, 1997), including housing and ‘plasma’ (a plot located in the middle of concession). Thereby, transmigrants received support and facilitation, in return for which they work for the company and entrust the management of their plot to the company (Fearnside, 1997). Smallholders who participated in PIR-Trans are known as ‘plasma smallholders’ (hereafter: scheme smallholders).

In 1992, the Gol implemented *Koperasi Kredit Primer Untuk Anggota* (KPPA), or primary cooperative credit for members, to provide credit to scheme smallholders, thereby detaching them from companies' support (Pramudya et al., 2018; Hidayat et al., 2017). In addition to this development, oil palm plantation has been expanding, with private companies (55%) leading the way (Figure 3). Smallholders have become the second-largest (40.5%) growers and state-owned plantations the third-largest (4.5%).

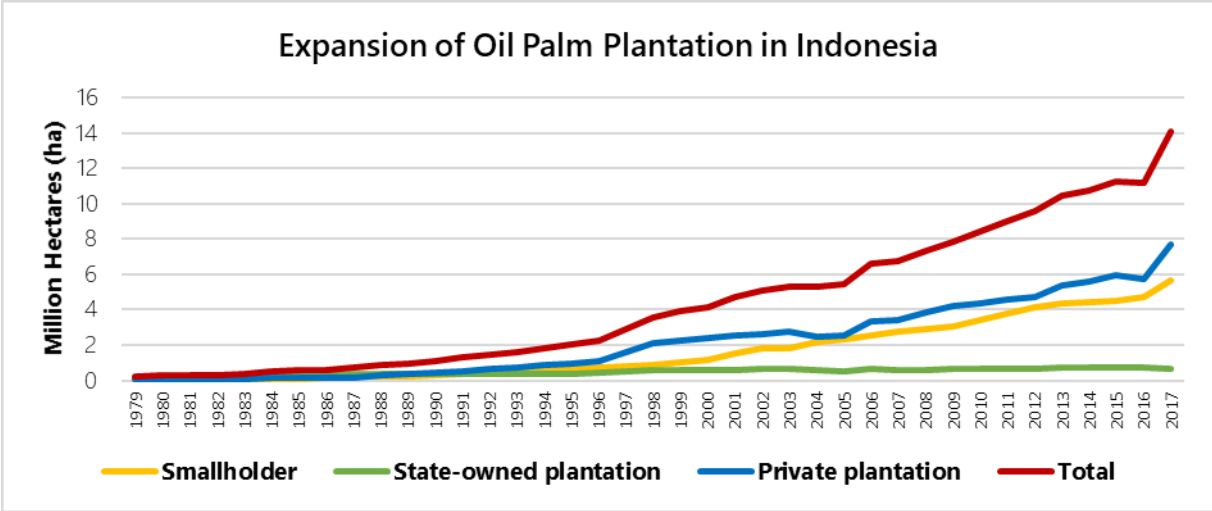


Figure 3 Expansion of oil palm plantation (DJP, 2018)

In December 2019, through Decree No. 833/KPTS/SR.020/M/12/2019 issued by the Minister of Agriculture, the Gol announced that oil palm plantation covers 16,381,959 hectares. According to the decree, Riau Province, the heart of Indonesia's oil palm production, accounts for 20.68% of the total area of oil palm in the country. As a result of rapid development, Indonesia produces 55% of global palm oil production, making palm oil the most significant contributor to Indonesia's revenue and 13.5% of the total non-oil and gas export (the Minister of Finance of RI, 2020).

2.2 Smallholders in the Riau province

Nationally, 40% of the total oil palm plantation area is cultivated by smallholders. However, the latter's contribution to the total production of Crude Palm Oil (CPO) remains much lower than expected (approximately 34%) (DJP, 2018). Meanwhile, about 2.6 million smallholders rely on oil palm for their livelihood (the Minister of Finance, 2020). In MoA Regulation No. 33/2006 article 1, the Gol defines smallholder as "farmers owning plantations smaller than 25 ha." Indonesian oil palm smallholders have, on average, 3.6-hectare plots, produce 19 tons per hectare per year, and land that is mostly non-peat soils (Hidayat, 2017). Demographically, the average age of the smallholders is 44, with elementary school commonly the highest educational level achieved (Hidayat, 2017). As mentioned earlier, there are two main types of smallholders, namely a) scheme smallholder and b) independent smallholder. Yet, the number of smallholders, according to these types, is not well-

documented (DJP, 2017). A study from Hidayat (2017) estimates that around 60% of them are independent smallholders.

Total Area of Oil Palm Plantation managed by Smallholder, 2017

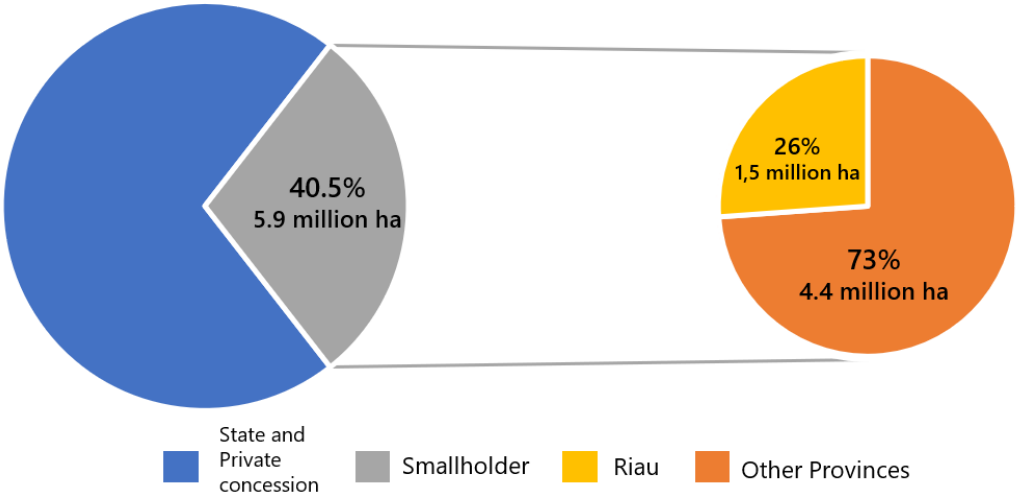


Figure 4 Proportion of oil palm areas owned by smallholders in Indonesia (first pie chart) and amount of smallholders' land located in Riau Province (DJP, 2018 modified by the author)

Among the 25 Provinces in Indonesia that produce oil palm, Riau Province accounts for 26% of the total smallholder land (Figure 4). According to DJP (2018), smallholders in Riau manage 56% of the oil palm plantation in the province, much more than the state-owned (2%) and private companies (41%). Riau Province consists of 12 districts. As of 2019, 60% of the total oil palm area was located in four districts (BPS, 2020). Two of these main contributors are the locus of this research, namely Rokan Hulu (19%) and Siak districts (13%) (see Figure 11).

2.3 The actors in the palm oil supply chain

Given the convoluted palm oil supply chain in Indonesia, various actors are necessarily involved in the commodity chain (Purnomo et al., 2018). This section describes this network of actors in the context of Riau. Figure 5 depicts three categories of actors in the upstream level of the palm oil supply chain, including a) producers, from smallholders to millers, b) direct support actors (private or public-owned companies and NGOs), c) regulatory officials (jurisdictional level of government).

Simplified actor-network in the context of oil palm smallholder

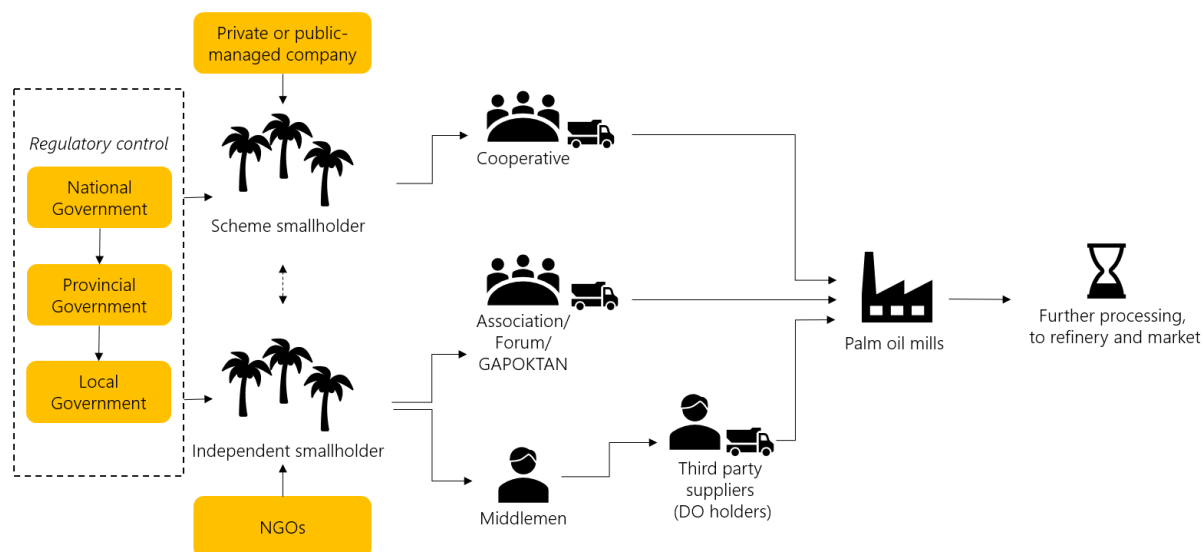


Figure 5 Simplified relationship between actors in the oil palm supply chain, smallholder context. (Hidayat, 2017, modified by the author to capture the context of smallholders in Rokan Hulu and Siak)

The upstream level producers, scheme smallholders, are usually affiliated with a cooperative due to their involvement in past governmental programs (Section 2.1). They have a formal relationship to either a private or a state-owned plantation that provides facilitation and market access, increasing their productivity and fresh fruit bunch (FFB) price above that of independent smallholders (Brandi et al., 2015). They sell the FFB through cooperative to the mills. In contrast, *independent smallholders* are not affiliated with companies. Some of them join a farmer group, which then combine with several other groups to form an association or “GAPOKTAN” (in this research, these generally consist of about 100-350 members). The latter can negotiate with the mills to get a delivery order (DO) contract if they can transport their FFB directly to the mills or are a member of an SPO certification (LF 2, February 8, 2020). In other words, they can send FFB directly and receive an update on daily prices from the mills.

Many farmers still work individually rather than belong to a group (DJP, 2017). They typically sell their FFB to *intermediaries* or *middlemen*. In the upstream of the supply chain, the market chain is lengthy and dominated by the middlemen (DJP, 2017, p.72). As a result, a long-chain usually affects the FFB price that the smallholder receives (Hidayat et al., 2016). The relationship between middlemen and independent smallholders is rather informal. The middlemen typically provide loans to the farmers with flexibility to repay the debt by selling the FFB to them. Once the farmers sell their FFB, the middlemen can take a small percentage of the income for repaying the debt (IS 4, February 8, 2020). In Rokan Hulu, nearly all interviewed farmers sell their FFB to middlemen and said that they are unaware of the market FFB price set by the mills daily.

The direct support actors, either a *private* or *state-owned company*, provides technical and financial assistance to scheme smallholders (Brandi et al., 2015) to comply with Law no. 39, art. 58, which states that “the company is obliged to facilitate the development of smallholder plantation with the total area of 20% of their concession” (p. 24). However, this regulation is not inclusive to independent smallholders. Apart from that, *non-governmental organisations (NGOs)* usually assist independent smallholders with technical, institutional, and financial support.

Different **regulatory actors** have responsibilities that help or hinder smallholders in pursuing RSPO or ISPO certification. At the national level, through Presidential Instruction no. 6/2019 on the national action plan on sustainable palm oil (RAN-KSB) of 2019-2024, the President of Indonesia mandated several ministries to help accelerate the regulatory and legal process. *The Ministry of Environment and Forestry* assist the regulatory process on forestry-related issues, for example, by implementing the release of smallholder plantations from production forests and concessions (MoEF Regulation no. P.96/2018). *The Ministry of Agriculture* evaluates companies’ progress in allocating 20% of their concession to smallholders. *The Ministry of Agrarian Affairs and Spatial Planning* is responsible for the issuance of the land permit. At the provincial and local levels, *Estate Crop agencies* assess plantation classification, the first assessment that all growers must undergo when pursuing ISPO. At the local level, the *Public Work Agency* ensures that smallholder land holdings match the district’s spatial plan. Overall, the central government mainly focuses on national-level policy making, while the provincial and local level government oversees technical aspects. Finally, the *standard-setters (RSPO and ISPO)* are included as the standard makers.

2.4 The northern- and southern-based sustainable palm oil certifications: RSPO and ISPO

Currently, there are two main certifications in Indonesia: the northern-based certification RSPO, and the southern-based certification ISPO. Figure 6 presents the timeline of both certifications. In 2004, RSPO was initiated by NGOs and industries in response to increasing critiques regarding the environmental impact of biofuel production (Scarlat & Dallemand, 2011). Many deem RSPO the most robust certification amongst other sustainable certifications in the industry (Forest Peoples, 2017). Meanwhile, Indonesian Sustainable Palm Oil (ISPO) is a public-managed certification scheme that is bound to many national regulations. ISPO was first introduced by the MoA Regulation no. 19/2011, which made it mandatory for companies. Its core principals are national economic growth, carbon emission reduction, and sustainability (MoA Regulation no. 11/2015). According to Presidential Regulation No. 44/2020, companies must be ISPO-certified by March 16th, 2020, and smallholders must be ISPO-certified by 2025. In other words, smallholders are given five years to fulfil the participation requirements and be able to find support for the cost of certification.

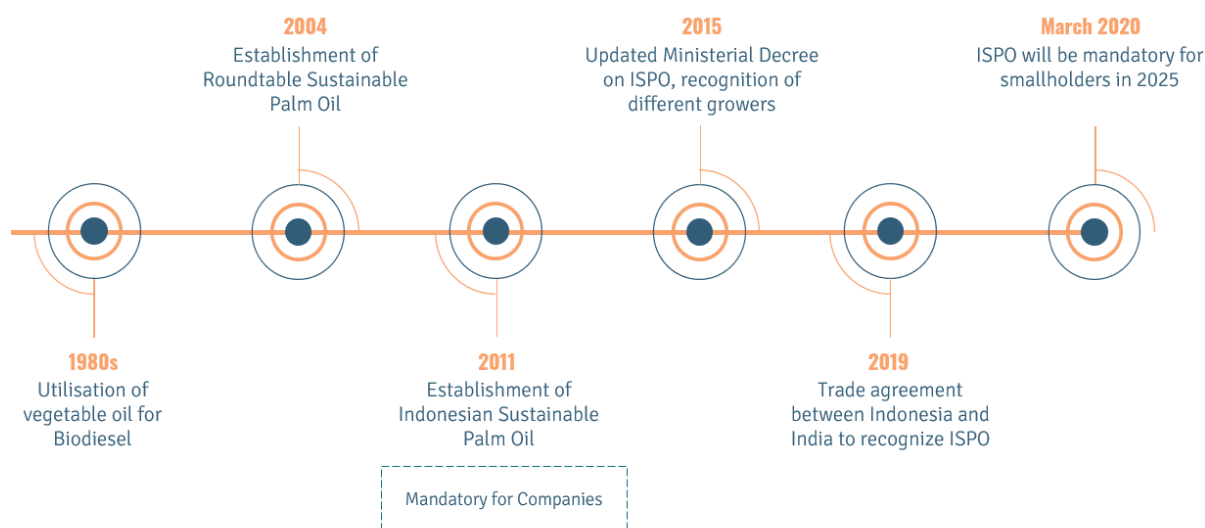


Figure 6 Timeline for RSPO and ISPO in Indonesia (Author, 2020)

In SPO certification, the so-called 'Roundtable' is a multi-stakeholder initiative that is built on representation and open participation for all stakeholders (Cheyns, 2011). RSPO claims their legitimacy mainly through representation, participation, and transparency in decision making. Yet, representation and participation remain problematic, especially for smallholder groups (Schuouten and Glasbergen, 2011). According to RSPO (2019a), smallholder participation in certification remains low, less than 1% of the total area of oil palm plantation in Indonesia. Yet, independent smallholders represent only 6% of the total number of certified smallholders, covering about 23,440 hectares (RSPO, 2019a). Similarly, the progress of ISPO in including smallholders is still lacking. The commission reported that ISPO has certified 12,270 hectares of smallholder land or about 0.21% of the total certified areas.

2.4.1 RSPO and ISPO compliance requirements for independent smallholders

Both certifications aim to increase smallholder inclusion (RSPO, 2019b, Presidential Regulation no. 44/2020). The viability of independent smallholders to obtain SPO certifications is influenced by the principles and criteria of each SPO certification. Recently published in November 2019, the RSPO independent smallholder standard (ISH) is claimed to be suitable for smallholders based on the fact that it has been tested among three smallholder groups (two in Malaysia and one in Sierra Leone) (RSPO, 2019b). Simultaneously, the GoI has attempted to accelerate the land conflict resolution, which arguably might contribute to smallholder inclusion, through RAN-KSB. Following the Instruction, the GoI has required smallholders to be ISPO-certified in the next five years (Presidential Regulation no. 44/2020). Because the RSPO standard for independent smallholders is relatively new, comparisons between the RSPO ISH and ISPO's standard remains limited. Although one joint

research project on similarities and differences between RSPO and ISPO standards is underway, the study focuses on standards for companies rather than independent smallholders (see UNDP, 2015).

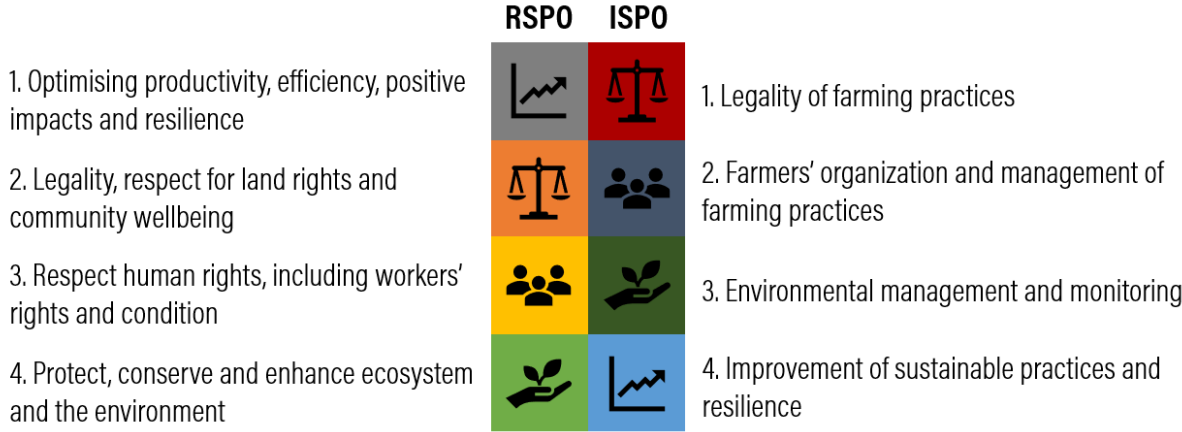
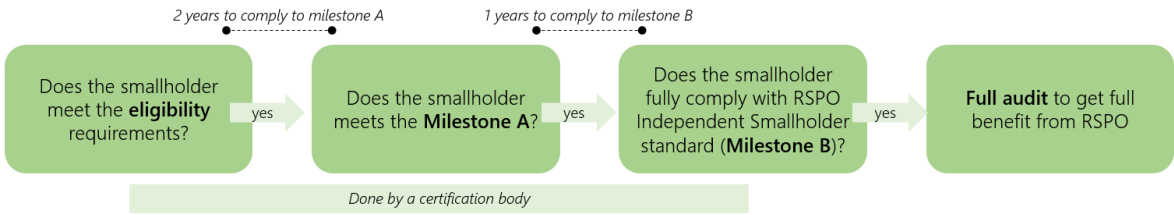


Figure 7 Principles and criteria of RSPO and ISPO for independent smallholders (RSPO, 2019b and MoA no. 11/2015, p. 29 modified by the author)

As depicted in Figure 7, both RSPO and ISPO ISH address a) legality, b) institutional arrangement, c) environmental protection measures, and d) improvement on sustainable practices (productivity, rules on employment, and check and balance mechanisms). In addition, both certifications require independent smallholders to form a group to proceed through the certification process. There are also some differences between these certifications (see a more detailed comparison in Appendix 4), including 1) the amount of legal documentation needed to proceed to certifications, 2) High Carbon Value (HCV) and High Carbon Stock (HCS) policy, 3) new planting policy on both mineral soil and peat soil, 4) employment policy and 5) check and balance for tracking improvement.

A. RSPO certification steps for independent smallholder



B. ISPO certification steps for independent smallholder

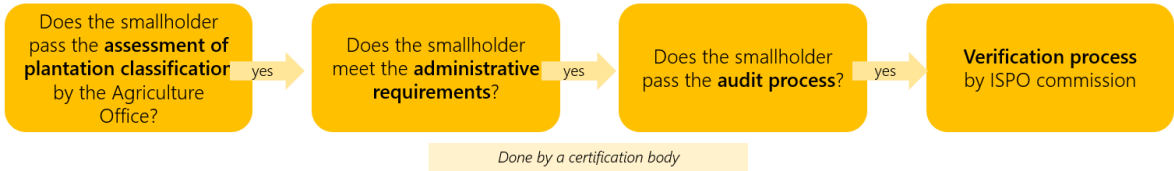


Figure 8 RSPO and ISPO certification steps for independent smallholders. (RSPO, 2019b, and MoA Regulation no. 11/2015, modified by the author)

Apart from the four requirements, financial aspects are important to smallholders' ability to succeed with the certification steps (Figure 8). Each certification involves relatively high costs at each step of the process (SA 1, January 16, 2020).

3 Conceptual framework

This chapter introduces the conceptual framework used to structure and design the study and the interpretative lens used to understand and analyses its findings.

3.1 This research in sustainability science

Sustainability science speaks to a broad range of challenges that affect both nature and society (Kates, 2001). For this reason, it is necessary to include social science dimensions in attempting to understand sustainability challenges (Jerneck et al., 2011). Following the structure of sustainability science by Jerneck et al. (2011, p 72-74), this research seeks first and foremost to “*the interaction between old social problems*” and “*new sustainability challenges*” in the case of sustainable palm oil certifications. Previous attempts at the development of oil palm plantation for smallholders were intended to eradicate poverty. However, this development comes at the cost of environmental degradation, such as deforestation, forest fires, and land-use change, or the new sustainability challenges, as referred by Jerneck et al. (2011). SPO initiatives aim to promote environmental protection through a 'zero-deforestation' commitment. This research explores the challenges faced by smallholders to gain certification. By addressing the barriers, they could participate in “*pursuing sustainability pathways*”.

Given that sustainable certification remains a foreign approach driven by global concern for the environment, it is essential to examine SPO initiative impacts in the local context, especially through smallholders' own experiences. Moreover, to ensure robustness, it is likewise essential to include the perspectives of multi-level stakeholders. In addition to taking these steps, this study *critically* examines the findings and uses them to provide insight to improve smallholder inclusion in sustainable palm oil initiatives.

3.2 Environmental justice

Both RSPO and ISPO aim to improve smallholder inclusion in their sustainable palm oil initiatives. Environmental justice, particularly procedural justice by Walker (2012), represents an analytical lens that is highly suitable for answering the research question in this study.

Ever since John Rawls proposed his *Theory of Justice* (1971), the notion of 'inclusion and respect' has been highlighted by theorists (Schlosberg, 2007). In this work, Rawls introduces the idea of 'the veil of ignorance,' which states that people should be treated in the way they want to be treated.

Environmental justice represents a critical lens for studying inequality and injustice that affect disadvantaged groups (Walker, 2012). Furthermore, it covers a wide range of issues, including how the market economy contributes to producing challenges for the marginalised and impoverished (Walker, 2012). As mentioned by Schlosberg (2004), environmental justice consists of the threefold of justice: distributive justice, justice as recognition, and procedural justice.

Distributive justice is not only about the distribution of economic goods but also about environmental risks (Walker, 2012; Schlosberg, 2004). It focuses on the share of burden and the benefits of a decision, policy, or development. However, Young (2011) argues that distributive justice must also consider non-material goods, social structures, and institutional contexts.

Justice as recognition emphasises the importance of understanding why a certain maldistribution occurs (Schlosberg, 2007). The underlying problem of emphasising maldistribution within real injustice is that there is more injustice left out of the discussion (Fraser, 1998). The relationship between disproportionate access to social, cultural, and institutional conditions is poorly explained (Young, 2011). Schlosberg (2004, p. 535) argues that "unity comes with the recognition of both similarities and differences, and an understanding of how different contexts define various groups."

Procedural justice is referred to as the second most important dimension of environmental justice. Schlosberg (2007) argues that it makes inclusive and democratic decision making the prerequisite of distributive justice. Procedural justice or participatory justice is also linked with the concept of recognition because the latter enables participation (Schlosberg, 2004). Walker (2012) highlights that procedural justice goes beyond explanations of how distributional injustice is produced; it provides an understanding of "how things should be" (Walker, 2012, p. 47). Walker (2012, p. 47-50) highlights four elements for evaluating procedural justice, including:

- a) *Information access*, which concerns the distribution of information to "powerless" actors. (In this context, Independent smallholders and how they are being compensated due to power disparities.)
- b) *Participation in decision making*, which raises questions who can participate and should participate, whether resources are available to enable participation and, in this context, whether the independent smallholders are considered, and able to negotiate in decision-making.
- c) *Inclusiveness*, which is defined as equal opportunity for all groups to access support and facilitation and participate in collaborative efforts.
- d) *Access to the legal process*, which is about public obligations to provide legal services and smallholders' rights to pursue the regulatory process.

Moreover, procedural justice touches on the legal process (Sovacool & Sidortsov, 2015), the participatory aspect, public consultation (Schlosberg, 2007), and local arrangements (Jerkins et al., 2016). In this study, the four elements of procedural justice are used to analyse the barriers facing oil palm smallholders in the process of becoming RSPO or ISPO certified.

4 Research design and methods

4.1 Research design

This research relies on qualitative and quantitative data and analysis. Qualitative methods are used to understand individual or group experiences in a system (Flick, 2014) — in this case, the regulatory system. The regulatory process should be pursued by independent smallholders prior to certification to comply with the eligibility requirements of both certifications (Section 2.4.1). Independent smallholders are the most vulnerable group within the supply chain (Mol, 2007). Individual interviews and focus group discussions (FGD) were arranged to examine the perspective of independent smallholders who have a) experience in pursuing RSPO, b) experience in pursuing ISPO, and c) no experience of any certifications. Thus, independent smallholders in six different groups were selected purposively (Flick, 2014).

Figure 9 shows the timeline of data collection and analysis. Several stakeholders involved in the sector were interviewed to ensure research robustness, including a) national-level smallholders associations, b) direct support actors (a state-owned company in Siak and an NGO), c) and regulatory actors (multi-level government, RSPO, and ISPO) (see Section 2.3 and Appendix 1).

To support the analysis of the qualitative data, this research uses spatial data, which shows the complexity of smallholders’ land distribution in the research locations. In this research, secondary spatial data on land ownership were collected during field research and coupled with MoEF’s forest estate data and Greenpeace’s oil palm concession data.

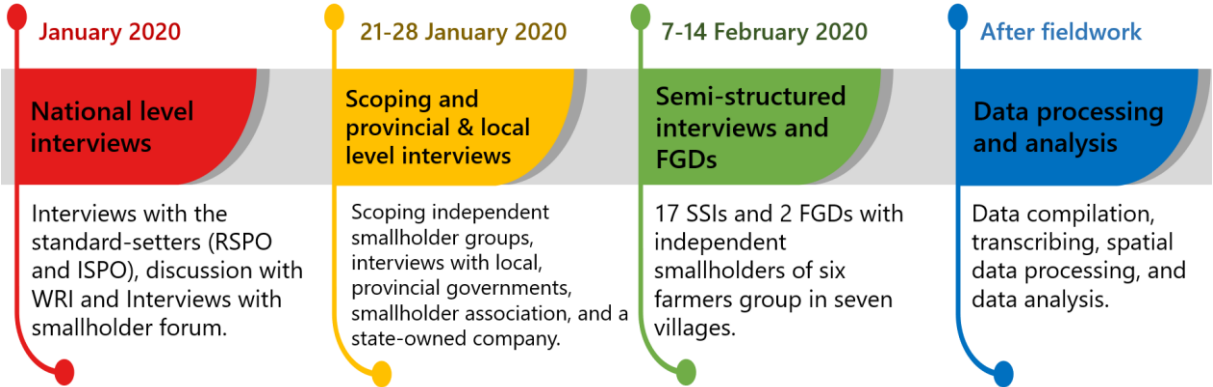


Figure 9 Overview of primary and secondary data collection and analysis (Author, 2020).

4.2 Fieldwork methods

Field research for this study was undertaken in Riau Province, the largest oil palm province in Indonesia. The fieldwork can be divided into three phases: a) national-level interviews and discussions, b) scoping and interviews with provincial and local institutions, and c) primary data collection among independent smallholders (Figure 9). Prior to beginning fieldwork, stakeholders were mapped through literature and document review.

For discussions and interviews at the national level, snowballing was used. The research plan was first discussed with the World Resources Institute (WRI) Indonesia, a think tank that has extensive experience working with independent smallholders. Both certification standard-setter organisations (RSPO and ISPO) were the first interviewees. The discussion with WRI and interviews with RSPO and ISPO led to a decision to interview an independent smallholder forum. WRI helped clarify which stakeholders have a key role in the sector, thereby provide important knowledge for addressing the research questions (Bryman, 2012).

At the local level, independent smallholders' perspectives are the most valuable for the purposes of this study, which seeks to capture their interpretation and experience in pursuing the regulatory process. Given the limited number of smallholder groups that are members of RSPO or ISPO, reaching out to WRI Indonesia was an essential step. WRI facilitates four independent smallholder groups in pursuing RSPO. These groups were also funded partially by the RSPO smallholder support fund (RSSF). Two other smallholder groups were selected through the snowballing process. Approaching an ISPO-certified group was a challenging and lengthy process because the number of such groups is currently fewer than that of RSPO-certified groups. As recommended by a local facilitator, a state-owned company was approached for aid. This company facilitated contact with an ISPO-certified group in Siak, which was ultimately included in the study.

A smallholder community that never heard of SPO certifications in Rokan Hulu was also included at the recommendation of several local facilitators. In addition, provincial and local estate crop agencies were interviewed. Once all data were collected, they were transcribed for further analysis. The study benefited from informal discussions in field or during lunch breaks or as well as during several trainings on good agricultural practices (GAP) in both districts (Figure 10).



Figure 10 Trainings on GAP for independent smallholders and peat water content monitoring (Photos by the author and a local facilitator in Siak, January 25 & February 11, 2020)

My first meeting with the local community was on an event where I was voluntarily helping WRI to arrange a fun session while the farmers were waiting for their turn in the main session. The event helped me during the interviews because it allowed the farmers to notice me. Meanwhile, it was quite a different experience from when I went to Siak district during the fieldwork. The process of gaining trust from one of the groups was unpredictable. Our discussion was not as smooth and open in the beginning as it was after I joined some farmers in monitoring the canal on peatland. I spontaneously helped them by jumping into the river to make a permanent measuring scale (as seen in Figure 18). Alone in a male-dominated field, I faced a gender bias. When they saw me coming to the plantation on a motorbike, the locals were perplexed. They are accustomed to seeing female researchers travelling to their plantation by car. By using the local mode of transport and interacting more hands-on in the community, I broke the stigma around male/female norms and distrust towards urbanites, thereby increasing respect from locals.

4.2.1 Site selection and sampling

The study was held in two districts of Riau province, namely Rokan Hulu and Siak (Figure 11). The sampling process was done purposively (Flick, 2014) to fit the objective of the research. The main criteria in selecting the groups were a) their progress in either RSPO or ISPO, b) type of soils, and c) institutional setting. Capturing the barriers in fulfilling regulatory compliance required, including smallholders with experience in pursuing either RSPO or ISPO. However, given that smallholders are the subject of inclusion in the SPO initiatives, it was central to acknowledge the barriers that local community who never pursued both certifications experience in the regulatory process. Furthermore, the types of soils (mineral or peat) influence the regulations and environmental conditions affecting the groups. Lastly, the community setting is related to ethnicity (locals or migrants), which itself links to institutional arrangements and regulatory barriers. Using these criteria, four members of RSPO were selected, including two groups that cultivate in mineral soil and two others that cultivate in peat soils. To improve the understanding of the inclusion barriers, the

study included one ISPO group that cultivates in both mineral and peat soils, and one group that never experienced either certification.



Figure 11 Location map of the study areas in Riau Province, Indonesia (BIG, 2014, modified by the author)

In terms of smallholder sampling, it was done by considering the criteria of a “good informant.” According to Morse (1998), such an informant must possess the knowledge to respond directly and insightfully to the questions. Technically, they also need to be willing and have time to be part of the study. Thus, the smallholders were selected according to their participation within the groups.

4.3 Data collection

The primary data were collected from semi-structured interviews (SSI, 25), FGDs (2), and discussions with local facilitators. Secondary data were collected from a) open-access national-, provincial-, and local-level regulation documents, b) spatial data from facilitators, c) open-access spatial data, and d) official forest estate maps.

4.3.1 Semi-structured interviews

SSI is done based on a prepared list of open-ended questions (Flick, 2014). SSI provides an in-depth understanding of the interviewee's perception of smallholder inclusion in SPO initiatives, especially the regulatory process. The interviewees (see Appendix 1) came from independent smallholders (17), independent smallholder associations at the national level (2), certification standard-setters (2), the private sector (1), the provincial government (1), and the local government (1). The questions were adjusted according to the stakeholder's involvement in either RSPO or ISPO (see Appendix 1).

4.3.2 Focus group discussions

FGD can provide information beyond individual interviews (Flick, 2014). The number of interviewees is usually between three and 21 (Nyumba et al., 2017). In this case, FGD was arranged with Group 5 (five interviewees) and Group 6 (six interviewees). A set of questions guided FGD, and each discussion took an average of two hours.



Figure 12 Focus groups with independent smallholders (Photos were taken by the author and a local facilitator in Rokan Hulu, February 10 & 13, 2020)

Considering the diversity of farmers in Group 6, FGD (referred to as FGD 1) was fit to the setting. During FGD, these farmers discussed several topics that have never circulated within the community. Tenurial issues were eventually raised, and one of the participants happened to have a printed map, which made the discussion more dynamic. FGD 2 was arranged with Group 5, located in the middle of the acacia plantation, which is a six-hour and potentially dangerous trip from the city centre. Given that farmers also need to work on the field in the daytime, it was practical to have an FGD in their village. The discussion covered the history of how they obtained facilitation, how their land status changed, and their perspectives on ISPO.

4.4 Data analysis

Qualitative data were analysed using the qualitative data analysis tool NVIVO. Spatial data were processed using ArcGIS and QGIS. In qualitative analysis, the thematic analysis method is used to find

the pattern of the data (Braun & Clarke, 2006). Braun and Clarke's understanding of thematic analysis was adopted because it is flexible enough to adhere to the framework used in the research. The process of analysis is depicted below.

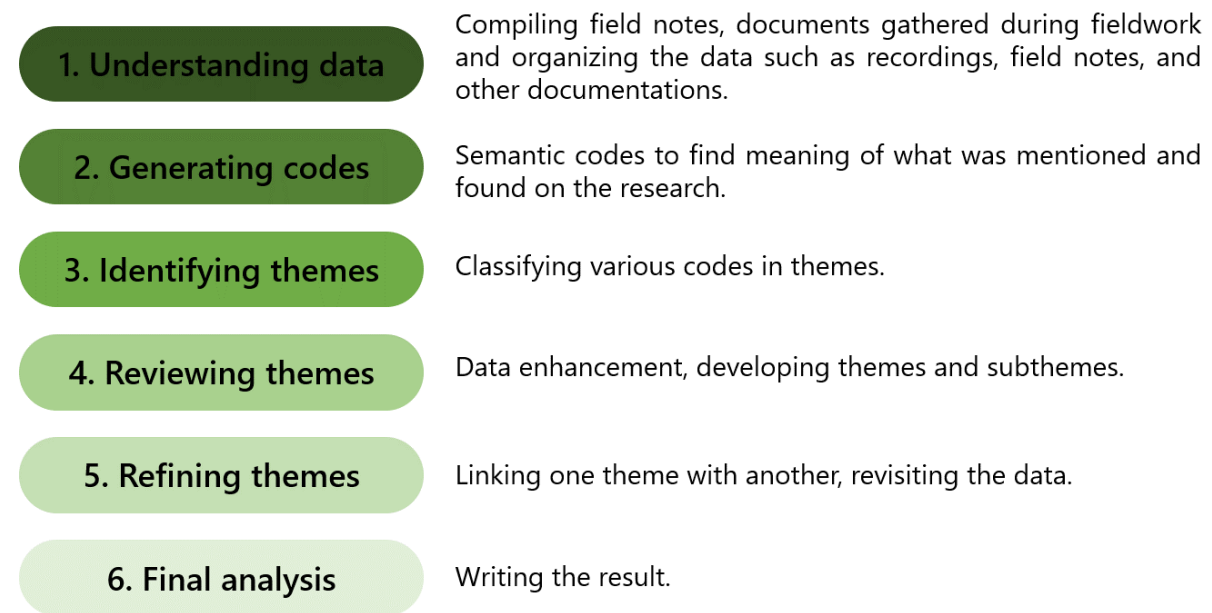


Figure 13 Steps in thematic data analysis (Braun & Clarke, 2006 and adapted by the author to fit the research conducted in this thesis process)

This study used four elements of procedural justice by Walker (2012), as explained in Section 3.2. These elements include access to a) information, b) decision making, c) facilitation and support, and d) the legal process. These elements serve as a guide in step two–six. Following the analysis process (Figure 13), first, the data was compiled, transcribed, and read iteratively. Second, the initial codes were identified. Third, the pattern and developing themes were identified. Fourth, the themes were defined according to the findings from SSI and FGD with independent smallholders and aligned with the procedural justice framework, and the data enhanced. Fifth, the themes were linked to refining the analysis. Lastly, the data was used in the report.

Spatial analysis was used to provide evidence and support for the qualitative analysis, in which basic spatial analysis, such as overlaying, statistical analysis, were employed in the process. Also, it is used to provide geographical visualization (Bailey, 1994).

4.5 Ethical considerations

In carrying out this research, ethical codes were considered to ensure that the study would not harm the participants throughout the process and that all data would be used in a responsible manner (Flick, 2014). Data protection was taken seriously. Not only was data collection done voluntarily with

oral informed consent before the interview or FGD, but also the participants' choices and decisions were respected. Lastly, the research ensured the confidentiality of the data.

4.5.1 Biases

Indonesia has a rich diversity of cultures and traditions. Visiting several local plantations as a woman from the capital city was a challenge, especially in terms of gaining trust from the mostly male interviewees. However, as explained in Section 3.1, it was manageable. While being alone was certainly challenging, being accompanied by local facilitators, it was manageable. The presence of local facilitators had positive and negative implications. On the one hand, they helped me to approach smallholders. On the other hand, their presence made interviewees reluctant to answer the question with the presence of their facilitator. Thus, to minimize the bias, I had to explain and re-explain my position as a student, distinct from the facilitators.

4.6 Data limitations

Given how many actors are involved in the oil palm sector, it is the largest and most complex commodity sector in Indonesia, bound by many complex and convoluted regulations. As the regulatory process represents the core of this thesis, it is essential to note that the implementation of regulations in each district may differ according to its level of autonomy. Furthermore, two groups were not analysed spatially due to a lack of spatial data. Lastly, a very small number of interviews were not fully recorded due to a technical issue. In these cases, notes were taken in detail during the interviews. Although the interviews were not fully recorded, note-taking during interviews was useful in ensuring no information was missed.

5 Results and discussion

This chapter presents the results and discussion using the procedural justice framework by Walker (2012), including the elements a) access to information, b) equal opportunity to obtain facilitation and support, c) ability to participate in decision making, and d) access to the legal process.

5.1 Characteristics of independent smallholder groups

Data from this study comes from independent smallholders (IS) who have a) experience in pursuing RSPO b) experience in pursuing ISPO, or c) no experience with either RSPO or ISPO. The main characteristics of each group can be seen in Table 1 and will be elaborated below.

Table 1 The characteristic of independent smallholder in the study areas

Code	Farmers Group	Village, District	Progress on Certifications	Type of group	Members, farmers group, total, and average area	Origins	Type of soil
Group 1	Semarak Mudo	Tandun, Rokan Hulu	Member of RSPO	Forum	296 members, 14 groups, 613.5 ha, 2.2/ha/farmer	Native and Javanese migrants	Mineral soil
Group 2	Tayo Barokah	Dayo and Sei Tapung, Rokan Hulu	Member of RSPO	Association	151 members, 13 groups, 334.2 ha, 2.25 ha/farmer	Javanese migrants	Mineral soil
Group 3	Beringin Jaya	Kotoringin, Siak	Member of RSPO	Cooperative	196 members, seven groups, 400 ha, 2 ha/farmer	Native and Javanese migrants	Peat soil
Group 4	Sawit Jaya	Benteng Hulu, Siak	Member of RSPO	Cooperative	112 members, six groups, 260 ha, 2.1 ha/farmer	Native and Javanese migrants	Peat soil
Group 5	Sekato Jaya Lestari	Mandiingin, Siak	Member of ISPO	Cooperative	228 members, ten groups, 450 ha	Javanese migrants	Mineral and peat soil
Group 6*	Kabun village	Kabun, Rokan Hulu	Not certified	Independent smallholder community	-	Native and Javanese migrants	Mineral soil

*Independent smallholders in Kabun Village have not yet established a legal group; thus, they are categorised as a community. Currently, there is no data available on the total number of independent smallholders in the village. (Author, 2020)

Both RSPO (2019b) and ISPO (MoA Regulation no. 11/2015) require smallholders to form a legal group according to Indonesian regulation (see MoA Regulation No. 67/2016), which can be either forum, association, or cooperative. Forming a group is a challenge for individual smallholders (SA 2, January 28, 2020). However, many smallholders in Siak have already established a cooperative

because of the previous district's public program in 2004-2011. Conversely, Group 6 has not yet created a legal group, which is similar to many farmers in Indonesia that work individually rather than associated in a legal group (SA 2, January 28, 2020), which remains a national problem (DJP, 2017).

In terms of ethnicity, the native (Melayunese) community faces challenges related to tenurial ownership, which will be explained further. By contrast, migrant farmers, especially from the Transmigrant program (Section 2), usually have land legality and have facilitation from companies and the government.

Finally, FAO (1988) divided the type of soil into two: organic and mineral. Rich in carbon content, peat soil is included in organic soil (IPCC, 2014). Putting aside the controversy on which type of soil produces more yield (Veloo et al., 2015), cultivating on peatland is challenging given the environmental consequences it produces. Thus, managing oil palm on peatland is deemed more difficult and costly (Andriessse, 1988) in comparison to doing so on mineral soil.

5.1.1 Yield gaps between different type of smallholder groups and soils

Based on collected and analysed data, independent smallholders in Rokan Hulu and Siak own, on average, 2.2 and 2 hectares of land, respectively. In terms of productivity, IS, on average, produces about 0.5-1 ton of FFB per hectare per harvest. However, there is a significant yield gap between scheme smallholders and independent smallholders. In the Tandun sub-district, scheme smallholders produce more than 25 tonnes per hectare per year, while independent smallholders only produce 14-17 tonnes per hectare per year. (IS 12, February 9, 2020). Beyond productivity, the price of FFB is lower for independent smallholders (Field note, 2020). They are usually in debt with the middlemen, mainly due to having to buy fertilisers (IS 4, IS 8, February 8, 2020). Consequently, they have to sell their FFB to the middlemen instead of the cooperative since the cooperatives could not provide loans for the farmers due to its limited financial capacity.

Meanwhile, farmers must take measures that address the environmental challenges they face on peatland, substantially increasing the cost of production (IS 16, February 11, 2020). Independent smallholders hold an essential role in maintaining the supply chain. However, their productivity and income are generally the lowest among the actors in the palm oil supply chain (SA 1, January 16, 2020). Thus, independent farmers have limited financial capacity, which hinders them from getting certified (SA 1, January 16, 2020).

5.2 Procedural justice for smallholders in sustainable palm oil initiatives

Regulatory compliance is 'the ticket to entry' for both RSPO and ISPO certifications. The different barriers faced by independent smallholders in fulfilling regulatory compliance are explained in the following sections through the lens of procedural justice.

5.2.1 Access to information

Independent smallholders' knowledge about RSPO and ISPO

To identify barriers to accessing information, independent smallholders' knowledge of RSPO and ISPO was examined. Figure 14 shows smallholders' perceptions of both certifications.



Figure 14 Word cloud on independent smallholders' perceptions of RSPO (left) and ISPO (right). Abbreviation: GAP: good agricultural practices, FFB: fresh fruit bunch (Author, 2020)

Based on the interviews, it is possible to say that smallholders perceive RSPO mainly as an international certification to increase profit (implicitly referring to premium price), improve productivity (GAP), and secure land legality. Meanwhile, they perceive ISPO as a national standard, emphasising legality, and less often productivity improvement (GAP). These perceptions show not only the smallholders' knowledge but also their expectations.

The dominant expectation concerning RSPO membership is increased profitability in terms of *premium price*. However, Hidayat et al. (2015) find that *premium price* is one among many uncertainties associated with RSPO certification. Moreover, the connection between improving productivity and increasing profitability is not fully understood by farmers, possibly resulting in

counterproductive outcomes. As premium price is far from a certainty (Hidayat et al., 2015), farmers are often unable to achieve what they expected. There is also a risk that farmers will find GAP compliance reducing their income because it is costly (Hutabarat et al., 2019). Also, because they fail to grasp the overarching goals that implementing GAP will lead to productivity improvements, and eventually increases the profitability. Farmers' understanding of the RSPO is still dominated by uncertain expectations, thereby, there is a risk that unmet expectations and incomplete understanding can lead to a reduction in the attractiveness of certification and sustainability.

Meanwhile, ISPO-certified groups understood that implementing GAP leads to higher productivity, thereby increasing income. One reason for this difference is that ISPO emphasizes obedience to law as the core value and does not raise economic benefits (ISPO, January 15, 2020). Many farmers do not know about ISPO, especially those who are not certified (FGD 1, February 10, 2020). Considering that ISPO will be mandatory for farmers by 2025, it is very concerning that their knowledge of it remains lacking. ISPO (January 15, 2020) mentions that its certification is based on at least 39 regulations in which a great deal of information has been integrated with the standard. Despite its wide availability, this information is surely inaccessible to many smallholders.

Knowledge gap in understanding land legality

This land is given by our ancestors. There has never been an issue related to legality... However, there was an organisation came and mentioned that (pointing out their land map), about half of this village falls within the forest estate, thus considered illegal. Many farmers are impacted by this, but we have never known and felt that we have that problem. (FGD 1, February 10, 2020)

As expressed above, the farmers do not know that their lands are considered illegal based on national regulations, which is in line with McCarthy (2011). This statement shows that limited knowledge of land legality causes insecurity and leaves farmers vulnerable, an issue all farmers who do not possess a land certificate face (DJP, 2017, p. 118). McCarthy (2012) highlights that uncertified land right may cost farmers to lose their land when they fail in negotiations due to a power and knowledge imbalance between them and powerful actors. Often, this imbalance leads to land grabbing in Indonesia (Li, 2017; McCarthy, 2011).

Similarly, several smallholders of Group 1 are facing land tenure issues due to conflicts between *adat* (customary) and national law. Traditionally, the local community in Tandun had its *adat* arrangement (Sawitri, 2018). Some native households acquired *adat* land, traditionally known as *tanah ulayat*, from the *Ninik Mamak*, or *adat* leader (IS 4, IS 9, February 8, 2020). Some of the *adat* arrangements, however, do not match with the national rules, which is why portions of some farmers' land remain

uncertified (IS 9, February 8, 2020). For instance, as mentioned by one of the adat leaders, IS 9 (February 8, 2020):

Since 1996... nobody has ever asked the license, nor the government, and it's been more than 20 years. Some of us even have the land ownership certificate (SHM) and have submitted it to the bank for credit purposes.

This concern was raised due to the recent removal of 150 hectares of a nearby oil palm plantation that overlaps with a forest estate (bottom-left side of the map, see Figure 15). After it found out through consultation with its facilitator that the plantation's land was located inside the forest estate, the IS perceived this as a threat (IS 9, February 8, 2020). Consequently, as seen in Figure 15, these lands were excluded from the certification. The map shows a random distribution of RSPO members' plot (orange-colored boxes), and, as is clear from the vast amount of unmapped lands on the map, there are still many smallholders who are not yet involved in RSPO. Usually, the reason for this lack of involvement relates to land legality (LF 3, April 17, 2020).

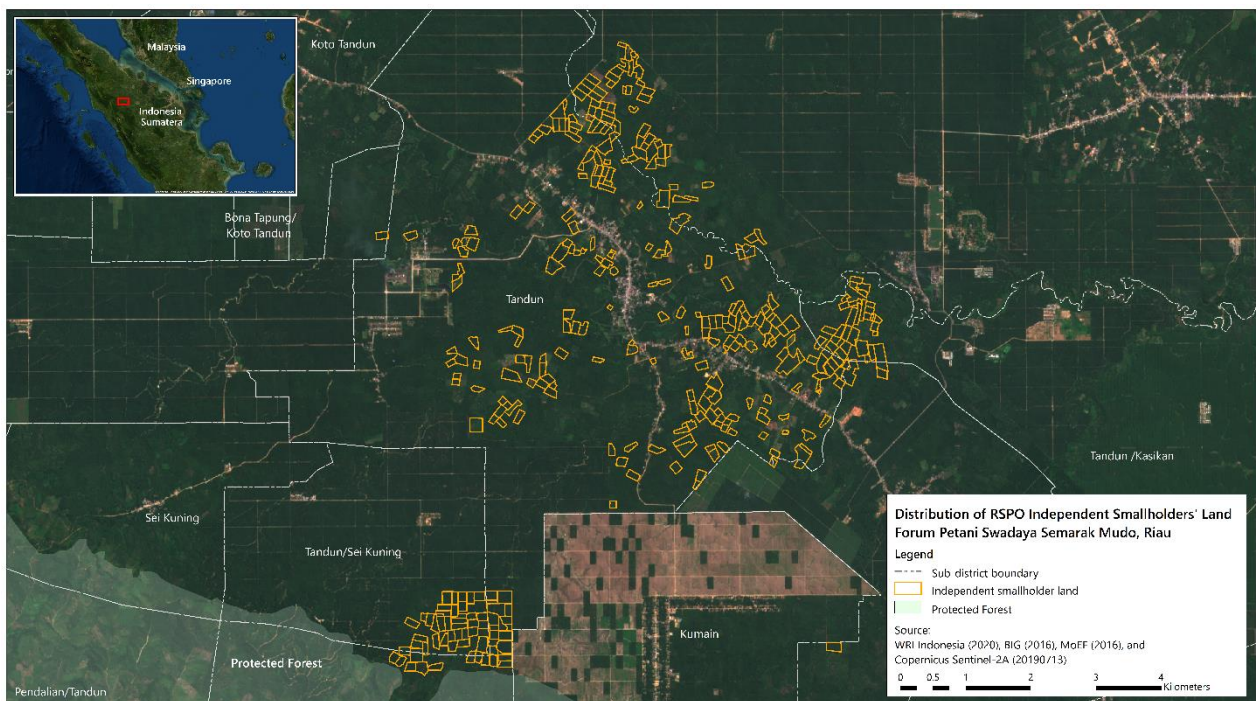


Figure 15 The distribution of lands owned by independent smallholders, Group 1 (WRI, 2020 modified by the author)

Equal access to information is one of the four elements of procedural justice (Walker, 2012). Both cases highlight the lack of legal understanding around land status and right its implications for smallholders, from inability to get certified to loss of land (McCarthy, 2011). Struggles around forest and land administration in Indonesia occur due to the changing political system (Smith et al., 2003), which significantly affects rural populations that are highly dependent on forest and land resources (Barr et al., 2006).

5.2.2 Access to facilitation and support

Long struggles over justice and facilitation

Based on interviews and a focus group discussion, it is possible to say that access to facilitation is influenced by three factors: a) local institutional arrangement, b) land status and legality, and c) practicalities. Compared to Independent smallholders, scheme smallholders have better access to facilitation because it is embedded in the government's programs (see Section 2). The members of Group 5 were previously scheme smallholders. They experienced different facilitations until they became ISPO-certified. The first facilitation, which took place in 1992, was provided by a private company that served as the concession holder. However, the outcome of the facilitation did not meet expectations, which led the group to negotiate with the government and receive another facilitation through a program called KPPA. The second facilitation was likewise unsuccessful because the income from the program was insufficient to cover living expenses.

The negotiation resulted in third facilitation, through the K2I program. This program enabled the group to establish its own oil palm plantation through a credit scheme, meaning they had to repay the debt to a state-owned company (LF 1, January 27, 2020). The experiences of Group 5 in navigating the negotiation process took part in developing their understanding of regulations and bureaucracy, which is beneficial in their ISPO preparation. When they were asked why they were selected by LF 1 and a private company to pursue ISPO, they answered that:

They (a company) chose our cooperative. After negotiation, we agreed. Well, if they want to facilitate a smallholder, logically, they will select a group that can succeed. (FGD 2, February 13, 2020)

The statement was confirmed during the interview with LF 1. As the informant said:

First, we investigated the legality aspect according to national regulation; they must have legal permission from the Governor and must be located in APL (outside forest estate). (LF 1, January 27, 2020)

Group 5, the members of which were previously scheme smallholders, experienced various facilitations from different public programs. The experience of Group 5 shows that public programs, on the one hand, enable smallholders to receive facilitation despite their successes or failures, and on the other hand shape the uneven facilitation opportunities between scheme and independent smallholders, with independent smallholders rarely involved in public programs (Lestari, Hutabarat & Dewi, 2015). Although farmers receive facilitation from the program, McCarthy (2012) argues that many land disputes and unjust profit-sharing arrangements arise due to power imbalances between facilitators (companies) and smallholders. Thus, it is vital to ensure that facilitation is done in a *just* approach.

Group 5, similar to Groups 3 and 4, first established their cooperative to fulfill a requirement from public programs in Siak. As mentioned,

If the local institution is strong, it is easy for them to be selected by company or government. (SA 1, January 16, 2020)

The existence of local institutions is attractive because it shows locals' willingness to engage in collective action and to self-organize (Andersson & Agrawal 2011), which echoes what was mentioned by SA 1 (January 16, 2020). In the process, Group 5 learned that:

Land legality is the key. Our land was still inside under plantation forest, which means we could not do anything until the land status is changed into 'other land use' status (outside forest estate)... in 2015, we sent our documents to 18 local government institutions, and the process continued until our request was granted in 2017. (FGD 2, February 13, 2020)

The challenges they faced during many negotiations and the regulatory process gave them not only their right over land but also recognition. The negotiation processes show how they navigate the system, which also highlights their capacity to work with the government (Andersson & Agrawal, 2011).

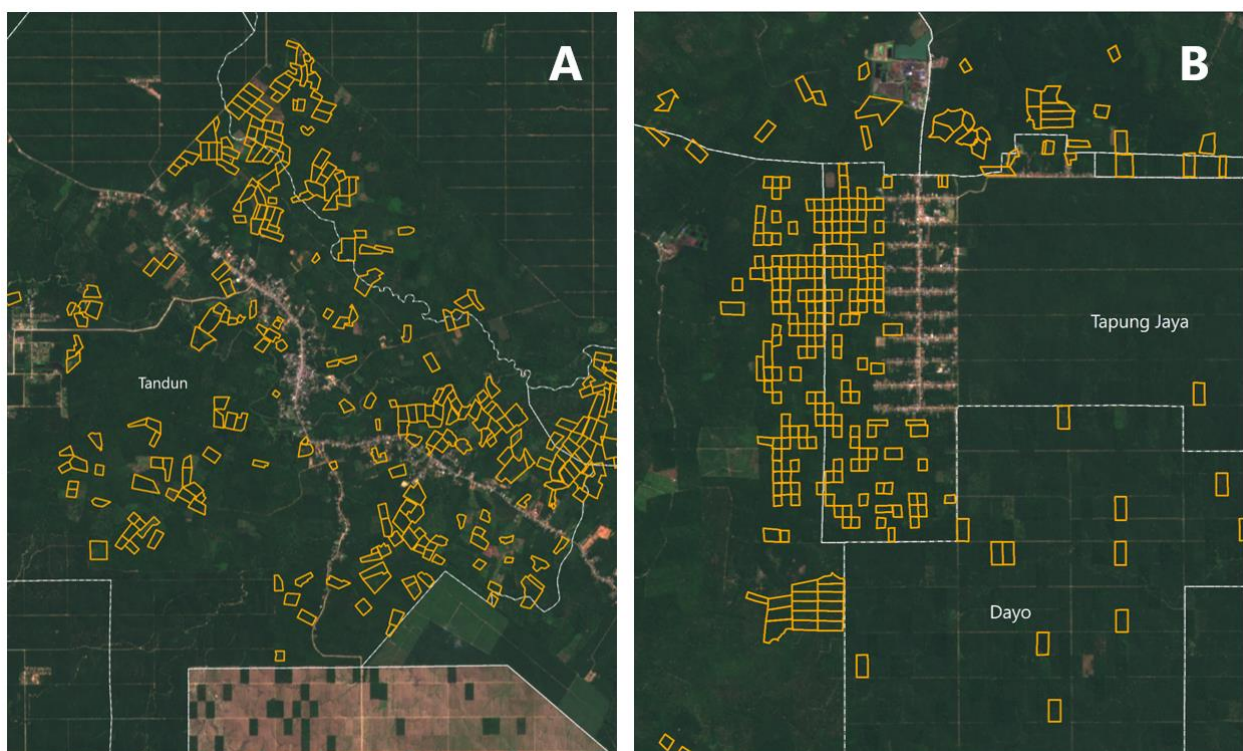


Figure 16 Spatially disorganised smallholders' plantation (A) and organised smallholders' plantation (B) (WRI, 2020 modified by the author)

However, barriers to facilitation are also produced by conflicting land legality and status. In other words, there is bias from the facilitator's side when choosing the group. Many facilitation programs are project-based with a limited period and budget (FGD 2, February 13, 2020). It becomes practical for facilitators to choose the group that fits their project. Furthermore, the site selection process can

be done remotely through spatial analysis, which enables facilitators to identify whether a smallholder's land is problematic and potentially represent a legal issue (LF 3, April 17, 2020). For instance, if the land is located inside a forest estate or within zones restricted by RSPO or ISPO, then the conflicting land usually entails a long process to resolve the land issue (LF 3, April 17, 2020). In other words, these conditions often cause the facilitators to choose *low-hanging fruit* groups for facilitation. Another consideration is practicality. LF 3 (April 17, 2020) mentions that level of difficulty in land mapping and surveys may affect access to facilitation. For instance, technical consideration of whether lands are disorganised (see Figure 17a) or organised, (Figure 17b) influences the facilitators' decision to facilitate the group. When the land is scattered, land survey and mapping become more difficult and usually costly compared to when the land is well organized (LF 3, April 17, 2020). Thus, practicalities are also part of facilitator bias that leads to unequal facilitation opportunity.

Weaker position without the presence of facilitators in political arena

Facilitation provides significant benefits to smallholders. It helps farmers to access information and assists them with technicalities and practicalities, as elucidated in the previous section. Although farmers in Group 2 have not yet faced a serious legal issue, they encountered an issue related to bureaucracy, as stated below:

... we need assistance when we are going to governmental offices... if we visit them alone without our facilitator, we are treated differently, and the outcome would not be optimal. (IS 12, February 9, 2020)

They feel powerless, which forces them to rely on the representation of the facilitator in the regulatory arena. Similarly, Group 5 mentioned that their facilitators helped them in the political sphere, especially when they finally managed to get the GoI to change their land status (FGD 2, February 13, 2020). On the one hand, facilitation is needed as it can strengthen smallholders' bargaining power in the political sphere. On the other hand, it shows a power imbalance, which generally puts smallholders in the weakest position, especially considering that many of them do not have facilitation, as mentioned by DJP (2017, p. 72).

Limited financial supports

It is difficult for smallholders to obtain certification without financial support (SA 1, January 16, 2020), a point that is congruent with a study by Brandi et al. (2015). According to a calculation by SA 1 (January 16, 2020), which has extensive experience facilitating smallholders, the cost for trainings, safety tools, auditing, mapping, and *unexpected* requirements when making legal documents is approximately IDR 7 million (USD 475) per person. This figure also depends on the number of

members and the total area proposed for certification. Additionally, smallholder groups must pay annual membership fees and surveillance (RSPO, 2018).

Meanwhile, access to the fund is limited. Created in 2013, the RSSF was aimed to fund smallholders in fulfilling pre-audit requirements (co-funding up to 50%), the actual audit cost, or impact projects (RSPO, 2017). On September 15, 2018, RSPO redirected pre-audit and impact project funds toward the RSPO smallholder strategy, through which RSPO aims to improve smallholders' productivity through non-financial support such as a capacity-building (RSPO, 2017). Funding for pre-audit costs is the enabling factor for smallholders to pursue regulatory compliance (SA 1, January 16, 2020). However, since funding for pre-audit and impact projects is no longer available, the smallholders need to find another source of funds to cover the pre-audit costs. Meanwhile, when it comes to applying funds for the audit costs, there is a language barrier (Hidayat et al., 2015), especially because the information and application form is in English (see RSPO, 2018b). The language barrier shows how western-based approaches can limit the local community's access to the funds and impact the selection process they must pass through (RSPO, 2018b).

For ISPO, the Financial Services Authority OJK (2019) explains different types of funding mechanisms for independent smallholders. Yet, there is currently no mechanism specifically addressing funding for ISPO certification. Furthermore, three available funding mechanisms require smallholders to form a group and affiliate with either an *off-taker* company (usually to whom smallholders sell their FFB) or an NGO (OJK, 2019). However, as mentioned before, farmers usually sell their product to the middlemen with whom they have an informal relationship (see Section 2.3). Thus, many smallholders are unable to access the funding because they do not have affiliation to an *off-taker* company. In sum, limited availability and access to funding are barriers for smallholders seeking to obtain certification, and fulfil the regulatory compliance.

5.2.3 Access to legal process

The implementation of centralised legal processes at the local level

Inclusion in the legal process is about the right of individuals to receive assistance and access legal services (Walker, 2012). The previous sections provided a glimpse of regulatory barriers. However, as evidenced by the experiences of all groups in Siak District (Groups 3, 4, and 5), many more barriers exist. Under Presidential Regulation No. 91/2017, the GoI has developed a nation-wide technical solution for business licensing known as Online Single Submission (OSS). The system is aimed to be used in all districts in Indonesia, and its utilisation at the local level is determined by the district government. Siak district has integrated OSS by requiring individuals to independently access the

system (LF 1, January 27, 2020). However, in practice, it entails regulatory challenges for independent smallholders when issuing their license documents.

Groups in Siak were struggling to complete pre-certification tasks, mainly when fulfilling legal document requirements (LF 1, January 27, 2020). Smallholders need to provide additional documentation to obtain each license document.

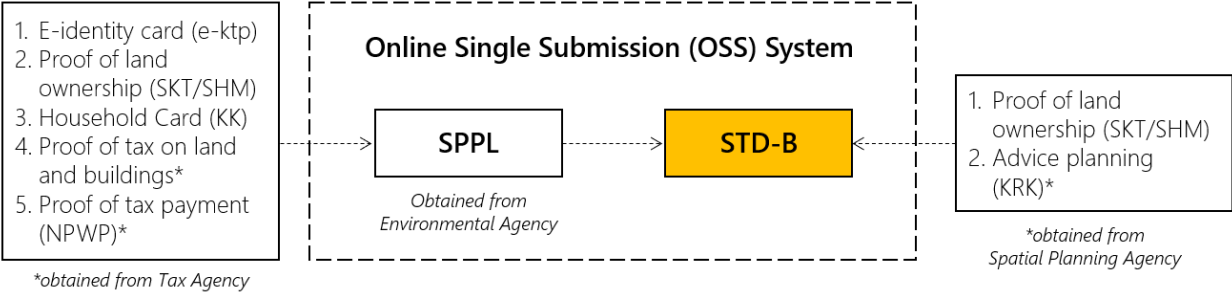


Figure 17 Online submission system to obtain legal documentation for farmers (Illustration according to interview with LF 1, January 27, 2020, and combined with regulation documents by author)

The regulatory process for licensing purposes (Figure 17) is illustrated based on semi-structured interviews and a simplified interpretation of several legal documents (including the Regulation of the GoI no. 24/2018 on electronically integrated business licensing, the Decree of DJP no. 105/2018, and MoA Regulation no. 11/2015). To fulfil legal requirements, especially for ISPO, farmers must provide proof of membership in a legal group (such as a cooperative), SHM or SKT (proof of land ownership), and STD-B (cultivation registration certificate) (MoA Regulation no. 11/2015). However, obtaining each document involves engaging with a chain of bureaucracies in different governmental institutions. For instance, to acquire STD-B (Figure 17), a group would need to provide an environmental license (SPPL), proof of land ownership, and advice planning (KRK) in the OSS system, which is managed by One-Door Integrated Licensing (PTSP). SPPL is an informed consent issued by another authority, the local Environmental Agency, to certify compliance with environmental management and supervision rules. To obtain SPPL, farmers need to provide their national identity number, proof of land ownership, household cards, proof of tax payment, and personal tax identification. As mentioned by LF 1:

Honestly, people do not understand anything about legality until they were introduced to ISPO, and they must have SPPL for the certification. First, they will be asked to submit an electronic national identification card (e-KTP). However, the local community in Mandiangin Village lives in the middle of the forest (acacia plantation), which makes it difficult for administrative matters, especially because they are Transmigrant. Many transmigrants were elderly when they moved there. They do not have an identity card. Thus, each of them had to come here (the city, which takes approximately 6-hour driving for a return trip), and we need to put it online. Then, the tax of landholding it should be paid for two years at the very least, which is very costly for smallholders. (LF 1, January 27, 2020)

This statement not only shows how the community's location and background affect its access to information, but also the absence of basic administrative services at the local level. As mentioned previously, the licensing process for STD-B also requires an Advice Planning document (KRK). This document is issued by the local spatial planning agency to ensure the spatial alignment of the plantation with the local spatial planning agency. To obtain it, a cooperative must provide a spatial map of the land in digital format (FGD 2, February 13, 2020). Lack of technical skills in mapping and GIS constraints smallholders in trying to fulfill this requirement. Even when they receive facilitation for mapping, the verification of land map process is lengthy and requires the coordination of various local and national authorities as expressed below:

Bureaucracy is very time-consuming; we wait so long to get KRK. KRK is a document for spatial planning and Public Work Agency responsible for it, and they have the map. But we were asked to go to the Agrarian Office instead of getting the file. Yet the office refused to provide the document. (IS 16, February 11, 2020)

These complexities are reflected by independent smallholders who receive facilitation from one or more external institutions. As made clear by Group 6, many independent smallholders who do not receive facilitation face a complex regulatory process. In the absence of facilitation and legal services at the local level, it would be very challenging for farmers with limited technical, practical, and legal knowledge to be able to pursue the regulatory process. Moreover, many smallholders do not possess requisite proof of land ownerships (Schoneveld et al., 2018).

Limited public services and assistance

When it comes to pursuing licensing process, sometimes the government doesn't provide public services; we find it as a limitation. (SA 1, January 16, 2020)

After a regulation issued in 2018, the district's government said that they could not do anything, it is the national government's responsibility. (FGD 1, February 10, 2020)

From the smallholders' perspective, as expressed above, they do not receive adequate services from the authorities when pursuing the licensing process. However, from the government's perspective, this gap is mainly due to a limited budget, as shown below:

It is our homework to help smallholders. However, in the past five years, there has been no budget for assisting smallholders in improving their plantation (thus productivity). (GOV 1, January 21, 2020)

In practice, budget limitations appear to be a substantial barrier to local estate crop agencies carrying out their duties. Similarly, the GOV 2 (January 24, 2020) argues that a limited budget makes it difficult to carry out plantation assessment, which is required by ISPO if a company or smallholder group wants to apply.

Moreover, sectoral issues and responsibilities cause a bureaucracy tangle, as mentioned below:

ISPO could be very helpful for productivity improvement. However, currently, there is no incentive accessible for farmers. It's right that through good agricultural practices, eventually, the productivity will increase. However, what about their legal issues? The mechanism to solve if farmers are inside the forest estate remains unclear. (GOV 2, January 24, 2020)

An example of a sectoral issue is when a plantation is located within a forest estate and land issue resolution is handled by the MoEF, not the MoA, even though plantation-related issues fall under the MoA's responsibility. The national governments are aware of the problem. In fact, DJP's strategic plan (2017) mentions that the lack of sectoral coordination between multisectoral and multi-level governmental institutions, and inconsistency between regulations, remain huge challenges that are adversely affecting growers (p. 97-105). Coordination is aimed at accelerating the process to achieve the government's objective (DJP, 2017, p. 103). Yet, inconsistent regulation commonly happens horizontally (between different sectoral agencies within the same level) and vertically (between different level of government) (Pramudya et al., 2018, p. 928). Miscoordination leads to a lack of clarity on the resolution of land conflict, especially when a smallholder's land is within the forest estate (GOV 2, January 24, 2020). As a result, the bureaucracy process is ineffective and complicated (SA 1, January 16, 2020).

Through Presidential Instruction no. 6/2019, the President of Indonesia mandated various ministries to accelerate the resolution of land legality. The mandate clearly shows that the sectoral government could help accelerate the regulatory process if each institution focuses on its responsibilities. Given that there are various sectoral institutions involved in the regulatory arena, this means that they also need to coordinate with each other. Thereby, cross-sectoral coordination is critical (Christopoulos et al., 2012) and should be coupled with the alignment of regulation for smallholder inclusion. Moreover, the provision of public services should be carried out proactively and promote equal opportunity for all (Portilla, 2016, p. 65). Ultimately, it is right for people to obtain legal assistance (Walker, 2012).

5.2.4 Participation in decision making

The issue of involvement in decision making is often neglected, especially in regard to environmental challenges at the local level (Walker, 2012, p. 31). Lack of inclusion in decision making can be explored in terms of the social and legal aspects related to recognition in customary arrangements (Bedner & Arizona, 2019), lack of integration of *adat* rights into national law (Li, 2017, p. 1160), and environmental issues that are usually considered distant because they occur at the local level

(Walker, 2012, p. 1). Yet, as experienced by interviewed smallholders on both mineral and peat soils, environmental issues are directly affecting their productivity.

Dealing with environmental challenges on peatland

The development of oil palm in Indonesia was aimed to eradicate poverty (see Section 2) on both mineral and peat soils. Peatland holds both economic and ecological roles for people. However, cultivating oil palm on peatland is not an easy task due to environmental consequences, including peat subsidence, fires, flooding, and enhanced carbon emission (Hooijer et al., 2015, Saputra, 2019). Given that peatland covers about 60% of Siak District (Soewandita, 2008), Groups 3, 4, and 5 are experiencing these challenges. Annually, these groups actively monitor their land to prevent fires that can occur when the water content level in the soil is low (Adrianto et al., 2020). This challenge, alone, may cause severe consequences for farmers:

The members will not be able to eat if the land is on fire (FGD 2, February 13, 2020)



Figure 18 Canal Blocking, an intervention for fire prevention. a) small canal blocking in Group 3's plantation for monitoring the water contained in the peat soil by blocking the flow of water to keep the peat moisture. b) we were making a permanent measurement in the main canal to monitor the water level, and c) the main canal block. (Photos by the author and a local facilitator in Siak, January 26, 2020)

Thus, peatland requires special intervention (Figure 18) to prevent fire, which is both costly (LF 1, January 27, 2020) and required by certifications (RSPO, 2019b, MoA Regulation no. 11/2015). There is a consensus among Group 3, 4, and 5 that funding (see Section 5.2.2) is extremely important to building a canal block to maintain the water level, despite the difficulties in maintaining the water level during the dry season (IS 18, February 12, 2020). Furthermore, maintaining water level is essential to reducing peat subsidence (Wösten et al., 2008), which causes the oil palm tree to

collapse (Figure 19). However, research on the cost of peat subsidence remains limited. A study by Saputra (2019) highlights that the cost of peat subsidence could be massive in the long run.



Figure 19 The consequences of peat subsidence: a) collapsed oil palm tree, b) the soil level when the tree was first planted, c) a measurement pipe for soil moisture monitoring. (Photos by the author and a smallholder in Siak, January 26, 2020)

RSPO (2013) requires farmers to implement best management practice (BMP) and to complete a risk assessment on peatland, including on flooding, water level control, etc. (RSPO, 2019b). Meanwhile, ISPO allows cultivation on less than 3-meter depth peatland with 60 to 80 cm water level maintained (MoA Regulation no. 11/2015). It is a challenge for farmers on peatland to comply with legal requirements and BMP on peatland, while at the same time addressing environmental consequences affecting their production. Although certification has proven beneficial for smallholders' livelihood (Hidayat, 2017), the burden of environmental management must be considered (Walker, 2012). Given the significant carbon emissions caused by unsustainable management on peatland (Hooijer et al., 2015), it is necessary to help independent smallholders to manage land sustainably.

The prevalence of extreme weather events in mineral soil

Environmental challenges are felt not only by farmers on peatland, but also by farmers on mineral soil. Overall, most of the farmers are aware of the environmental impact of oil palm. However, they tend to justify those environmental costs by referencing economic benefits. The effects felt by the locals are varied depending on the characteristic of the area and surroundings. Groups 1 and 2 face challenges such as flooding, industrial pollution during rainy seasons and drought, fire, and smoke during dry seasons. Drought and Flooding are the main issues mentioned by smallholders in Rokan Hulu.



Figure 20 Flooding and the waste after flooding in Rokan Hulu. a) flooding on farmers' plot, b) domestic waste washed away by floods that ended up on the field, c) waste 'washed away' on the river from a mill nearby (Photos were taken by the author, February 9, 2020)

Based on their experiences, farmers highlight that flooding has a significant impact on their productivity and leads to economic losses (IS 1, IS 2, IS 6, IS 7, IS 12, IS 13, February 7 & 8, 2020). The main issue caused by flooding is limited accessibility, which prevents farmers from harvesting (IS 1, February 7, 2020). When the fruit is flooded, it becomes ripe prematurely and rots (IS 1, February 7, 2020). Usually, the fruit is washed away by floods (IS 6, February 8, 2020). Similar crop losses due to flooding have also been reported in Thailand (Somnuek et al., 2016). Some farmers experienced flooding after they fertilised the land; one of them mentioned:

About 2 hectares of my land is vulnerable to floods; I cannot bear the loss if I fertilise these lands. Last night, I just fertilised the land, and the floods came this morning. I just lost five bags of fertiliser. (IS 7, February 2020)

Hutabarat et al. (2019) found that certified farmers have high access to fertilisers. However, in this study, some farmers in Group 1 (member of a certification) could not afford to buy fertiliser (IS 5, IS 9, February 7 & 8, 2020). In consequence, when floods washed away their fertilisers, they experience significant economic loss. Due to the low affordability of fertiliser, some were forced to accept the degradation of their soil fertility (IS 4, IS 5, IS 9, February 7 & 8, 2020). In addition, drought was mentioned as a huge challenge. A study by Basiron (2007) finds that producers in Malaysia face decreasing yield due to drought. Similarly, farmers mention that their fruit becomes lighter during the dry season, decreasing their productivity (IS 4, IS 5, IS 9, February 7 & 8, 2020). Matters are even worse during El Niño (for instance, in 2015), as mentioned below:

The longer the dry spell, the lighter the fruit becomes (IS 4, February 7, 2020)

Furthermore, drought affects water availability for domestic use. Some farmers mentioned that they

experienced a decrease in groundwater levels in their wells (IS 4, IS 5, IS 6, IS 12, February 7, 8, 9, 2020). One said:

We usually cook water from wells for drinking, however, during the dry season, the water shrinks up to 5 to 6 meter deep. Usually, it happens for up to one month. (IS 4, February 7, 2020)

Another challenge is local heat stress (IS 12, February 9, 2020). Although the heat is still tolerable, sometimes farmers complain (IS 12, February 9, 2020). The threat from fungus *Ganoderma boninense* was also mentioned; a plant disease that is currently impacting the oil palm sector (IS 5, IS 12, February 8 & 9, 2020), it remains “the most destructive disease” for oil palm (Susanto, Sudharto, & Purba, 2005). These issues influence the capacity of smallholders to get involved in certification and therefore need to be considered.

Environmental challenges affect independent smallholders on both peatland and mineral soil in different degrees. Improving the inclusion of smallholders in decision making would also mean recognising the environmental challenges farmers are dealing with.

6 Future outlooks for smallholder inclusion in SPO initiatives

In order to improve smallholder inclusion in sustainability initiatives, it is fundamental to address the barriers to regulatory compliance and bureaucracy tangles. Lack of information on SPO certifications, legality, and regulations at the local level is the result of limited access to information and difficulties faced by independent smallholders to comprehend the information. In line with Hidayat (2017), this study has shown that it is critical to ensure that smallholders fully understand the certification they wish to pursue to avoid the consequences of unmet expectations, including reducing the attractiveness of certification and thus sustainability. In terms of legality, limited understanding of the regulation may have severe consequences for independent smallholders, including loss of land (McCarthy, 2011) and thereby livelihood. To minimize such implications, facilitation may fill in the gap because it contributes to information dissemination. Well-circulated information could help farmers to learn about sustainability (Hidayat, 2017, p. 91) and improve their readiness to get involved in SPO initiatives.

Furthermore, providing equal access to facilitation will help independent smallholders to navigate the regulatory process. This study has identified three factors that influence access to facilitation: local institutional arrangement, land status and legality, and practicalities. Increasing facilitation opportunities requires considering these three factors. However, currently, there is no regulation basis for ensuring 'just' partnership (Lai & Hamilton, 2020) by addressing power disparities between stakeholders in facilitation. Oxfam (2014) developed a guideline called FAIR company–community partnerships highlighting four principles, including freedom of choice, accountability, improvements, and respect for rights. This framework may provide insights for policymakers.

Reduction of funding opportunities provided by RSPO and the unclear funding scheme for ISPO certification limit independent smallholders' access to aid in pursuing regulatory compliance. The Presidential Regulation no. 44/2020 states that smallholders could be granted funding from the national budget, provincial budget, or other legal sources (art. 18). However, the technicalities for accessing the funds remains unclear. Meanwhile, smallholders are expected to fulfill legal compliance within five years lest they face sanctions (art. 6). Thereby, the funding mechanism should be prioritized to aid independent smallholders to participate in the regulatory arena. Additionally, it is critical to ensure the availability of funding opportunities in which access should be simplified and localised to fit with the smallholder's context.

On a practical level, considering the lack of technical capacity, knowledge gap, and impracticalities for farmers who work on plantations (and especially those who live in remote areas), the national, top-down licensing system (OSS system) is difficult to follow. The system also entails bureaucracy tangles and the mechanism for solving tenurial issues remains unclear (GOV 2, January 24, 2020). At the national level, the implementation of Presidential Instruction no. 6/2019 (RAN-KSB) to accelerate the legal process has not yet been fully implemented (ISPO, January 15, 2020). This study suggests that local authorities should be more proactive in assisting smallholders and thereby facilitate the realisation of RAN-KSB's goal. Although still in the early stage of development, a landscape approach known as the jurisdictional approach may have potential for addressing the challenges. This approach emphasises compliance at the sub-national jurisdiction level (Larsen et al., 2018), involving local authorities in ensuring compliance with sustainability initiatives (e.g., RSPO or ISPO). Additionally, it will attract collective action from downstream companies that are using cleaner-sourced palm oil (Pacheco et al., 2018)

Lastly, this study has shown that smallholders on peat and mineral soils face different environmental challenges that affect their productivity. Environmental challenges are the issue that local farmers are currently dealing with, not to mention the increased risk of extreme weather events that may exacerbate them. Considering environmental issues and sustainable practices, which have implications in the present and long-term consequences, in decision-making may also contribute to addressing both intragenerational (present) and intergenerational justice (future) (Walker, 2012, p.185). Ultimately, improving procedural inclusion also means incorporating environmental challenges in decision making, which requires a clear mechanism for enabling smallholders in "proposing and providing input regarding the management and implementation of ISPO certification," as stated in Presidential Regulation no 44/2020, art. 24.

7 Conclusion

Both RSPO and ISPO aim to integrate smallholders into their certifications, though in different ways. At the local level, smallholders are expected to be able to participate in SPO initiatives. Using the lens of procedural justice (Walker, 2012), this study identified the barriers that constraint independent smallholders in fulfilling regulatory compliance as required by both SPO certifications. This study found that in the context of smallholders in Riau, limited access to information on SPO certifications may hinder independent smallholders from pursuing regulatory compliance. Lack of understanding of SPO certifications may lead to unfulfilled expectations that could undermine the overarching sustainability goals of certifications. Meanwhile, lack of understanding of land law puts smallholders — especially independent smallholders whose land status is conflicting — in a vulnerable position. As a result, they are rarely included in the certification process.

Moreover, unequal access to facilitation and support remains a huge challenge with smallholders' financial and institutional capacity lacking. This study found that access to facilitation is influenced by existing local institutional arrangements, land legality, and practicalities. The existence of a local institutional arrangement represents farmers' willingness to collective action, while the legality and practicalities cause bias in the facilitator. Furthermore, access to financial support is limited for both RSPO and ISPO. While RSPO continues to offer funding opportunities for audit costs, language barriers prevent farmers from getting information and applying for funds. In the meantime, funding opportunities from the GoI remain unclear due to the absence of a funding mechanism that specifically addresses ISPO certification.

In regard to access to the legal process, smallholders have difficulty comprehending one-fits-all licensing systems (OSS) due to limited knowledge as well as technical and practical issues. Lack of coordination between government both horizontally and vertically contributes to lengthy bureaucracy tangles. Yet, smallholders have only five years before ISPO becomes mandatory (in 2025). More importantly, improving the inclusion of independent smallholders in sustainable palm oil initiatives would mean including the environmental concerns that farmers face in decision making. Considering environmental issues in decision making is not only about addressing the issue that farmers face in the present, but also the environment in the future.

Improving smallholder inclusion should be balanced with the effort to address the abovementioned barriers in fulfilling regulatory compliance. Returning to the question mentioned at the start of this thesis about whether the initiatives will grip or slip out independent smallholders, it is crucial to

ensure that smallholders' expectations of SPO certifications, including better access to markets, increased productivity, and greater opportunities for enhanced profits, are met. Such benefits may compel smallholders to comply with sustainability efforts and compliance. In short, both smallholders and the environment can thrive. On the whole, there is an area for future research to explore whether certifications will increase the sustainability of production, productivity, and profitability and whether certified smallholders perform better in these aspects than their non-certified counterparts.

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9 Appendices

Appendix 1 – List of interviewees

Individual interview

No.	Interview code	Interviewee	Date	Location
1.	RSPO	Senior manager of RSPO	January 10, 2020	Jakarta
2.	RSPO	Smallholder task force of RSPO	January 10, 2020	Jakarta
3.	ISPO	Executive director of the ISPO	January 15, 2020	Jakarta
4.	GOV 1	Local estate crop agency	January 21, 2020	Rokan Hulu
5.	GOV 2	Provincial estate crop agency	January 24, 2020	Pekanbaru
6.	SA 1	Independent smallholder forum manager	January 16, 2020	Bogor
7.	SA 2	Director of Independent smallholder association	January 28, 2020	Pekanbaru
8.	LF 1	a state-owned company	January 27, 2020	Siak
9.	LF 2	Local facilitator 2	February 8, 2020	Rokan Hulu
10.	LF 3	Local facilitator 3	April 3, 2020	Pekanbaru
11.	IS 1	Independent smallholder 1	February 7, 2020	Rokan Hulu
12.	IS 2	Independent smallholder 2	February 7, 2020	Rokan Hulu
13.	IS 3	Independent smallholder 3	February 7, 2020	Rokan Hulu
14.	IS 4	Independent smallholder 4	February 8, 2020	Rokan Hulu
15.	IS 5	Independent smallholder 5	February 8, 2020	Rokan Hulu
16.	IS 6	Independent smallholder 6	February 8, 2020	Rokan Hulu
17.	IS 7	Independent smallholder 7	February 8, 2020	Rokan Hulu
18.	IS 8	Independent smallholder 8	February 8, 2020	Rokan Hulu
19.	IS 9	Independent smallholder 9	February 8, 2020	Rokan Hulu
20.	IS 10	Independent smallholder 10	February 9, 2020	Rokan Hulu
21.	IS 11	Independent smallholder 11	February 9, 2020	Rokan Hulu
22.	IS 12	Independent smallholder 12	February 9, 2020	Rokan Hulu
23.	IS 13	Independent smallholder 13	February 9, 2020	Rokan Hulu
24.	IS 15	Independent smallholder 15	February 11, 2020	Siak
25.	IS 16	Independent smallholder 16	February 11, 2020	Siak
26.	IS 17	Independent smallholder 17	February 12, 2020	Siak
27.	IS 18	Independent smallholder 18	February 12, 2020	Siak

Group discussions

No.	Interview code	Interviewee	Date	Location
1.	FGD 1	Independent smallholder community	February 10, 2020	Rokan Hulu
2.	FGD 2	ISPO-certified group	February 13, 2020	Siak

Appendix 2 – List of questions

RSPO and ISPO

1. How is the progress of the certification so far?
2. How is the process of certification?
3. Participation and inclusion are ones of the certification's objectives. How does the certification define participation and inclusion?
4. How does the certification define sustainability?
5. Related to the participation of smallholders:
 - a. How many smallholders have certified currently?
 - b. How is the pattern?
 - c. What enables them able to get certified?
6. What are the opportunities and challenges in increasing participation?
7. Related to the area for information dissemination:
 - a. What are the main considerations of RSPO in selecting the areas?
 - b. How is the decision-making process behind it?
8. What are the benefits of being certified for smallholders?
9. Could you explain the cost of certification and the opportunity to get fund for independent smallholders?
10. Related to the audit cost, since it is costly, so far how does the smallholders' willingness to pay? Are they able to cover the expenses themselves?
11. Could you tell me about the traceability?
12. How does the recent global dynamic regarding EU RED II affect the certification?
13. There was joint research between RSPO and ISPO; how did it go?

Local and provincial government

1. Could you explain the characteristics of oil palm smallholders in your area?
2. What are the obligations of your institution regarding smallholders?
3. What are the main issues that farmers encounter and how does the government contribute to solving the issues?
4. Could you explain how facilitation is carried out on the field?
5. What is the institution's role in certifications?
6. What are the challenges concerning certifications?
7. Is there any financial support or facilitation from the government for smallholders?
8. How does your institution define sustainability?
9. How is the flow of information and decision-making process between multilevel government?

Independent smallholder forum organization and association

1. Could you explain about your organization and what is the focus of your organization and why?
2. Could you explain about your organization's experience in either RSPO or ISPO certification?
3. How many farmers groups that the forum has facilitated? How are the patterns?
4. What is the focus in the facilitation?
5. How long does it take for farmers to finish the pre-audit tasks and succeed in the audit?
6. What are the main issues that the group usually encounter and what are the solutions?
7. What is your perspective on smallholder inclusion?
8. Could you explain on certification cost and farmers' financial capacity to bear the cost?
9. Could you explain on the opportunities and challenges in getting facilitation?
10. What is the role of the government throughout the certification process?
11. What are the benefits of the certification?
12. What can be improved by RSPO or ISPO?
13. What is your opinion if ISPO becomes mandatory for smallholders?
14. What do you think the GoI should improve if ISPO becomes mandatory for smallholders?
15. How does sustainability being implemented in the field? Do you see any improvements from the certifications?

Local facilitators

1. Why did your organization consider when choosing the group?
2. Could you explain the progress of the farmers group that you are facilitating?
3. Could you explain the process of certification that the group has pursued?
4. What are the challenges that the group encounter?
5. What is your opinion on the Gol's plan to set ISPO mandatory for all smallholders?
6. How is information disseminated within the group?

Independent smallholders

1. Could you explain about your oil palm plantation especially in terms of land, legality and productivity, do you encounter challenges?
2. Could you explain how do you sell your fruit?
3. Do you receive support from the government, companies, or other organisations?
4. Could you explain about the group you are currently being part of?
5. Could you explain the process of decision-making within your group?

Certification

6. How far do you know about RSPO?
7. How far do you know about ISPO?
8. What is sustainability for you?
9. Are you currently pursuing a certification?
 - a. If yes, what kind of certification is it? When and how did you get into the certification?
 - b. If no, are you planning to obtain certification?
10. How do you get any updates regarding palm oil?
11. What are the drivers of smallholder transformation?
12. Have you heard about new Presidential Instruction regarding ISPO becomes mandatory for all growers? What is your perspective?
13. What are your expectations from SPO certification?
14. What is your opinion on sustainable agriculture practices?
15. What do you see as the barriers to obtain certification?

Perception of the environment

16. Could you explain about your land, how is the condition, and how did you get the land?
17. Have you faced any challenges related to water, soil, pest, fire and smoke, and climate-related issues?? If yes, what are the challenges and how do you cope with that?
18. What is your perspective on the oil palm and its implications to the environment?

Appendix 3 – Themes extracted from interviews and focus group discussions

Topic	Themes	Sub-themes
Characteristics of Independent smallholders	Group characteristics	Group development
		Group dynamic
	Productivity	Market access and supply-chain
		Productivity
		FFB price dynamic
	Willingness to sustainability transformation	Implementation of GAP
Perspective on ISPO mandatory		
Procedural Justice	Access to information	Knowledge on RSPO
		Knowledge on ISPO
		Expectations on certification
		Conflicting land status
	Access to get facilitation	Drivers of facilitation
		Process of facilitation
		Technical and practical issues
	Access to financial support	Availability of financial support
		Accessibility of financial support
	Access to legal process	Legal process
		Regulation issues
		Bureaucracy process
		Authority assistance in the legal process
	Participation in decision-making	Environmental considerations
		Consultation mechanism
	Environmental challenges	Water issues
Water shortage		
Drought on plantation		
Flooding on plantation		
Soil degradation		Soil fertility issues
		Peat subsidence
Pest problems		Pest challenges
Fire and smoke		Fire prevention
		Smoke impacts to health
		Smoke impacts to productivity
Climate-induced issues		Changes in harvest time
		Precipitation and heat issues
Perspective on oil palm	Oil palm impact on the environment	

Appendix 4 – Comparison between RSPO and ISPO Principles and Criteria

Theme	RSPO			ISPO		
	#	Principles and criteria	Indicators	#	Principles and criteria	Indicators
Legality	P2	Legal or customary rights according to National Interpretations (NI)	Legal documentations according to national and local laws	P1	Legality and management of independent smallholder land	Certificate of Land ownership
			Provide maps of their plots			Certificate of agricultural practice (STD-B)
	P1	Proof of legal organization according to NI		P1	Organization	Proof of membership of farmers group and cooperative
	P1	Proof of free conflict land	Informed consent from i.e. indigenous people	P1	Farming land location	Aligned with district's spatial plan map for oil palm plantation
Access to FFB gathering place should follow the standard (i. e. Should be sent max 24 hours, and FFB quality shall not be reduced)						
Institutional arrangement	P2	Legal entity	Located outside national parks/protected areas according to NI		Organization documentations	Proof of membership, organizational chart, activity plan, and activity report
			Fair transparent in decision making	P2	Free conflict land	consent on conflict resolution
			Member consent - signed or thumb printed	P2	Land opening	fire free, conserving the soil, water
	P2	Capacity to effectively manage land	Tracking and reporting productivity	P2	Seeds management	Proof of seeds acc govt recommendation and receipt
	P2	Implementation of GAP	Complete training on GAP	P2	GAP on mineral soil	

Theme	RSPO			ISPO		
	#	Principles and criteria	Indicators	#	Principles and criteria	Indicators
				P2	GAP on peat soil	According to Ministry of Agriculture Regulation No. 14/ 2009, as follow: 1) Allowed to plant on peat soil <3m, proportion of 70% of the total area, 30% for conservation, 2) planting distance according to the best practice, 3) land should be covered by low-level plants, 2) water level control between 60-80 cm and making water management system
Environmental protection measure	P4	Protection on High Conservation Values (HCVs) and High Carbon Stocks (HCS) on the plot	Commitment to protect HCVs and HCS identified after November 2019	P2	Plant management	Fertilizer report
	P4	If smallholder plot has been cleared or planted after Nov 2005, but is within identified HCS forests (Nov 2019) independent smallholder can pursue RaCP process	Remediation and Compensation procedure (RaCP) must be pursued.	P2	Pest control	SOP of integrated pest management, report, place to collect the tools for pesticide
	P4	New planting policy: should be outside HCV, HCS, not located in peat areas and not be in steep slope (25 degrees)	Commitment on new planting policy	P2	Harvesting	Harvest in accordance to the maturity of FFB, report
	P4	If the plot is located in peat soil, independent smallholder should implement BMPs	Best management practices (BMPs) on peatland should be implemented	P2	Transporting FFB	

Theme	RSPO			ISPO		
	#	Principles and criteria	Indicators	#	Principles and criteria	Indicators
	P4	New planting policy: it is allowed on the areas of low risk of flooding, saline intrusion.	Commitment and risk assessment	P2	Agreement on FFB price	Agreement documentation
	P4	No fire use for land preparation, pest control nor waste management	No fire commitment			
	P4	Management and protection of riparian buffer zone	Commitment on no new planting on riparian buffer zone	P3	Statement of Environmental Management and Monitoring Undertaking (SPPL)	SPPL according to UU 32/2006 article 36
	P4	Attention on using pesticide	No purchase of pesticides categorised as WHO Class 1A or 1B and those listed by Stockholm or Rotterdam Conventions.	P3	Fire prevention	SOP on fire prevention
	P4	Manage pest, disease, invasive species using a proper way, i. e. IPM		P3	Biodiversity protection	Endanger species need to be protected, report on species and plant diversity within the plantation
Improvement on sustainable practices socially, economically, environmentally	P3	No use of forced labor	Commitment on no use of forced labor	P4	Improvement on sustainable practices	Report tracking the improvement

Theme	RSPO			ISPO		
	#	Principles and criteria	Indicators	#	Principles and criteria	Indicators
	P3	No children employment or exploitation (exception is given to family farms)	If children are employed, they are not allowed to work on dangerous working condition.			
	P3	Workers on farm: should be paid according to minimum legal requirements, they should understand their rights., no abuse or discrimination				
	P3	Safe working condition	Facilities			