

# Non-State Market Driven Certification Schemes in the Indonesian Palm Oil Sector

The effectiveness of certifications in addressing key sustainability issues



Source: Story Hunter

Holland Smith (6114113)

[h.e.smith@students.uu.nl](mailto:h.e.smith@students.uu.nl)

Coninckstraat 87 Amersfoort, NL 3811WH

**Supervisor:**

Dr. Marthe Derkzen

**2<sup>nd</sup> Reader:**

Dr. Birka Wicke



**Utrecht University**

*“A sustainable world is one where people can escape poverty and enjoy decent work without harming the earth’s essential ecosystems and resources...”*

Ban Ki-Moon, UN Secretary General

## Acknowledgements

Writing this thesis has taught me not only about the palm oil industry but also about researching and writing a report from start to finish. I couldn’t have done this without the support and reassurance of my supervisor Dr. Marthe Derkzen. Thanks for advising me and reassuring me when I was feeling insecure throughout the whole process, and giving good and bad feedback when I most needed it. I also have to thank my second reader Dr. Birka Wicke, not only did you give me a starter course in research during our tailor-made course, but you also helped guide and encourage me during the preparation for this thesis. Without the two of you as my mentors, I would not have been able to write a thesis that I am this proud of. Thank you both.

I must also thank all of my interview respondents for taking time out of their busy schedules to provide me with new information and insights. My discussions with each of you led me to new understandings of the palm oil sector and certifications. I admire the work that you each are doing to create a more sustainable and inclusive world for everyone.

Finally, I have to take the time to thank my parents, Wanda and Gerald Smith for giving me this opportunity to study something that I am truly passionate about and my sister Lynn, our skype sessions always take my mind off of things. Thanks to my study buddies and friends for helping me achieve this, and encouraging me throughout. Lastly, thanks to my boyfriend Loran, you have shown me what hard work is and you inspire me to work equally as hard.

## Abstract

Non-state Market Driven (NSMD) certification schemes have begun appearing as a form of multi-national governance in the last few decades in an effort to control environmental and socio-economic impacts of various industries. Within the palm oil industry, a number of NSMD certifications are working within the sector. In this research, three of these certification schemes, the Roundtable on Sustainable Palm Oil (RSPO), the Rainforest Alliance Sustainable Agriculture Network (RA-SAN), and the International Sustainability and Carbon Certification (ISCC) were compared in order to provide insight as to how they can be more effective in reducing the environmental impact of palm oil and aiding in the socio-economic development of smallholders. Based on theories for successful standard creation and implementation and legitimacy, the effectiveness of the certifications was measured. It was found that the RSPO has the most relevant criteria for palm oil, but has issues with implementation and auditing. Smallholders struggle in achieving certification due to high costs and a small price premium. This is exacerbated by the fact that smallholders are poorly represented in all of the certifications’ governance structure. Uptake of certified palm oil is low due to low consumer demand, especially in high-consuming countries with low sustainability initiatives like India and China. To help combat these issues, it is recommended that the certifications work together to improve the industry and help in the development of smallholders by improving smallholder representation, improving the auditing process, and increasing awareness campaigns and media coverage of the issues to help increase demand for sustainable palm oil.

**Keywords:** NSMD certification, palm oil, smallholders, conservation

# Table of Contents

Acknowledgements .....	2
Abstract .....	2
Table of Contents.....	3
List of Figures .....	5
List of Tables.....	5
Abbreviations .....	6
Chapter 1: An Introduction .....	7
Chapter 2: Context & Background .....	9
2.1 Why Palm Oil?.....	9
2.2 The palm oil supply chain and the actors involved.....	11
2.3 The Socio-economics of Palm oil .....	12
2.4 Environmental Consequences of Palm Oil Expansion .....	13
Chapter 3: Theoretical Background .....	15
3.1 Non-State Market Driven Governance.....	15
3.2 Conditions for success.....	16
3.3 Legitimacy .....	18
3.4 Conceptual Design.....	19
3.5 Introduction to the NSMD certification schemes in this research.....	19
Chapter 4: Research Design .....	21
4.1 Research Aim and Research Questions.....	21
4.2 Research Design .....	21
4.3 Methodology .....	22
4.1.1 Desk Research .....	22
4.1.2 Comparative analysis .....	23
4.1.3 Semi-structured Expert Interviews.....	24
4.2 Analysis of Data .....	26
4.3 Methodological Limitations .....	26
Chapter 5: Results.....	27
5.1. Identification of key issues for palm oil certifications .....	27
5.2 Conditions for Success .....	30
5.2.1 Standard Setting.....	30
5.2.2 Standard Implementation.....	40
<i>Full value chain coverage and consideration of all sustainability objectives (direct effects)</i> .....	42
<i>Consideration of indirect effects</i> .....	44
Section Summary .....	46
5.2.3 Institutionalization .....	47

5.3 Legitimacy .....	52
5.3.1 Legality.....	52
5.3.2 Moral Justification.....	58
<i>“I believe that the government [believes] that the market doesn't really need any sort of certification so the beginning of the ISPO was because the Indonesian government doesn't want to follow western standards” (IDH, Personal Communication).</i> .....	60
5.3.3 Public Acceptance .....	61
5.4 Lessons from other sectors.....	65
5.4.1 Fairtrade Coffee .....	65
5.4.2 Forest Stewardship Council (FSC).....	66
Chapter 6: Discussion and Recommendations.....	69
6.1 Theoretical Discussion: NSMD certifications in the future .....	69
6.2 Practical Discussion: Identifying Points of Improvement.....	70
6.2.1 Improving the standards and their implementation.....	70
6.2.2 Gaining legitimacy.....	72
6.2.3 Limitations and Future Research.....	74
Chapter 7: Conclusions.....	76
Chapter 8: Works Cited .....	77
Appendix 1: Comparative Analysis.....	85

## List of Figures

Figure 1: Production of Major Vegetable Oils	8
Figure 2: Oil Palm Area in South East Asia	9
Figure 3: Top Importers of Palm Oil	9
Figure 4: Palm Oil Supply Chain	10
Figure 5: NSMD Certification Conundrum	15
Figure 6: Conditions for Success	15
Figure 7: Conceptual Design	18
Figure 8: Research Design	21
Figure 9: Coverage of Key Environmental Issues	32
Figure 10: Coverage of Key Social Issues	32
Figure 11: Coverage of Other Issues	33
Figure 12: RSPO Ordinary Membership	37
Figure 13: ISCC Membership	38
Figure 14: Hectares Certified	42
Figure 15: Three-tiered system for impact reporting	46
Figure 16: Proliferation of Standards	48
Figure 17: RSPO membership	53
Figure 18: RA-SAN Decision Making organization	53
Figure 19: ISCC Membership	54
Figure 20: RSPO Certificates China and India	61
Figure 21: Points of Improvement 1	71
Figure 22: Points of Improvement 2	73

## List of Tables

Table 1: NSMD Certification Features	14
Table 2: Aspects of Legitimacy	17
Table 3: NSMD Certifications in this research	19
Table 4: Interview Topics	24
Table 5: Key Issues	26
Table 6: Standard Setting Summary	38
Table 7: Overview of Auditing Issues	41
Table 8: Standard Implementation Summary	45
Table 9: Summary of Institutionalizations	49
Table 10: Legality Summary	56
Table 11: Summary on Moral Justifications	59
Table 12: Summary on Public Acceptance	63
Table 13: Scenarios for future of NSMD Certifications	68

## Abbreviations

ACOP	Annual Communication of Progress
CSPO	Certified Sustainable Palm Oil
EIA	Environmental Investigation Agency
FFB	Fresh Fruit Bunches
FSC	Forest Stewardship Council
GA	General Assembly
GHG	Greenhouse Gas
HCV	High Conservation Value
iLUC	Indirect Land Use Change
ISCC	International Sustainability and Carbon Certification
ISPO	Indonesian Sustainable Palm Oil
LUC	Land Use Change
Mha	Million hectares
M&E	Monitoring & Evaluation
NES	Nucleus Estate and Smallholder Scheme
NGO	Non-Governmental Organizations
NSMD	Non-State Market Driven
P&C	Principles and Criteria
POIG	Palm Oil Innovation Group
RA-SAN	Rainforest Alliance Sustainable Agricultural Network
RED	Renewable Energy Directive
RSB	Roundtable on Sustainable Biomaterials
RSPO	Roundtable on Sustainable Palm Oil
SEIA	Social and Environmental Impact Assessment

## Chapter 1: An Introduction

Oil palm (*Elaeis guineensis*) is a widely discussed commodity throughout the world due to the many environmental and social impacts of its production. Palm oil is one of the most important vegetable oils on the global market, supplying greater than 30% of the world's vegetable oils and is used in a variety of products such as margarine, lipsticks, and laundry detergents (Carlson et al., 2013; WWF, 2016). Concerningly, over 85% of palm oil is produced in Indonesia and Malaysia (Agus et al., 2013). Indonesia has recently surpassed Malaysia as the world's main producer and exporter of palm oil and is currently planning to increase its production to meet international demand, thus making it an important country to analyze for future palm oil production (Oosterver, 2014; POA, 2018; Pye, 2018). Since the 1970s, the Indonesian government has also embraced palm oil as a matter of rural development and population re-distribution by encouraging citizens to migrate to the outer islands through the Nucleus Estate and Smallholder Schemes (NES) (Barlow et al., 2003; Rist et al., 2010; Budidarsono et al., 2013; Jelsma et al., 2017). Indonesia views smallholders as any farmer who does not need a business license to use government land (Rainforest Alliance, 2016).

The production of palm oil is viewed as being responsible for mass deforestation in Indonesia, as well as the resulting carbon emissions and biodiversity loss associated with this deforestation. Palm oil production in Indonesia has caused an estimated 40% decrease in lowland forests on the islands of Sumatra and Indonesian Borneo (Carlson et al., 2012). This deforestation and land use change (LUC) are responsible for around 75% of Indonesian CO<sub>2</sub> emissions, making Indonesia's oil palm industry a large obstacle in meeting global climate goals (Carlson et al., 2013). Moreover, there have also been a number of issues arising around the palm oil industry's treatment of smallholders and indigenous groups (Barlow et al., 2003; Marti, 2008; Rainforest Alliance, 2016). These issues range from the maltreatment of plantation workers, conflicts over land rights, and corruption within the NES program (Marti, 2008). This is in contrast to Indonesia's claim that the production of palm oil has helped bring economic development to Indonesians by increasing income, employment, and standard of living (Barlow et al. 2015).

To reduce the impacts of palm oil production, various forms of regulation have emerged. Non-governmental organizations (NGOs), corporations, and other actors have all developed ways to ensure that palm oil is being sustainably and ethically produced. Non-State Market Driven (NSMD) certifications have become one of the leading mechanisms for private regulation within the palm oil sector (Cashore, 2002; Silva-Castañeda, 2012). A variety of terms are used to describe NSMD certifications including private governance (Schouten, 2014), Voluntary Sustainability Standards (VSS) (West et al., 2019), eco-labels (van der Ven et al., 2018), and global partnerships (Vellema & van Wijk, 2015). In short, NSMD certifications add value to products by ensuring the product is produced in an environmentally and socially responsible manner. To do so, upstream consumers of the products are expected to pay a price premium for the certified product (Jena et al., 2012). There are numerous palm oil certifications working in Indonesia who reward certifications to producers who comply with their specific set of Principles & Criteria (P&C) that have been developed by the organization and its stakeholders (Yaap & Paoli, 2014; de Koning & Wiegant, 2017).

However, the effectiveness and legitimacy of NSMD certification schemes remains a widely debated topic in academia and within the global socio-political realm. Some authors and organizations (Schouten & Glasbergen, 2011; Saadun et al., 2018; West et al., 2019) claim that certifications are a useful tool in reducing the negative environmental and social impacts of palm oil production. Achieving certification is attractive to larger producers, traders, and processors, as it allows them to improve their

image and have better access to a new 'green market' (Gulbrandsen, 2005). In doing so, larger companies must improve their operations, thus leading to a more sustainable sector overall. NSMD certification supporters also argue that certifications help provide more reliable and consistent income to smallholder producers by providing them with a price premium and a consistent market (Oosterver et al., 2014).

Contrastingly, many authors (Silva-Castañeda, 2012; Oosterver et al., 2014; Hidayat et al., 2015; Cazzolla Gatti et al., 2016; Saadun et al., 2018; Pye, 2018) question the effectiveness of NSMD certifications, and rather believe that certifications do not realistically mitigate environmental issues nor promote socio-economic development of smallholders, but rather 'greenwash' the sector. Cazzolla Gatti et al. (2016) and Pye (2018) in particular point out that most certifications do not actually prevent the expansion of new large or small scale palm oil plantations but only attempt to improve existing plantations and therefore do not limit deforestation. Moreover, some studies found that certified plantations house less diverse species than even the degraded or secondary forest they often replace (Fitzherbert et al., 2008; Pye, 2018).

In reference to some of the socio-economic issues of palm oil production, certifications at large are also criticized for being too consumer-driven, and often disregarding the needs of smallholders (Hidayat et al., 2015; Vellema & van Wijk, 2015; Pye, 2018). Furthermore, some authors claim that as certifications are more easily obtained by larger, richer producers, they are not designed to be inclusive of smallholders (Saadun et al., 2018). Due to the high costs of the auditing and certification process, certifications are generally easier for large-scale plantation producers to achieve and thus often neglect various obstacles smallholder producers face (Oosterver et al., 2014; Azhar et al., 2017). NSMD certifications schemes are also criticized for undermining public authority in producer states, which leads many to believe that certifications should not have a role in regulation (Marin-Burgos et al., 2014).

Hence, it remains unknown whether NSMD certifications are capable of aiding in the socio-economic development of smallholders whilst conserving Indonesia's remaining natural forests and the species that reside in it. The conflicting literature on the subject points to a clear knowledge gap in regards to the usefulness of NSMD certification in regulating the palm oil sector. The following report will attempt to provide information on the effectiveness of NSMD certifications in the palm oil sector by analyzing three leading NSMD certifications in the sector. Chapter 2 will provide more background information into the palm oil sector and some of the issues surrounding it. Chapter 3 will present the theoretical background as the foundation of this report as well as introduce the certification analyzed in the report. Chapter 4 presents the research design and methodology. Chapter 5 gives the results found from this project, followed by Chapters 6 and 7, where a discussion over the findings and final conclusions can be found, respectively.



## Chapter 2: Context & Background

As palm oil is a widely-used commodity that is exported and consumed around the world, it must be understood how and why this product became what it is, and the issues that surround its production.

### 2.1 Why Palm Oil?

Since the 1970s palm oil has become an increasingly important product on the global market, causing a high rate of oil palm plantation expansion. Oil palm plantations covered around 21.4 million hectares (Mha) in 2017, just over 1% of all land used for agricultural production on Earth (FAOSTATS, 2019). This production is focused in tropical areas in Central America, Africa, and Southeast Asia (Fitzherbert et al., 2008; Agus et al., 2013). The amount of palm oil produced has grown immensely in the last two decades, going from 11.4 million tonnes produced globally in 1990 to 57.3 million tonnes in 2014 (FAOSTATS, 2019). As seen in Figure 1 below, this figure has continued to grow, with around 73 million tonnes of palm oil produced in 2018 globally (Statista, 2018).

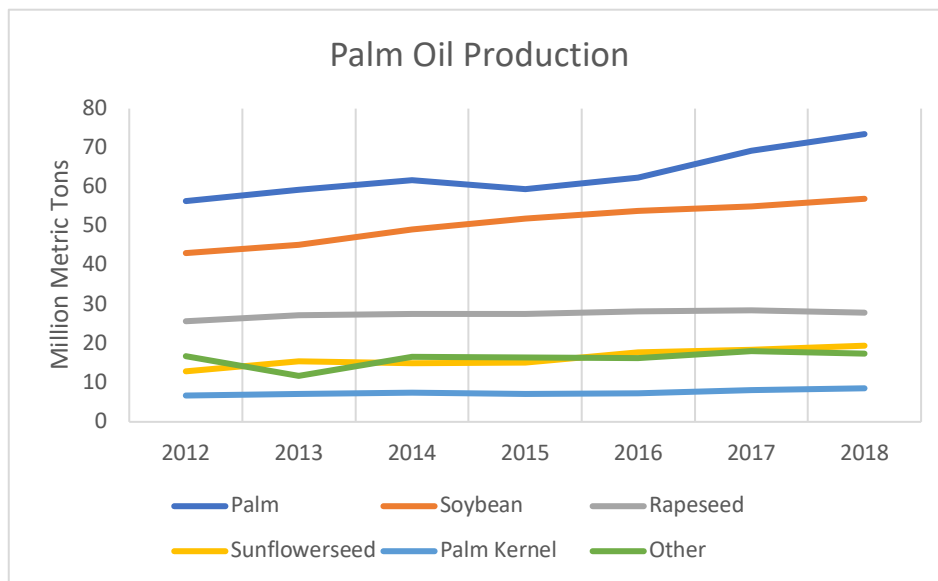


Figure 1: Production of major vegetable oils worldwide, by type (Statista, 2019)

The production of palm oil is increasing by an estimated 4% per year since 2012 due to its high demand as a vegetable oil as well as a biofuel feedstock (Statista, 2019). Palm oil surpassed soy as being the most widely produced vegetable oil in the world since 2005 (Schmidt, 2015). Moreover, the production is expected to continue to rise in the future as the demand for palm oil increases for use in a variety of products increases. The relatively high price of palm oil (426 US\$ per ton) further encourages the expansion of palm oil (Wicke et al., 2011; POA 2018).

Palm oil is used in a wide range of products, ranging from food products such as margarine or chocolate, beauty products such as lipstick and soaps, and household products like laundry detergent and candles (WWF, 2016). Furthermore, it is an important source of animal feed and as a feedstock for biodiesel production (Corley & Tinker, 2015). With all of these uses, it is clear how palm oil became the most produced vegetable oil in the world.

#### Box 1: Palm Oil Quick Facts

- Oil palm yields about 17,16 t of palm oil fruit per hectare,
- can be harvested all year round beginning at 3 years of age,
- Palm oil trees can continue to be harvested for 25 years
- Sources: Mattsson et al., 2000; FAOSTAT, 2018).

In 2014, Indonesia produced 52% of the global supply of oil palm, making it an important part of the Indonesian economy (FAOSTAT, 2019). Oil palm was first introduced to Indonesia in 1911 on the

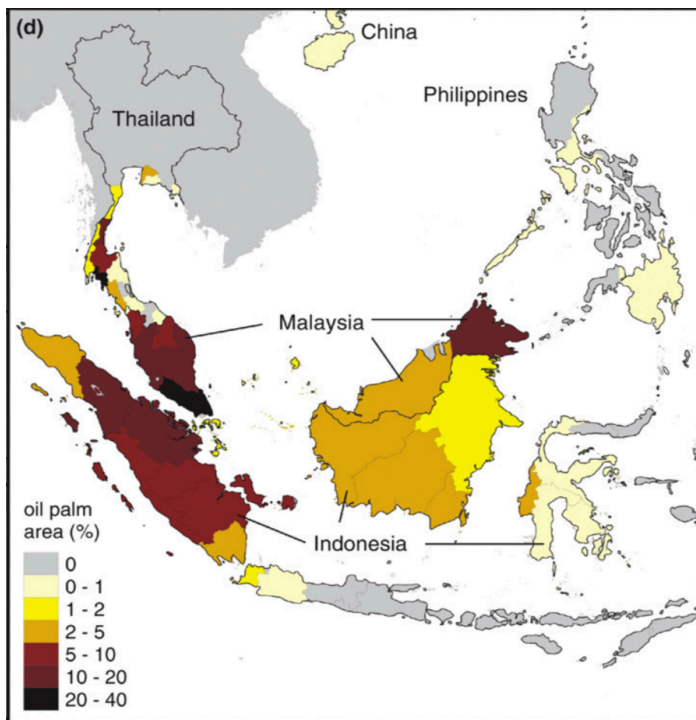


Figure 2: Oil Palm area in South East Asia, as a percentage of country area, per island (Fitzherbert et al., 2008)

Island of Sumatra (Corley & Tinker, 2015). Since then, the area under palm oil cultivation in Indonesia has continued to expand along with the demand for oil palm in the global economy. In Figure 2 to the left, it can be seen that over 90% of Indonesian palm oil is produced on the islands of Sumatra and Indonesian Borneo (Kalimantan) (Fitzherbert et al., 2008). The effects of this expansion have been detrimental to the natural forest. Indonesia has lost 24.4 Mha of forest cover in the years 2001-2017, a size larger than the area of the United Kingdom. It is estimated that palm oil accounts for nearly 16% of this deforestation (Fitzherbert et al., 2008; Global Forest Watch, 2018).

As seen in Figure 3 below, Indonesia internally consumed around 11,3 Mt of palm oil in 2018 (USDA, 2018). The rest is exported globally. The top importers of palm oil are India, China, Pakistan, the Netherlands, Spain, and Italy (OECD, 2019).

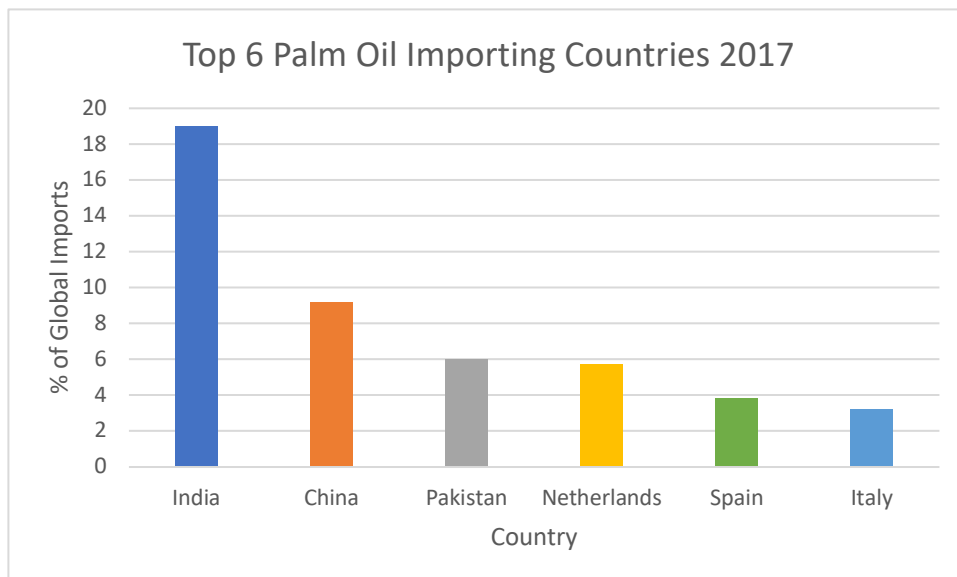


Figure 3: Top Importers of palm oil in 2017 (based on OEC data, 2019).

Indonesia's domestic consumption is mostly used for cooking oil (PwC, 2016). In contrast, the European Union (EU) used around 4,200 tons of the palm oil for non-food items in 2015, and only around 3,000 tons for food products (IDH, 2015).

This consumption and trade of palm oil in combination with the concentrated production area fuels the continual deforestation within Indonesia. It is thus understandable how NSMD certifications have arisen over the years to combat some of the issues that are brought about by unsustainable expansion.

## 2.2 The palm oil supply chain and the actors involved

In order to understand the complex supply chain and the large amounts of actors involved in palm oil, the visual in Figure 4 is presented. At the top, the differentiation between the different groups of producers, i.e. independent smallholders, plasma smallholders, and large-scale plantations is presented as well as the difference in processing mills. The dotted line represents the independent smallholders who rely on a middle man, or trader, to get the Fresh Fruit Bunches (FFB) to the mill (Rainforest Alliance, 2016). After processing, both crude palm oil and the palm kernels are refined into various products, shown below. Achieving sustainability in this complex and global supply chain that involves a large variety of actors and stakeholders is difficult and thus creates a challenge for NSMD certification trying to improve the sector.

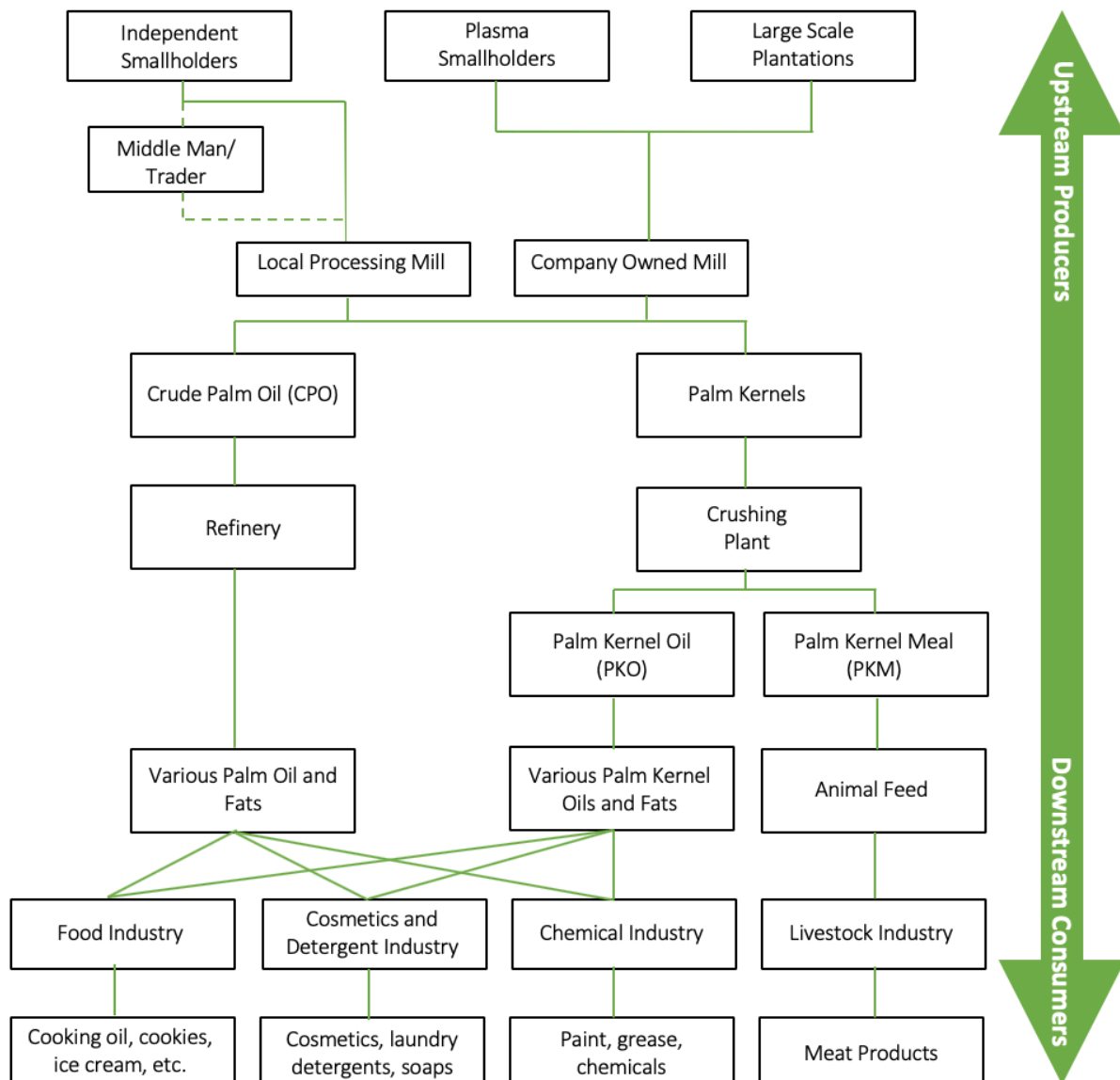


Figure 4: Palm Oil Supply Chain adapted from von Geibler (2010) and Pacheco et al. (2017)

## 2.3 The Socio-economics of Palm oil

There are a number of conflicting findings on the socio-economic impacts of palm oil production throughout Indonesia. In purely economic terms, palm oil has contributed to increased development and income for Indonesia. According to the OEC, in 2018 palm oil had an export value of \$18.2 billion in Indonesia, making it Indonesia's most significant agricultural product (OECA, 2019). As mentioned, the Indonesian government has encouraged the development of palm oil (Budidarsono et al., 2013). local economies by increased spending from palm oil workers (Budidarsono et al., 2013).

Palm oil is thought to be a good replacement for subsistence agriculture as it reduces the amount of land needed to support each household due to its high yields (Fitzherbert et al., 2008). In a study by Budidarsono et al. (2013), palm oil was found to have helped spur the economic development of many Indonesians by increasing income, employment, and standard of living for everyone involved in its production. Palm oil is furthermore thought to have helped develop rural areas and effectively increase the incomes of villages that are involved in oil palm production (Budidarsono et al., 2013). While the economic impacts for national and regional development are beneficial by most studies, there is more debate around the social impacts for smallholder farmers.

As can be seen in figure 4 in the previous section, there are three main types of producers: independent smallholders, NES smallholders, and large scale plantations. Smallholders produce more than 42% of palm oil in Indonesia, 25% by NES smallholders and 17% by independent smallholders (Rainforest Alliance, 2016). This means that the remaining 58% of palm oil is produced by medium or large size companies. There are however big differences between NES smallholders and independent smallholders.

As mentioned, the NES program was introduced in the 1970 in order to facilitate smallholder farmers to begin producing palm oil in the outer islands of Indonesia (Budidarsono et al., 2013; Jelsma et al., 2017). The implementation of the NES program was not only aimed at increasing palm oil production, but was also aimed at redistributing the population to less populated areas, increasing employment, and developing rural areas (Budidarsono et al., 2013). In exchange for a portion of their land, state-owned plantation companies (nucleus estates) provide farmers with the seedlings and capital to begin an oil palm plantation (Rist et al., 2010; Budidarsono et al., 2013). NES smallholders pay a portion of their returns (30%) back to the plantation company until the investment is paid off, generally after a couple of years (Barlow et al., 2003). During this period, plasma smallholders are only permitted to sell the FFBs to the nucleus estate, although many have been found to often side-sell to independent mills (Rainforest Alliance, 2016) Once paid off, the plasma farmers will receive the titles to the land and become independent of the nucleus estate (Barlow et al., 2003). After becoming independent, plasma farmers typically become a part of a farming co-operative that take over most of the tasks done by the nucleus estate, although many plasma smallholders sell their land shortly after independence due to a lack of expertise and mismanaged co-operatives (Barlow et al., 2003).

Contrastingly, independent smallholders operate more along the lines of traditional subsistence farmers, sometimes intercropping palm oil with other crops and selling their FFBs to middlemen who then sell it to processing mills (Barlow et al., 2003; Rainforest Alliance, 2016; Azhar et al., 2017). Moreover, independent smallholders are characterized by the lack of government intervention and subsidies for their farms (Azhar et al., 2017). Around 15% of independent smallholders receive funding from banks or credit unions, but most independent smallholders still face monetary challenges due to the relatively high price of good quality agricultural inputs (Barlow et al., 2003; Rainforest Alliance, 2016).

While palm oil has increased employment, labor conditions on large oil palm plantation remain an issue. Workers on oil palm plantations are paid minimum wages or less, and are often deceived by the length of their employment. Since it takes more employees during the establishment of the plantation than during the harvesting and maintenance period, many workers have reported being fired after a few years (Marti, 2008). Furthermore, labor conditions for woman are often worse, and there have been accusations of harassment and sexual violence against women on palm oil plantations (Pacheco et al., 2017; World Rainforest Movement, 2019).

In the past, there have been many conflicts in Indonesia over land ownership and land rights of indigenous communities. Questions still remain as to the land that was taken from indigenous people by both the Indonesian government and palm oil companies (Andrianato et al., n.d.; Marti, 2008; Silva-Castañeda, 2012). Indigenous communities have been found to frequently express that they have been cheated by plantation companies in regards to the land, while others have said that their land has been forcibly taken from them (Marti, 2008; Budidarsono et al. 2013). The official process for land acquisition is a long process that can take years, making many palm oil companies wish to expedite the process (Andrianato et al., n.d.). This could therefore be the cause of why many community members say they were offered bribes or pay-offs for their consent (Marti, 2008). While much of the literature (Barlow et al., 2003; Marti, 2008; Budidarsono et al. 2013) states that indigenous communities are generally not interested in the development of palm oil on their land, Rist et al. (2010) found that many communities are keen to have oil palm investments on their land, but these communities are underrepresented in the literature. Moreover, the study found that many of the claims by communities of land grabbing and stealing of their land were unjustified (Rist et al., 2010).

The socio-economic complexities of the Indonesian palm oil sector and the history of indigenous rights violations make it an important topic of this paper. Nevertheless, due to the nature of NSMD certification schemes, explained further in Chapter 3, the remainder of this research will focus on the socio-economic development of independent smallholders, and specifically on how NSMD certifications can better incorporate them into their scheme.

## 2.4 Environmental Consequences of Palm Oil Expansion

The environmental effects of palm oil have become a matter of global concern over the past decades. As mentioned, the biggest issues surrounding the palm oil industry are deforestation or LUC, and the associated greenhouse gas (GHG) emissions and loss of biodiversity.

As mentioned, nearly 24.4 Mha of natural forest has been lost in Indonesia since 2001, a size larger than the United Kingdom. According to the Global Forest Watch (2018), 1.27 Mha has been lost to commodity driven deforestation in Indonesia, due in large part to palm oil. Palm oil is not however only planted on primary forests, but also replace land that was previously used for another purpose. Oil palm in Indonesia can replace a variety of lands including: (1) primary forest or previously logged forest, (2) agroforests or fallow agricultural land, (3) burned, barren, or degraded land and (4) mineral soils/ peatland (Carlson et al., 2012; Wicke et al., 2011; Ramdani et al., 2013). Between 1990-2010, most new palm oil plantations were planted on primary forests and peatlands (Ramdani et al., 2013; Carlson et al., 2013). The LUC of previously forested areas or peatlands is the main reason for concern over GHG emissions.

Currently, Indonesia is the 8<sup>th</sup> biggest global emitter of GHGs, contributing 1.7% of all global GHG emissions despite its relatively small size in comparison to other countries in the top 10 (WRI, 2017). Within palm oil production, the two main sources of GHG emissions arise from fertilizers and pesticides added during cultivation as well as from LUC (Choo et al., 2011; Schmidt, 2015). Choo et al.

(2011) found that the palm oil production phase emitted .119 tons CO<sub>2</sub> equivalent per ha per year, making it the largest emitter in the entire palm oil supply chain, even without the addition of emissions from LUC. Ramdani et al. (2013) estimated that approximately 26.54 Mt of CO<sub>2</sub> was emitted from 1990–2000 and 5.25 Mt from the years 2000-2012 due to LUC from forests and peat lands to oil palm plantations. With this high amount of GHG emissions, it is clear why palm oil poses a threat to global achieving climate mitigation goals.

A corresponding issue with the expansion of palm oil and LUC is the loss of biodiversity. Indonesia's rainforest is the only remaining place where a number of 'flagship species' including orangutans, elephants, tigers, and rhinoceroses co-exist (Ruysschart & Hufty, 2018). Moreover, with the current rate of land use change, studies warn that an estimated 13-42% of regional species could be lost (Koh & Wilcove, 2008). Another study found that less than half of the species found in forested areas were also found on palm oil plantations (Fitzherbert et al., 2008). In a comparison of 25 studies on the species richness of vertebrates and invertebrates between forests and palm oil plantations, 20 studies found an overall reduction in species (Savilaakso et al., 2014). Furthermore, palm oil plantations were found to be suitable to less species than other types of agricultural land (Fitzherbert et al., 2008).

The issues presented above are some of the reasons while palm oil production is an issue of international concern. NSMD certifications working in palm oil were formed in part to mitigate some of these issues, in addition to the socio-economic issues provided above.

## Chapter 3: Theoretical Background

### 3.1 Non-State Market Driven Governance

Certification schemes are classified as what is known as a NSMD governance. In response to the lack of effective government regulation on environmental protection measures, market-driven incentives arising from consumers and NGOs have become a tool for transnational governance (Auld et al., 2009). This relatively new (early 1990s) form of governance stresses the idea of using market incentives or public pressure as motivation for businesses to behave in an environmentally friendly manner (Cashore, 2002). Companies may engage in NSMD certifications for economic benefits such as market access or price premiums, or because the environmental and social standard has become an important aspect of consumer values (Cashore, 2002). NSMD certifications are useful as they more easily transcend international boundaries than state regulation and states have no reason to resist them because of their voluntary nature (Kerwer, 2005).

Table 2: Key Features of NSMD Certifications (Auld et al., 2009)	
Role of the Market	Support emanates from producers and consumers along the supply chain, who evaluate the costs and benefits of joining
Role of the State	State does not have authority to directly require adherence to rules
The Social Domain	Development of prescriptive rules governing environmental and social problems, to which firms must adhere
Institutionalized Government Mechanism	Procedures in place designed to create adaptation, inclusion, and learning over time across a wide range of stakeholders
Enforcement	Compliance must be verified

In Table 1 above, the main features of NSMD certifications are explained. The role of the market overpowers that of the state in enforcing the standards. Therefore, violators of the standards cannot be incarcerated or fined by a government body, nor are any government representatives permitted to be part of the NSMD organization (Cashore, 2002). Governments can however require adherence to a standard (Gulbrandsen, 2010). The social domain includes the NGOs, companies, and multi-stakeholder initiatives that are the main actors in creating NSMD certification strategies, and are responsible for creating the standards and rules within the governance scheme (van der Ven, 2018). NSMD originators claim that this form of governance is more transparent, open, and democratic than the domestic and international public policies it seeks to replace. Finally, enforcement of the standards is the fifth aspect of NSMD certification schemes. The compliance with the accepted standards must be verified through an external auditing process (Cashore, 2002).

NSMD certifications usually attract companies that are already closely operating near the standards first, as they have the largest cost-benefit (Cashore et al., 2007). After establishment, the certification schemes must then attempt to appeal to more companies and achieve widespread support within the sector (Cashore et al., 2007; von Geibler, 2013). This can cause issues with divergence of interests between the social domain and companies about the standards included in the certification. The formation and expansion of standards under NSMD certifications is tricky in that it must find a balance in leniency and stringency. According to Cashore et al. (2007), NSMD certification face the

conundrum of needing to be achievable in order to encourage companies to comply with the standards, but not so lenient that it will not ameliorate the environmental (and social) problems it is addressing. This conundrum is further explained in figure 5. The impacts on sustainability is low in both cases because with stringent requirements, too few companies will be members and therefore less will be achievable. With too lenient of requirements, the sector will continue on with business-as-usual despite the certification.

	Requirements to achieve certification	
	Stringent	Lenient
Level of firm support	Low	High
Impacts on sustainability	Low	Low

Figure 5: NSMD certifications relationship between requirement level, firm support, and impacts on sustainability (Cashore et al., 2007).

Therefore, NSMD certifications must find a way to balance the large group of stakeholders throughout the standard setting process. Von Geibler (2013) argues, “a transparent and open standard development as well as a participatory process balancing interests of different stakeholder groups are basic conditions for the legitimacy of the standards development process.” Hence, stakeholders must work together throughout the process in order to assure that the standards address relevant sustainability issues while still being achievable for companies to abide by.

The forestry sector is considered by some to be the ‘pioneers’ of NSMD certification schemes, and is one of the more developed NSMD schemes (Cashore, 2002). After its use in the forestry sector, NSMD governance initiatives grew rapidly over a large range of sectors, including the coffee and marine sectors (see section 3.5). Now, almost every global commodity sector has a form of NSMD governance, although only covering a fraction of total commodity production (van der Ven et al., 2018). The result is more than 447 types of certifications that address different aspects in a variety of sectors (Oosterver et al., 2014).

### 3.2 Conditions for success

In order to measure the effectiveness of the certification schemes analyzed in this research, the “conditions for success” outlined by von Geibler (2013) will be used. In figure 6, the three phases of success are outlined.

Phase I: Standard Development	Phase I: Standard Implementation	Phase III: Institutionalization
<ul style="list-style-type: none"> <li>○ Formation of sustainability goals and agreements on time-bound plans</li> <li>○ Positive cost-benefit ratio to incentivize members to join</li> <li>○ Capability to gain trust and agreements among members</li> </ul>	<ul style="list-style-type: none"> <li>○ External Certification by a third party</li> <li>○ Full value-chain coverage and consideration of all sustainability objectives (direct effects)</li> <li>○ Consideration of indirect effects</li> </ul>	<ul style="list-style-type: none"> <li>○ Monitoring systems to provide proof of effects</li> <li>○ Harmonization of standards across certification schemes</li> </ul>

Figure 6: Phases of successful certifications outlined by von Geibler (2013)



The first phase of creating a successful NSMD certification scheme is the development of standards and criteria by the certification scheme (i.e. RSPO, RA-SAN, and ISCC). This is a complex process that must balance the needs of all members and stakeholders involved. The first phase outlined by von Geibler is in line with the Cashore et al. (2007), when stakeholders must decide on which sustainability standards they are going to attempt to achieve and the amount of time producers will have to match those criteria (von Geibler, 2013). Not only is this a challenge as it brings together conflicting societal values, for palm oil the formation of standards is also criticized for being an imposition of northern sustainability standards onto a market that is based in the developing countries (Vellema & van Wijk, 2015; Glasbergen, 2018). Furthermore, the specific needs and objectives of smallholders are often excluded from the formation of standards as most certifications are dominated by large companies (Pye, 2018; Glasbergen, 2018). NSMD certifications must get stakeholders on board and build trust between members in order to develop effective standards. In order to do this, the certification must be able to convince its stakeholders that these standards are a good solution to the sustainability issues at hand and that the outcome of enforcing the standards will be equally beneficial to everyone involved (Kerwer, 2005).

The second phase necessary to create an effective certification is the implementation phase of the standards. The key points that von Geibler (2013) outlines are that the implementation of standards needs to cover the whole value chain and audits should consider all of the standards within the certification. Direct and indirect effects are separately analyzed as indirect effects are harder to identify (von Geibler, 2013; Oosterver, 2014). A direct effect is “an activity [that] can directly change the social and environmental impacts of the value chain itself (von Geibler, 2013). These activities would include the clearing of land of High Conservation Value (HCV) for a palm oil plantation. Contrastingly, an indirect effect is an activity that occurs in other value chains or areas (von Geibler, 2013). This includes land clearing for another agricultural commodity that was displaced by a palm oil plantation [(i.e. indirect Land Use Change (iLUC)) and increased food prices. While indirect effects are hard to define and monitor, they have been found to have serious impacts on food security, land degradation, and more (von Geibler, 2013; Oosterver, 2014). According to Kerwer (2005) there are three main actors that play a role in successfully enforcing the standards:

- The company or producer itself that must ensure they are following the standards;
- Other market players that will refuse business with companies who do not follow the standard;
- NGOs that work as watchdogs to ‘name and shame’ companies who do not follow the standard.

Kerwer argues that through the mix of these three players, standards can increase their effectiveness throughout the market.

The third phase is the institutionalization of the certification, or the wide-ranging acceptance of the certification. This means that first the certification must be able to provide scientific proof or evidence of their impacts through monitoring systems (von Geibler, 2013). Providing scientific proof of the effects of the certifications allows for increased credibility of their claims and helps create more trust between stakeholders, producers, and consumers. This can be done by issuing annual impact reports, internal research projects, or third-party studies. This increased credibility can help combat any claims of ‘greenwashing’ (Schouten, 2014). The second aspect of the institutionalization of an NSMD certification is the harmonization of standards across certification schemes (von Geibler, 2013). The proliferation of standards can lead to confusion amongst consumers that may lead to a distrust in standards (Glasbergen, 2018). Certification schemes are designed to create a niche market for ‘sustainable’ products, but as more and more certifications are arising, an overlap and competition

between certifications will arise. This ‘proliferation of standards’ should be avoided by harmonizing standards and creating a sharing and learning environment among certification schemes (von Geibler, 2013; Glasbergen, 2018).

### 3.3 Legitimacy

The concept of legitimacy is a widely discussed topic in relation to NSMD certification schemes (Cashore, 2002; Erwer, 2005; Cashore et al., 2007; von Geibler, 2013; Schouten, 2014; Schouten & Glasbergen, 2011). Legitimacy in NSMD certifications is related to effectiveness as it shows its acceptance as a governance mechanism by various stakeholders and audiences. Furthermore, legitimacy of NSMD certifications helps to enforce and ensure compliance (Schouten, 2014). Therefore, legitimacy and effectiveness are intertwined and mutually reinforcing (von Geibler, 2013).

Legitimacy refers to “the acceptance of a shared rule by a community as appropriate and justified” (von Geibler, 2013). Schouten & Glasbergen (2011) define three key elements that must be recognized in a legitimate voluntary government regime: legality, moral justification, and public acceptance.

Table 3: Aspects of Legitimacy from Schouten & Glasbergen (2011)	
Legality	The certification must create a set of formalized rules within the organization that address representation, procedural regularity, participation, and neutrality.
Moral justification	The certification must be able to justify their goals within the palm oil sector and why they are the appropriate actor to achieve those goals.
Public Acceptance	The certification must be able to get the consent and acceptance of both civil society and the NGOs, companies, and governments involved in palm oil.

The first aspect of legality refers to the traditional pillars of democracy in which all of the governed (in this case the stakeholders) must be properly *represented* in the certification organization and must have the ability to ‘observe and comment’ on the organization’s activities. The establishment of *procedural regularity* is necessary in order to give structure and organization. Moreover, all stakeholder groups must have the ability to *participate* in standard in the decision making process and have a part in the (Schouten & Glasbergen, 2011). Lastly, the roundtable must act *neutrally* towards all stakeholders, meaning that each stakeholders should be treated equally and fairly, with no preference given to bigger or more powerful members. The organizations decisions should be made transparent to all stakeholders in order to be publicly scrutinized and appealed if disagreements arise (von Geibler, 2013; Schouten & Glasbergen, 2011).

The next aspect of legitimacy according to Schouten & Glasbergen (2011) is the morality of the actions put forward by the certification organization. The organization must define a set of core beliefs that they will follow and convince stakeholders and civil society that these activities are the ‘right thing to do’ (Suchman, 1995 cited in Cashore, 2002). This can be complicated in global multi-stakeholder initiatives as the organization is confronted with a wide variety of beliefs and values from all over the world and from a wide range of members. Moreover, as NSMD governance schemes are an attempt to govern without the power of the state, the organization must be able to justify why they are appropriate actors in governing specific supply chains. While every member of certification schemes have their own justification for joining, together they must justify why they must step in and be involved in the palm oil industry (Schouten & Glasbergen, 2011).

The final aspect of legitimacy refers to the public acceptance of involved actors. Cashore et al. (2002) classifies actors into Tier I and Tier II actors:

- Tier I: organizations that have a direct interest in the policies and procedures of the organizations (governments and companies)
- Tier II: the audiences within civil society that have a less direct but important role (NGOs, consumers, society).

Both Tier I and Tier II actors must accept and consent to the certification system in order for the certification to be regarded as legitimate. Tier II audiences such as environmental or social NGOs may take the first initiative in identifying the issues, but they are usually based on the moral values of society at large. These NGOs then use awareness campaigns and boycotts in order to increase awareness and pressure companies, consumers, and governments to act in order to transform an industry (Cashore, 2002). With the consent of both Tier I and Tier II, the standards of the certification will be regarded as normal, in which things occurring otherwise would be 'literally unthinkable' (Suchman, 1995 cited in Cashore, 2002; Schouten & Glasbergen, 2011).

### 3.4 Conceptual Design

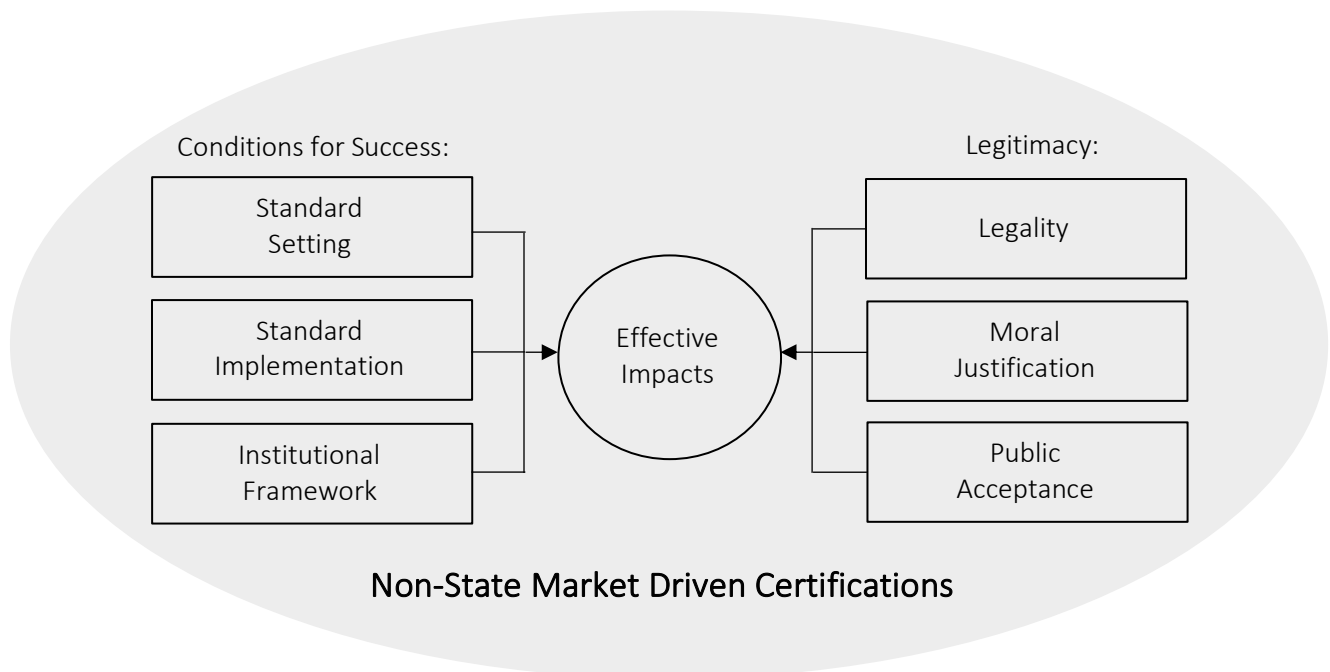





Figure 7: Conceptual Design

### 3.5 Introduction to the NSMD certification schemes in this research

For this research, the Roundtable on Sustainable Palm Oil (RSPO), the Rainforest Alliance’s Sustainable Agriculture Network (RA-SAN), and the International Sustainability and Carbon Certification (ISCC) certifications were chosen as three relevant certification schemes that will be compared against each other. They have been chosen because they are all voluntary, multi-stakeholder initiatives that have similar objectives within the palm oil sector as well as comparable criteria. Furthermore, all three certifications follow the guidance of the ISEAL<sup>1</sup> Alliance, an organization that provides credible sustainability standards and Codes of Good Practice.

Table 3: Overview of three NSMD certification schemes in this research			
Certification	Development	Objective	Description
 The Roundtable on Sustainable Palm Oil (RSPO)	2004	“...to transform markets to make sustainable palm oil the norm” (RSPO, 2019a).	The RSPO was one of the first NSMD certifications to begin working in the palm oil sector, now certifying nearly 20% of palm oil on the market (RSPO, 2019).
 Rainforest Alliance-Sustainable Agriculture Network (RA-SAN)	2009	“...to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices, and consumer behavior” (RA, 2017a)	The RA, established in the early 1990s, joined up with another NGO, the SAN in 2009. The RA-SAN now certifies a number of agricultural products including tea, coffee, and cocoa, and recently began working in the palm oil sector (McInnus, 2017; Newsom & Milder, 2018).
 International Sustainability and Carbon Certification (ISCC)	2012	“... contribute to the sustainable cultivation, processing and use of different kinds of biomass and their products” (ISCC, 2016a).	The ISCC was specifically designed for products destined for the EU biofuel market and thus must follow regulations in the EU Renewable Energy Directive (RED) (ISCC, 2016b).

<sup>1</sup>More information can be found on their website: <https://www.isealalliance.org/>

## Chapter 4: Research Design

### 4.1 Research Aim and Research Questions

The aim of this research is to evaluate the effectiveness and legitimacy of palm oil certification schemes and give recommendations for improvement to the certification bodies that are the subject of this research. The intended outcome of this research is to identify points of improvement in creating and implementing successful environmental and socio-economic criteria, as well as increase their legitimacy as a governance structure. By doing this, this research will help provide information as to how the NSMD certifications can increase their effectiveness and ultimately improving the sector. Therefore, the question that this research will attempt to answer is as follows:

*How can NSMD certification schemes become more effective in terms of reducing the environmental impacts of palm oil and promoting the socio-economic development of smallholders in Indonesia?*

In order to answer the main research question, a number of sub-questions have been developed:

*SQ1: How 'effective' are the RSPO, RA-SAN, and the ISCC certification schemes in regards to creating and implementing successful standards, principles, and criteria?*

*SQ2: How legitimate are the RSPO, RA-SAN, and the ISCC certification schemes as a governance structure within the palm oil sector?*

*SQ3: What has been the experience of NSMD certifications in other sectors and what can certifiers in palm oil production learn from them?*

*SQ4: What are the main points of improvement that can be identified for each the RSPO, RA-SAN, and the ISCC certification schemes?*

Answering these questions will not only help to deepen academic knowledge of NSMD governance schemes in the palm oil sector, but it will also provide practical insight into how these certifications schemes can be improved. Recommendations will be given on how NSMD certifications can better support smallholder development and reduce the environmental impacts of palm oil production.

### 4.2 Research Design

In Figure 8, the research design is presented. The two pillars each represent a part of the research that must be analysed in order to achieve the research objective. First, the 'conditions of success' and the aspects of legitimacy discussed in the theoretical background will be applied to each of the certification schemes in an attempt to answer sub-questions 1 and 2. Next, NSMD certification schemes in other sectors will be researched and compared against those in this research to discover any aspects that may be useful for palm oil certification schemes, thus answering sub-question 3. These outcomes will help to answer sub-question 4, by pinpointing places where palm oil certification schemes can be improved. The answers to these sub-questions will hence contribute to answering the central research question by giving information as to how NSMD certifications working in the palm oil industry can become more effective in terms of reducing environmental impacts of palm oil and promoting the socio-economic development smallholders.

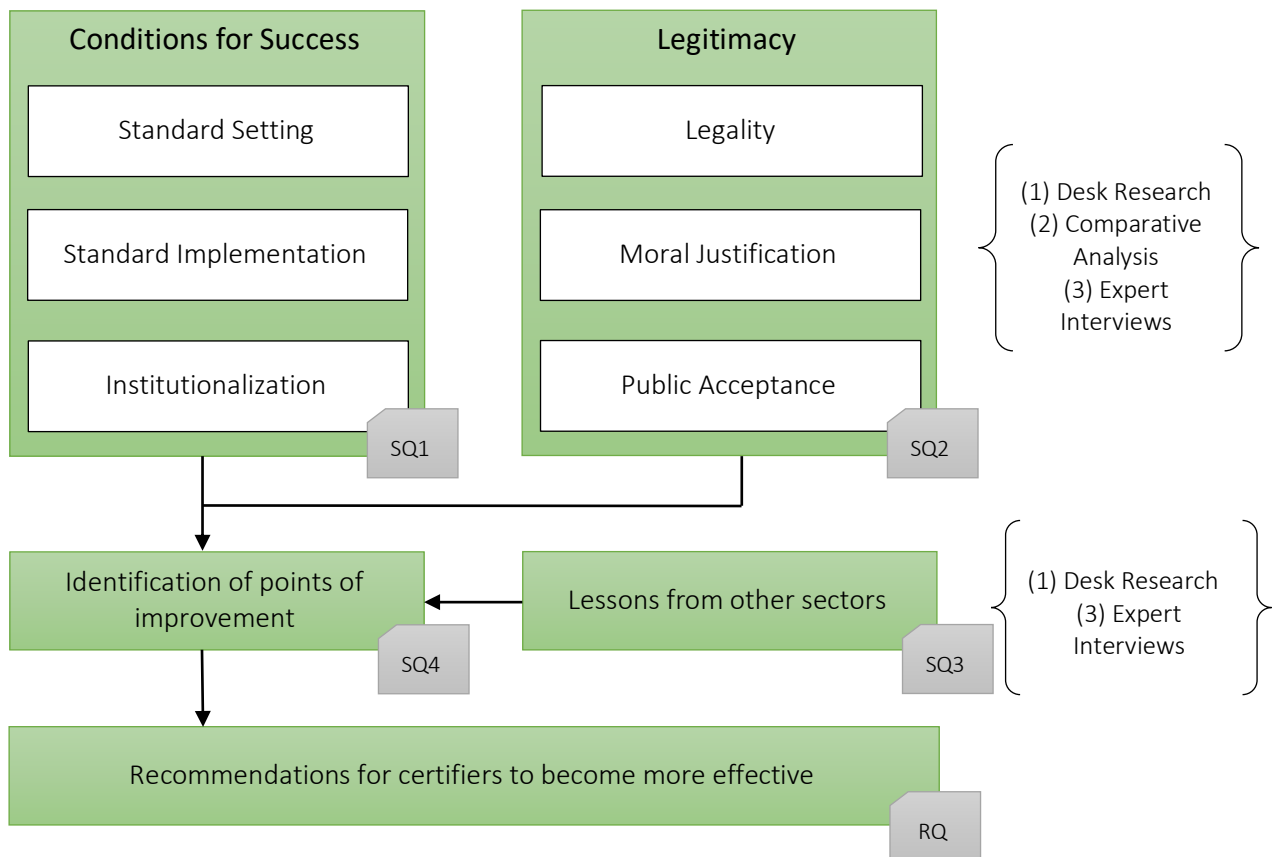


Figure 8: Research Design

### 4.3 Methodology

This research uses mixed methods to answer the research questions. First, insight will be given through desk research and the comparative analysis, and all conclusions will be solidified by interviews with relevant actors involved in palm oil certification schemes. This research took place from February until September 2019.

#### 4.1.1 Desk Research

A literature review is the first methodology used in this research and was used as a starting point to the research as well as a way to solidify the results. A literature review is an essential way of gaining background knowledge into a particular subject, as it helps to find and organize relevant topics relating to the research problem (Rowley & Slack, 2004). The literature review in this study is an integrative review, meaning that the author of this research “reviews, critiques, and synthesizes representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated” (Torraco, 2005). The literature review in this study therefore utilized relevant literature in each of the following ways:

- “supporting the identification of a research topic, question or hypothesis;
- identifying the literature to which the research will make a contribution, and contextualizing the research within that literature;
- building an understanding of theoretical concepts and terminology;
- facilitating the building of a bibliography or list of the sources that have been consulted;
- suggesting research methods that might be useful; and in,

- analyzing and interpreting results” (Rowley & Slack, 2004).

Literature was found for use in developing the theoretical context of this paper and included seven peer reviewed articles that discussed NSMD governance. Key words included: *NSMD governance; voluntary sustainability standards; private-public governance; sustainability initiatives; eco-labels; etc.* Literature was also found used in order to give background knowledge on the palm oil and the social and environmental issues surrounding it, as well as on NSMD certification schemes. In total, over 60 articles were reviewed for these subjects, and the results of the review are spread throughout the results. Both qualitative and quantitative articles were included in the review. This is because many articles discussing environmental issues use quantitative methods such as forest cover loss (Carlson et al., 2017) or species richness (Fitzherbert et al., 2008). Articles that focused on social issues on the other hand typically used qualitative methods such as interviews (Hidayat et al., 2015) or surveys (Jelsma et al., 2017). Key words included: *palm oil production; palm oil certification schemes; environment; smallholder development; effectiveness; legitimacy; Indonesia; etc.* The articles must have the following criteria:

- Have been published relatively recently (2000-2019);
- Have a geographical focus on Indonesia or South East Asia

Furthermore, literature was reviewed on certification schemes in other sectors for comparison, resulting in 15 articles found and analyzed. Key words included: *coffee certification; forestry; aquaculture and marine; effects; etc.*

Multiple sources were used to find related articles including World Cat and Google Scholar in order to achieve a wider range of results and diversify the review (Verschuren & Dooreward, 2010). Often, ‘a staged review’ of the literature was done first, in which an initial review of the abstract was done to ensure relevance (Torraco, 2005). After identifying relevant literature in the search, the bibliography of the sources were consulted and articles relevant were then used, i.e. ‘the snowball principle’ (Verschuren & Dooreward, 2010). Moreover, documents from the RSPO, RA-SAN, ISCC as well as other NGOs, organizations, and businesses related to palm oil were also considered.

#### 4.1.2 Comparative analysis

Part of this research includes a comparative analysis on the three main certification schemes chosen, the RSPO, RA-SAN, and ISCC. As the development of standards is one of the ‘conditions of success’ outlined in the Theoretical Background (Section 3.2) of this paper, it is important to critically analyze the standards included in each of the certification schemes. The goal of this analysis is therefore to check if the main issues are addressed in the certification’s standards and identify any missing areas.

First, relevant issues were identified within the literature. While many of these issues are outlined in Chapter 2 of this paper, a comprehensive list of issues was necessary in order to compare the results in the literature with that of the interviews. To start, three comparative analyses were used as a starting point, one from the consultancy company Daemeter (Yaap & Paoli, 2014), one from the NGO the Forest People’s Program (McInnus, 2017) which focused primarily on socio-economic issues, and one from Mekon Ecology (de Koning & Wiegant, 2017). These three studies provided the base of the comparative analysis. Next, the 60 articles included in the literature review were filtered and compiled into a comprehensive list of issues mentioned. To be included in the analysis, the literature had to meet the following two requirements:

- Specific to palm oil;

- Discuss 3 or more issues rather than focusing on one central issue.

Lastly, all interview respondents were also asked to provide the biggest issues with palm oil that they have experienced when working in the field. Some literature was sent after the interviews as a follow up to the conversation, in which some were included in the analysis. This list of the issues can be found in the results (Chapter 5.1).

After identifying the issues, they were then compared against the standards of each of the three certification schemes. This provided a visual view of where each certification scheme is lacking in criteria. For RSPO, all 40 of the criteria are included in the analysis. The RA-SAN has a total of 119 total criteria for crop farms, of which 37 are identified as 'critical criteria' (RA, 2017). Similarly, the ISCC has 86 criteria in total, and 46 criteria which they deem as 'major musts' (ISCC, 2016a).<sup>2</sup> Due to the large volume of criterion and the fact that only major criteria must be achieved for initial certification, for RA-SAN and ISCC, only the critical or major criterion are included in this analysis. As there are a number of in-depth comparative analyses already existing, this research will not go into detail on the indicators of the certification. Thus, the comparative analysis will be used for making conclusions on the relative strengths of each of the certifications, which is best fitted to the issues, and point to places where standards could improve or expand their standards to better encompass the issues.

#### 4.1.3 Semi-structured Expert Interviews

The third method used in this research is a number of semi-structured interviews with organizations and experts in the field. The semi-structured nature of the interview scheme allowed for new topics and questions to be explored based on the responses of the interviewee. While the interviews were conducted with experts, the guidelines for qualitative interviews were still utilized to ensure reliability and consistency. Each interview scheme contained opening questions, key questions, and closing questions, designed to create a logical progression of topics and steer the conversation (Hennink et al., 2010). Additionally, various topical probes, designed to delve more into each topic and ensure all relevant material is addressed were included for nearly all questions. Furthermore, some questions were added based on the results of prior interviews.

In total, ten interviews were conducted throughout the period of April to June 2019. Each interview had a duration ranging from 20 minutes to 1 hour, depending on the respondents' detail. One interview was conducted on paper per the organizations' wishes, one interview took place in person, and the rest were conducted via Skype. As seen below, each of the interview schemes shared most of the same topics and questions, but each was slightly tailored to each respondent based on their area of expertise. For example, the RSPO representative focused more on the organization than on the other certifications and did not focus much on other sectors. Table 4 on the following page outlines the interview topics and which interview groups were asked which questions.

---

<sup>2</sup> The critical and major criteria of RA-SAN and ISCC are discussed further in Chapter 5.



Group	Table 4: Interview Topics							
	Pros and cons of palm oil	Opinions of/ experiences with certification	Thoughts on criticisms of certification	Knowledge of implementation issues	Knowledge of smallholder issues	Lessons from other sectors	Shortcomings and improvement options	Potential alternatives to certifications
RSPO	X		X	X	X		X	
POIG	X		X	X	X	X	X	X
Greenpeace	X	X	X	X	X	X	X	X
Oxfam-Novib	X	X	X	X	X	X	X	X
WWF	X	X	X	X	X	X	X	X
HAKA	X	X						X
Daemeter	X	X	X	X	X	X	X	X
IDH	X	X	X	X	X	X	X	X
Others (2)	X	X	X	X	X	X	X	X

The RSPO was the only certification of the three that agreed to be interviewed. Other NGOs that are currently working with palm oil in Indonesia were contacted to get a more diverse array of opinions. Some NGOs, such as Oxfam and the WWF, are supportive of the RSPO while other such as Greenpeace and IDH (the Sustainable Trade Initiative) are more critical. Moreover, some NGOs focus their work mainly on social issues such as smallholder development and indigenous rights, while others tend to focus on environmental issues like deforestation and peatland protection. 'Others' refers to interviews conducted with other experts in the field not tied to an organization, including one palm oil researcher for Utrecht University who works extensively in Indonesia and one researcher at Wageningen University who specializes on marine certifications.

## 4.2 Analysis of Data

The literature found in the review was analyzed using a qualitative method. Therefore, the literature was not organized into closed off categories but rather used for “extracting information from a large quantity of textual and/or audio-visual material that is relevant” (Verschuren & Dooreward, 2010). The literature is therefore classified into broad categories based on the content of the literature. The categories were:

- NSMD governance/ certification general
- Palm oil general
- Environmental issues
- Social issues
- Effectiveness/ effects of certification
- Legitimacy
- Comparative Analyses
- Other sectors

In accordance with Torraco (2005), the literature was synthesized in order to find new insights and formulations rather than just repeating previous findings. By criticizing and analyzing the literature in tandem with comparing them against the results from the comparative analysis and the interviews, new knowledge and perspectives were created.

The results from the comparative analysis, as mentioned, are used to identify gaps in the standards of the certifications. Once the standards have been analyzed, gaps in each of the certifications’ criteria could be identified. This lead to a better understanding of where problems regarding implementation may be an issue.

Detailed notes were taken during each of the interviews, mostly in addition to audio recordings of the call. The recorded interviews were then transcribed and coded in Nvivo in order to better organize and utilize the data. Interviews results were integrated throughout the results section.

## 4.3 Methodological Limitations

Throughout this research some methodological limitations took place that must be highlighted. For one, the lack of primary data from smallholders is something the must be considered in looking at the results of this research. All data utilized here is from published sources or taken from interviews with people who work with smallholders in Indonesia. While this allowed for many insights, the results would be better solidified with input from the smallholders themselves. Fieldwork would give a better picture of the situation in Indonesia, but would also allow for a wider and more diverse group of interview respondents, and furthermore open up to the possibility for other methods such as focus group discussions and surveys. This would allow for more in-depth, localized results.

While at the beginning of this research three certification schemes were chosen to be analyzed, it became apparent at the start of the research that the RA-SAN and the ISCC were not as involved or relevant in the palm oil sector. Both the results from the literature review showed that a large proportion of the literature discusses the RSPO in particular, and many of the interview respondents furthermore referred namely to the RSPO rather than the other two certifications. Therefore, many of the results of this research are specific to the RSPO. As seen above, the RSPO was the only one of the three that responded to an interview for this research, making the results even more specific to them. This could be due to the fact that the RA-SAN is not a certification that is specific to palm oil and certifies a variety of other agricultural products such as tea and coffee (de Koning & Wiegant, 2017). The ISCC also certifies a number or products and focuses mostly on the production of biomaterials in accordance with the EU’s Renewable Energy Directive (RED) (de Koning & Wiegant, 2017).

## Chapter 5: Results

### 5.1. Identification of key issues for palm oil certifications

Of the 60 articles reviewed in the literature review, 21 articles matched the criteria outlined in the methodology. Many articles tended to focus particularly only on the social or environmental side, and rarely went in to depth on the other issues. Some articles included in the analysis were sent by an interview respondent in response to the interview discussion. Table 5 list the key issues and the number of articles and interview respondents that mention them.

Major Environmental Issues	Number of Articles	Number of Interviews
Biodiversity loss	19	3
GHG/ Carbon emissions	15	1
Deforestation and/or iLUC	15	5
Peatland Drainage and/or fires	11	3
Agricultural practices -fertilizer and pesticide use -lack of riparian zones -yields -Non-GMO	6	2
Air and/or water quality	5	2
Expansion on land of HCV	4	-
Waste Management	2	-
Soil Quality (other than peat)	2	-
Major Social Issues	Number of Articles	Number of Interviews
Land Issues -conflicts of land ownership -land grabbing -land rights	14	6
Employment standards -non-compliance with International Labor Organizations (ILO) guidelines [see Box 4]	12	3
Smallholder issues -poor agricultural inputs -reduced yield and/or profit -disparity between independent and plasma, etc.	12	5
Impacts on community poverty level, livelihoods, or food security	11	4
Free, Prior, and Informed Consent to land owners	7	1
Indigenous rights violations	7	3
Gender and discrimination	6	1

Human rights violations	6	4
Danger to human health and/or lack of healthcare facilities	4	1
Loss of cultural heritage	2	-
Income inequality	2	5
Others	Number of Articles	Number of Interviews
Legality	3	-
Transparency	5	2
Economic and financial growth	1	-
Traceability	2	1
Continuous improvement and quality assurance	2	1

As can be seen, more articles tended to mention the environmental issues associated with the expansion of palm oil, most notably the loss of biodiversity. It should be noted that some articles that were listed as mentioning biodiversity loss wrote specifically about the orangutan. Contrastingly, the interview respondents tended to discuss the social issues surrounding palm oil, assumedly due to the normative nature of social issues that are not as well defined as the environmental issues. Issues classified as ‘other’ refer mostly to business operations and commitments.

The list presented above is not exhaustive, and there are many issues that have been classified within another category. For instance, ‘non-compliance with ILO guidelines’ refers to the standards set out by the ILO (a UN agency) that sets out fundamental labor and employment standards [see Box 2] (ILO, 2019). Similarly, ‘human rights violations’ can be understood as a violation of the 30 fundamental rights set out in the UN’s Declaration of human rights.<sup>3</sup>

‘Loss of cultural heritage’ from palm oil expansion is explained by Marti (2008): “The transformation to monoculture and the change in work roles – from agroforestry farmer to plantation laborer or oil palm smallholder – all contribute to the rapid erosion of traditional knowledge.” Furthermore, when farmers transition into palm oil production and away from traditional livelihoods their vulnerability to shocks in the market can increase (Rist et al., 2010). This however can be viewed as a critique on monoculture and palm oil development

**Box 4: Subjects covered by ILO Standards (ILO, 2019)**

- Freedom of association
- Collective bargaining
- Forced labor
- Child labor
- Equality of opportunity and treatment
- Tripartite consultation
- Labor administration
- Labor inspection
- Employment policy
- Employment promotion
- Vocational guidance and training
- Employment security
- Social Policy
- Wages
- Working time
- Occupational safety and health
- Social Security
- Maternity protection
- Domestic workers
- Migrant workers
- Indigenous and tribal people

<sup>3</sup> UN Human Rights can be found here: [https://www.un.org/en/udhrbook/pdf/udhr\\_booklet\\_en\\_web.pdf](https://www.un.org/en/udhrbook/pdf/udhr_booklet_en_web.pdf)

in general, and would therefore fall out of the scope of any NSMD certification that is attempting to improve the sustainability of the sector.

Interestingly, income inequality within the palm oil sector is not often found within the literature, yet over half of the interview respondents cited it as a major issue. Two types of inequalities were discussed, one between palm oil producers and producers of other commodities, and inequalities between smallholders and large companies. The income differences between those who grow palm oil and those who don't is continually growing, which in turn fuels the continued expansion of palm oil plantations (UU researcher, personal communication). More relevant to certification schemes in particular is the growing inequalities between small producers and large companies. Often referred to as 'tycoons' the owners of large palm oil companies own 28% of the total palm oil area within Indonesia (Tuk Indonesia, 2018). Furthermore, 12 out of the top 50 richest people in Indonesia (24%) identified by Forbes (2018) are directly involved in palm oil. This trend could be due to the high up-front costs of establishing a palm oil plantation, which allowed those with capital to establish plantations early on (Daemeter, personal communication). While the issues of income inequality greatly affect Indonesian society, more research needs to be done on how to address these issues within NSMD certifications.

As these issues are the most pertinent according to the literature review and the interview respondents, they will be used in the comparative analysis in order to assess the certification schemes in regards to addressing relevant issues in regards to palm oil production.

## 5.2 Conditions for Success

The following section will continue by discussing how the certification schemes compare against von Geibler's (2013) "conditions for success" explained in the Chapter 3. This includes the standard setting phase (Phase I), in which certifications must set their standards effectively to engage with stakeholders and incentivize them to join. Phase II concerns the implementation of the standards, including the 3<sup>rd</sup> party auditing of the full value chain, and consideration of indirect effects. Lastly, Phase III, institutionalization of the certification, including verification by a third party and the harmonization across standards.

### 5.2.1 Standard Setting

Standard setting is the first phase of creating an effective NSMD certification scheme, and should address the wide-ranging sustainability issues and strike a balance between the needs of stakeholders involved (von Geibler, 2013). The standards must address the central sustainability concerns within the palm oil sector outlined in the previous section. Each certification scheme has their own objectives and principles. The main goals and objectives of the RSPO, RA-SAN, and ISCC provide information on what the certification wishes to achieve as well as the time planning for plantations.

Phase I: Standard Development
<ul style="list-style-type: none"><li>○ Formation of sustainability goals and agreements on time-bound plans</li><li>○ Positive cost-benefit ratio to incentivize members to join</li><li>○ Capability to gain trust and agreements among members</li></ul>

#### *Formation of sustainability goals and agreements on time-bound plans*

##### **RSPO**

The RSPO's main objective is "...to transform markets to make sustainable palm oil the norm" (RSPO, 2019). The RSPO provides 3 impact goals that they believe producers should be working towards:

- Prosperity: Competitive, resilient and sustainable sector
- People: Sustainable livelihoods and poverty reduction
- Planet: Conserved, protected and enhanced ecosystems that provide for the next generation (RSPO, 2018).

The RSPO identifies 7 principles:

- Principle 1: Behave ethically and transparently
- Principle 2: Operate legally and respect rights
- Principle 3: Optimize productivity, efficiency, positive impacts and resilience
- Principle 4: Respect community and human rights and deliver benefits
- Principle 5: Support smallholder inclusion
- Principle 6: Respect workers' rights and conditions
- Principle 7: Protect, conserve and enhance ecosystems and the environment (RSPO, 2018).

There are 40 specific criteria within the principles and individual indicators to measure the producer or mill's achievement of the criteria (RSPO, 2018). Producers have to meet all requirements of the criteria in order to become certified, or have agreed on a time-bound plan for meeting them (Yaap & Paoli, 2014). This plan is called 'continuous improvement' and gives producers a maximum of 5 years to meet the criteria after becoming a member of the RSPO. For a mill to become certified, it must reach all

criteria in a maximum of three years after initial certification (RSPO, 2017). The RSPO separates non-compliance into two groups, major and minor non-compliance. If producers are found to have a major non-compliance in the audit, they have a three month window to resolve the issue or have their certificate suspended. If the major non-compliance is not resolved in a six month window after non-compliance, the certificate is withdrawn completely (RSPO, 2017). Repeat minor non-compliances will be raised to major non-compliances if found to be unresolved in subsequent audits (RSPO, 2017).

## **RA-SAN**

The RA-SAN states that their mission is “...to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices, and consumer behavior” (RA, 2017a). The RA-SAN also has their own set of impact goals:

- To bring together producers, businesses, governments, and civil society to create a more sustainable world
- To rejuvenate agricultural landscapes and protect forests, foster sustainable livelihoods and build climate resilience across vulnerable regions;
- To transform business practices, drive supply chain innovation, and engage consumers in positive change;
- To set the bar for sustainable agriculture (RA, 2018).

The RA-SAN has produced 4 principles<sup>4</sup> to achieve their objectives:

- Principle 1: Effective Planning and Management
- Principle 2: Biodiversity Conservation
- Principle 3: Natural Resource Conservation
- Principle 4: Improved Livelihoods and Human Wellbeing (RA, 2017a)

Within these principles, the RA-SAN has a total of 119 total criteria for crop farms (RA, 2017). Within these principles lie 37 ‘critical criteria’ for agricultural farms. In order to become certified, producers must meet all of the critical criteria and 80% of all criteria given (de Koning & Wiegant, 2017; RA, 2017). The RA-SAN also has what they call ‘Continuous Improvement Criteria,’ stating that “sustainability is a path, a process over time, rather than a final or fixed destination” (RA, 2017). Therefore, producers have a window of six years to achieve compliance with the Continuous Improvement Criteria. Failure to comply with all critical criteria and the minimum compliance for the Continuous Improvement Criteria, will result denial or immediate cancellation of the certification.

## **ISCC**

The ISCC states that their objective is to “... contribute to the sustainable cultivation, processing and use of different kinds of biomass and their products” (ISCC, 2016a). They give five goals:

- Ecological sustainability
- Social sustainability
- Compliance with laws and international treaties
- Monitoring of GHG emissions
- Good management practices (ISCC, 2018).

---

<sup>4</sup> Principle 5: Sustainable Cattle Production, was omitted as it only pertains to the cattle industry.

In comparison to the RSPO and the RA-SAN, the goals of the ISCC are more specifically targeted at climate mitigation and legal compliance with other countries. This could be due to the fact the ISCC certification was first meant for products destined for the European biofuel market, and therefore must comply with the EU RED (de Koning & Wiegant, 2017). Their main principles are as follows:

- Principle 1: Protection of land with high biodiversity value or high carbon stock. This includes primary forests and other wooded land of native species, highly biodiverse grassland, peatland, wetland, continuously forested areas, areas designated for the protection of rare, threatened or endangered ecosystems or species, as well as (HCV) areas
- Principle 2: Environmentally responsible production to protect soil, water and air
- Principle 3: Safe working conditions
- Principle 4: Compliance with human, labor and land rights and responsible community relations
- Principle 5: Compliance with applicable laws and relevant international treaties
- Principle 6: Good management practices and commitment to continuous improvement (ISCC, 2016a).

There are 86 criteria within the principles. Violators of any of the criterion in Principle 1 however will not receive the certification or will have their certificate retracted with no chance of (re)attaining the certification (ISCC, 2016a). For the rest of the criterion included in Principles 2-6, the criteria are divided into 'Major Musts' and 'Minor Must.' To become certified, producers must meet all major musts and at least 60% of the minor must (ISCC, 2016a). If the plantation does not meet these requirements, they are allotted 40 days to meet them or risk losing the certification. The ISCC gives reference to continuous improvement, stating that "areas that are not fully compliant with ISCC principles 2 to 6 may engage in a continuous improvement process to become fully compliant in a specified time period" (ISCC, 2016b). This implies that farms are encouraged to achieve all criterion although no reference is given to a specific time-bound plan.

The NSMD certification schemes' respective mission statements, principles, and time-bound plans gives insight into the sustainability objectives that they wish to achieve and how they intend to achieve them. It can be seen that the RSPO, RA-SAN, and the ISCC have similar objectives and mission statements, although the RSPO is specific to palm oil and the ISCC is specific to biofuel feedstock, while the RA-SAN is applied to a variety of agricultural commodities. In order to see where each certification may be lacking in criteria specific to palm oil, a comparative analysis was conducted. The full comparative analysis can be found in Appendix 1. Below is a summation of the findings.



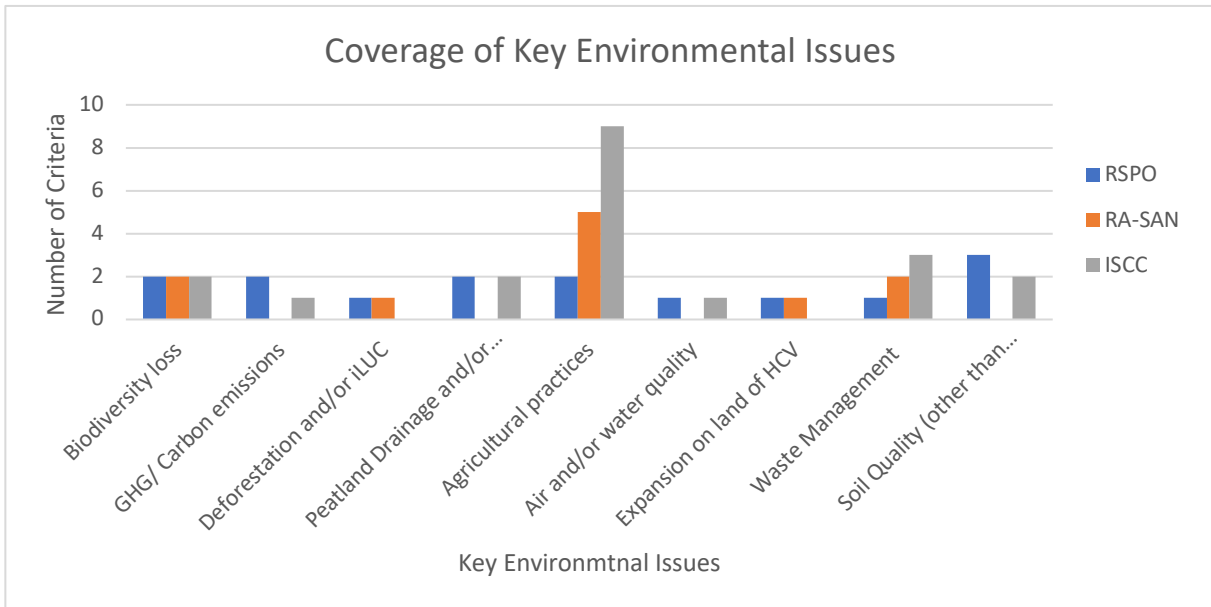


Figure 9: Number of criteria addressing key environmental issues, per certification scheme (RSPO, 2018b; RA, 2017; ISCC, 2016)

In regards to the treatment of environmental issues, it can be seen that there is a varying degree of coverage between the three certification schemes. The RSPO is the only certification that has criteria matching all of the key environmental issues, with at least one criterion per issue. The RA-SAN is missing criteria for four of the issues: GHG/ carbon emissions, peatland drainage and/or fires, air or water quality, and soil quality. The RA-SAN has the most criteria addressing agricultural practices, perhaps due to their work in a variety of agricultural sectors that require more attention to this area. The same can be said for the ISCC, which has nine specific criteria addressing agricultural practices. The ISCC lacks criteria only in regards to deforestation and/or iLUC and expansion on land of HCV, although it is partially addressed by their limitations on expansion of land of high biodiversity level and high carbon stock value.

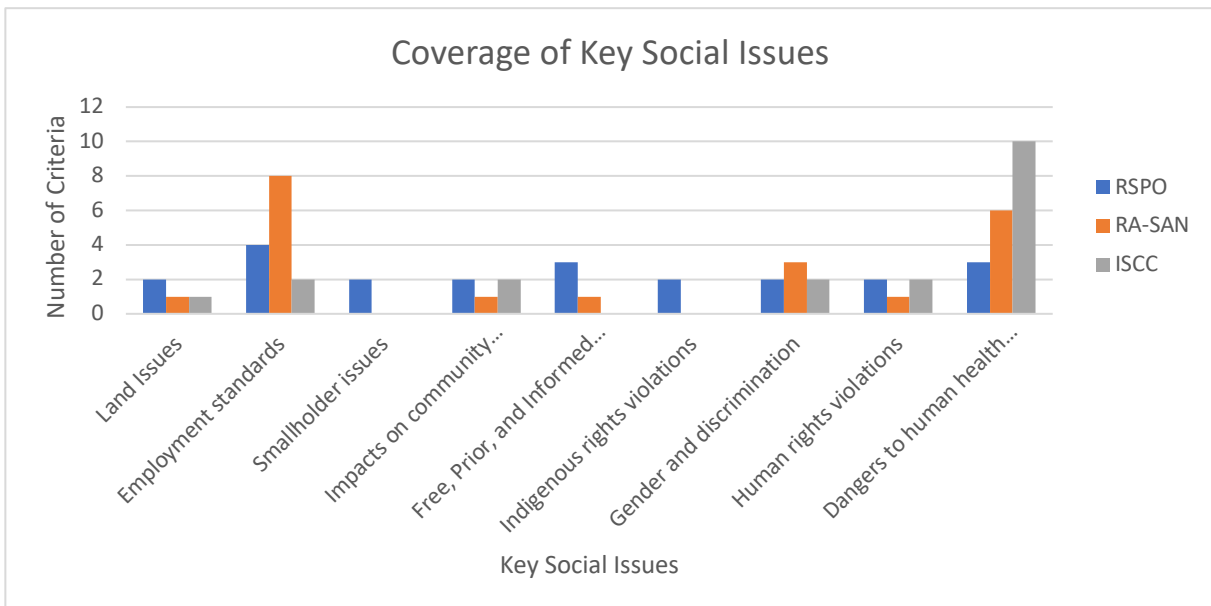


Figure 10: Number of criteria addressing key social issues, per certification scheme (RSPO, 2018b; RA, 2017; ISCC, 2016)

In regards to social issues, the RSPO is again the only certification that addresses all of the issues identified. Most notably, the RSPO is the only one with criteria that address smallholder issues and indigenous rights violation, two heavily criticized issues within the palm oil sector. The RA-SAN does well to protect workers by having many criteria addressing employment standards and human health dangers. Similarly, the ISCC has the most criteria for dangers to human health, and also lacks criteria addressing FPIC at all.

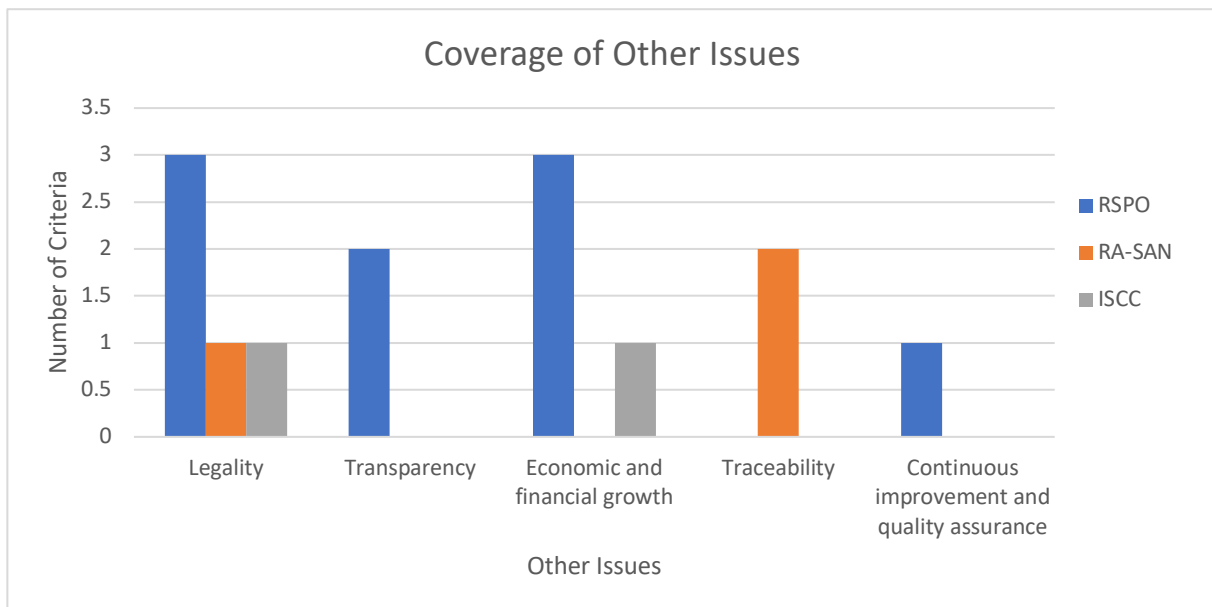


Figure 11: Number of criteria addressing other issues, per certification scheme (RSPO, 2018b; RA, 2017 ;ISCC, 2016)

The certifications are less thorough when it comes to addressing other issues with palm oil certifications, such as governance and supply chain management. The RSPO only lacks criteria for traceability in supply chain, although it will be included in the updated 2019 P&C. The RA-SAN is the only one that currently has criteria addressing traceability. Criteria for transparency in reporting and continuous improvement are only included by the RSPO, and the RA-SAN does not require producers to make plans for growth.

From the comparative analysis it can be said that the RSPO criteria cover the issues with palm oil most thoroughly. The strength of the RSPO’s criterion is seconded in other comparative analyses (Yaap & Paoli, 2014; McInnus, 2017) as well as by many of the interview respondents (WWF, personal communication; Oxfam, personal communication, .

*“The RSPO is quite sophisticated; it has a high-quality standard, it’s been improved every other five years and the most recent was adopted in 2018. And of all the standards we know this is one of the best”* (Oxfam, personal communication).

The RSPO also requires that all subsidiaries of the company must meet the criteria before the company can become certified, meaning that no partial certification is allowed (Yaap & Paoli, 2014). This however was disputed by the interviewees from Greenpeace, who said that partial certification continues to occur (Greenpeace, personal communication). Critics of the RSPO also point out that there is no direct standard that specifically addresses deforestation of land that is not primary forest or land of HCV, and there are a number of loopholes that can be found in regards to deforestation (Greenpeace International, 2013; Greenpeace, personal communication; Daemeter, personal communication). The

RSPO is the least comprehensive in regards to agricultural practices, despite high amounts of chemical usage by palm oil producers (Oxfam, personal communication). Further, criteria addressing the indirect effects of continual oil palm development could be incorporated, such as iLUC and income inequality.

While the RA-SAN is lacking critical criteria that address some of the key issues, almost all are addressed within their Continuous Improvement criteria:

1. Effective planning and management systems
2. Native vegetation
3. Wildlife management
4. Soil conservation and management
5. Water conservation
6. Water quality
7. Integrated pest management
8. Pesticide management
9. Waste management
10. Energy and greenhouse gas emissions
11. Employment conditions and wages
12. Living wage - essential needs for workers and their families
13. Occupational health and safety
14. Community relations (RA, 2017).

Thus, the time-bound plan for producers wishing to achieve and maintain a RA-SAN certification is highly important, to ensure that they will meet the criteria as agreed upon. The time bound plan for RA-SAN is well defined within their Certification Rules (2017), although critics of the certification take issue with the degree that the standards can be adapted and the amount of non-conformities allowed (Ochieng et al., 2013; WWF personal communication). Furthermore, the RA-SAN says that the criteria were developed in a multi-stakeholder consultation process, although the stakeholders involved in the process are not publicly available, reducing the transparency of standard (Ventura, 2007). Furthermore, partial certification of a company is allowed within the RA-SAN standard, meaning that some companies may not meet the criteria at all of their subsidiary locations (Yaap & Paoli, 2014).

The ISCC has strong requirements for the environmental issues and for human health standards, mostly in regards to proper pesticide application and storage. The standard is criticized for its treatment of social issues, as biofuel production can have severe impacts on social issues such as food security (German & Schoneveld, 2012). Furthermore, the ISCC is criticized for including important social issues as 'minor musts' (Hunsberger, 2014). In order to combat this issue, the ISCC has become a partner in developing the food security standard with the idea to incorporate it into the ISCC's normal standard (Schneider et al., 2018). The ISCC is clear that it does not allow 'cherry picking' during certification, meaning that farms cannot become partially certified (ISCC, 2016a).

From the comparative analysis, the conclusion can be drawn that the RSPO contains the most criteria relevant to palm oil issues, which comes as no surprise as the RSPO is designed specifically for the palm oil sector. The RSPO however should do better in addressing deforestation, as critics are quick to say that deforestation still occurs on certified plantations. The RA-SAN and the ISCC could focus more on their treatment of social issues, specifically in regards to indigenous peoples and smallholders, as these are big issues with palm oil. The ISCC is taking the lead in developing a food security standard, meaning they could be the first to incorporate this into their normal standard. The RA-SAN and ISCC certifications' flexibility for time-bound plans and allowance for 'Continuous Improvement' criteria

weakens the meaning of the certification, as producers can mark their goods as certified before meeting all of the non-critical criteria. Lastly, all of the certifications' standards were formed through collaboration between large stakeholders, government organizations, and NGOs, and therefore did not include smallholder perspectives and inputs from smallholders or the organizations that represent them (Saadun et al., 2018).

#### *Positive cost-benefit ratio to incentivize members to join*

The next step in the standard development phase is getting members on board with the certification. In other words, the certifications need to make sure that the price premium paid to producers matches the up-front costs of certification. Costs of certification arise from direct costs of improving their farms to meet the criteria, but members must also pay a standard membership fee and the fees from various audits (Ochieng et al., 2013). Most of the players involved in certification schemes are large, multinational plantation companies that can easily afford the up-front costs involved in certification (Saadun et al., 2018). Moreover, often larger companies already meet many of the certifications' standards, which reduces the up-front costs (Ibanez & Blackman, 2016). Independent smallholders, however, have a harder time paying the costs of certification, and often the price premium awarded does not cover these costs (Ruyschaert and Salles, 2014 cited in Azhar et al., 2017). This can result in a reliance on donor-funds to pay for the certification and may ultimately result in smallholders losing their certification after a couple of years (Daemeter, personal communication).

*“[Smallholders] get certification and the donor pays for the certification so they have to improve this and that and this and that. But then the donor leaves you know, the donor has a certain amount of time, maybe two to five years or something like that, but then their gone. Then [smallholders] have to manage these complicated administration things, every time they have to fill in this form and that form...so where is the premium in the end? The premium is gone for these expensive management and administration things”* (UU researcher, personal communication).

As explained above, smallholders often do not see the cost-benefit incentive of joining a certification scheme, which is partly due to the lack of financial and technical support past the point of initial certification and the lack of regulated price premium (Glasbergen, 2018).

As smallholders play such an important role in palm oil production, the RSPO in particular is often criticized for their lack of smallholder inclusiveness within their certification (Hidayat et al., 2015; Azhar et al., 2017, Saadun et al., 2018). Recognizing the problem, the RSPO has also released a new document for independent smallholders that is 'tailored to their needs' (RSPO, 2017). The new standard is more about the approach to certification rather than the P&C alone (RSPO, 2017; WWF, personal communication). While not addressing the cost-benefit ratio for smallholders directly, the new smallholder strategy aims to increase support for smallholders' access to finance and reduce risks for lenders [Objective 3] (RSPO, 2017). The smallholder strategy also aims to be more inclusive of smallholders by allowing more flexibility with implementing the P&C and by better facilitating capacity building and organization within smallholder groups, including by allowing for group certification. These initiatives are meant to help improve self-sufficiency of smallholders and increase the pay-off of joining the RSPO. The WWF also argues that although the price premium may not initially match the upfront costs, the long-term benefits arising from better management practices and operational improvements are tantamount to the socio-economic development of smallholders (Levin et al., 2012). Nevertheless,

the lack of adequate price premium may reduce the uptake of Certified Sustainable Palm Oil (CSPO), as it limits the incentives for producers (van der Ven et al., 2018). The RPSO does not facilitate a price premium, making it more difficult for upstream producers to secure a good price (Larsen et al., 2018).

The RA-SAN standards have 5 criteria that do not apply to smallholders, which has the potential to reduce the costs of pre-audit improvements, though only slightly (RA, 2017). The RA-SAN also does not facilitate any price premiums to ensure pay-off (Raynolds et al., 2007). The RA-SAN does however recognize the specific financial challenges for smallholders producing palm oil. In a study conducted by the RA, suggestions for financing options are presented, though no concrete advice is given as to how to make use of these options (RA, 2016). They do however aim to create a 'technical training package' for smallholders to help improve agricultural practices and financial literacy and other capacity building objectives. The RA-SAN therefore is attempting to help smallholders to improve their productivity and yield, ultimately improving incomes and livelihoods (RA, 2016). The study however does not discuss fees of certification in particular, and no mention is made to a cost-benefit ratio within the certification documents.

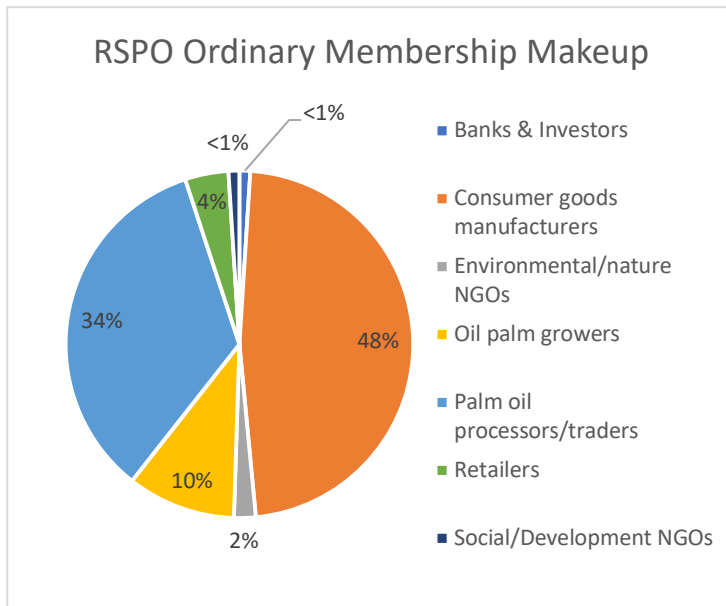
Like the RSPO, the ISCC has a specific guidance for independent smallholders involved in palm oil that discusses the cost-benefit ratio of the certification process. Therefore, they developed a detailed process of 'group certifications' to help smallholders by putting some of the burdens of certification onto a Central Office (CO) that represents a group of independent smallholders (ISCC, 2017). While the P&C of ISCC certification remains the same as for larger producers, the CO takes over many of the financial and managerial tasks that normally would fall on the smallholder. The initiative is seen as "an important contribution to reduce the economic and technical barriers small-scale operators often experience in seeking certification" (German & Schoneveld, 2012). While training of the CO is explained in the guideline, no specific reference is made to how the CO will finance the audits themselves. Furthermore, group certification is encouraged by all three of the certifications, meaning that the ISCC could do more to address smallholders.

Overall, the certification schemes have a good cost-benefit ratio for larger producers in terms of pay-off for upfront costs. All could improve upon the treatment and support of smallholders in achieving and maintaining certification over time. According to two of the interview respondents, one way to regulate a price premium is by pushing downstream players to invest in upstream producers, something certification schemes can facilitate (Daemeter, personal communication; Wageningen researcher, personal communication). The RSPO and ISCC each have their own strategies for including smallholders, but it is not yet known whether these strategies will work in the long term. The RA-SAN has done the least in addressing issues for smallholder certification in the palm oil sector. By addressing these issues, the certifications can include more smallholders in the certification and increase the size and quantity of sustainable palm oil.

### *Capability to gain trust and agreements among members*

The third aspect of the standard development phase involves getting a consensus across the wide array of stakeholder groups within the certification. Even more so, different stakeholder groups have their own interpretation of sustainability, and will therefore have different priorities in terms of what the most important criteria are (Austin et al., 2019).

The RSPO has over 4,000 members broken into three groups: affiliate (98), associates (2,442), and ordinary (1,775) members (RSPO, 2018). Seven different stakeholder groups are represented,



presented in Figure 12 to the left, as a percentage of the total amount of ordinary members.

As can be seen, there is a wide array of stakeholders amongst the ordinary members with varying roles within the palm oil sector. While most groups are represented, membership is dominated processors, traders, and manufacturers, and lacks sufficient input from smallholder, union, and consumer groups (von Geibler, 2013; Glasbergen, 2018; Pye, 2018). The complications in balancing these stakeholders was apparent in the

Figure 12: RSPO membership per stakeholder type (RSPO, 2018c).

interview results, where for example

Greenpeace focused in large part on environmental issues and Oxfam focused largely on social issues. This is an issue of the RSPO that is widely criticized within the literature (von Geibler, 2013; Schouten, 2014; Austin et al., 2019). This clash of priorities within the RSPO creates issues with engagement of stakeholders in the RSPO.

*“...because you trying to include so many different stakeholders and many countries where they're producing oil palm, it makes it sort of difficult to come to an appropriate common denominator that is not the lowest common denominator... you need this sort of balancing. It is very difficult to make it possible for some of the big stakeholders to become engaged. If all the big companies would say: ‘well this is completely impossible I’m not going to be bothered’ then basically you have no certification scheme” (Daemeter, personal communication).*

This is the conundrum faced by the RSPO in attempting to create an inclusive multi-stakeholder dialogue and coming to a common agreement during the standard setting process. The RSPO attempts to address this by holding an annual meeting with the GA to “propose and deliberate resolutions on the governance and position of the RSPO” (RSPO, 2019). When creating the standards, the RSPO holds two public consultations where other stakeholders can provide their input (von Geibler, 2013). While this is an important part of creating a consensus between members, the large amounts of criticism and disagreements originating from their own members and the dominance of large companies insinuates that improvements are necessary.

The RA-SAN differs from the RSPO as it is not a roundtable but an NGO itself, and therefore does not include such a large number of stakeholders. The SAN was first created by 11 environmental and development focused NGOs. The standards were revised through a multi-stakeholder process from four public consultations (Oliver Bach in Newsom & Milder, 2018). The consultations were held in 50 countries in both urban and rural areas, and held specific consultation with producers and auditors in order to include input from the standards users (Oliver Bach in Newsom & Milder, 2018). This process is more inclusive of smallholder producers, as the consultations were easy for smallholders to attend

and give valuable input into the local applicability of global standards. This set up means that while the original formation of the RA-SAN standards had less input from their stakeholders, there is more consultation with smallholders and auditors that will be implementing the standards.

The ISCC more closely resembles the RSPO, where various stakeholders that annually meet to “discuss and decide on strategically important matters” (ISCC, 2019). The ISCC also has an open public consultation on their website, where anyone can submit their feedback on the standards. The ISCC currently has approximately 120 members, considerably less than the RSPO. While the ISCC has regional stakeholder meetings that better address problems specific to a region, there is no specific mention as to the inclusion of smallholders amongst their membership. Figure 13 shows the breakdown of members based on geographic region,

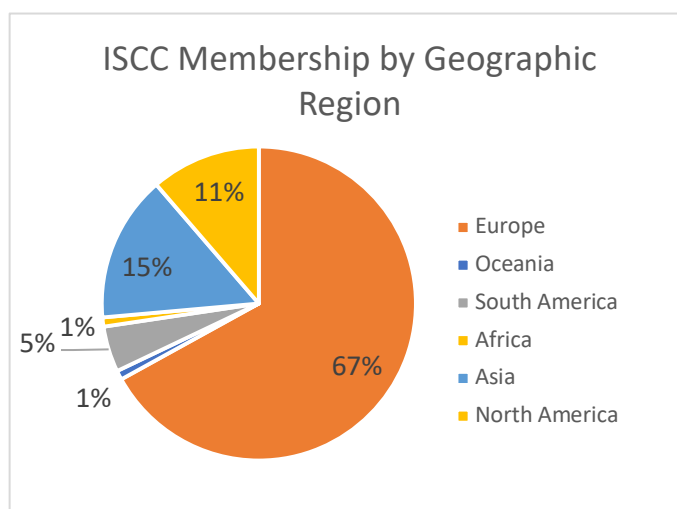


Figure 13: ISCC membership by region (ISCC, 2018b).

and it can be seen that the ISCC is largely dominated by consuming countries. Moreover, Africa is only represented by South Africa, and their Asian stakeholders include many non-producing countries like Japan (ISCC, 2018b). Thus, only 17 (14%) of their stakeholders represent producer countries (ISCC, 2019). While this may be due to the fact the ISCC was initially created to address the EU-RED, it lacks a credible ‘North-South balance’ between its stakeholders. While this may make it easier to reach a consensus between stakeholders, it is not representative of industry stakeholders at large.

From this, it can be said the RA-SAN has the most inclusive format for creating standards that balance stakeholder input. The RA-SAN incorporates smallholders and auditors by bringing public consultations to them, making it easier to understand their views on the standards. Furthermore, as the RA-SAN is not a multi-stakeholder initiative, they do not have to focus as much on finding agreements between divergent stakeholder objectives, but have more autonomy in creating their standards, which can be beneficial. The RSPO, despite its large number of members, has mechanisms in place that facilitate open dialogue between its members and encourage criticism. However, the RSPO lacks in its inclusion of smallholders, consumers, and unions and their ability to create trust amongst its members continues to be an issue. Lastly, the ISCC is the least inclusive of smallholders and producer countries within their membership, meaning that while agreements may be made more easily, it does not accurately represent the diversity of stakeholders within the palm oil sector.

### Section Summary

Table 6: Standard Setting Summary			
	RSPO	RA-SAN	ISCC
Formation of standards	<ul style="list-style-type: none"> <li>+ has strong and specific criteria that addresses the most of the issues</li> <li>- lacks criteria addressing deforestation of land that is not of HCV and other</li> </ul>	<ul style="list-style-type: none"> <li>+ most issues are addressed in the continuous improvement criteria</li> <li>- continuous improvement criteria and</li> </ul>	<ul style="list-style-type: none"> <li>+ Strict rules on non-compliance especially in regards to no deforestation criteria</li> <li>- lacks criteria addressing social issues that are</li> </ul>

	indirect effects (iLUC, income inequality)	a long time-bound plan in meeting them weakens what the certification represents	often affected by biofuel production, such as food insecurity
Cost-benefit ratio	+ Has smallholder strategy to aid smallholders in becoming certified - price premium does not cover up-front costs for smallholders	+ Recognizes issues with financing for palm oil smallholders, proposes a new technical training kit to help capacity building - no specific smallholder strategy for palm oil	+ Has a specific certification process for smallholders that allows them to become certified under a CO, reducing many technical and financial barriers - financing of the CO is not addressed
Trust and Agreements	+ Has a large number of diverse stakeholders as members, is open to discussion and feedback through public consultations - size and diversity of members makes it difficult to reach agreements, membership currently dominated by large companies	+ public consultation for the revision of the standards allows for input from stakeholders, consultations are held in urban and rural areas and specific consultations are held with smallholders and auditors - less diversity and representation within the organization	+ open consultation always welcome on website, small number of members aids in reaching a consensus - lack of diversity amongst members, poor representation of smallholders and producer countries

### 5.2.2 Standard Implementation

The next phase of the certification is the ability of the NSMD certification to successfully implement their P&C. Standards should be implemented by a third party that is separate from the certification itself. This is done through a 'certification body' that audits the producer to ensure they have complied with the standard so that the certification can implement the consequences for non-compliance (von Geibler, 2013). A number of issues can be found in the auditing process of the three certification schemes, discussed below. Von Geibler (2013) also stresses that NSMD certifications must address not only direct effects of implementing the standards, but must also consider the indirect effects of implementation that occur at a landscape level.

Phase II: Standard Implementation
<ul style="list-style-type: none"> <li>○ External Certification by a third party</li> <li>○ Full value-chain coverage and consideration of all sustainability objectives (direct effects)</li> <li>○ Consideration of indirect effects</li> </ul>

#### *External certification by a third party*

All of certification schemes use third party certification and hire an independent institution that has been hired by the company or organization that wishes to achieve certification. Third-party certification is typically seen as the most reliable and credible method for NSMD certifications (Silva-Casteñeda, 2012). Each of the certifications have their own documents that address the certification bodies, that outline the rules and requirements they must follow. Nevertheless, issues still arise during the implementation phase. While some publications (Silva-Castañeda, 2012; EIA, 2015; Carlson et al., 2017)



have accused auditors of corruption and fraud, the majority of the interview respondents stated that there is a bigger issue with conflict of interest within the auditing company. Conflict of interest may arise from the relationship of the auditor to the company or producer being audited. As producers are able to choose their own auditors, the auditor may be inclined to grade more beneficially in order to ensure future customers (Pierce & Toffel, 2013).

*“An auditor will very likely not give bad audits to the company because he will then lose the assignment. So that's the basic weakness of the construction [of the auditing system]” (Oxfam, personal communication).*

Therefore, it must be ensured that the auditor has no relationship or prior contact with the producer or company being audited. As mentioned in section 5.2.1, another key issue with the third-party auditing system is the ability for smallholders to be audited. Lastly, lack of adequate training, resources, and time are all issues for auditors (WWF, personal communication; Wageningen researcher, personal communication).

In a report from the Environmental Investigation Agency (EIA), the issues with the auditing system within the RSPO are discussed in detail through the use of multiple case studies (EIA, 2015). They found that indeed cases of conflict of interest within RSPO auditors prevents them from giving an honest audit, as they wish to keep their business and clientele. The RSPO allows the producers to select the auditor that conducts the audit, as long as they are accredited by the RSPO (RSPO, 2017; Oxfam, personal communication). Therefore, being too tough during the audit may reduce the number of producers that hire you to conduct the audit, which in turn encourages weak or lenient auditing. The EIA also found that some auditors have a weak understanding of the standard and often fail to notice violations and non-conformity, especially in relation to social issues. This is due to the complexity of social auditing, which is often worsened by rushed evaluations.

*“[There are] few auditors. They have little time to prepare their audit and they have even less time when they are in the field. Very often they have little time to speak with the people they need to speak with” (Oxfam, personal communication).*

Smallholders also tend to live in more remote areas with difficult terrain that makes it difficult and costlier for auditors to get to (WWF, personal communication). This is reflected in the price of the audit, making it more expensive for the smallholder.

These issues have been found in the implementation of the RA-SAN and ISCC certifications as well, as all of the certifications use third-party auditing. Ventura (2010) points out that the RA has an additional conflict of interest due in part to the RA's relationship with its corporate partners. Many corporations have made public declarations to the RA to buy their certified products, which means that the RA must meet this demand by increasing the amount of RA certified products on the market. This encourages less thorough or lenient auditing (Ventura, 2010). Furthermore, the source of income for the RA creates more conflict of interest. 46% of their income comes directly from corporate donations, which makes them less likely to act against companies for fear of losing funding. Another 36% of their income comes from certification fees and services, this “may create incentives for the Rainforest Alliance to avoid decertifying farms--especially those farms covering more hectares--since doing so would decrease the Alliance's income” (Ventura, 2010).

The ISCC has perhaps the weakest enforcement of their social standards of the three schemes. German & Schoneveld (2012) point out that the ISCC assumes that Principle 4 of the standard concerning labor issues is fulfilled if the country in which production occurs has ratified 'relevant' ILO standards. This is concerning, as although Indonesia is a member of the ILO, there are numerous reports of labor violations on palm oil plantations. The ISCC does have the APS (Audit Procedure System) in place, an electronic application that is meant to simplify the auditing procedure and increase efficiency (ISCC, 2018b). The tool is used to ensure the audit is easy to access and fully and uniformly completed, and is meant to create more transparency in the auditing process.

Table 7: Overview of Auditing Issues	Identified by EIA	Identified in interviews
Corruption, fraud	x	
Conflict of interest b/w auditor and producer	x	x
Conflict of interest b/w certification and purchasers	x	
Oversight, weak audits, poor understanding of standards	x	
Lack of training		x
Lack of resources		x
Too few auditors		x
Lack of time		x
Hard to reach plantations, inaccessible terrain		x

All of the certifications have mechanisms in place to try to combat these issues. All require that the auditor be accredited through an external party. Quality assurance is also addressed by all of the certifications. The RSPO and the RA-SAN are members of the HCV Network, who provides quality assessors that review the audit for completeness and accuracy (McInnus, 2017). The ISCC has what they call integrity audits, where the 'integrity auditors' will randomly conduct an audit of a certified producer and compare their results to the previous audit (McInnus, 2017). This is done to ensure that the accuracy and completeness of the original audit. Despite these mechanisms, conflict of interest must be better addressed to avoid leniency and oversight. Furthermore, support for auditors and smallholders can be improved in all of the certification. Other things that can be done to combat the issues above according to the interview respondents, would be for the certification schemes to limit the amount of 'auditor shopping' that is occurring by randomly assigning auditors to producers (Daemeter, personal communication). Also, creating a fund to pay auditors will help reduce conflict of interest and take some of the burden off of smallholders (Oxfam, personal communication).

#### *Full value chain coverage and consideration of all sustainability objectives (direct effects)*

Measuring the direct effects of implementing the certifications P&C is the second aspect of the implementation phase. Direct impacts of certification are important as they give proof of the effects of the certifications. Interview respondents mentioned that as the implementation of the standard is the most important in order to be effective, direct impacts must be proven in a scientific manner. As the criteria of the certification schemes has already been discussed, this section will discuss the impact reports of the certification schemes and other research into the certifications' impacts. The expanse of the certification, or the amount of land or volume of palm oil that has been certified by each

certification is mentioned below in figure 14. While this is a good starting point for proving impacts, the certification should go beyond and prove other environmental and social benefits coming from the implementation of the certification.

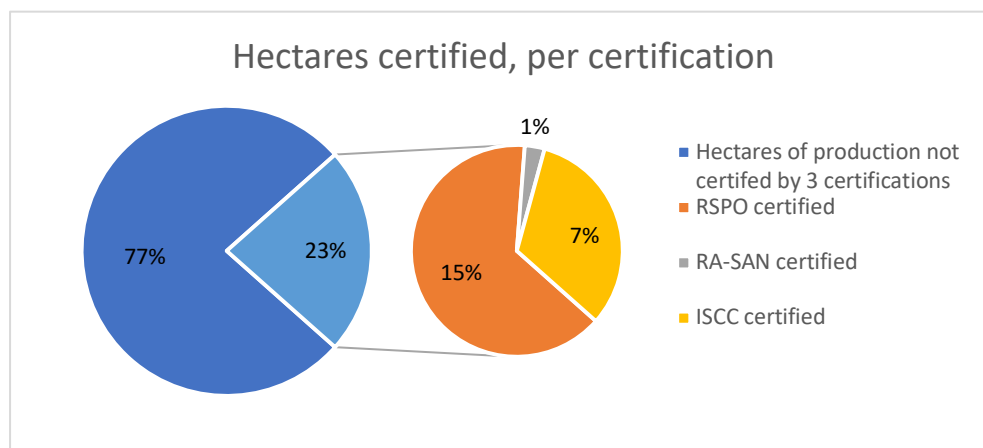


Figure 14: Hectares of land certified vs. uncertified hectares or hectares certified by other schemes, broken down by each certification (FAOSTAT, 2017; RSPO, 2018b; RA, Newsom & Midler, 2018; ISCC, 2018b).

The RSPO 2018 Impact Report states that they have certified nearly 3.2 Mha prior to the reporting period. There is no specific mention of the report methodology, but the results show that both their own auditing data, internal research, and independent reports were used. It further goes on to measure their impacts by looking at specific issues like human and labor rights violations, the complaints and grievance system, deforestation, orangutan loss, GHG emissions, fires, smallholder engagement, and market uptake in accordance with their impact goals (People, Planet, Prosperity) (RSPO, 2018b). In relation to the impacts on human and labor violations, the RSPO impact focuses on the development of tasks force that are working to address these problems, but fails to provide concrete evidence of improvements. The section on complaints and grievances summarizes the nature and frequency of complaints and shows that the number of complaints was less in 2018 than it was in 2017, although this does not mean that the number will continue to decline (RSPO, 2018b). In relation to environmental impacts of RSPO certification, the Impact Report gives more concrete findings and numbers to prove their impact. Referencing both their own studies and independent studies, they provide numbers for positive impacts on land cover change, orangutan densities (specific to Borneo), and GHG emission savings (RSPO, 2018b). The number of certified independent smallholders has been steadily increasing according to their numbers, and they have helped to finance 32 smallholder projects. They cite a study that found that independent smallholders have an 89% increase in income after becoming certified (RSPO, 2018b). Finally, they show that the demand for physical CSPO has been steadily increasing, representing an increase in market uptake. Overall, the impact report covers only a small number of the potential direct effects of certification, meaning that more research and impact assessments are needed. Furthermore, concrete evidence is lacking for arguing their impacts on 'People,' especially in regards to reduced human rights and labor violations. The findings on the impacts on the environment are also disputed in a number of reports (Laurence et al., 2010; Ruyschaert & Salles, 2014; Austin et al., 2018; Cazzolla Gatti, 2019).

The RA-SAN references palm oil only once in their 2018 Impact Report, to show that they have certified approximately 150, 000 ha thus far. The rest of the report is focused on the impacts of banana, coffee, cocoa, and tea certifications, as those sectors represent their three largest certified sectors. The report provides a clear methodology section and list of data sources. They are thorough in their impact

analysis of the three sectors, showing the compliance of farms with 42 of their criteria. They argue that the RA-SAN has positively impacted farmer incomes and yields, environmental conditions, and better pest management practices (Newsom & Milder, 2018). These impacts of course are not specific to palm oil, and therefore do not consider the specific challenges related to palm oil production. The RA-SAN recognizes that there is places or improvements, mostly surrounding pesticide storage, buffer zones, poverty levels, and integrated pest management (Newsom & Milder, 2018). There are also critics of the RA-SAN's impact reports, who state that there are issues with data collection and data reliability in regards to farmer impacts and farmer training programs, in regards to the 'recollection bias,' in which farmers may have trouble recollecting what inputs they have used or how much they have harvested during the time period of the impact report (Waarts et al., 2012). This bias of course can be applied to all impact reports, and can be remedied by aiding and training farmers in recording data more frequently throughout the time period. While the impact report from the RA-SAN takes into account more of their sustainability criteria than that of the RSPO, the Impact Report is not inclusive of the palm oil sector, making it hard to know the direct effects of their work in the palm oil sector.

The ISCC's 2018 Impact Report is the shortest and least comprehensive of the three Impact Reports. The report gives no mention of how they obtained their data and lacks a methodology section. Throughout the report and in the reference list, they state they have utilized 300 sample audits to make conclusions on their impact as well as interviews with certification bodies (ISCC, 2018b). Overall, they look at the effects of implementing corrective measures on the farm. They do recognize that this will underestimate their total impact since farmers will have already changed their operations in order to achieve certification in the first place (ISCC, 2018b). Their greatest impacts in corrective measures has been in regards to the handling of plant protection products (i.e. pesticides) and safe working conditions (ISCC, 2018b). Palm oil is specifically referenced in the report, in regards to their impacts in Indonesia and on smallholder inclusion. They state that the ISCC has certified nearly 1.6 Mha prior to the reporting period. They further discuss the creation of the independent smallholder initiative, although no hard data is given in regards to the effects, assumedly because it is too soon to see impacts (ISCC, 2018b). Many critics of the ISCC discuss the lack of social criteria or the lack of compliance with all minor musts, as discussed in section 5.2.1 (German & Schoneveld, 2012; Hunsberger, 2014). There is a lack of recent literature that discusses the claims made by the ISCC as to the accuracy of their impact report.

The Impact Reports of the certification schemes give the best insight into the direct effects of implementation. Once again, the RSPO is the most specific to palm oil, as the other two schemes focus on other sectors as well. This makes it difficult to understand the impacts the RA-SAN and the ISCC has had in Indonesian palm oil and compare them to the RSPO. The RSPO and the ISCC's Impact Report could be more transparent as to the methods they used in their reports and the data sources used. Furthermore, none of the reports address all of the criteria specifically, and often miss reliable, concrete data to support their claims, especially for social issues. Lastly, there is significantly less recent literature criticizing the effects of the RA-SAN and ISCC Impact Reports in comparison to the RSPO, meaning that many of their claims go unchecked.

### *Consideration of indirect effects*

In order for NSMD certification schemes to properly evaluate their impacts, the schemes must consider the indirect effects of the certification. Indirect effects, or unintended impacts, are defined as effects "which are not a direct result of the project, often produced away from or as a result of a complex

impact pathway” (European Commission, 1999). By and large the most discussed indirect impact of certifications and palm oil in general is the impact on global food security (German & Schoneveld, 2012; von Geibler, 2013; Oosterver et al., 2014; Azhar et al., 2017) and (indirect) LUC (van Dam et al., 2010; Pye, 2018). In the context of palm oil production, the above-mentioned issues are closely intertwined and can often worsen each other. As Oosterver et al. (2014) discuss, as more and more farmers switch from rice cultivation to oil palm, food insecurity increases and thus causes iLUC in other areas. Furthermore, Pye (2018) also points to that fact that certifying palm oil plantations can only go as far as improving the production practices of existing plantations, rather than actually preventing the expansion of new plantations. Similarly, landscape level management of oil palm plantations was emphasized in the interview results, as certification can only improve the practices of singular plantations and disregard impacts at a landscape or community level (UU researcher, personal communication). Furthermore, certifications are often accused of promoting palm oil, which can in turn worsen food insecurity for those that are not involved in the sector (UU researcher, personal communication). Despite these issues being hard to pinpoint and monitor, how the NSMD certification schemes address indirect impacts of certification is important, as they can often have far reaching negative consequences (von Geibler, 2013).

Food security is addressed in the RSPO 2018 P&C within the guidelines for criteria 3.4, in which a Social and Environmental Impact Assessment (SEIA) is to be conducted. The P&C reads that the SEIA should include an “assessment of the impacts on all dimensions of food and water security including the right to adequate food, and monitoring food and water security for affected communities” (RSPO, 2018). While the consideration of food security is mentioned, there is still no way to identify ‘affected communities,’ and ensuring the food security of one community does not mean that food security is unaffected in another. With these two correlated issues, the importance of landscape level or regional management becomes clear. This was an issue brought up in the interview results as well.

*“So the landscape and the land that people have where they live on and live in should not be developed only for palm oil but also for growing crops growing food crops vegetables too to ensure diversity of income and to avoid a dependence on just one commodity” (Oxfam, personal communication).*

While the RSPO P&C mentions landscape level approaches in regards to HCV land management, is not addressed in regards to food security of iLUC (RSPO, 2018). Also notable, the RSPO does not mention their impacts on food security or iLUC within their impact report.

Similarly to the RSPO, the RA-SAN does not sufficiently address the problems of food security and iLUC. The RA-SAN also requires an SEIA to be conducted but does not specifically require food security nor expected iLUC to be reported on (RA, 2017a). Food security is also not discussed in the 2018 Impact Report (Newsom & Milder, 2018). The ISCC on the other hand does have criteria 4.1.3 ‘biomass production must not impair food security,’ where if food prices are expected to rise, mitigation measures must be set up. This criteria however is not classified as a major must (ISCC, 2016a). As mentioned, the ISCC is working towards developing the food security standard, which is not only helping to understand this complex issue, but will also provide a useable standard that can be incorporated into other schemes (Schneider et al., 2018). The ISCC does address indirect impacts in their impact report, where they define indirect impacts and discuss food insecurity frequently (ISCC, 2018). iLUC however is not addressed.

From this, it can be said that all three certification schemes do an inadequate job of addressing indirect impacts of certification. The two indirect issues of food security and iLUC are not directly

included in the P&C of the RSPO or RA-SAN, and is only a minor must in the ISCC P&C. While these topics are complex and hard to monitor, they play a large role in the sustainability of the palm oil sector. Landscape level management is one tool for this issue that is not discussed by the certification schemes, but has the potential to help address these issues (UU researcher, personal communication; WWF personal communication; Oxfam, personal communication). This is a challenge for certification schemes to overcome, as Pye (2018) aptly explains: “better management of monocultures does not prevent the conversion to monocultures.”

### Section Summary

Table 9: Standard Implementation Summary			
	RSPO	RA-SAN	ISCC
External certification by a third party	+ use of independent third party auditors, sufficient rules and guidance provided - Conflict of interest for auditors, insufficient training	+ use of independent third party auditors, sufficient rules and guidance provided - conflict of interest for auditors, source of income may incentivize weak auditing	+ use of independent third party auditors, sufficient rules and guidance provided, use of APS to improve auditing process - conflict of interests for auditors, weak enforcement of social standards
Full value chain coverage and consideration of direct effects	+ comprehensive Impact Report, large certification area, use of multiple sources - no clear methods section, does not address all criteria, lacks concrete evidence	+ Impact Report has clear methodology section and list of data sources, covers large range of criteria - data sources may be unreliable, does not include palm oil specifically	+ Impact Report specifically discusses palm oil - no methods section, only looks at non-compliance, does not use external sources
Consideration of indirect effects	+ impact on food security mentioned in guidance for SEIA - fails to sufficiently address food security and iLUC, does not discuss landscape level impacts, does not address issues in Impact Report	+ - fails to address food security and iLUC, does not discuss landscape level impacts, does not address issues in Impact Report	+ discusses indirect impacts in their Impact Report, commits to improving impacts on food security, food security in criteria as a minor must - does not discuss iLUC specifically, does not discuss landscape-level impacts

### 5.2.3 Institutionalization

The third phase in the conditions for success is the institutionalization of the NSMD certification. This means that the certification schemes must have monitoring systems that verify the impacts of the certification and provide proof. Doing this will increase public acceptance and help the certification become a norm within the sector (von Geibler, 2013). The second aspect of institutionalization of NSMD certifications is the need to harmonize the standards across different certification schemes. Doing so will create a better understanding of the issues, and avoid fragmentation and incompatibility between certifications (von Geibler, 2013).

Phase III: Institutionalization	
○	Monitoring systems to provide proof of effects
○	Harmonization of standards across certification schemes

#### *Monitoring systems to provide proof of effects*

NSMD certifications can provide proof of their effects not only through their annual Impact Report, but also by monitoring and reporting upon their work more frequently throughout the year. Furthermore, the acceptance of critiques from scientific institutions and other organizations should be accepted and utilized to further improve their operations and further bolster their claims.

The RSPO has employed a number of initiatives to provide proof of their effects. Within the RSPO there is a Monitoring & Evaluation (M&E) System to measure their impacts. Using a three-tiered system, they RSPO uses data from program wide monitoring, sample monitoring, and a collection of in-depth research, as shown in figure 15 below (RSPO, 2018d). The RSPO based this three-tiered system on the ISEAL’s code of good practice.

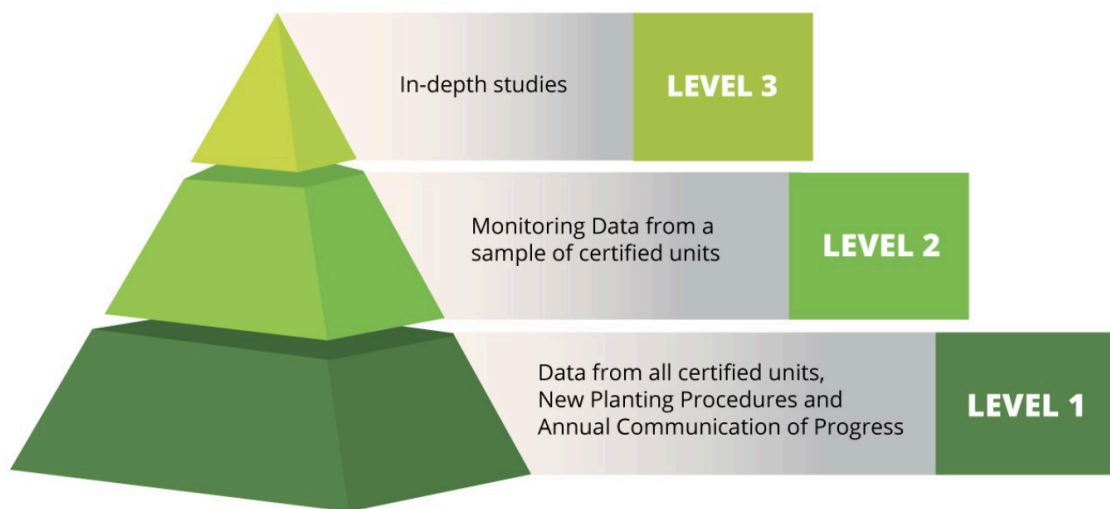


Figure 15: RSPO visualization of the three-tiered system for impact reporting from ISEAL (RSPO, 2018d).

They state that their objective is to “monitor at a global level the RSPO’s strategies and activities” (RSPO, 2018d). The data is compiled and utilized by the M&E department to create the Impact Report. In 2018, a research agenda was developed by the RSPO to initiate both qualitative and quantitative in-depth research projects. The RSPO commissions some of these research projects, while others are independent studies (RSPO, 2018d). Furthermore, the RSPO publicly supports other long-term impact studies being carried out by universities and other organizations. Many recent publications concerning the RSPO can be found in the Research Library on their website, though only one report has been published so far in 2019. In an interview with a WWF correspondent, the respondent also mentioned how the RSPO accepts criticism of their work in order to help improve their impacts.

*“I would say that the RSPO should listen – and does listen – to any and all criticisms. But they have to be legitimate criticisms based on evidence. RSPO is designed to improve; it is built on multi-stakeholder consensus. It absolutely has to improve assurances and demonstrate impacts...” WWF, personal communication).*

The establishment of the M&E system help to prove that the RSPO is taking steps to show their impacts on the palm oil sector. Furthermore, their public support and acceptance of independent research studies that may criticize their work helps demonstrate their commitment to the sector and proving their impacts.

The RA-SAN’s approach to M&E is nearly identical to the RSPO’s. The RA-SAN has what they call the Evaluation and Research Team that also bases their approach off of ISEAL’s code of good practice. The team publishes frequent impact reports, case studies, and white papers on a variety of subjects throughout their area of work (RA, 2019b). Furthermore, multiple independent research studies are listed on their website as well as a statement that the RA-SAN values the feedback of from independent institutions (RSPO, 2019b). While the main strategies of the Evaluation and Research Team are elaborated under the guidance of ISEAL, the RA-SAN could be more detailed and transparent in the exact strategies they use in collecting and organizing their data for their publications that attempt to prove their effects. Nevertheless, the consistent reporting from the RA-SAN themselves as well as the recognition of independent studies shows the RA-SAN is open to criticism and provides proof of the effects that they claim.

In contrast, the ISCC makes no mention on their website of how they monitor or evaluate their effects, nor their stance on independent studies. In their Impact Report, the ISCC does make mention of the development of an M&E system that will also be compliant with ISEAL’s code of good practice (ISCC, 2018). An explanation of the ISCC M&E system is to be included in their next Impact Report. Despite the ISCC is the newest of the three certification schemes, there are still a number of scientific articles (van Dam et al., 2010; German & Schoneveld, 2012; Hunsberger et al., 2014; Ponte, 2014), that have been written concerning their work and their impacts, as well as recommendations to improve their impacts. These should be utilized by the ISCC and, as the RSPO and RA-SAN have done, publicized on their website to make it known they are committed to improvement and constructive criticism.

The RSPO and RA-SAN have both adopted the ISEAL code of good practice and utilize the three-tiered system to measure their impacts, and the ISCC has made plans to do so before their next Impact Report is released. Overall, the RSPO is the most transparent and specific when it comes to how they collect, organize, and analyze their data. The RSPO also supports independent studies and is open to criticism from academic researchers and other organizations. The RA-SAN also does well to state their method of measuring impacts, but is not as detailed as the RSPO. The RA-SAN does however have multiple recent and ongoing studies publicly available on their website. The ISCC is still in the developmental phase of creating an M&E system and therefore is not yet on par with the other two certifications.

### *Harmonization of standards across certification schemes*

The ‘proliferation of standards’ is a commonly discussed issue when discussing NSMD certification schemes. Proliferation of standards can be seen in many sectors, where more and more NSMD schemes are being created (Gulbrandsen, 2005; von Geibler, 2013). Two interview respondents stressed that



there are too many certifications, and the expansion represents the commercialization of sustainability, and can thus be harmful in achieving real change (UU researcher, personal communication; Wageningen researcher, personal communication). This proliferation should be avoided for a number of reasons. For one, a large number of standards that each have their own objectives, P&C, etc., can confuse consumers and create mistrust around the certifications (von Geibler, 2013; Glasbergen, 2018). Secondly, proliferation can create a race to the bottom between the certifications that may reduce the gains from the NSMD initiative in the first place (Auld, 2010). With the growing number of certifications working with palm oil, the certifications must work together and be generally aligned with their goals and standards to be most effective in mitigating the issues. The ISEAL alliance also suggests in their Code of Good Practice that certifications should “...seek to avoid duplication and to be consistent with standards that have overlapping scopes, while not limiting innovation and improvement.” Since the early 2000s, multiple certification schemes have arisen within the palm oil sector. The most significant, according to McInnus, (2014), are shown below in figure 16.

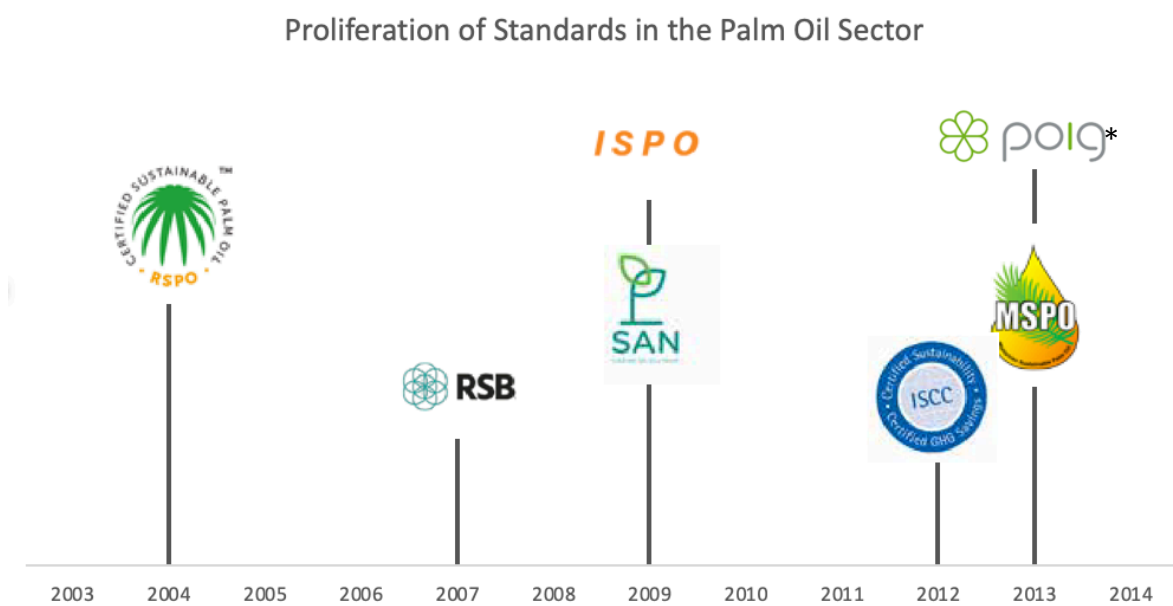


Figure 16: Main standards working in the palm oil sector organized by year of establishment (McInnus, 2017). \* It should be noted that POIG is not a standard itself, but an additional benchmark that builds on the RSPO (POIG, personal communication).

Besides the three certification schemes that are subject to this research, the most notable certification schemes specific to palm oil include the Indonesian government initiative, the Indonesian Sustainable Palm Oil (ISPO). Compliance with the ISPO, being a government initiative, is required in Indonesia and thus has the greatest enforcement power and potential for change (Yaap & Paoli, 2014; Schouten, 2014). While the ISPO is not technically an NSMD certification due to the involvement of the government, the RSPO must ensure that it does not undermine the work that the ISPO is attempting to do. The Palm Oil Innovation Group (POIG), while not a certification itself, is an additional benchmark that builds upon the RSPO. The initiative was created to help curate stronger P&C in the 2018 standard and show that companies can ‘go above and beyond’ just reaching the RSPO standard (POIG, personal communication). While this is meant to create innovation within the sector, it must be considered that the number of organizations and standards in the sector may make the certification process more

complicated for producers and create confusion amongst consumers (Glasbergen, 2018). One interview respondent explained this:

*“[Certifications] are really commercialized... so the products in the supermarket in the Netherlands, one bag of coffee, a chocolate candy bar or something like that, it will have three or four certification logos on it.”* (UU researcher, personal communication).

With the proliferation of standards in the palm oil sector, the RSPO must work with other certifications and ensure that the ‘proliferation of standards’ is kept to a minimum.

Some harmonization of standards can be seen through the recent merger of the UTZ certification with the RA-SAN (Newsom & Milder, 2018). This was done to increase the impact, scope, and outreach of the certification, and signifies the harmonization of standards that have similar goals and scopes within an industry. Furthermore, the RA-SAN is a supporter of the RSPO, representing that they are aware that working together will increase the effectiveness of both schemes (RA, 2019g). Nevertheless, RA-SAN should keep in mind that their work in Indonesia could also undermine the ISPO, and even further, the RSPO. By ensuring that they are consistent with the P&C of the others to help consumers feel confident that certifications all resemble the same general standards.

The same can be said for the ISCC certification, that they should ensure that their standards are in line with those of other certifications working in the sector. This is more difficult as the ISCC has a bigger focus on GHG emissions and food security, being a biofuel certification. The most similar certification to the ISCC is the Roundtable on Sustainable Biomaterials (RSB). According to Ponte (2014), the ISCC and the RSB are more competitive than friendly, and compete with each other as the main biofuel certification scheme. While the RSB was the first to be established, the ISCC received a subsidy from the German government and surpassed the RSB as the main biofuel certification (Ponte, 2014). This competition shows that the ISCC is not working with other biofuel certifications to create streamlined objectives in any feedstock sector. The ISCC certification, however, can be achieved during the same audit as the RSPOs, meaning that the P&C of each are relatively harmonized in the palm oil sector (WWF, personal communication).

In regards to the harmonization of standards, it seems as if in the palm oil sector the three certification schemes are working together. The RSPO, as the main certification scheme in the sector, must be careful not to undermine the work of the ISPO, as it has high potential for market change as an obligatory standard. Furthermore, additional benchmarks or verification such as POIG should be avoided within the sector, as too many may create consumer confusion. The RA-SAN is showing some harmonization with their merger with UTZ and the support for the RSPO, but must be certain that their work in the palm oil sector does not impede the work of other certifications. The ISCC should try to work to harmonize their work with other biofuel certifications, particularly the RSB.

### Section Summary

Table 9: Summary of Institutionalization			
	RSPO	RA-SAN	ISCC
Monitoring systems to provide proof of effects	+ follows the ISEAL Code of Good Practice for measuring impacts, high level of transparency in	+ follows the ISEAL Code of Good Practice for measuring impacts, multiple independent	+ follows the ISEAL Code of Good Practice for measuring impacts - must continue developing M&E

	Impact Report, supports independent studies - could post more recent studies on their impacts	studies on their website - should be more transparent in their methodology in their Impact Report	system, should be more transparent in how they collect and analyze data
Harmonization of standards	+ works with various NGOs in the sector, including RA-SAN - must work with the ISPO and ensure extra benchmarks do not increase	+ works with the RSPO, recent merger with UTZ - must be careful not to undermine other certifications in palm oil	+ works with RSPO auditing - competes with other biofuel certification such as RSB

## 5.3 Legitimacy

The following section will discuss the legitimacy of the three certification schemes, based on the theory of Schouten (2014) and Schouten & Glasbergen (2011). The legitimacy theory developed by these authors provided three clear aspects that help to make NSMD certifications more legitimate in the political realm as a form of governance. Therefore, when discussing effectiveness of NSMD certification, legitimacy must also be analyzed. These aspects, addressed in the following order, are legality, moral justification, and public acceptance.

### 5.3.1 Legality

In order to increase legitimacy of NSMD certification schemes, the certification must abide by the widely accepted rules that can be applied to nearly all governance institutions. These include representation and procedural regularity (i.e. how the organization is organized), participation, and neutrality (Schouten, 2014). This is in line with ISEAL's credibility standard to "engage a balanced and representative group of stakeholders" (ISEAL, 2014).

#### *Representation and Procedural Regularity*

NSMD certification schemes must properly represent the diverse groups of stakeholders involved in palm oil. For a sector as large and complex as palm oil, this includes actors ranging from individual smallholders to multi-national corporations. The representation of the all three certification schemes has been discussed previously in section 5.2.1. According to both the literature review and interview results, the largest amount of criticism in the palm oil sector arises from the lack of smallholder representation.

During the formation of the RSPO in 2003 to 2004, only European actors and WWF Switzerland were involved. Not until 2004 did the Malaysian and Indonesian Palm Oil Associations join (Schouten, 2014). Since then, the organization has continued to grow, today having more than 4,000 members that represent different actors in the sector. The breakdown of their ordinary membership can be found in Chapter 5.2.1. During the annual General Assembly (GA), ordinary members vote on the Board of Directors, which consists of two chairs for each of the stakeholder groups except oil palm growers, who are designated four seats, making 16 total. The listed Board of Directors on their website however does not include any representatives from smallholder producers, but rather large-scale producers (RSPO, 2019). RSPO membership is indeed still dominated by downstream actors, despite the sector having a large amount of smallholder producers and consumers (von Geibler, 2013). The RSPO has been working towards creating a more balanced representation of the actors involved in palm oil by increasing the amount of producer and consumer groups that are members and by giving producers a larger number of seats on the Board of Directors.

The RA-SAN, as mentioned, is differently organized than the RSPO in that not all stakeholders are members within the organization. There are 9 people on the leadership team of the RA-SAN, and 20 members on the Board of Directors that represent different NGOs, consultancy companies, banks, and other organizations (RA, 2019d). The RA-SAN is the least transparent about how the leadership team and board members were chosen or elected. While the RA-SAN's organizational structure is inherently less conducive for stakeholder dialogue and debate, the RA-SAN combats this issue by holding several public consultations and other engagement methods to receive input from their stakeholders (Oliver Bach in Newsom & Midler, 2018). Furthermore, Sayogo et al. (2016) argue that the RA-SAN is highly representative of NGOs through various alliances. Nevertheless, creating a system that

allows for a larger range of stakeholders on the board may be helpful to improve representation within the RA-SAN, although too many can be detrimental. Similarly to the RSPO, the RA-SAN does not have equal representation of smallholders within their Board Members.

The ISCC has more than 100 stakeholders in their Association, the body that governs the ISCC (ISCC, 2016c). The Association is open to any stakeholder. The Association then votes annually on the ISCC Board, which was created to represent three stakeholder groups:

- Biomass Producers and Processors;
- Trade, Logistics and other System Users;
- NGOs, Social Sector, Science and Research, Public Sector (ISCC, 2016c).

Similarly to the RSPO, the ISCC clarified that the ISCC Board consists of “two representatives of each stakeholder group ensuring equal representation of interests” (ISCC, 2016c). This leads to a total of only 6 representatives. This also implies that there is only one representative of biomass producers on the ISCC Board, meaning that smallholders are proportionately underrepresented.

One critique applicable to all three certification schemes is the imposition of Western ideology onto developing countries. In particular, Hospes (2014) criticizes the RSPO for being dominated by European actors and interest, and its deliberate exclusion of public authorities from obtaining membership. The same can be said for the US-based RA-SAN and the German-based ISCC. The exclusion of public authorities, while a key characteristic of NSMD certifications according to Cashore (2002), is argued to potentially undermine the work of national and local governments in producer countries. The RSPO in particular attempts to combat this problem by have the National Interpretation Group and the Indonesian Smallholder National Interpretation Group in which public authorities are allowed to be a part of, although still are not represented within the Board of Governors (Hospes, 2014). The RA-SAN, attempts to nationally interpret the standard by working with local certifiers and organizations on the ground (Sayogo et al., 2016). The ISCC also states that they work with national authorities to ensure compliance with the law (ISCC, 2019c). Again, the RA-SAN is the least transparent in regards to their governance system and their work with national and local governments.

Overall, the three certification schemes all have mechanisms to represent various stakeholder groups within the organization. The RA-SAN is unique in its formation, and therefore has the least amount of stakeholders within the organization, but the largest amount of representatives on the board of Directors. All three of the certification can be improved by ensuring proper representation of smallholders and their interests. Similarly, all should work more effectively with public authorities in order to ensure legality and align their work with national interests. The RA-SAN and ISCC can learn from the RSPO by creating interpretation groups to give local public authorities more insight into their objectives.

### *Participation*

Different stakeholder groups within NSMD organizations must not only be properly represented but also have the ability to participate in decision-making (Schouten, 2014). According to Schouten & Glasbergen (2009), participation goes beyond representation by “...offering constituents the opportunity to observe and comment upon the activities of the organization.”

Within the RSPO, only ordinary members have voting rights during the GA; affiliate and supply chain associate members can attend the GA but have no voting rights (RSPO, 2019b). The use of various

working groups (7) and tasks forces (10) that can be joined by ordinary and affiliate members is meant to give members increased participation in the workings of the RSPO (RSPO, 2019c). The governance structure and number of members can be seen to the right in figure 17. Each is co-chaired by a member of the RSPO and a representative of each stakeholder group is a member.

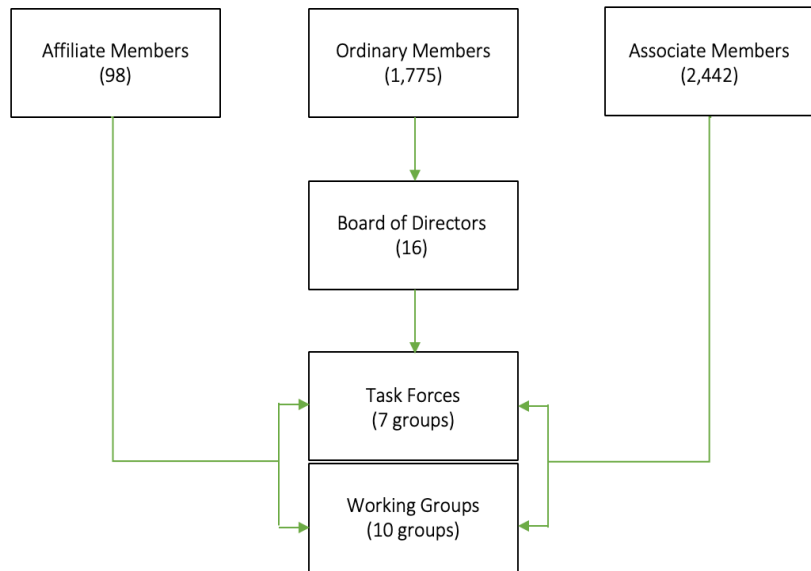


Figure 17: RSPO membership breakdown and participation (RSPO, 2019; RSPO, 2019c).

The RSPO is nevertheless criticized for balancing participation in decision-making from different stakeholder groups. Some issues with participation have been brought about based on equality in the voting process. Hospes (2014) elaborates: “Producers have been marginalized in the decision-making process at the GA as a result of the principle of ‘one member, one vote’—a principle that works to the disadvantage of producers that constitute a minority of RSPO membership and to the advantage of manufacturers and traders that form the two largest constituencies.” This issue was subsequently addressed by the RSPO at the 14<sup>th</sup> GA in 2017, where Resolution 6f was passed to ensure balanced voting power according to their size within the palm oil sector (RSPO, 2019d). By passing this resolution, the RSPO is attempting to give better voting power to the less represented within the organization.

As stated, the RA-SAN mostly engages with their stakeholders through public consultations, as

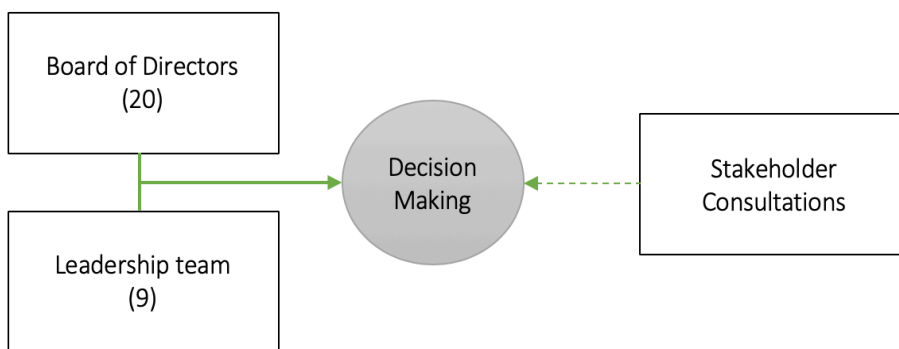


Figure 18: Decision making organization of the RA-SAN, dotted line represents the limited say lack of voting power of stakeholders on bigger issues (RA, 2019d).

seen in figure 18. They state that they are committed to ongoing dialogue with stakeholders and make mention of ‘an established decision-making framework’ when changes are needed (RA, 2019d). While the framework

itself is not elaborated on, it is assumed that this again references ISEAL’s Code of Good Practice for Standard-Setting, where an outline on decision-making is given in Clause 5.6 (ISEAL, 2014). Stakeholders can provide input on issues ‘regarding standards, policies, rules, the assurance system, appeals and other decisions (RA, 2019d). The RA-SAN states on their website that Leadership Team members are the ultimate decision-makers for bigger issues that constitute a substantial change (RA, 2019d). This information does little to provide information on the actual weight that stakeholders have in decision-making, as there is no reference to what constitutes a substantial change.

The ISCC gives four direct ways that ISCC members can participate in the ISCC:

- Becoming members of the ISCC Association;
- Participate in Stakeholder Committees, regional stakeholder dialogues, or Working Groups;
- Giving feedback through Public Consultations, or by direct contact (ISCC, 2016c).

The ISCC also uses Working Groups and regional dialogues to help stakeholders be involved in specific issues and topics. The general governance structure and number of members can be found below in figure 19. For significant changes to the system, stakeholders are informed and a public consultation is held to receive feedback,

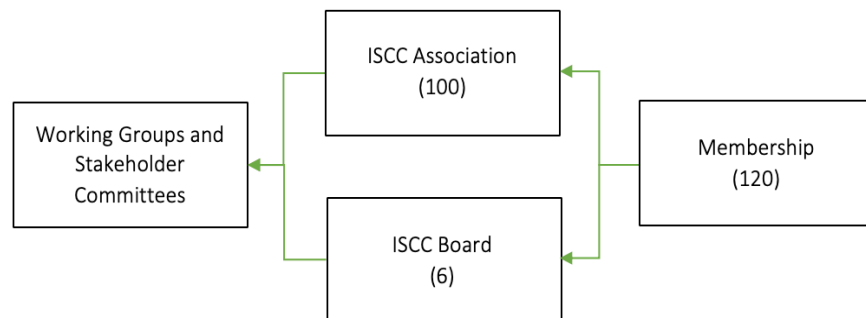


Figure 19: ISCC membership breakdown and participation options (ISCC, 2016c).

though stakeholders do not vote on the issues directly (ISCC, 2016c). In these cases, the GA is the superior decision-making power (ISCC, 2011). The ISCC is the most straight forward and detailed in regards to how the organization is organized and governed, as well as what decision-making power stakeholders have, as a system document concerning their governance structure has been published. This provides stakeholders with specific information about their decision-making rights and their ability to participate in the activities of the certification. How votes are counted at the GA in terms of equal representation can be improved.

The RSPO has shown they are taking measures to give better voting balance to those stakeholder groups who have less members. Furthermore, the use of Working Groups and Tasks Forces helps increase the amount of involvement stakeholders can have concerning key issues and concerns. This is an important step to ensure that the minority groups voices are not overshadowed by larger downstream stakeholder groups, though increased participation by smallholder stakeholders should be better facilitated. The RA-SAN on the other hand only engages with stakeholders during public consultations. While they have publicly committed to facilitating active stakeholder involvement, the relatively small amount of voting power could be improved upon. Finally, the ISCC does the best in providing clear and detailed information as to how stakeholders can be involved and have their voices heard. The lack of a clear voting system that allows stakeholders to directly influence changes to the system, however, is lacking in comparison to the RSPO.

### Neutrality

The next step of legality is to ensure that the NSMD certification schemes are neutral to all actors, treating them equally and consistently (Schouten, 2014). According to Schouten (2014) and Schouten & Glasbergen (2011), this can be achieved through the establishment of a Code of Conduct as well as a Grievance System that allows for complaints against members or producers that have been certified.

The RSPO has an established Code of Conduct that members must follow in order to maintain membership. They state that adherence to the Code of Conduct “is fundamental to the integrity, credibility and continued progress of the RSPO” (RSPO, 2017b). Consisting of over twenty principles, the Code of Conduct references the following areas:

- (1) promotion and commitment;

- (2) transparency, reporting and claims;
- (3) implementation;
- (4) pricing and incentives;
- (5) breaches to the code (RSPO, 2017b)

While the content of the RSPO Code of Conduct establishes rules and regulations for membership, the requirements are weak and not effectively enforced (Schouten & Glasbergen, 2011; von Geibler, 2013). Members are required to publish an Annual Communication of Progress (ACOP) that reports on the steps they are taking to produce or buy only RSPO certified palm oil. This has been found to be not adequately enforced, as not all members publish an ACOP and yet still retain their membership (Schouten, 2014). Another important aspect of neutrality within the RSPO is the grievance mechanism and conflict resolutions. The RSPO is fairly clear on the grievance procedure and the steps that must be taken to resolve complaints against members. Complaints are presented to a Grievance Panel, who review the case and take steps to resolve it (RSPO, n.d.). While the outline of the grievance mechanism helps create structure and uniformity in their treatment of complaints, many cases brought to the RSPO have remained unresolved for years. This is because of long delays in reviewing cases as well as a very low success rate in reaching agreements (Grassroots, 2013 cited in Macdonald & Balaton-Chrimes, 2016). This was also mentioned by one interview respondent when discussing member violations:

*“[Some companies think] ‘as long as it goes unnoticed then let’s continue’ until somebody exposes it as a violation of the certification’s standard and then it goes to the RSPO for this whole process. Some people may even have the feeling that the complaints are not satisfactorily dealt with”* (Daemeter, personal communication).

Furthermore, marginalized communities have trouble making use of the complaints and grievance system due to a lack community outreach and capacity building (Macdonald & Balaton-Chrimes, 2016). It can be said that the RSPO has taken initiatives to implement a strong Code of Conduct and grievance mechanism but face problems with the implementation of the rules and processes in reality.

The RA-SAN on the other hand does not have a publicly available Code of Conduct and does not give detailed information on the requirements members must meet besides having met the P&C. The RA-SAN does continuously pledge their support for the ISEAL Alliance, and thus follow their guidelines in terms of legality. Once again, the RA-SAN is not as detailed and transparent about the Code of Conduct and terms of membership in comparison to the RSPO. The RA-SAN could improve by publishing a Code of Conduct for stakeholders involved with the organization on their website, and be clear as to what requirements exist for stakeholders and members. Complaints against certified producers or auditors should be first addressed to the certification body in that area, as they have the best knowledge of the situation (RA, 2019f). If the complaint is not addressed adequately it is to be forwarded to the RA-SAN directly. Complaints from employees on certified plantations and complaints against buyers or sellers of RA-SAN certified products should also be directed directly to the RA-SAN (RA, 2019f). After submitting complaints, there is no mention of the process in resolving complaints and grievances nor is there sufficient literature discussing the efficiency and effectiveness of the grievance process. Therefore, it can be said that the RA-SAN should provide more information to businesses and the general public outlining this process.



The ISCC, while having the most detailed and thorough documentation of their internal governance, does not explicitly list the Code of Conduct for stakeholders. There are only two obligations for members:

- o “Support of elected and as per resolution implemented institutions to pursue the statutory purpose;
- o Payment of membership fees, constituted by the GA” (ISCC, 2011).

As can be seen, obligations for stakeholders are little more than paying membership fees and giving support to the ISCC Board in making decision. In comparison to the RSPO, these obligations are inadequate. The ISCC does better in detailing the grievance and conflict resolution processes. All complaints against the ISCC, certification bodies, or other stakeholders must be submitted to the ISCC management team, who then reviews and investigates the complaints and decides on the case (ISCC, 2016c). While the ISCC says that they aim to resolve complaints in a timely manner, but no critiques were found on the average turn over time of cases. If the complaint is not felt to be properly resolved by the ISCC board, an appeal can be submitted and the case will move forward to the Arbitration Board (consisting of three members from each stakeholder group) and a final decision will be made within 6 months of the appeal (ISCC, 2016c). The ISCC does a better job outlining the grievance process than it does in outlining specific requirements members must follow. The lack of an established Code of Conduct decreases the legality of the ISCC.

The RSPO is the only certification schemes that has a well-defined Code of Conduct and the requirement for companies to publish an ACOP, despite these being criticized as unenforced or inadequate by some scholars. The RA-SAN makes no mention of a Code of Conduct, and is generally less public about their requirements and obligations for stakeholders than the other two certifications. The ISCC has only two vague obligations for stakeholders to fulfill, making membership requirements easy to fulfill yet reduces the neutrality of the organization. The RSPO and ISCC both have well-defined complaints and grievance processes that outline the steps taken in resolving issues between parties. The RA-SAN also outlines these processes, but does little to provide information on the actual governance structure that reviews and decides on cases. Relevant literature in regards to the efficiency of the complaints system is lacking for all but the RSPO, who may benefit by having criticism that they can then incorporate into their governance processes.

*Section Summary*

Table 10: Legality Summary			
	RSPO	RA-SAN	ISCC
Representation and Procedural Regularity	+ clear governance structure, national interpretation groups to help involve local public authorities - GA dominated by downstream actors, smallholders not adequately represented	+ conducts several public consultations to receive stakeholder feedback, good engagement with NGOs - least transparent in how governance body is elected, structure is inherently less conducive to stakeholder dialogue	+ stakeholder participation is promoted - smallholders not proportionately represented, no national interpretation group to involve local authorities

Participation	+ ordinary members can vote at any GA, other members can participate in Working Groups and Tasks Forces, voting balanced according to size of stakeholder group within the sector -	+ accordance with the ISEAL Alliance decision making process, consultation improve participation of stakeholders - small amount of stakeholder voting power, no definition of 'substantial change' given	+ clear and detailed documentation on how stakeholders can become involved, Working Groups help - lacks a clear voting system for decision-making processes
Neutrality	+ clearly established Code of Conduct, ACOP, and grievance mechanism - members found not to be publishing ACOP, complaint cases not resolved in a timely manner or remain unresolved	+ first deals with complaints locally to better understand issue - no established Code of Conduct, less detailed governance of complaints and grievances	+ clear complaints and appeals process - no established Code of Conduct, only two obligations for membership

### 5.3.2 Moral Justification

By definition, NSMD certification schemes are governance mechanisms that attempt to regulate a sector through the market without the use of government regulations or laws (Cashore, 2002). Therefore, NSMD certifications must be able to morally justify why their goals are necessary for the sector and why they are the appropriate actors in regulating the market (Schouten & Glasbergen, 2011; Schouten, 2014). The first issue for the certification schemes is to come to an agreement on the definition of 'sustainability,' which is no easy task considering the wide array of actors within the sector and the general varying definitions of what sustainability amongst civil society (Marin-Burgos et al., 2014; Schouten, 2014; WWF personal communication). The organization must therefore argue why the goals, missions, and P&C are appropriate. While individual stakeholders have their own reasons for joining the NSMD certifications, ranging from environmental concerns to public image and market access, together they must be able to argue why they are the responsible actors in regulating the palm oil industry (Schouten & Glasbergen, 2011; Schouten, 2014). Not only do the certifications have to argue why they are better actors than the government, they must also argue why western-based organizations have a role in regulating a market where production takes place in developing countries in general. As mentioned, these NSMD certification schemes are often criticized as being Euro-centric and largely driven by western ideology, thus disregarding local ideologies on sustainability (Marin-Burgos et al., 2014; Hospes, 2014; Larsen et al., 2018). The lack of local ideologies in certification schemes further limits legitimacy at local levels (Larsen et al., 2018). Moral justification of the certifications goals and right to act in regulation must be continuously addressed in order to increase and maintain the legitimacy of the certification.

#### *Justifying their goals*

As can be seen by section 5.2.1 of this paper, creating goals and the P&C for the certification schemes was a tricky process that involved collaborations between stakeholders who all had different goals and motives for joining the organization.

Balancing stakeholder demands has been an issue for the RSPO ever since its development due in large part to the large and diverse motives amongst stakeholders. While many NGOs joined the RSPO in order to combat the social or environmental issues with palm oil, grower associations and producer representatives tended to focus on the power of palm oil for poverty alleviation. Many companies joined to improve public image and reputation and some others joined to gain access to European markets (Ruyychaert & Salles, 2014; Schouten, 2014). Because of this, stakeholders often have diverse values that often times conflict with others (Marin-Burgos et al., 2014). During the development of the RSPO in 2003, rather than endlessly debating about the meaning of 'sustainability' in the palm oil sector, the attendees decided to focus on developing the P&C (Schouten & Glasbergen, 2011). According to Schouten & Glasbergen (2011), this allowed the RSPO to create a common ground between stakeholders and develop goals that meet everyone's values. One interview respondent also stated that balancing stakeholder demands is a challenge for the RSPO and is evidenced by the frequent criticism by many of their own members and is consistently updating their P&C to meet new demands (Daemeter, personal communication).

The RA-SAN has less issues with stakeholder demands based on the makeup of the organization. The RA-SAN therefore justifies its goals as an initiative for increased corporate engagement (Raynolds et al., 2007). Furthermore, the RA-SAN justifies their P&C as well as their continuous improvement criteria as allowing for easier engagement with farms who may have trouble implementing new standards. They argue that their criteria are applicable to all producers and, as they are more 'business-friendly' than other schemes, allows for greater market impacts (Raynolds et al., 2007). While engagement with companies and producers is important, some criticize the RA-SAN as having too little input from their stakeholders and the influence of corporations on the standards when it comes to their P&C (Raynolds et al., 2007).

Similar to the RA-SAN, the ISCC also attempts to make their standards appeal to businesses (Hunsberger et al., 2014). Because the ISCC is based on the regulations from the EU-RED, it can be supposed that that is given as reasoning for their P&C. The ISCC also argues that their standards are meant to be more applicable for a wider range of producers and stakeholders. Therefore, their standards are more flexible and more appealing to producers, allowing for greater market uptake (Hunsberger et al., 2014). The ISCC is however criticized for being too company-oriented and putting business reputation above real sustainability (Ponte, 2014).

From the three certification schemes, all have issues with justifying their goals within the sector, and are openly criticized for it within literature. This was seconded by three of the interview respondents, who criticized the certifications as being too market oriented and lacking engagement with local governments. Because all allow for multi-stakeholder input, creating P&C that is aligned with each stakeholder groups' concerns and beliefs about the palm oil industry is a challenge. The RSPO struggles with this especially, as many stakeholders disagree on the potential for palm oil in alleviating poverty. While the latter two certification schemes may struggle with this as well, not being specific to palm oil reduces this criticism within the literature. Furthermore, the RA-SAN and the ISCC both justify their goals as being flexible and business-friendly which may increase market uptake but also poses a risk for corporate influence.

### *Justifying why they are the appropriate actors*

In addition to justifying why their goals are appropriate for the sector, the certification schemes must be able to justify why they are the correct actors to achieve these goals. This involves justifying why the

certification organization, not governments, have authority (Schouten, 2014). In doing this, the certification is also arguing why they have a role in the Indonesian palm oil sector despite being developed by western-based stakeholders.

The Indonesian government particularly challenges the certification schemes as the correct authority in regulating the palm oil sector. With the development of the ISPO in 2009, the Indonesian government is attempting to reinforce their role in regulating the sector (Schouten, 2014; Hospes, 2014; Larsen et al., 2018). While discussing the ISPO, one interview respondent stated the following:

*“I believe that the government [believes] that the market doesn't really need any sort of certification so the beginning of the ISPO was because the Indonesian government doesn't want to follow western standards”* (IDH, Personal Communication).

This ideology was seconded by other interview respondents, who when asked who the certifications were designed for, responded by saying that they are designed for consumer markets and thus are not designed with Indonesian interests in mind. The Indonesian government does believe that these certification schemes are an imposition of foreign definitions of sustainability, and the creation of ISPO was in hope to render western standards redundant and establish a standard enforced by the government (Schouten, 2014; Hospes, 2014; Larsen et al., 2018).

The certification schemes must therefore continue to work on avoiding a ‘Euro-centric’ view on sustainability by continuously discussing what sustainability means with local actors and incorporate these views into their work (Marin-Burgos et al., 2014). Because ISPO has strong potential to regulate the market as it is required by law, the uptake of ISPO could be detrimental to the future of the RSPO, RA-SAN, and the ISCC (Schouten, 2014). The certifications should be vigilant in ensuring that local actors are involved and that they support and collaborate with the ISPO and continue to utilize national interpretation groups to ensure they are not undermining public efforts to govern the sector. This will better justify with the public and with the Indonesian government that they are correct actors for regulating the market despite generally being based on western ideologies of sustainability.

### Section Summary

Table 11: Summary on Moral Justifications			
	RSPO	RA-SAN	ISCC
Justifying their goals	+ focus on P&C rather than defining sustainability to create common ground - criticism from members implies goals are not justified well	+ goals allow for better corporate engagement and market uptake - little input from stakeholder decreases morality	+ also appeals to businesses, in line with EU-RED justifies P&C - criticized for putting business reputation above real sustainability
Justifying why they are the appropriate actors	+ - ‘Euro-centric’ view of sustainability, Indonesian government does not support market-based regulation and wants ISPO to be the norm	+ - ‘Euro-centric’ view of sustainability, Indonesian government does not support market-based regulation and wants ISPO to be the norm	+ - ‘Euro-centric’ view of sustainability, Indonesian government does not support market-based regulation and wants ISPO to be the norm

### 5.3.3 Public Acceptance

The third and final aspect of legitimacy is the ability of NSMD certifications to gain public acceptance with both Tier I and Tier II audiences:

- Tier I: organizations that have a direct interest in the policies and procedures of the organizations (governments and companies)
- Tier II: the audiences within civil society that have a less direct but important role (NGOs, consumers, society) (Cashore, 2002; Schouten, 2014).

The acceptance of these audiences have a large hand in determining the legitimacy of NSMD audiences. Many factors go into the acceptance of a certification. For one, Tier I audiences must engage with the certifications in order for the certification to reach international acceptance. For palm oil certification schemes, emerging markets must be involved with the certifications in order to be legitimate. For Tier II audiences, Sayogo et al. (2016) argue that there is a significant correlation between the age of a certification and public acceptance, where consumers assume a certification is more trustworthy because it has better public recognition. Consumers must also be aware of the certification and know what the stamp represents, which involves advertising campaigns from NGOs to better push CSPO amongst consumers.

#### *Acceptance by Tier I audiences*

Tier I audiences are directly involved in the supply chain and therefore hold responsibility for either buying, selling, and/or promoting CSPO. Governments play a role in promoting CSPO to companies and consumers within their jurisdiction. Likewise, without the will of companies to buy CSPO the certification will cease to exist.

The push for RSPO-certified palm oil has come largely from consumer governments and European companies. The EU for instance has pushed for the consumption of CSPO by making an initiative to achieve 100% sustainable palm oil in Europe. In 2015, five European countries (Denmark, France, Germany, Netherlands, and the UK) signed the Amsterdam Declaration in Support of Fully Sustainable Palm Oil Supply Chain by 2020 (Hansen et al., 2015). This declaration is meant to promote CSPO in Europe and helps to increase market uptake and consumer demand. Despite this, the governments of other large importers of palm oil have made no such declaration, and therefore there is little incentive for companies to buy CSPO (Schouten, 2014). Furthermore, many major importers of palm oil have shown that they are not interested in paying a price premium for certified palm (Hunsberger, 2014). Nearly 50% of palm oil stays within emerging Asian markets such as China and India, whose market uptake is displayed in figure 20: (Schleifer & Sun, 2018; WWF, personal communication). As can be seen, China's uptake has been growing steadily, while India's remains static. Furthermore, the increase in certificates does not necessarily lead to an increase in CSPO sold within the country (Schleifer & Sun, 2018).



Figure 20: Market uptake of RSPO certificates in China and India (Schleifer & Sun, 2018).

On top of this, Indonesia itself is a part of the problem as well, as explained by an interview respondent:

*“Indonesia itself is also a big source of the problems. I mean you have India, China, and Indonesia. These three countries drive the production. So if they do not become aware and do not take the responsibility and develop proper policies and reinforce their policies with rules and regulations I think it's going to be hard to really transform the sector”* (Oxfam, personal communication).

Three other interview respondents seconded this information, stating that leakage to other markets is one of the biggest challenges facing the RSPO currently. Another obstacle in garnering Tier I audience support is the Indonesian government and local actors on board with the RSPO, as mentioned previously. To ensure the continuation of the RSPO, it must work with the Indonesian government and focus on expanding CSPO uptake in emerging markets.

The RA-SAN does well to engage with companies and the growth of the certification is largely attributed to the partnerships they have with large mainstream companies (Sayogo et al., 2016). The RA-SAN is largely based in the Americas, being an American organization and doing majority of their work in Central and South America (Raynolds et al., 2007). The RA-SAN is working to increase market uptake in many consuming countries, having helped found of the North American Sustainable Palm Oil Network, an initiative brought about by the RSPO (RSPO, 2017). Furthermore, the RA-SAN is also working to promote the uptake of CSPO in emerging economies such as India, by promoting and advocating CSPO and encouraging Indian companies to buy sustainable (RA, 2019g). The acceptance of the RA-SAN certification by Tier I audiences is therefore similar to that of the RSPO, in which government and companies in emerging countries must be targeted to increase uptake.

The ISCC is generally accepted by most Tier I audiences from Europe. In fact, the ISCC has the (financial) support of the German Ministry of Agriculture and quickly dominated the EU biofuel market after its development (Ponte, 2014). Governments and biofuel companies in Europe were quick to except the certification and thus demand from Tier I audiences is strong. The demand for biofuel feedstock from palm oil is on the rise in Indonesia as well, according to two of the interview respondents (HAKA, personal communication; Oxfam, personal communication). This could create more demand for the ISCC certification within Indonesia, as more Indonesians become aware of the issues with palm oil as well (Oxfam, personal communication). For now however, the ISCC is largely focused on the biofuel

market in Europe, specifically Germany, and could expand their impact by gaining the acceptance of producing Tier I audiences and other emerging economies.

All three certification schemes face similar struggles when it comes to the acceptance of Tier I audiences. The RSPO, while having the largest amount of CSPO on the market, still must increase their presence in emerging economies such as India and China, as well as Indonesia itself. As Indonesia is increasing their presence in the biofuel market, the ISCC has a big opportunity to expand their acceptance by local Tier I audiences. The RA-SAN has many large brands and companies that they partner and team up with, showing a good amount of Tier I acceptance. Also, the RA-SAN is helping the efforts of the RSPO by showing support in the US market as well as in India.

### *Acceptance by Tier II audiences*

Acceptance by Tier II audiences, either from NGOs that represent civil society or from consumers themselves, play a large role in the promotion of CSPO and the continuation of the certification. Without the role of NGOs not only as promoters and supporters, the certification will struggle to encourage consumers to demand the uptake of CSPO by companies and traders. For consumers, the size and age of a certification can greatly influence public recognition and trust in the label (Sayogo et al., 2007; Oxfam, personal communication; WWF, personal communication).

The RSPO generally has a large amount of recognition amongst NGOs, although not all NGOs are supporters. For instance, NGOs such as Greenpeace, the Rainforest Action Network, Friends of the Earth, and others consistently refute the work of the RSPO, despite being members of the organization themselves. This implies that there is a lack of acceptance by many NGOs, despite them being members of the RSPO. Other NGOs support the work of the RSPO as the best option for regulating the sector, due to its size and because it is internationally recognized (WWF, personal communication). However, from the consumer point-of-view, the RSPO is not as recognizable as many other certifications due to the nature of palm oil as a product. Palm oil is not a directly consumed product such as coffee or tea, and thus faces a number of challenges when it comes to consumer recognition (Oxfam, personal communication; Daemeter, personal communication). For one, consumers are unaware of which products contain palm oil, and more confusion is brought about when palm oil is mixed with other oils and is labeled as 'vegetable oil' (WWF, 2019). These challenges reduce consumer recognition and may decrease the willingness of consumers to pay a price premium for certification.

While the RA-SAN faces the same issues mentioned above in regards to consumer knowledge of palm oil, it does have an advantage of being widely recognized due to its age and its presence in other sectors. The Rainforest Alliance, being developed in the 1990s, has better brand recognition and consumers trust the brand more so than other, newer certifications (Sayogo et al., 2014; Tschardtke et al., 2015). In fact, consumer awareness of the Rainforest Alliance's green frog label is between 25 to 50% in major consuming countries across North America and Europe (Tschardtke et al., 2015). The RA-SAN is also regarded as having strong relationships with other NGOs (Sayogo et al., 2014) and are also members of other certifications including the RSPO. Therefore, despite its relatively small presence in palm oil certification, it can be said that the RA-SAN has a large degree of acceptance from Tier II audiences, and may have potential to better inform their consumers about palm oil and the products that contain it.

The ISCC has the least amount of public recognition out of the three certifications as it is much smaller and less well known (Oxfam, personal communication). Also, due to it certifying only palm oil destined for biofuels, it is not a consumer label. The ISCC also faces issues with acceptance of Tier II

audiences due to the many disputes over the consequences of biofuels. Many environmental and social NGOs such as Greenpeace and Oxfam point to biofuel production as a main driver of iLUC and food insecurity, and therefore should not be promoted (Schouten, 2014). The interview respondent from Oxfam confirmed this during the interview:

*“Oxfam has a clear position. We want an end to biofuel. We think food products should never end up in the tank of a car. That's the wrong solution.”* (Oxfam, personal communication).

Thus, the ISCC faces another set of problems in convincing Tier II audiences (namely NGOs) to support their work and promote ISCC certification.

All three of the certification schemes face the issue with consumer recognition of palm oil and the willingness to buy CSPO. The RA-SAN has better brand recognition due to both its age and its presence in other markets, signifying that they could have the greatest impact in educating and promoting CSPO to consumers. The RSPO and the ISCC both face NGO criticism, the ISCC in particular must argue why palm oil is acceptable as a biofuel feedstock.

### Section Summary

Table 12: Summary of Public Acceptance			
	RSPO	RA-SAN	ISCC
Acceptance by Tier I audiences	+ support from European governments, - lacks support from producer countries, uptake slow in emerging economies	+ works to increase awareness in emerging economies, supports RSPO work - lacks support from producer countries, uptake slow in emerging economies	+ support from both European government, potential to expand to Indonesian biofuel market - lacks support from producer countries, uptake slow in emerging economies
Acceptance by Tier II audiences	+ support from some NGOs like WWF, large size and market coverage - low consumer knowledge of palm oil, high amount of NGO criticism	+ better brand recognition from consumers due to age and presence in other markets, collaborates with many other NGOs - low consumer knowledge of palm oil, small amount of RA-SAN certified palm oil	+ - low consumer knowledge on palm oil, not a consumer label, heavy criticism from NGOs due to biofuel controversy



## 5.4 Lessons from other sectors

In order to further understand the challenges that palm oil certification schemes may face, other, more established NSMD certification schemes are analysed to see where palm oil can learn from them. Despite the RSPO being viewed as one of the most sophisticated certifications (WWF, personal communications; Oxfam, personal communication), comparing palm oil to others may show future challenges that can be avoided and point to places for improvement. In particular, coffee certification is an example of an industry that could give good insight for palm oil. The first coffee certification was introduced in 1986, and is often seen as the ‘testing ground’ for certification initiatives (Auld, 2010). Two of the main coffee certifications are Organic coffee, which focuses more on environmental impacts of coffee production, and Fairtrade Coffee, which focuses more on socio-economic development of producers and fairer trading regulations (Auld et al., 2009; Auld, 2010; Jena et al., 2012; Ibanez & Blackman, 2016). As smallholders play an important role in both coffee and palm oil, Fairtrade will be analysed in this section. Another one of the more developed NSMD certifications is the FSC certification. The Forest Stewardship Council (FSC) was one of the first roundtable-style NSMD certification to be created, and can thus potentially provide valuable lesson for palm oil certifications. Interview results show that the FSC is viewed as a rather successful certification (WWF, personal communication; Daemeter, personal communication).

### 5.4.1 Fairtrade Coffee

The first Fairtrade labeling initiative began as early as the 1950s due to concerns by NGOs and development organizations about unfair trading practices and fluctuating prices in the coffee sector. These efforts eventually led to the establishment of the Fairtrade label in 1997 (Auld et al., 2009). Fairtrade certification focuses on the social aspects of coffee; their mission is “... to connect disadvantaged producers and consumers, promote fairer trading conditions and empower producers to combat poverty, strengthen their position and take more control over their lives” (Fairtrade, 2019). Fairtrade P&C essentially follows the ILO standards for fair labor and enacts social and price premiums to ensure producer well-being (Jena et al., 2012).

There are many studies analyzing the effects of Fairtrade certification on producer livelihoods, with highly mixed results. In regards to income, the literature shows that there is high variability in the effects based on the geographic location and local situations. For instance, in a study by Bacon (2005), coffee farmers in Nicaragua were said to have increased income since taking on certification, although they found that their quality of life has declined in recent years. This means that despite having increased income from selling certified coffee, achieving certification did little to off-set other factors of one’s quality of life. Contrastingly, a study by Jena et al. (2012), found that certified farmers in Ethiopia make less than non-certified farmers due to the poor financial conditions of the cooperatives. This difference in income, although not the only factor in one’s livelihoods, depends highly on the socio-economic conditions of the location of production. As palm oil continues to expand to new frontier producer countries across Latin America and Africa, certifications must research each country’s unique situation and strategize how to have the most impact.

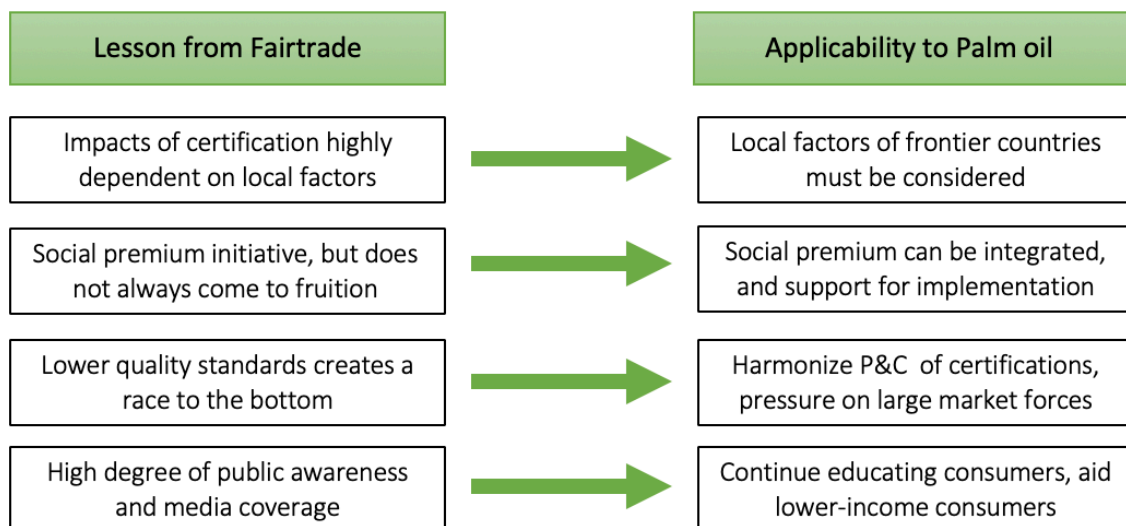
Fairtrade is also one of the only certifications to offer a social premium, which funds community social services and funding of local infrastructure (Raynolds et al., 2007; Jena et al., 2012). While this has potential to improve the quality of life in producing communities, studies have found that communities in reality never see these social premiums come to fruition. This is likely because a project plan must be created and submitted by producer cooperatives, whose leaders may lack the educational background and experience to do so (Jena et al., 2012). While social premiums are an innovative way

to support local communities, certifications must better support these investments to take the load off of local actors.

Literature on coffee certifications also points to issues concerning the proliferation of standards across the sector, and how this has had both negative and positive effects (Bacon, 2005; Reynolds et al., 2007). On the one hand, lower quality standards than Fairtrade has less regulations than Fairtrade, and yet are sold to consumers as combating the same issues. Not only does this do less to regulate the market, but it creates confusion amongst consumers (Bacon, 2005). Likewise, tension between high- and low-standard initiatives are growing, as high-standard certifications are facing pressure to lower their standards in order to compete with the others. Reynolds et al. (2007) explains it well: *“We are likely to see growing tension between certifications that hold the bar on social and environmental conditions and those that raise the bar, with market forces favoring the former approach.”* In order to avoid this in the palm oil sector, harmonization across different standards and putting pressure on ‘market forces’ (i.e. large industry enterprises) to conform to higher standards is key.

Lastly, another advantage that Fairtrade has over palm oil certification is a high degree of consumer awareness of the issues and a willingness to buy premium. Awareness in North American markets has been steadily increasing and coverage in the media has helped push the Fairtrade label (Bacon, 2005). According to one interview respondent, this could be due to the fact that coffee is a higher-value commodity and coffee consumers tend to be slightly better off (Daemeter, personal communication). Thus it is trickier for palm oil certifications to convince people to pay a higher price. Nevertheless, education, awareness campaigns, and media coverage could greatly increase people’s willingness-to-buy, and helping lower income consumers have access to CSPO for little to no additional price will further expand the potential of making CSPO the norm.

### Section Summary



### 5.4.2 Forest Stewardship Council (FSC)

As mentioned in section 3.1, the forestry sector is considered to be a pioneer of NSMD governance and is one of the more advanced certifications that exist. The FSC was founded after concerns of the rate of deforestation (particularly in tropical countries) and its impact on biodiversity became an issue of global concern in the 1990s. Through an effort of the WWF and other NGOs, the FSC was established

in 1993 (Auld et al., 2009). The FSC's mission statement is "...to promote environmentally sound, socially beneficial and economically prosperous management of the world's forests" (Forest Stewardship Council, 2019). The FSC P&C thus focuses on forest managements, community rights, and environmentally friendly production practices (Auld et al., 2009).

Over time, uptake of the FSC certification began to increase almost exclusively in the Global North, in countries like the US, Canada, and across Europe (Gulbrandsen, 2005; Auld et al., 2009; Ponte, 2015). Producers in the global north were quicker to support the FSC due to NGO pressuring the threat of boycotts as well as an entrance in the 'green market' (Gulbrandsen, 2005). Pick up in tropical countries, however, continues to be slow for a number of reasons. Much literature addresses the lack of governance structure in developing countries as a reason that certifications have trouble expanding. Specifically the informal and unstructured timber industry slows uptake of certification (Gulbrandsen, 2005; Cashore et al., 2007). This, in combination with widespread corruption can lead to illegal logging, which in some countries is estimated to be higher than the legal rate of logging (Cashore et al., 2007). Despite this, the expansion of the FSC into developing countries has proven to be helpful in reducing illegal logging. One study in Latin America found that FSC certification aided in small communities and groups that were operating without a license to become legally formal loggers (De Camino & Aldfaros, 2000 cited in Robinson et al., 2003). Palm oil industries will likely face similar problems with frontier countries, as palm oil production continues to expand across the tropics. It will be important to keep in mind the challenges they will face in the implementing regulation in countries with low regulatory frameworks and strengthen their national interpretation of the standards in these countries.

The FSC, like the coffee sector, has had competition from competing certifications. After its conception, various other weaker quality certifications arose across Canada, the US, and Mexico in an attempt to challenge the FSC. These standards, according to many environmental groups, barely raised the bar above the status-quo, which is why many forestry firms were quick to support them. Firms were indeed skeptical of the FSC as it was founded by environmental groups, and furthermore disliked the inflexibility of their P&C (Gulbrandsen, 2005). It should be noted however, that two of the interview respondents pointed to the FSC as an exemplary, well-accepted certification.

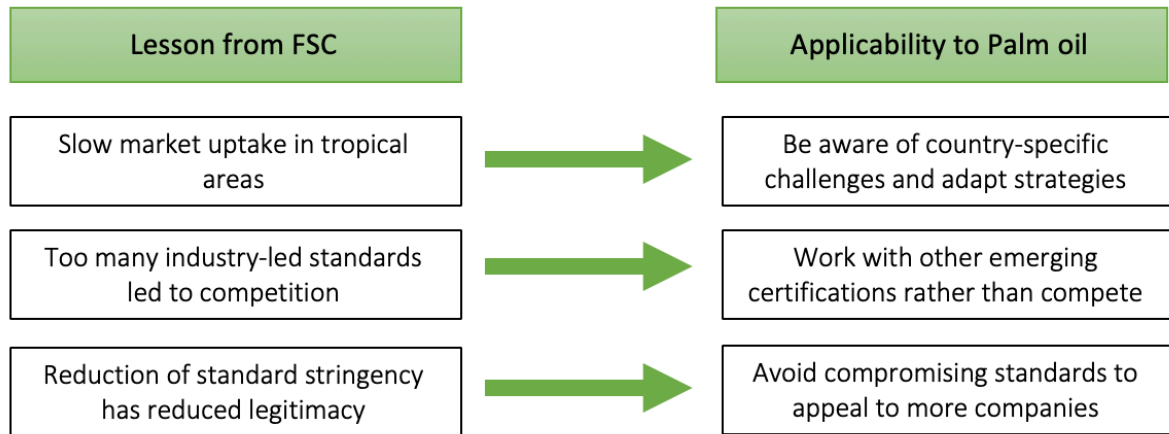
*"You also see like in the Forest Stewardship Council. At the beginning you have a number of [certifications] coming up and eventually the market sort of converges on one which sort of gets market recognition and then people sort of stay with that. And then the demand for that increases while the others have more difficult issues to get people interested in and create a niche for them" (Daemeter, personal communication).*

This could signify that the FSC certification has increased its presence in the industry in recent years. Nevertheless, palm oil certification again can learn from this and work with other certifications rather than compete with them.

Competition with other certifications has led to serious issues for the FSC. Because of increasing competition, the FSC began to reduce the stringency of their standard in order to attract more forestry firms (Moog et al., 2015). Moog et al. (2015) found that because other certifications were overtaking the FSC as the main certification for forestry products, the FSC decided to begin certifying tree plantations, a decision in which many stakeholders were against. Furthermore, the FSC was heavily criticized for certifying controversial tree plantations in Thailand and Brazil, due to heavy opposition from local communities. Because of this, the FSC lost the support of many NGOs as well as consumer trust, ultimately reducing their legitimacy (Moog et al., 2015). Palm oil certification should heed

warning from this experience of the FSC and avoid compromising their P&C in order to appeal to more companies and producers.

*Section Summary*



## Chapter 6: Discussion and Recommendations

The following chapter will provide a discussion on both the theoretical and practical findings of this research. The role of NSMD certifications as an effective governance mechanism at large will be discussed, as well as its role in Indonesian palm oil. Assuming that NSMD certifications will continue to stay relevant, the practicality and effectiveness of the three certifications will be discussed and recommendations for improvement will be given. Finally, limitations of this research and recommendations for future research will be discussed.

### 6.1 Theoretical Discussion: NSMD certifications in the future

The future of NSMD certification schemes in any industry is widely debated amongst scholars. According to some, NSMD certification schemes will not be able to replace the role of the government in regulating sustainability in any sector. Based on the concepts of conditions for success and legitimacy, there are five different potential scenarios as to the role of NSMD certifications will play in the future, according to Auld et al. (2009).

Scenario	Description
1. Full-fledged political legitimacy	“Full range of stakeholders within a sector recognize their membership in a political community that grants an NSMD system the authority to govern.”
2. NSMD exists as a strong, but niche or small-market-focused system	“NSMD is important for norm generation but is unable to address widespread, globally important problems.”
3. NSMD institutionalizes as a weak system	“NSMD certification gains widespread support, but it is institutionalized as a weak form of authority, unable or unwilling to address the enduring social and environmental problems for which it was originally created.”
4. Hybrid	“This scenario involves a combination of government and private authority in which governmental arenas and NSMD combine to produce new forms of authority. This would occur when governments required that some, but not all, parts of the supply chain adhere to the rules.”
5. Bringing the state back in	“The combination of increased public awareness and competition among systems has put pressure on governments to move in and regulate the problem. Under this scenario, certification has played an important role in facilitating learning across different stakeholders, but is ultimately viewed as being unable to progress further, and government moves in with a newly invigorated sense of mission.”

Based on these scenarios, it could be said that the future of NSMD certifications as a governance mechanism largely depends on their ability to gain legitimacy and become the institutionalized norm for sustainability within the industry. The future according to these two scenarios is largely dependent on the role that the government chooses to take within the sector. While scenario 1 implies that the government is supportive of the certification and embraces it as the main governance structure, scenario 5 shows what will happen if the government steps up to regulate the sector itself, and in doing so, makes the certification scheme no longer necessary as a form of sustainability.

Indeed, the role of the government in regulating sustainability is an issue that leaves some to believe that scenario 5 is the only logical way forward (Ponte, 2014; Glasbergen, 2018; Moog et al., 2015). Moog et al. (2015) discuss that the NSMD certifications are an effective mechanism for starting the conversation and engaging stakeholders, but can do little in the long term without the backing of the state to enforce legal requirements for everyone. Similarly, some NGOs believe that NSMD certifications allow governments to ignore the problems and avoid taking actions themselves (Schouten, 2014). Governments, having more power to enforce standards and punish violators, hold high potential in making quick and effective change (Greenpeace, personal communication). Another common issue with NSMD certification schemes that leads some to believe scenario 5 is the future is that market schemes do not necessarily prevent the expansion of palm oil, and thus can exacerbate the problem. Governments, in this case, can play a stronger role in not only adapting the highest standard of production themselves, but also work to control consumption rates by investing in alternatives, create financial motivations for best practices through public funding and subsidies, and incorporate better land management practices into public policy (Moog et al., 2015).

This research, however, finds that stakeholders are relying on the NSMD certification schemes to regulate the sector due to their belief that the Indonesian government is incapable and unwilling to do so at the level they believe is necessary. While the ISPO was created, this research and others (Yaap & Paoli, 2014; McInnus, 2017) found that the ISPO has weak standards that are not properly enforced, which greatly reduces the legitimacy of the state-led initiative. Furthermore, interview respondents were not hopeful that the governance capability of Indonesia will be quick and restrictive enough to mitigate the issues with palm oil. On the one hand, ISPO spans across multiple ministries that weaken the governance structure greatly (Oxfam, personal communication; Greenpeace, personal communication). Furthermore, the government is continuously contradicting itself and going back on their word for reducing palm oil expansion (Daemeter, personal communication). Thus, nearly all of the interview respondents agreed that while NSMD certifications are not a silver bullet that will fix all the problems with palm oil, it is an important start in governing the sector. This implies that according to stakeholders and experts that participated in this research, the NSMD certification in palm oil are viewed closer to scenario 2 or 3 listed in Table 13 above, in which the certifications are not seen as an answer to fix all problems, but will continue play an important role in regulating the sector.

In summation, the general outlook on the future of NSMD certification schemes seems to be, “if not this, than what else?” A lack of trust in the willingness of Indonesia (and other tropical countries) to regulate the problems with palm oil production is one of the driving reasons behind the continued support of NSMD certification schemes. That being said, this research has shown that the role of NSMD certifications should not be expected to decrease in the near future, and thus looking for ways to improve the existing certifications is necessary.

## 6.2 Practical Discussion: Identifying Points of Improvement

In order to improve the effectiveness of NSMD certification schemes in the palm oil sector, this research has sought out to identify points of improvement and make recommendations for the future.

### 6.2.1 Improving the standards and their implementation

While all of the NSMD certification schemes discussed in this research have standards that are more sustainable than the status-quo method of palm oil production, each has room for improvement.

This research has shown that the proliferation of standards is a widely discussed topic within literature and amongst experts. Proliferation in theory can cause a race to the bottom amongst competing standards who want to increase membership to stay relevant in the sector (Auld, 2010; von Geibler, 2013). As evidenced in both the Fairtrade certification and the FSC, proliferation caused the standards to reduce the stringency of their standards, which caused controversy amongst members and reduced trust from consumers and NGOs (Bacon, 2005; Gulbrandsen, 2005). Palm oil certifications must therefore work together to ensure that one is not undermining the other, but are mutually beneficial to each other. Furthermore, NGOs working with certification schemes should discourage the creation of more standards and benchmarks in an effort to create a streamlined certification that consumers are familiar with, encompasses the entire sector, and provides a high-quality P&C that becomes the norm for production. That being said, it can be argued that the RSPO is currently the main standard for palm oil.

According to the results of the comparative analysis, the RSPO has the most detailed P&C specific to issues associated with palm oil and has the most stringent requirements amongst the three discussed. Nevertheless, the implementation of the P&C is where the RSPO has been criticized the most. Namely, issues with auditing, which is reflected by other organizations and researcher's findings. In particular the EIA (2015) and Jennings (2016) have in-depth reports identifying similar issues to this research as well as potential solutions. In order to combat these issues, the certifications should listen to expert critiques and work in implementing changes. Another key issue involving auditing that this research has shown is the need for better assistance for smallholders throughout the certification process. Interview data and literature has shown that smallholders have trouble paying the upfront costs of certification, which can often create a dependency on NGO funding. Furthermore, after the initial audit, smallholders continue to struggle to finance subsequent audits, and thus often lose the certification.

This issue with smallholder support and financing is also related to the lack of a consistent price premium for CSPO, as it shows that smallholders do not see enough pay-off from achieving certification, even in the longer term. This is contradictory to a report by Levin et al. (2012), who argue that the long-term benefits of achieving certification will pay off up-front costs. One result of this research is the lessons learned from the Fairtrade certification in which they attempt to provide a social premium, where investments are put back into communities for infrastructure and social services (Raynolds, 2007). Implementing social premiums can help the certifications go 'above and beyond' the normal by offering a price premium and can help increase their impacts on local communities.

Finally, this research has shown that NSMD certification schemes must do more to increase their impacts on a landscape level, and further aid in finding innovative ways of including indirect impacts of palm oil production into their certification. Because NSMD certifications are a market scheme, many accuse certifications of inadvertently promoting the expansion and production of palm oil. This can be aided by the certifications investing in innovative ways to manage at the landscape level, so they can better manage their impact on food security and iLUC. This research has shown that while certifications may be aware of their indirect impacts, only the ISCC has been in the forefront by working with organizations to develop a new way of measuring food security impacts. Another interesting finding of this research was the identification of potential impacts on income inequality and cultural loss. As these are novice issues where little is known on how certifications could create impact, the certifications could improve their image and impacts by investing in research on these issues and doing pilot studies on how these can be incorporated.

Based on the findings mentioned above, the key points of improvement for the certification have been identified in the following figure below (Author's own)

Key Points of Improvement	Recommendations
Proliferation of standards in the sector	Discourage new standard creation by working with other existing standards. Harmonize P&Cs in order to avoid a race to the bottom.
Issues with implementation of standards and auditing	Listen to feedback from external organizations that give recommendations for improving the auditing system and look for new, innovative ways to reduce the issues through independent research.
Inclusion and support of smallholders throughout the certification process	Engage smallholder groups and ensure they are properly represented in the organization. Better aid smallholders in preparing for audits by facilitating financial and organizational assistance.
Regulation of price premium/ inclusion of a social premium	Facilitate a consistent price premium from downstream buyers and the financial sector in order to encourage certification uptake by smallholders. Enactment of social premiums to better help communities and producers.
Lack of consideration of indirect effects and landscape level effects	Ensure that the certification is not indirectly promoting the expansion of palm oil, but rather aims at improving landscape level management of land and resources. Facilitate and support research on how to address indirect effects of certification such as food security, iLUC, income inequality, and cultural loss.

Figure 21: Key points of improvement for improving effectiveness based on this research and recommendations for the future (Source: Author's own).

### 6.2.2 Gaining legitimacy

The NSMD certifications discussed in this research have shown that while they each have some amount of legitimacy as a governing structure, there are multiple ways to strengthen their legitimacy in the future.

As discussed throughout the research, the representation of smallholders within the certification's governing body is lacking. The RSPO is the only organization that has made significant strides to be inclusive of smallholders, by making increasing the number of seats for producers on the Board of Directors and by creating the Smallholder Task Force. Nevertheless, membership in the RSPO is still dominated by downstream players and large-scale producers. Continuing to work towards engaging with smallholders could be aided by increasing support for smallholder organizations such as co-operatives. In a study by Rist et al. (2010), smallholder co-operative organizations were found to be beneficial to smallholders by helping to negotiate prices and hold companies accountable to any agreements made. Thus, although incorporating managers of smallholder co-operatives into the certification schemes governance body may be tricky, it could lead to better, more accurate information as to the actual needs and concerns of smallholders themselves. The next step in having complete representation of all parties affected by palm oil production would be to better include



indigenous groups and communities that may be or have been affected by the certification or one of its members activities (McInnus, 2017).

Another aspect discussed in this research is the lack of an efficient procedure for complaints and grievances. This issues greatly reduces the certifications' legitimacy considering that some complaints can concern hot-button issues such as illegal deforestation or human rights violations. This research found that while all of the certifications have a clear process to resolve complaints made against their members or certification bodies, the grievance process is criticized for being insufficient. This indeed has been the subject of many critiques, for example a study by Macdonald & Balaton-Chrimes (2016) on the RSPO, who argue that many complaints are not resolved in a timely manner and are often repeated in the future, meaning that they are not learning from prior complaints and trying to prevent similar issues in the future. To improve their complaints and grievances and ultimately improve their legitimacy, the certifications could expand their monitoring systems and staff to be more vigilant of violations before they become an official complaint. Similarly, increasing transparency and turnover time of cases will increase trust amongst members and the general public.

This research has confirmed that many experts are still skeptical as to whether the European and American certification initiatives are the right actors in improving sustainability within Indonesia and other producing countries. The market-based nature of the certifications on the one hand led at least three of the interview respondents to doubt who the certification is designed for, believing that they are focused more on serving the market and consumers rather than helping producers. This is reflected in the literature, particularly Larsen et al. (2018), who also argue that market schemes are often seen as putting quantity over quality in an effort to expand the certification. On the other hand, some felt that being western-based organizations largely filled with large multinational companies makes them less of a legitimate actor in comparison to public initiatives like ISPO. The definition of sustainability in this case may not be the same for consuming and producing countries as can be evidenced by many studies from researchers in the global south such as Tan et al., (2009), who argue that claims from other researchers about the unsustainable practices of palm oil are unfounded or exaggerated. Improving legitimacy in this aspect involves better engagement with public authorities. It is important that western initiatives do not undermine or compete with public, government led initiatives like the ISPO but rather support and collaborate with them with the aim to improve the sector as a whole rather than only expand the certification's reach.

Leakage to other markets was a significant issue found by this research as well. Uptake of CSPO in the European market is much further ahead than in other countries such as China and India. As these countries are currently the top two importing countries, knowledge of sustainability issues and consumer awareness will be key in achieving sustainability in the sector. As it stands now, companies who are less inclined to achieve certification will simply sell to markets where demand for CSPO is low and there are less stringent requirements. The FSC certification has also shown that producing countries in tropical areas are less likely to engage with sustainable certifications. Research into effective awareness campaigns for both producing and consuming countries will create a higher demand for CSPO and therefore improve the sector as a whole. Furthermore, engaging with local NGOs will help the certification to understand local and country-specific strategies to better promote sustainability amongst buyers and consumers.

Lastly, this research has argued that there is still a general lack of consumer knowledge about the issues with palm oil. Misinformation and mislabeling are furthermore creating a misunderstanding of the palm oil sector at large. For one, many consumers are continuing to demand palm oil free products from companies, meaning that they are relatively unaware of the benefits of palm oil over

other oils. Other consumers generally lack knowledge of the issues with palm oil and therefore create no demand for CSPO, which can then be exacerbated by the fact that palm oil is often mislabeled simply as vegetable oil. Increasing consumer awareness of the relative benefits of palm oil over other oils will help increase demand for CSPO and help it become the norm for palm oil and avoid a market shift to other, less sustainable oils. Furthermore, retailers should take initiative in educating their consumers on why they are choosing to use palm oil and correctly label their products to allow consumers to know what kind of oil is in their products.

The findings mentioned above represent the key issues found in this research. Recommendations have been given to help improve the organizations legitimacy in civil society and amongst stakeholders. A summary can be found below in figure 22.

Key Points of Improvement	Recommendations
Lower representation of smallholders within the organization compared to large-scale producers	Encourage and facilitate the inclusion of smallholder co-operatives, marginalized communities, and indigenous groups within the governance body.
Insufficient complaints and grievances systems against other members, high turnover time for complaints cases, no enforcement of ACOP	Increase transparency within the complaints and grievance process to improve trust, better manage turnover times of cases, and better prevent repetitive complaints to show they are learning.
Criticism on whether the certifications are the correct actors to act on sustainable palm oil	Avoid undermining public initiatives like the ISPO and engage with public authorities in producing countries.
Slow market uptake and demand in high consuming countries causes leakage to other markets	Research effective ways to improve awareness amongst consumers in both producing and consuming countries to expand the demand for CSPO. Work with local NGOs to engage with consumers.
Lack of consumer knowledge of palm oil issues and unclear labelling causes low consumer demand	Retailers should take part in educating consumers on the pros and cons of palm oil and be more transparent in their use of palm oil by correctly labelling products.

Figure 21: Key points of improving legitimacy based on the findings of this research (Source: Author's Own).

### 6.2.3 Limitations and Future Research

The author recognizes that there are a number of limitations of this research that warrant future research. As this study was an analysis of NSMD certification schemes at a macro level, specific issues that were identified were not given a high level of detail and remained rather general. As a consequence, some of the recommendations presented in the previous chapter remain rather topical and lack real advice for change. For instance, 'engage smallholder groups' is an important finding of this research but does not provide any real strategies that can be utilized. Therefore, follow up research and pilot studies on how this can be done will be useful in the future. Similarly, future research into

sustainable market uptake producing and consuming countries would provide more concrete advice for the certifications.

As mentioned prior, discussions about smallholders should involve smallholders themselves. As this research did not include fieldwork in Indonesia, the findings presented here come from other studies involving smallholders. Nevertheless, a limitation of this study is the lack of primary data coming from smallholders. This could also be extended to consumers, as this research did not conduct research with consumers to give insight into their knowledge of palm oil and NSMD certifications. Doing so would provide better insight into the legitimacy of these certifications. More research should be done on how to better raise awareness of palm oil amongst consumers in both developed and developing countries.

More research needs to be conducted on novice issues with certification such as their impact on income insecurity, cultural loss, as well as how to address abuses against indigenous communities. Due to the scope of this research, these topics were left out of the analysis despite being important issues in Indonesia. Future research will help provide concrete details on these issues and give advice for how to handle them in the future.

## Chapter 7: Conclusions

This research was conducted in order to contribute to the theoretical and practical knowledge on the effectiveness of NSMD certification schemes working with Indonesian palm oil. Not only has this research proven that theoretically NSMD certifications will continue to be relevant in the foreseeable future, it has attempted to provide information on how they can improve to make bigger impacts on the environment and for smallholders. This research has set out to answer the following central research question:

*How can NSMD certification schemes become more effective in terms of reducing the environmental impacts of palm oil and promoting the socio-economic development of smallholders in Indonesia?*

In order to answer this, the theoretical framework combining theories on conditions for success and legitimacy were utilized to make a conceptual design that could be used to measure effectiveness. Three relevant certification schemes working with palm oil were compared to find which of the three most accurately covered the issues with palm oil production and identify where implementation issues may exist. It was found that the RSPO had the most criteria addressing the issues, yet was still facing many issues with implementation and inclusiveness of smallholders. The legitimacy of these certifications is similarly plagued by a lack of moral justification as the right actors and a lack of market uptake and consumer demand for CSPO. Therefore, by improving on these key aspects and the other issues identified in this research, the certification schemes can increase their effectiveness and make greater impacts in the industry.

This research has provided new insights into the issues with NSMD certification schemes and their future as a multi-national governance initiative in the palm oil industry. The palm oil industry has proven that it is and will continue to play a major role in global vegetable oil production. Controlling the production and consumption of this commodity will help to achieve the UN's Sustainable Development Goal 12 *Responsible production and consumption*. Additionally, support and empowerment of smallholders will help to reduce poverty and could positively benefit their livelihoods. Improvements in the palm oil sector has great potential to help achieve global sustainability where people can get out of poverty without hurting the world's remaining natural ecosystems and the animals that inhabit them.

## Chapter 8: Works Cited

- Agus, F., Gunarso, P., Sahardjo, B. H., Harris, N., Noordwijk, M. Van, & Killeen, T. J. (2013). Historical Co2 Emissions From Land Use and Land Use Change From the Oil Palm Industry in Indonesia , Malaysia and Papua New Guinea. *Reports from the Technical Panels of the 2 Nd Greenhouse Gas Working Group of the Roundtable on Sustainable Palm Oil ( RSPO )*, 65–88. <https://doi.org/10.1111/ijpo.12051a>
- Andrianto, A., Komarudin, H., & Pacheco, P. (2019). Expansion of Oil Palm Plantations in Indonesia’s Frontier: Problems of Externalities and the Future of Local and Indigenous Communities. *Land*, 8(4), 56. <https://doi.org/10.3390/land8040056>
- Auld, G. (2010). Assessing certification as governance: effects and broader consequences for coffee. *The Journal of Environment & Development*, 19(2), 215-241.
- Auld, G., Balboa, C., Bernstein, S., Cashore, B. E. N. I. A. M. I. N., Delmas, M., & Young, O. (2009). The emergence of non-state market-driven (NSDM) global environmental governance. *Governance for the environment: New perspectives*, 183.
- Austin, K. G., Lee, M. E., Morgans, C. L., Meijaard, E., Santika, T., Law, E., & Budiharta, S. (2018). Evaluating the effectiveness of palm oil certification in delivering multiple sustainability objectives. *Environmental Research Letters*.
- Azhar, B., Saadun, N., Prideaux, M., & Lindenmayer, D. B. (2017). The global palm oil sector must change to save biodiversity and improve food security in the tropics. *Journal of Environmental Management*, 203, 457-466.
- Bacon, C. (2005). Confronting the coffee crisis: can fair trade, organic, and specialty coffees reduce small-scale farmer vulnerability in northern Nicaragua?. *World development*, 33(3), 497-511.
- Barlow, C., Zen, Z., & Gondowarsito, R. (2003). The Indonesian Oil Palm Industry. *Oil Palm Industry Economic Journal*, 3(1), 8–15. Retrieved from <http://palmoilis.mpob.gov.my/publications/opieyv3n1-8.pdf>
- Budidarsono, S., Susanti, A., & Zoomers, E. B. (2013). Oil palm plantations in Indonesia: the implications for migration, settlement/resettlement and local economic development. <http://dx.doi.org/10.5772/53586>
- Carlson, K. M., Curran, L. M., Asner, G. P., Pittman, A. M., Trigg, S. N., & Adeney, J. M. (2013). Carbon emissions from forest conversion by Kalimantan oil palm plantations. *Nature Climate Change*, 3(3), 283.
- Carlson, K. M., Curran, L. M., Ratnasari, D., Pittman, A. M., Soares-Filho, B. S., Asner, G. P., ... Rodrigues, H. O. (2012). Committed carbon emissions, deforestation, and community land conversion from oil palm plantation expansion in West Kalimantan, Indonesia. *Proceedings of the National Academy of Sciences*, 109(19), 7559–7564. <https://doi.org/10.1073/pnas.1200452109>
- Carlson, K. M., Heilmayr, R., Gibbs, H. K., Noojipady, P., Burns, D. N., Morton, D. C., ... Kremen, C. (2017). Effect of oil palm sustainability certification on deforestation and fire in Indonesia. *Proceedings of the National Academy of Sciences*, 115(1), 201704728. <https://doi.org/10.1073/pnas.1704728114>
- Cashore, B. (2002). Legitimacy and the privatization of environmental governance: How non–state market–driven (NSMD) governance systems gain rule–making authority. *Governance*, 15(4), 503-529.
- Cashore, B., Auld, G., Bernstein, S., & McDermott, C. (2007). Can non-state governance ‘ratchet up’ global environmental standards? lessons from the forest sector. *Review of European Community & International Environmental Law*, 16(2), 158-172.
- Cazzolla Cazzolla Gatti, R., Liang, J., Velichevskaya, A., & Zhou, M. (2019). Sustainable palm oil may not be so sustainable. *Science of the Total Environment*, 652, 48–51. <https://doi.org/10.1016/j.scitotenv.2018.10.222>

- Corley, R. H. V., & Tinker, P. B. (2015). *The Oil Palm*. <https://doi.org/10.1002/9781118953297>
- Choo, Y. M., Muhamad, H., Hashim, Z., Subramaniam, V., Puah, C. W., & Tan, Y. (2011). Determination of GHG contributions by subsystems in the oil palm supply chain using the LCA approach. *The International Journal of Life Cycle Assessment*, 16(7), 669-681.
- de Koning, P.C. & Wiegant, D.A. (2017) Certification Standards and Deforestation: Analysis of Voluntary Sustainability Standards ensuring deforestation free production and trade in cocoa, palm oil and soy. *Mekon Ecology*.
- Environmental Investigation Agency (EIA). (2015). Who Watches the Watchmen? Auditors and the Breakdown of Oversight in the RSPO.
- European Commission. (1999). Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions. Retrieved on 30/7/2019 from: <https://ec.europa.eu/environment/archives/eia/eia-studies-and-reports/pdf/guidel.pdf>
- Fairtrade Labelling Organizations International. (2019). Retrieved on 6/5/2019 from: <https://www.fairtrade.net/about-fairtrade/our-vision.html>
- FAOSTATS. (2017). Retrieved on 11/9/2019 from: <http://www.fao.org/faostat/en/#data/QC>
- FAOSTATS. (2019). Compare Data: Retrieved on 4/9/2019 from: <http://www.fao.org/faostat/en/#compare>
- Fitzherbert, E. B., Struebig, M. J., Morel, A., Danielsen, F., Brühl, C. A., Donald, P. F., & Phalan, B. (2008). How will oil palm expansion affect biodiversity? *Trends in Ecology and Evolution*, 23(10), 538–545. <https://doi.org/10.1016/j.tree.2008.06.012>
- Forbes. (2018). Indonesia's 50 Richest. Retrieved on 19/6/2019 from: [https://www.forbes.com/indonesia-billionaires/list/#tab:overall\\_header:position](https://www.forbes.com/indonesia-billionaires/list/#tab:overall_header:position)
- Forest Stewardship Council. (2019). Retrieved on 6/5/2019 at: <https://us.fsc.org/en-us/what-we-do/mission-and-vision>
- German, L., & Schoneveld, G. (2012). A review of social sustainability considerations among EU-approved voluntary schemes for biofuels, with implications for rural livelihoods. *Energy Policy*, 51, 765–778. <https://doi.org/10.1016/j.enpol.2012.09.022>
- Greenpeace International. (2013). Certifying Destruction: Why consumer companies need to go beyond the RSPO to stop forest destruction. Retrieved on 6/3/2018 at: <https://www.greenpeace.org/archive-international/Global/international/publications/forests/2013/Indonesia/RSPO-Certifying-Destruction.pdf>
- Glasbergen, P. (2018). Smallholders do not Eat Certificates. *Ecological Economics*, 147, 243–252. <https://doi.org/10.1016/j.ecolecon.2018.01.023>
- Global Forest Watch. (2018). Interactive Map. Retrieved on 3/4/2019 at: <https://www.globalforestwatch.org/map?map=eyJ6b29tIjoyLCJjZW50ZXliOmsibGF0IjoyNywibG5nIjoxMn0sImNhbkJvdW5kljpmYWxzZSwiYmJveCI6bnVsbH0%3D&menu=eyJkYXRhc2V0OQ2F0ZWdvcnkiOiIjmb3Jlc3RDdGFuZ2UjLCJtZW51U2VjdGlvbil6ImRhZGFzZXRzIn0%3D>
- Gulbrandsen, L. H. (2005). Mark of sustainability? Challenges for fishery and forestry eco-labeling. *Environment*, 47(5), 8–23. <https://doi.org/10.3200/ENVT.47.5.8-23>
- Gulbrandsen, L. H. (2010). *Transnational environmental governance: The emergence and effects of the certification of forest and fisheries*. Edward Elgar Publishing.

Hansen, E. K., Royal, S., Pompili, B. Muller, G., Schmidt, C., Ploumen, L., Helgesen, V. & Greening, J. (2015). The Amsterdam Declaration in Support of a Fully Sustainable Palm Oil Supply Chain by 2020. Retrieved on 26/8/2019 from: <https://www.euandgvc.nl/documents/publications/2015/december/7/declarations-palm-oil>

Hennink, M., Hutter, I., & Bailey, A. (2010). In-depth Interviews. *Qualitative research methods*. Sage.

Hidayat, K. N., Glasbergen, P., & Offermans, A. (2015). Sustainability certification and palm oil smallholders' livelihood: a comparison between scheme smallholders and independent smallholders in Indonesia. *International Food and Agribusiness Management Review*, 18(1030-2016-83041), 25.

Hospes, O. (2014). Marking the success or end of global multi-stakeholder governance? The rise of national sustainability standards in Indonesia and Brazil for palm oil and soy. *Agriculture and Human Values*, 31(3), 425–437. <https://doi.org/10.1007/s10460-014-9511-9>

Hunsberger, C., Bolwig, S., Corbera, E., & Creutzig, F. (2014). Livelihood impacts of biofuel crop production: Implications for governance. *Geoforum*, 54, 248-260.

Ibanez, M., & Blackman, A. (2016). Is Eco-Certification a Win-Win for Developing Country Agriculture? Organic Coffee Certification in Colombia. *World Development*, 82, 14–27. <https://doi.org/10.1016/j.worlddev.2016.01.004>

International Labour Organization. (2019). Rules of the game: An introduction to the standards-related work of the International Labour Organization. *International Labour Organization*.

International Sustainability & Carbon Certification. (2011). ISCC Statutes. *ISCC*.

International Sustainability & Carbon Certification. (2016a). ISCC 202 Sustainability Requirements. Retrieved on 5/3/2019 from: <https://www.iscc-system.org/process/audit-and-certification-process/iscc-system-documents/>

International Sustainability & Carbon Certification. (2016b). ISCC 201 System Basics. Retrieved on 5/3/2019 from: <https://www.iscc-system.org/process/audit-and-certification-process/iscc-system-documents/>

International Sustainability & Carbon Certification. (2016c). ISCC 102 Governance \_3.0. Retrieved on 5/3/2019 from: <https://www.iscc-system.org/process/audit-and-certification-process/iscc-system-documents/>

International Sustainability & Carbon Certification. (2017). ISCC 201-5: Guidance for the Certification of Independent Smallholders. Retrieved on 20/6/2019 from: [https://www.iscc-system.org/wp-content/uploads/2017/02/201\\_5-Guidance-for-the-certification-of-Independent-Smallholders\\_ENG.pdf](https://www.iscc-system.org/wp-content/uploads/2017/02/201_5-Guidance-for-the-certification-of-Independent-Smallholders_ENG.pdf)

International Sustainability & Carbon Certification. (2018). About: Objectives. Retrieved on 6/3/2018 from: <https://www.iscc-system.org/about/objectives/>

International Sustainability & Carbon Certification. (2018b). Impact Report 2018. *ISCC*.

International Sustainability & Carbon Certification. (2019). Stakeholders: multi-stakeholder initiative. Retrieved on 24/6/2019 from: [www.iscc-system.org/stakeholders/multi-stakeholder-initiative/](http://www.iscc-system.org/stakeholders/multi-stakeholder-initiative/)

International Social and Environmental Accreditation and Labelling Alliance. (2014). Setting Social and Environmental Standards: ISEAL Code of Good Practice. Retrieved on 7/8/2019 from: [https://www.isealalliance.org/sites/default/files/resource/201711/ISEAL\\_Standard\\_Setting\\_Code\\_v6\\_Dec\\_2014.pdf](https://www.isealalliance.org/sites/default/files/resource/201711/ISEAL_Standard_Setting_Code_v6_Dec_2014.pdf)

Jelsma, I., Schoneveld, G. C., Zoomers, A., & van Westen, A. C. M. (2017). Unpacking Indonesia's independent oil palm smallholders: An actor-disaggregated approach to identifying environmental and social performance challenges. *Land Use Policy*, 69(April), 281–297. <https://doi.org/10.1016/j.landusepol.2017.08.012>

- Jena, P. R., Chichaibelu, B. B., Stellmacher, T., & Grote, U. (2012). The impact of coffee certification on small-scale producers' livelihoods: a case study from the Jimma Zone, Ethiopia. *Agricultural Economics*, 43(4), 429–440. <https://doi.org/10.1111/j.1574-0862.2012.00594.x>
- Jennings, S. (2016). Expecting too much, getting too little? A think piece on sustainability certification auditing in the oil palm sector. *WWF*.
- Kerwer, D. (2005). Rules that many use: standards and global regulation. *Governance*, 18(4), 611-632.
- Koh, L. P., & Wilcove, D. S. (2008). Is oil palm agriculture really destroying tropical biodiversity? *Conservation Letters*, 1(2), 60–64. <https://doi.org/10.1111/j.1755-263X.2008.00011.x>
- Larsen, R. K., Osbeck, M., Dawkins, E., Tuhkanen, H., Nguyen, H., Nugroho, A., ... Wolvekamp, P. (2018). Hybrid governance in agricultural commodity chains: Insights from implementation of 'No Deforestation, No Peat, No Exploitation' (NDPE) policies in the oil palm industry. *Journal of Cleaner Production*, 183(2018), 544–554. <https://doi.org/10.1016/j.jclepro.2018.02.125>
- Laurance, William F., Koh, Lian P., Butler, Rhett, Sodhi, Navjot S., Bradshaw, Corey J. A., Neidel, David J., et al. (2010). Improving the performance of the roundtable on sustainable palm oil for nature conservation. *Conservation Biology*, 24(2), 377–381.
- Levin, J., Ng, G., Fortes, D., Garcia, S., Lacey, S., & Grubba, D. (2012). Profitability and sustainability in palm oil production. *Analysis of Incremental Financial Costs and Benefits of RSPO Compliance*. *WWF-US, FMO, CDC*.
- Macdonald, K., & Balaton-Chrimes, S. (2016). The Complaints System of the Roundtable on Sustainable Palm Oil (RSPO). Available at SSRN: <https://ssrn.com/abstract=2880049>
- Marti, S. (2008). Losing ground: The human rights impact of oil palm plantation expansion in Indonesia. *Environment: Science and Policy for Sustainable ...*, (February), 1–108. <https://doi.org/10.1038/343321b0>
- McInnus, A. (2017). A comparison of leading palm oil certification standards. *Forest Peoples Programme*.
- Marin-burgos, V., Clancy, J. S., & Lovett, J. C. (2014). Contesting legitimacy of voluntary sustainability certification schemes : Valuation languages and power asymmetries in the Roundtable on Sustainable Palm Oil in Colombia.
- Mattsson, B., Cederberg, C., & Blix, L. (2000). Agricultural land use in life cycle assessment (LCA): Case studies of three vegetable oil crops. *Journal of Cleaner Production*, 8(4), 283–292. [https://doi.org/10.1016/S0959-6526\(00\)00027-5](https://doi.org/10.1016/S0959-6526(00)00027-5)
- Moog, S., Spicer, A., & Böhm, S. (2015). The politics of multi-stakeholder initiatives: The crisis of the Forest Stewardship Council. *Journal of Business Ethics*, 128(3), 469-493.
- Newsom, D. & Milder, J.C. (2018). 2018 Rainforest Alliance Impacts Report: Partnership, learning, and change. *Rainforest Alliance*.
- Observatory of Economic Complexity (OECa). (2019). What does Indonesia export? Retrieved on 4/9/2019 from: [https://oec.world/en/visualize/tree\\_map/hs92/export/idn/all/show/2017/](https://oec.world/en/visualize/tree_map/hs92/export/idn/all/show/2017/)
- Observatory of Economic Complexity (OECb). (2019). Which countries import palm oil (2017). Retrieved on 4/9/2019 from: [https://oec.world/en/visualize/tree\\_map/hs92/import/show/all/1511/2017/](https://oec.world/en/visualize/tree_map/hs92/import/show/all/1511/2017/)
- Ochieng, B. O., Hughey, K. F., & Bigsby, H. (2013). Rainforest Alliance Certification of Kenyan tea farms: a contribution to sustainability or tokenism?. *Journal of Cleaner Production*, 39, 285-293.



Oosterveer, P., Adjei, B. E., Vellema, S., & Slingerland, M. (2014). Global sustainability standards and food security: Exploring unintended effects of voluntary certification in palm oil. *Global Food Security*, 3(3–4), 220–226. <https://doi.org/10.1016/j.gfs.2014.09.006>

Pacheco P, Gnych S, Dermawan A, Komarudin H and Okarda B. 2017. The palm oil global value chain: Implications for economic growth and social and environmental sustainability. Working Paper 220. Bogor, Indonesia: CIFOR.

Palm Oil Analytics. (2018). CPO- FOB Indonesia. *Palm oil Analytics*. Received on 5/12/18 at: <http://www.palmoilanalytics.com/price/15>

Pierce, L., & Toffel, M. (2013). The role of organizational scope and governance in strengthening private monitoring. *Organization Science*, 24(5), 1558-1584. doi:10.1287/orsc.1120.0801

Ponte, S. (2014). Roundtabling Sustainability : Lessons from the Biofuel Industry, 54(May), 261–271. <https://doi.org/10.1016/j.geoforum.2013.07.008>

PricewaterhouseCoopers. (2010). Palm Oil Plantation: Industry landscape, regulatory and financial overview. *Plantation Comprehensive Overview*. Retrieved on 5/12/18: <https://www.pwc.com/id/en/publications/assets/palm-oil-plantation.pdf>

Pye, O. (2018). Commodifying sustainability: Development, nature and politics in the palm oil industry. *World Development*.

Rainforest Alliance. (2016). Smallholder Palm Oil Financing in Indonesia. *Needs and Opportunities for Sustainable Finance Intervention*.

Rainforest Alliance. (2017a). Rainforest Alliance Sustainable Agricultural Network for farms and producers involved in crop or cattle production. Retrieved on 5/3/2018 from: <https://www.rainforest-alliance.org/business/resource-item/rainforest-alliance-sustainable-agriculture-standard/>

Rainforest Alliance. (2017b). Rainforest Alliance Certification Rules for Single Farms and Group Administrators. *Rainforest Alliance*.

Rainforest Alliance. (2018). Certification and assurance services. Retrieved on 6/3/2018 from: <https://www.rainforest-alliance.org/business/solutions/certification/>

Rainforest Alliance. (2019). Sustainable Agriculture Network / Rainforest Alliance Theory of Change and Monitoring and Evaluation Framework. Retrieved on 11/6/2019 from: <https://www.rainforest-alliance.org/impact/san-ra-theory-of-change>

Rainforest Alliance. (2019b). Measuring and Evaluating the Impact of Our Work. Retrieved on 31/7/2019 from: <https://www.rainforest-alliance.org/impact/monitoring-evaluation>

Rainforest Alliance. (2019c). Responsibilities and Costs. Retrieved on 5/8/2019 from: <https://www.rainforest-alliance.org/business/solutions/certification/agriculture/get-certified/responsibilities-costs/>

Rainforest Alliance. (2019d). Leadership. Retrieved on 6/8/2019 from: <https://www.rainforest-alliance.org/leadership>

Rainforest Alliance. (2019e). Governance & Transparency. Retrieved on 7/8/2019 from: <https://www.rainforest-alliance.org/business/solutions/certification/agriculture/governance/>

Rainforest Alliance. (2019f). Inquiries and Complaints. Retrieved on 19/8/2019 from: <https://www.rainforest-alliance.org/business/solutions/certification/agriculture/governance/inquiries-complaints/>

Rainforest Alliance. (2019g). The Search for Sustainable Palm Oil. Retrieved on 26/8/2019 from: <https://www.rainforest-alliance.org/articles/search-for-sustainable-palm-oil>

Ramdani, F., & Hino, M. (2013). Land Use Changes and GHG Emissions from Tropical Forest Conversion by Oil Palm Plantations in Riau Province, Indonesia. *PLoS ONE*, 8(7), 1–6. <https://doi.org/10.1371/journal.pone.0070323>

Raynolds, L. T., Murray, D., & Heller, A. (2007). Regulating sustainability in the coffee sector: A comparative analysis of third-party environmental and social certification initiatives. *Agriculture and human values*, 24(2), 147-163.

Rist, L., Feintrenie, L., & Levang, P. (2010). The livelihood impacts of oil palm: Smallholders in Indonesia. *Biodiversity and Conservation*, 19(4), 1009–1024. <https://doi.org/10.1007/s10531-010-9815-z>

Robinson, D., Stewart, J., Higman, S., & Peachey, V. (2003). Increasing the contribution of forest certification to sustainable rural livelihoods sustainable rural livelihoods, (May), 1–25.

Roundtable on Sustainable Palm Oil. (2017). RSPO Certifications Systems for Principles & Criteria. *RSPO*.

Roundtable on Sustainable Palm Oil. (2017b). Code of Conduct for Members of the Roundtable on Sustainable Palm Oil. *RSPO*.

Roundtable on Sustainable Palm Oil. (2017c). RSPO ANNOUNCES FORMATION OF THE NORTH AMERICAN SUSTAINABLE PALM OIL NETWORK (NASPON). Retrieved on 26/8/2019 from: <https://www.rspo.org/news-and-events/news/rspo-announces-formation-of-the-north-american-sustainable-palm-oil-network-naspon>

Roundtable on Sustainable Palm Oil. (2018b). Principles and Criteria for the Production of Sustainable Palm Oil. *RSPO*.

Roundtable on Sustainable Palm Oil. (2018c). Impact Report 2018. Retrieved on 26/6/2019 at: <https://rspo.org/impacts>

Roundtable on Sustainable Palm Oil. (2018d). Monitoring and Evaluating System. Retrieved on 31/7/19 from: [https://rspo.org/library/lib\\_files/preview/887](https://rspo.org/library/lib_files/preview/887)

Roundtable on Sustainable Palm Oil. (2019). About Us. Retrieved on 6/3/2018 from: <https://rspo.org/about>

Roundtable on Sustainable Palm Oil. (2019a). Impacts. Retrieved on 24/6/2019 from: <https://rspo.org/impacts>

Roundtable on Sustainable Palm Oil. (2019b). RSPO membership. Retrieved on 5/8/2019 from: <https://rspo.org/members>

Roundtable on Sustainable Palm Oil. (2019c). Supporting Bodies. Retrieved on 6/8/2019 from: <https://www.rspo.org/about/supporting-bodies#working-group>

Roundtable on Sustainable Palm Oil. (2019d). News & Events. Retrieved on 7/8/2019 from: <https://rspo.org/news-and-events/announcements/rspo-14th-general-assembly-ga14-summary-report>

Roundtable on Sustainable Palm Oil. (n.d.). RSPO Grievance Process. *RSPO*.

Rowley, J. and Slack, F. (2004). 'Conducting a Literature Review', *Management Research News* 27(4), pp. 31-39

Ruysschaert, D., & Hufty, M. (2018). Building an effective coalition to improve forest policy: Lessons from the coastal Tripa peat swamp rainforest, Sumatra, Indonesia. *Land Use Policy*

Ruysschaert, D., & Salles, D. (2014). Towards global voluntary standards: Questioning the effectiveness in attaining conservation goals. The case of the Roundtable on Sustainable Palm Oil (RSPO). *Ecological Economics*, 107, 438–446

Saadun, N., Lim, E. A. L., Esa, S. M., Ngu, F., Awang, F., Gimin, A., ... & Azhar, B. (2018). Socio-ecological perspectives of engaging smallholders in environmental-friendly palm oil certification schemes. *Land use policy*, 72, 333-340.

Savilaakso, S., Petrokofsky, G., Zrust, M., & Guariguata, M. R. (2014). *Palm oil and biodiversity* (Vol. 69). CIFOR.

Sayogo, D. S., Jarman, H., Andersen, D. F., & Luciano, J. S. (2016). Labeling, Certification, and Consumer Trust. In *Private Data and Public Value* (pp. 67-88). Springer, Cham.

Schleifer, P. & Sun, Y. (2018.) Emerging markets and private governance: the political economy of sustainable palm oil in China and India, *Review of International Political Economy*, 25:2, 190-214, DOI: 10.1080/09692290.2017.1418759

Schouten, G. (2014). Processes of Legitimization in Private Governance Arrangements: examples from the Roundtables on Sustainable Palm Oil and Responsible Soy. *Proceedings of the 2014 Norwich Conference on Earth System Governance*.

Schouten, G., & Glasbergen, P. (2011). Creating Legitimacy in Global Private Governance; The Case of the Roundtable on Sustainable Palm Oil. *Chinese Journal of Emergency Medicine*, 26(7), 739–744.  
<https://doi.org/10.3760/cma.j.issn.1671-0282.2017.07.005>

Schmidt, J. H. (2015). Life cycle assessment of five vegetable oils. *Journal of Cleaner Production*, 87(1), 130–138.  
<https://doi.org/10.1016/j.jclepro.2014.10.011>

Schneider R., Gamba, L., & Beuchelt, T. (2018). Food security standard on the Right Track. Retrieved on 2/9/2019 from: [https://www.iscc-system.org/wp-content/uploads/2017/11/2018.12\\_FSS\\_Fact\\_Sheet\\_3\\_Right\\_Track.pdf](https://www.iscc-system.org/wp-content/uploads/2017/11/2018.12_FSS_Fact_Sheet_3_Right_Track.pdf)

Silva-Castañeda, L. (2012). A forest of evidence: third-party certification and multiple forms of proof—a case study of oil palm plantations in Indonesia. *Agriculture and human values*, 29(3), 361-370.

Statista. (2019). Production of major vegetable oils worldwide from 2012/13 to 2018/2019, by type (in million metric tons). Retrieved on 20/3/2019 from: <https://www.statista.com/statistics/263933/production-of-vegetable-oils-worldwide-since-2000/>

The Sustainable Trade Initiative (IDH). (2015). Facts and Figures on Palm oil Trade Flows and Sustainability. Retrieved on 5/12/18 at: <https://www.idhsustainabletrade.com/uploaded/2016/12/Palm-Oil-Trade-Flows.pdf>

Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human resource development review*, 4(3), 356-367.

Tscharntke, T., Milder, J. C., Schroth, G., Clough, Y., Declerck, F., Waldron, A., ... Ghazoul, J. (2015). Conserving Biodiversity Through Certification of Tropical Agroforestry Crops at Local and Landscape Scales. *Conservation Letters*, 8(1), 14–23. <https://doi.org/10.1111/conl.12110>

Tuk Indoneisa. (2018). Tycoons in the Indonesian Palm Oil. *Tuk Indonesia*.

van der Ven, H., Rothacker, C., & Cashore, B. (2018). Do eco-labels prevent deforestation? Lessons from non-state market driven governance in the soy, palm oil, and cocoa sectors. *Global Environmental Change*, 52(July), 141–151. <https://doi.org/10.1016/j.gloenvcha.2018.07.002>

- Van Dam, J., Junginger, M., & Faaij, A. P. C. (2010). From the global efforts on certification of bioenergy towards an integrated approach based on sustainable land use planning. *Renewable and Sustainable Energy Reviews*, 14(9). <https://doi.org/10.1016/j.rser.2010.07.010>
- Vellema, S., & van Wijk, J. (2015). Partnerships intervening in global food chains: the emergence of co-creation in standard-setting and certification. *Journal of Cleaner Production*, 107, 105-113.
- Ventura, F. M. (2007). Examining the Rainforest Alliance's Agricultural Certification Robustness. *University of California, San Diego*.
- Verschuren, P., Doorewaard, H., & Mellion, M. (2010). Designing a research project (Vol. 2). The Hague: Eleven International Publishing.
- Von Geibler, J. (2013). Market-based governance for sustainability in value chains: Conditions for successful standard setting in the palm oil sector. *Journal of Cleaner Production*, 56, 39–53. <https://doi.org/10.1016/j.jclepro.2012.08.027>
- Waarts, Y. R., Ge, L., Ton, G., & Jansen, D. M. (2012). *Sustainable Tea Production in Kenya; Impact Assessment of Rainforest Alliance and Farmer Field School Training*. LEI, part of Wageningen UR.
- West, P. C., Smith, W. K., Siebert, S., Carlson, K. M., Gerber, J. S., Milder, J. C., ... Pennington, D. N. (2019). Voluntary sustainability standards could significantly reduce detrimental impacts of global agriculture *Proceedings of the National Academy of Sciences*, 116(6), 2130–2137. <https://doi.org/10.1073/pnas.1707812116>
- Wicke, B., Sikkema, R., Dornburg, V., & Faaij, A. (2011). Exploring land use changes and the role of palm oil production in Indonesia and Malaysia. *Land Use Policy*, 28(1), 193–206. <https://doi.org/10.1016/j.landusepol.2010.06.001>
- World Rainforest Movement. (2019). Breaking the Silence: Harassment, sexual violence and abuse against women in and around industrial oil palm and rubber plantations. Retrieved on 4/9/2019 from: <https://wrm.org.uy/books-and-briefings/breaking-the-silence-harassment-sexual-violence-and-abuse-against-women-in-and-around-industrial-oil-palm-and-rubber-plantations/>
- World Resource Institute (WRI). (2017). This Interactive Chart Explains World's Top 10 Emitters, and How They've Changed. Retrieved on 12/12/18 from: <https://www.wri.org/blog/2017/04/interactive-chart-explains-worlds-top-10-emitters-and-how-theyve-changed>
- WWF. (2016). Palm Oil Buyer's Scorecard. *WWF International*. Retrieved on 26/11/2018 from: <http://palmoilscorecard.panda.org/>
- WWF. (2019). Which everyday products contain palm oil? Retrieved on 11/9/2019 from: <https://www.worldwildlife.org/pages/which-everyday-products-contain-palm-oil>
- Yaap, B., & Paoli, G. (2014). A comparison of leading palm oil certification standards applied in Indonesia: Towards defining emerging norms of good practice. *Daemeter*.