Manon Fleurus
8801077
Winter 2018

'SUSTAINABLE' PALM OIL PLANTATIONS PUT TO THE TEST: A COMPARATIVE ANALYSIS OF GLOBAL AND INDONESIAN CERTIFICATIONS

A Major Research Paper Submitted to the Faculty of Graduate and Postdoctoral Studies in Fulfillment of the Requirements for a Master of Arts in International Development and Globalization with a Specialization in Environmental Sustainability

Under the supervision of Professor Jean-François Rousseau
Examined by Professor Christopher Huggins

University of Ottawa
Faculty of Social Sciences
School of International Development and Global Studies

Table of Contents

Acknowledgements 3

List of Abbreviations 4

List of Figures 5

List of Tables 5

Appendices 5

1. Introduction 6

2. Research and Methodology 8

3. Conceptual Framework 10

3.1. Sustainable Development 10

3.2 Certification 15

4. Context 19

4.1. Palm Oil in the Global Economy 19

4.2. Palm Oil in Indonesia 22

4.3. RSPO 26

4.4. ISPO 29

5. Comparison 31

6. Analysis 35

7. Discussion of Findings 42

8. Conclusion 46

9. Sources 49

Acknowledgements

I wish to thank my supervisor, Jean-François Rousseau, for his unwavering support, valuable expertise, and knowledgeable recommendations throughout the writing of this MRP. You have been an incommensurable source of guidance and I am very grateful for the dedication you have shown towards your students.

I would also like to thank my reader, Christopher Huggins, who has always shown great interest in this MRP and provided me constructive and thorough feedback.

To my parents, Chantal and Jean-François, and to my significant other, Eric, thank you for your endless support in my decision to study in Canada.

Thank you to my dear friends, Edna and Valerie, with whom I shared countless hours of coffee, reading and writing.

List of Abbreviations

AAK: Aarhus Karlshamn

ASC: Aquaculture Stewardship Council

ASI: Accreditation Services International

BRICS: Brazil, Russia, India, China and South Africa

FAO: Food and Agriculture Organization

FSC: Forest Stewardship Council

GAP: Good Agricultural Practices

GDP: Gross Domestic Product

GHG: Greenhouse Gas

GSTC: Global Sustainable Tourism Council

HCV: High Conservation Value

ISPO: Indonesian Sustainable Palm Oil

MDGs: Millennium Development Goals

MICs: Middle Income Countries

MPOA: Malaysian Palm Oil Association

MSC: Marine Stewardship Council

NGO: Non-Governmental Organization

P&C: Principles and Criteria

RSB: Roundtable on Sustainable Biomaterials

RSPO: Roundtable on Sustainable Palm Oil

SBP: Sustainable Biomass Program

SDGs: Sustainable Development Goals

SPO: Sustainable Palm Oil

UN: United Nations

UNCTAD: United Nations Conference on Trade And Development

UNDP: United Nations Development Programme

WWF: World Wildlife Fund

List of Figures

Figure 1: Palm oil producers

Figure 2: Palm oil consumers

Figure 3: Palm fruit harvested area in Indonesia (in millions of hectares), 1970-2016

Figure 4: Indonesia palm oil and palm kernel production and exports oil (in millions of tons), 1970-2014

Figure 5: Palm oil and palm kernel oil price (in US$ per ton), 1970-2016

Figure 6: RSPO members

List of Tables

Table 1: Millennium Development Goals (MDGs)

Table 2: Sustainable Development Goals (SDGs)

Table 3: Examples of certifications and targeted products

Table 4: Comparison of the RSPO and ISPO

Table 5: Sustainability analysis of the RSPO and ISPO

Appendices

Appendix 1: Sustainable Development Goals, targets and indicators

Appendix 2: RSPO Principles and Criteria

Appendix 3: ISPO Principles and Criteria (in Indonesian)

Appendix 4: ISPO Principles and Criteria (English translation)

1. Introduction

Palm oil has become a major commodity in world markets, which can be explained by its high profitability, low production costs and versatility. Palm oil is found in a wide range of products ranging from prepared dishes, pastries, cosmetics and soaps to biofuels. Given growing demands for palm oil, Indonesia has invested in its exploitation thus overcoming its neighbour, Malaysia, as the world's leading palm oil producer in 2009 (Omont, 2010; Rival, 2013). However, this production has faced a hail of criticism from the general public, non-governmental organizations (NGOs), and academics alike. Palm oil production in Indonesia has been critiqued for causing deforestation, loss of biodiversity, global warming, conflicts with local and indigenous communities, land grabbing, and so on (Alonso-Fradejas et al., 2016; Angerand, 2011; Hall, 2011; McCarthy, 2012; Omont, 2010; Rival, 2013; Ruysschaert & Salles, 2014).

The late twentieth century was marked by market globalization, trade liberalization, rapid technological development, along with the emergence of new forms of commodity production, processing and consumption. In parallel, the world became increasingly aware of the environmental and social consequences of industrialisation, as evidenced during the 1972 *United Nations (UN) Conference on the Human Environment*, in the 1987 Brundtland Commission's Report, *Our Common Future*, and during the 1992 *UN Conference on Environment and Development* (Adams, 2009; Gulbrandsen, 2005). In the course of these global reflections, certifications emerged as a vehicle to promote more sustainable practices along supply chains[1] (CCSPS, 2010). Certification bodies are organizations that award a label to a company, a product, or a service, recognizing its compliance with specific environmental and/or social standards (Carlson & Palmer, 2016; Gale & Haward, 2011; Gulbrandsen, 2005). Some authors affirm that market-driven certification systems have achieved recognition and authority and now challenge traditional domestic and international decision-making processes (Cashore, 2002). Others argue that even though certifications broke through some niche markets, their overall impact remains limited. Considering the growing demand for energy, food and other goods, the growing influence of certifications and the challenges involved, it is fundamental to develop our understanding of these governance frameworks (CCSPS, 2010).

[1] Rouse (2013: online source) defines a supply chain as "the network of all the individuals, organizations, resources, activities and technology involved in the creation and sale of a product, from the delivery of source materials from the supplier to the manufacturer, through to its eventual delivery to the end user."

In Indonesia, two major certification schemes aim to improve practices within the palm oil sector: the *Roundtable on Sustainable Palm Oil* (RSPO), and the *Indonesian Sustainable Palm Oil* (ISPO). The RSPO is an international multi-stakeholder non-profit organization created in 2004. RSPO members include: environmental and social NGOs; banks and investors; large palm oil producers, processors, brokers, retailers and distributors; as well as consumer good manufacturers (Patentreger et al., 2011). The ISPO is a certification body that the Indonesian government created through a 2011 ministerial regulation (Gillespie & Harjanthi, 2012). Effective since 2012, the ISPO bases its standards on existing Indonesian laws and its application is mandatory to all companies operating in Indonesia (McCarthy, 2012; Patentreger et al., 2011). Both standards use a set of Principles and Criteria (P&C) to clarify what is defined as 'sustainable' palm oil production (Gillespie & Harjanthi, 2012). Both certification bodies nonetheless remain contested. NGO reports and campaigns and scientific articles criticise the RSPO's governance structure, its limited effectiveness in achieving its objectives, the small market shares of RSPO-certified palm oil, along with how it handles relations with local communities and governments (Angerand, 2011; Greenpeace International, 2008, 2013; McCarthy, 2012; Richardson, 2015; Ruysschaert & Salles, 2014). Concerning the ISPO, the main critiques surround its doubted effectiveness, weak implementation, and the pertinence of the P&C it emphasizes. Its credibility is also questioned as the level of trust from Indonesians towards their government is already pretty low, and Indonesian laws have rarely protected land rights or environmental values (Gillespie & Harjanthi, 2012; McCarthy, 2012; Obidzinski et al., 2013; Winarni et al., 2014).

Research Aim and Questions

We are thus confronted with two very different major palm oil certifications in Indonesia: the RSPO, overseen by private/NGO actors, and the state-managed ISPO. Our research aim is to investigate the roles and outcomes of palm oil plantation certification in Indonesia. Our main research question asks: to what extent do the RSPO and ISPO guidelines correlate with global sustainable development objectives and strategies? More precisely, we question whether these certifications are complementary or if they emphasise competing visions of 'sustainable palm oil'. By adopting a comparative approach, we hope to contribute to filling a gap, as, to our knowledge, both certifications have not been systematically compared.

In order to answer the above questions and achieve our aim, we first introduce our research methodology. Second, we develop our conceptual framework centred on sustainability and certification. We apply a historical perspective to the concept of sustainable development and discuss its evolution, from the 1972 *United Nations Conference on the Human Environment* in Stockholm, to the more recent *Millennium Development Goals* (MDGs) and *Sustainable Development Goals* (SDGs). We then focus on certifications and discuss their emergence as well as theories that are critical of their impact and role in achieving sustainability. To illustrate this, we refer to two major certification models: the *Forest Stewardship Council* (FSC) and the *Marine Stewardship Council* (MSC). In a third section, we discuss the importance of palm oil within the global and Indonesian economies. We complete our context section by further presenting the RSPO and the ISPO schemes. Fourth, we compare the RSPO and the ISPO, building from a range of criteria that testify to similarities, differences and complementarities between both certification bodies. Fifth, we achieve a critical analysis of the outcomes, effectiveness, and sustainability of both schemes, building from an analytical grid based on the United Nations (UN) Sustainable Development Goals (SDGs). Finally, we discuss our results and findings. Our research suggests that the guidelines of the RSPO and the ISPO are, after all, pretty similar, both mentioning less than 50% of the SDGs targets we introduce in our analytical grid. This brings us to question the ability of both certifications to truly establish sustainable practices in the Indonesian palm oil sector. The requirements of each certification body should be stricter to truly implement sustainable practices in the Indonesian palm oil sector. The guidelines that the RSPO and the ISPO currently promote only speak to one facet of sustainable development. We argue that even though through their different origins, the RSPO and the ISPO appear to promote different visions of sustainability, they have the potential to be complementary collaborators by combining their respective strengths.

2. Research and Methodology

Aim and Research Questions

As mentioned in the introduction, our aim, in this research, is to investigate the roles and outcomes of palm oil plantation certification in Indonesia. Our main research question asks: to what extent do the RSPO and ISPO guidelines correlate with global sustainable development

objectives and strategies? More precisely, we question whether these standards are complementary or if they emphasise competing visions of 'sustainable palm oil'.

Literature Review

In order to answer the above questions and achieve our aim, we undertook an exhaustive documentary research. First, we looked for academic articles in the catalogue of the library of the University of Ottawa using the keywords: "sustainability", "Brundtland", "development", "sustainable development", "certification", "RSPO", "ISPO", "palm oil", and "Indonesia". Second, we gathered NGO reports and campaign documents from organizations holding different views on palm oil production in Indonesia and on the RSPO. Third, considering the lack of available data on the ISPO, we reviewed press articles from *Eco-Business* and *The Jakarta Post* that covered the certification's emergence and functioning. Fourth, we gathered statistical information on palm oil production and prices from web-based databases, including *FAOstat* (http://www.fao.org/) and *UNCTADstat* (http://unctadstat.unctad.org/). Finally, we gathered relevant documentation from institutional websites to complement our research. These platforms include the RSPO's official website (http://www.rspo.org/), the website of *Indonesia Investments* (https://www.indonesia-investments.com/) and the website of the *Sustainability Policy Transparency Toolkit* (https://www.spott.org).

Comparative Case Analysis

After having established our conceptual framework and explained the context of our research, we proceeded with a comparison of the RSPO and the ISPO. According to Mills (2008: 101), "comparisons not only uncover differences between social entities but also reveal unique aspects of a particular entity that would be virtually impossible to detect otherwise." From the start of our research, we were aware that there was less information available on the ISPO than on the RSPO. This difference can be explained by the fact that the ISPO is still in its launching phase, whereas the RSPO has been effective since 2004 and has been largely promoted by its initiators (Harsono et al., 2012; Hidayat et al., 2017). We thus focused on the RSPO and used it as a benchmark to determine what information to look for when probing the ISPO. In order to answer our research questions, we evaluated the sustainability of both standards by referring to a grid based on the United Nations (UN) Sustainable Development Goals (SDGs) (Appendix 1). We selected a maximum of four targets for each goal from the SDGs, for a total of 46 criteria. For each of these,

we investigated whether or not they were included in the RSPO and ISPO Principles and Criteria (P&C) (Appendices 2 and 4). As core ISPO documents are only available in the Indonesian language, we utilized the online Google translator tool to translate them to English. While we are aware of the limits of this approach, we argue that results are clear enough for achieving the purpose of this research (Appendices 3 and 4).

Ethics Statement

Our research does not involve fieldwork nor human participants, and is not subject to Research Ethics Board certification. Nonetheless, we are aware that corruption is endemic in Indonesia[2] and that we are studying two facing certifications, one, the RSPO, overseen by private actors, and the other, the ISPO, being state-managed. We thereby pay particular attention to the sources of the statistical data and the different reports and documents we utilize. We are aware it is important to fully understand their origin and the agenda of their publisher. We tried to use unbiased information, or to highlight biases if relevant to our research.

3. Conceptual Framework

In this section, we first focus on the concept of sustainable development. We adopt a historical perspective to review the emergence and evolution of sustainable development and then focus on critiques addressed to the concept, more particularly to the SDGs. Second, we present the emergence of certifications within debates on sustainable development and discuss scholarly debates on the potential for certifications to foster sustainable development.

3.1. Sustainable Development

Definition

Sustainable development is a concept that is hard to define as different actors – institutions, governments, politicians, academics, media, activists, etc. – have used it over time for different purposes (Felli, 2015; Lele, 2013). For Scoones (2007: 589), sustainability is a 'buzzword' as pretty much everything can be qualified of sustainable: "we have sustainable cities, economies, resource management, business, livelihoods – and, of course, sustainable development".

[2] Indonesia ranks 90 out of 176 countries on the Transparency International Ranking (Transparency International, 2016).

Relatedly, Gieryn (1999) argues that sustainability is as a 'boundary term' allowing diverse entities, such as science and politics, to meet. In the past decades, various institutions have been formed, alliances have been made, projects have been launched, and a lot of money has been spent in the name of sustainability (Scoones, 2007). Sustainable development's universal appeal allows it to be adopted by various actors in different ways, but also limits its significance as it must therefore remain vague (Lele, 2013; Scoones, 2007). According to Anctil and Diaz (2015), sustainable development acts as an action plan for the global scene. Therefore, it is never complete or permanent, but always open to debate (ibid.). From the 1972 *United Nations Conference on the Human Environment* in Stockholm to the 17 Sustainable Development Goals (SDGs) set by the United Nations (UN) in 2015, much has been said about sustainable development. In order to clarify this, we adopt a historical perspective and review the emergence and evolution of the concept of sustainable development.

Historical Perspective

The post-WWII period was marked by vivid industrialisation and natural resource extraction, as part and parcel of the global economic reconstruction objectives. Modernisation theory promoted development as a vehicle to achieve economic growth, industrialization and mass consumption (Anctil & Diaz, 2015). As explained by Hettne (1995, 49-50):

> Development was seen in an evolutionary perspective, and the state of underdevelopment defined in terms of observable economic, political, social and cultural differences between rich and poor nations. Development implied the bridging of these gaps by means of an imitative process, in which the less developed countries gradually assumed the qualities of the industrialized nations.

However, the limits of this development path quickly appeared. The thousands of victims from the 1952 London smog caused by coal use and car exhaust illustrate that perfectly (Anctil & Diaz, 2015). A 1972 report called *The Limits to Growth* from the Club of Rome forecasted the detrimental consequences of the combination of industrialisation, demographic growth, pollution, and the exhaustion of natural resources (Anctil & Diaz, 2015; Meadows et al., 1972). The same year, in Stockholm, the *UN Conference on the Human Environment* was the first major international conference on the environment and human development (Gale & Haward, 2011). Today, this conference is considered as a pivotal moment in the global awareness of environmental issues. Although it did not lead to any tangible commitments, it led to the creation

of the *UN Environment Program* and the establishment of several state and private institutions dedicated to the protection of the environment. The 1973 oil crisis highlighted the risks associated with fossil fuel dependence, and more critiques regarding our economic model emerged. Incidentally, the 1970s were characterised by a growing social consciousness about global stakes such as justice, international peace, or the state of the planet (Anctil & Diaz, 2015). In 1987, the Brundtland Commission's report, *Our Common Future,* recognized the importance of paring economic growth and environmental and social protection, in particular through the concept of *sustainable development* (Gale & Haward, 2011). Gro Harlem Brundtland, the Commission president and then Norwegian Prime Minister, defined sustainable development as:

> Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular, the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs (WCED, 1987: 43).

The Commission clearly defended the idea that in order to reconcile development and environment, a balance must be found between humans' needs and the planet's limits. Thereby, economic growth is not challenged as long as it serves the improvement of the living conditions of the poorest. The report presented a series of recommendations that were assessed five years later, at the 1992 *UN Conference on Environment and Development* in Rio (Anctil & Diaz, 2015). Representatives from 178 governments, various heads of states and more than 1,000 NGOs, civil-society, and activists attended the Conference, which remains considered as a threshold moment in the emergence of sustainable development within global policy-making circles (Scoones, 2007). The Rio Earth Summit initiated an action plan for the 21st century called *Agenda 21*. This plan aims to implement good environmental management and poverty mitigation thanks to national efforts and international cooperation according to common but differentiated responsibilities (Adams, 2009; Anctil & Diaz, 2015; Gulbrandsen, 2005). The Rio Conference led to the creation of the *UN Commission on Sustainable Development* and the *Global Environment Facility*, as well as new national laws and agencies, and local *Agenda 21* plans (Anctil & Diaz, 2015).

In the meantime, the world order was turned upside down with the end of the Cold War, globalisation, the emergence of transition economies, and industrialised countries coping with

declining economic growth, rising unemployment, and agricultural and industrial reforms (Anctil & Diaz, 2015). In this context, the 2002 *World Summit on Sustainable Development* in Johannesburg, or Rio+10, was not as successful as its predecessors (Lele, 2013). The Rio Conference and the *Agenda 21* were ambitious and triggered high hopes. Institutions and projects were unfolded, but it "was not enough to bring sustainable development beyond the rhetorical gloss" (Scoones, 2007: 592). The focus shifted from sustainable development back to poverty alleviation, as the focus of the *Millennium Development Goals* (MDGs) show (Lele, 2013). The UN established the MDGs at the *Millennium Summit* of 2000, stating eight goals to be achieved by 2015 (Table 1) (United Nations, 2015). However, the MDGs have often been criticised as they are too vague, unrealistic and incomplete (Fehling et al., 2013). According to Amin (2006: online source), MDGs are "a litany of pious hopes" that reflect a Northern hegemony and a neoliberal agenda.

Table 1: Millennium Development Goals (MDGs)[3]

Goal 1	To eradicate extreme poverty and hunger
Goal 2	To achieve universal primary education
Goal 3	To promote gender equality and empower women
Goal 4	To reduce child mortality
Goal 5	To improve maternal health
Goal 6	To combat HIV/AIDS, malaria, and other diseases
Goal 7	To ensure environmental sustainability
Goal 8	To develop a global partnership for development

During the 2012 *UN Conference on Sustainable Development* in Rio, or Rio+20, sustainable development re-emerged as a central policy priority. A few years later, the *Sustainable Development Goals* (SDGs) replaced the MDGs as a new road map (Lele, 2013). The 193 Member States of the UN adopted the SDGs in 2015 at the New York *Sustainable Development Summit*. These span a total of 17 goals to be achieved by 2030 (Table 2) (United Nations, 2018).

[3] (United Nations, 2015).

Table 2: Sustainable Development Goals (SDGs)[4]

Goal 1	End poverty in all its forms everywhere
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3	Ensure healthy lives and promote well-being for all at all ages
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5	Achieve gender equality and empower all women and girls
Goal 6	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10	Reduce inequality within and among countries
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12	Ensure sustainable consumption and production patterns
Goal 13	Take urgent action to combat climate change and its impacts
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Critiques

The current understanding of sustainable development, as promoted by the SDGs, tends to reconcile three basic elements: economic growth, social inclusion and the protection of the environment (United Nations, 2018). However, many theoretical and practical questions are raised on how such reconciliation can genuinely be achieved (Demaze, 2009). Various authors have expressed their discontent with international sustainable development policies prioritizing

[4] (United Nations, 2017).

economic growth (Demaze, 2009; Dolique, 2007). Under the leadership of international institutions such as the World Bank or the International Monetary Fund, the idea of sustainable development has been centered on market economics (Lele, 2013). For Demaze (2009) and Dolique (2007), economic thinking continues to govern social behaviours and discourses. Thereby, a major critique of the SDGs is that while they reflect a global awareness of the deterioration of the planet and its ecosystems, they still rely on the old model of industrial growth – extraction, production and consumption – at the basis of this deterioration (Hickel, 2015). As such, they convey contradictory ideas. SDGs aim towards at least 7% of annual GDP growth in the least developed countries (Goal 8) while they also promote sustainable production patterns (Goal 12), the fight against climate change (Goal 13), and the conservation of the oceans and terrestrial ecosystems (Goals 14 and 15). An entire goal (Goal 8) is devoted to growth, more specifically export-oriented growth, based on the neoliberal model. The SDGS are also criticised for being very expensive, as US$ 2-3 trillion is invested annually towards achieving the goals. Some also argue that the goals are misconceived and vague, pointing out for example that they make no specific mention of the need to better regulate financial markets or to end tax evasion and tax avoidance (Hickel, 2015). This illustrates, for critics, the implication of big corporations and private investors into the SDGs and the protection of their business interests (ibid).

Despite these critiques, we chose to use the SDGs as a basis for our analysis of the two certification bodies at the center of our research, the RSPO and the ISPO. The SDGs remain very influential in the international sphere and set sustainable development policy-making agendas. To further locate our case study in the conceptual literature, we now focus on certifications, their emergence and their place within the sustainable development debates.

3.2 Certification

Emergence

Certification was part of global reflections and initiatives centred on sustainable development, and emerged as a tool to promote more sustainable practices along supply chains (CCSPS, 2010). Certification bodies are organizations that award a label to a company, product, or service, recognizing its compliance with certain environmental and/or social standards (Carlson & Palmer, 2016; Gale & Haward, 2011; Gulbrandsen, 2005). The most certified sectors tend to be primary industries with large-volume producers and large-scale traders, such as forestry and

commoditized agriculture (CCSPS, 2010). Different kinds of certifications have emerged. Some are government-based like the German *Der Blaue Angel* (Blue Angel) launched in 1977, or the *Canadian Environmental Choice Program* launched in 1988, both of which focus on environmentally friendly products and services. Others consist in international labels, initiated by a group of countries, such as the *Nordic Svanen* (Nordic Swan) launched in 1989, or the *European Flower*, launched in 1992 (Gulbrandsen, 2005). The third model of certification is referred to as non-state labels. Among important non-state certifications include the *Forest Stewardship Council* (FSC) which promotes the sustainable management of forests, the *Marine Stewardship Council* (MSC) which focuses on implementing sustainable fisheries and good fishing practices, and the Food Alliance which certifies agricultural operations, food processors and distributors (Food Alliance, 2016; Gulbrandsen, 2005; Rafols & Brander, 2004). Certifications are voluntary, meaning that "entities determine that it is in their best interest to participate, to access a market, secure long-term contracts, or exercise a competitive advantage" (CCSPS, 2010: 27). Labels underline the fact that they empower consumers by allowing them to choose to purchase products that are said to abide to higher environmental and/or social standards (Eden & Bear, 2010). Some authors affirm that market-driven systems have achieved recognition and authority and now challenge traditional domestic and international decision-making processes (Cashore, 2002). Certified products have gained important market shares in the last two decades and the extensive geographical coverage as well as the range of products involved in the certification process have made certification a global phenomenon (Table 3) (Ponte & Cheyns, 2013). However, others argue that even though certifications have shown success in niche markets, their overall impact remains limited (CCSPS, 2010). We now turn to such critiques.

Table 3: Examples of certifications and targeted products[5]

Certification Name	Date of Creation	Targeted Products
ASC – Aquaculture Stewardship Council	2010	Environmentally sustainable and socially responsible aquaculture and seafood
FSC – Forest Stewardship Council	1993	Responsibly managed forest, both environmentally and socially
GSTC – Global Sustainable Tourism Council	2007	Hotels, accommodations and tour operators (sustainable social and environmental standards) as well as destinations (maintain the cultural, environmental, economic, and esthetic integrity of a country, region, or town)
MSC – Marine Stewardship Council	1996	Sustainable fisheries and seafood
RSB – Roundtable on Sustainable Biomaterials	2008	Environmentally, socially and economically sustainable biomaterials, biofuels and biomass production
SBP – Sustainable Biomass Program	2013	Sustainable woody biomass (wood pellets and wood chips) used in industrial and large-scale energy production

Critiques

Certifications are facing several critiques surrounding their legitimacy, their high cost, the difficulty in accessing accurate information about their process, their real environmental impact, as well as the lack of coverage of the South. (Auld & Gulbrandsen, 2010; Auld et al., 2008; Carlson & Palmer, 2016; Cashore et al., 2007; Eden & Bear, 2010; Gulbrandsen, 2005). Foremost, certifications, especially nonstate labels, have often been questioned and viewed as promoting external governance regimes (Auld & Gulbrandsen, 2010). The credibility from certification schemes depends on persuasiveness and moral legitimacy, which themselves rest on transparency, reliability and neutrality (Eden & Bear, 2010). As such, audit processes spanning company assessments together with product or service's compliance to certification standards are all delegated to third-party bodies. For Boiral and Gendron (2011: 345), audits only "respond to external pressures for accountability". According to Brugvin (2016), audit firms' lack of independence comes from the fact that these firms are paid by the companies they have to

[5] Based on: *ASC (2018); FSC International (2018); GSTC (2017); MSC (2018); RSB (2016); SBP (2018).*

control. In addition, competition between certification bodies further limits the reliability of audits (ibid).

Various obstacles prevent small Southern actors from access to certification and further question certifications' role in achieving global sustainable development. Each stage of the certification process involves costs that can be quite high, especially for small producers from developing countries. Among others, these costs relate to equipment and operational procedures required to meet standards as well as the costs to enforce the audit process including travel and recurring control fees. Also, information regarding certification guidelines, requirements, or even the hiring process for auditors can be difficult to obtain and understand, and it is not always available in the local language. Access to information is particularly challenging in areas with poor communication infrastructure and low literacy levels, which is often the case in many rural areas of developing countries (Carlson & Palmer, 2016).

Experiences from the forest and marine sectors demonstrate that it is difficult to connect certification with biodiversity protection and conservation in general. Studies on the *Forest Stewardship Council* (FSC) and the *Marine Stewardship Council* (MSC) have shown that certified areas are sometimes too small or that discrepancies between certified areas and species habitats mitigate the ability of these certifications to foster conservation. Also, in the forestry sector, it has been recognized that FSC certification does not prevent further forestland conversion (Auld & Gulbrandsen, 2010). Similarly, while MSC certification yields improved marine resource exploitation methods within certified areas, it does not guarantee the abolition of overfishing and bad fishing practices in general (Gulbrandsen, 2005). This can be explained by the fact that the markets for certified products remain limited (CCSPS, 2010; Gulbrandsen, 2005). Finally, the territorial reaches of the FSC and the MSC are uneven, with the majority of certified areas being located in the Global North (Cashore et al., 2007). This raises questions pertaining to certifications' effectiveness in addressing global environmental and natural resource degradation (Cashore et al., 2007).

While taking these various issues into account, the ability of the certification practice to promote sustainable development can likewise be questioned. The impacts of certified production on the ground have been limited, which makes it difficult for markets to move towards more sustainable practices. Certifications alone cannot transform markets, and international trade is not sufficient

to implement sustainability on a global scale. In addition, certification programs do not always reflect local needs and goals and often tend to be considered as being imposed from afar (CCSPS, 2010). For several authors, certifications represent a new form of colonialism. According to Vandergeest and Unno (2012: 358), certifications "can reinforce longstanding global relations of domination" of the North over the South. Certifications tend to emphasize ethnocentric biases by often portraying the governments from Southern countries as being unable to properly regulate production and unable to enforce labour and environmental standards as well. Certification bodies also work outside of the host countries' legal frameworks, without considering Southern governments (ibid.).

These dynamics are particularly interesting for our case study as we confront the RSPO – Northern transnational and private – to the ISPO – Southern and state led. In the next section, we explain our research context. We first focus on the palm oil sector in the global economy and in Indonesia, and then explain in more details what the RSPO and the ISPO consist in before proceeding to our comparison and analysis.

4. Context

4.1. Palm Oil in the Global Economy

Palm trees (*Elaeis guineensis*) produce two different types of oil: palm oil that comes from the pulp of palm fruits, and palm kernel oil that, as its name implies, comes from the kernel of the fruits. The plant is native to West Africa but can be found today in other regions of the world that are within 10° latitude of the equator and home to a tropical climate and heavy annual rainfall (Shimizu & Desrochers, 2012). Palm oil has become a thriving commodity in world markets. Palm oil is very cost-effective as it is a versatile product with low production costs. The most productive plantations can yield six to eight tons of oil per hectare; in comparison a similar area produces ten times less soy oil and four times less canola oil. Compared with other vegetable oils, palm oil has very low production costs. Also, given its chemical malleability, palm oil can be used in multiple ways and easily replaces other oils (Omont, 2010; Rival, 2013). However, many consider palm oil to be of poor quality and unhealthy, as it is constituted of about 50% of palmitic acid, a saturated fatty acid (Angerand, 2011).

About 80% of the global palm oil production is utilized in the food industry and can be found in products like table oils, prepared dishes and pastries. About one fifth of the production (19%) is used in oleochemistry[6], for producing consumer products such as cosmetics, soaps and paints. A small percentage (1%) of palm oil is used in the biofuels sector (Omont, 2010; Rival, 2013). Alonso-Fradejas et al. (2016) refer to palm oil having become a *global flex crop*, that is a globally traded commodity with multiple uses. Because palm oil can be used in food, fuel and chemical products, it is said to be a good and safe investment. Its multiple uses indeed allow investors to better react to market changes, as its price is tied to that of different end products. New uses for the commodity are constantly being developed, guaranteeing that oil palm will remain an essential crop in the future (Alonso-Fradejas et al., 2016).

Today, Indonesia and Malaysia account for 87% of global palm oil production, with 52% of the production emanating from Indonesia and 35% from Malaysia (Figure 1). Europe and the United States respectively account for 12% and 3% of the global consumption of palm oil. India, Indonesia and China are the main consumers and account together for 53% of the global consumption (Figure 2). Global population growth together with rising income and living standards in developing countries – India and China foremost – further drive demand for palm oil. While palm oil accounted for 11% of the total vegetable oil production in 1980, this number reached 34% in 2009. Palm oil demand is expected to increase by at least 34% by 2050 (Omont, 2010; Rival, 2013).

[6] Oleochemistry concerns the chemical transformations of animal and vegetable oils and fats (Akaike, 1985).

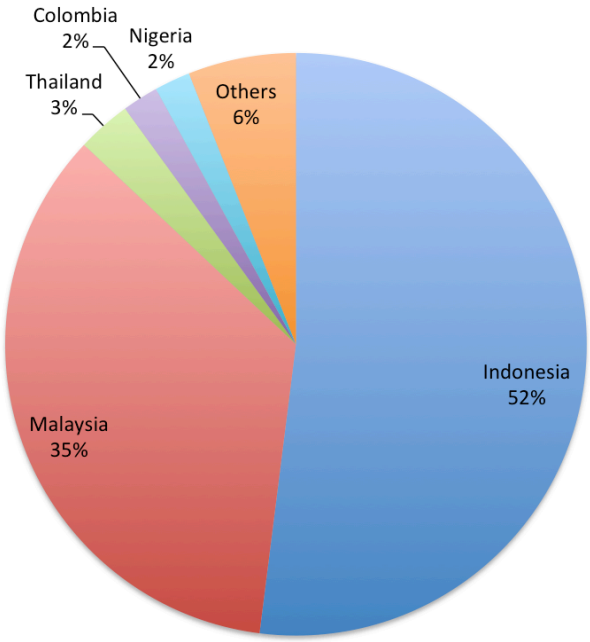

Figure 1: Palm oil producers[7]

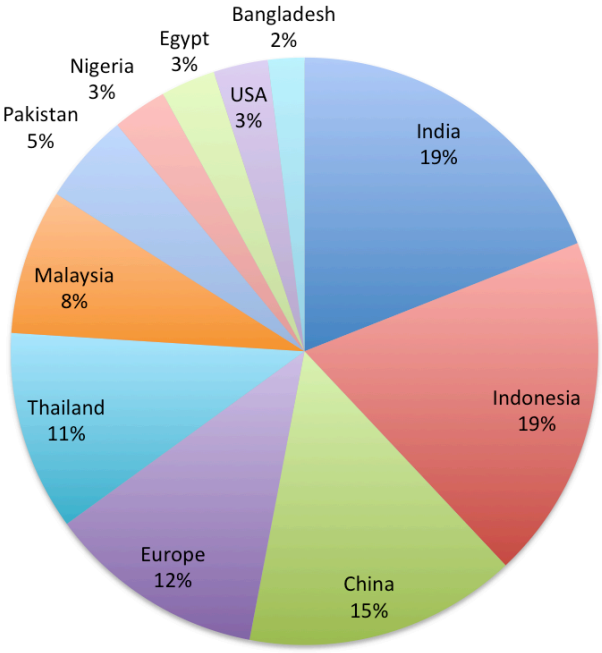

Figure 2: Palm oil consumers[8]

The palm oil business involves various actors on the global scene. The majority of the 'responsible' consumers that demand environmentally and socially friendly palm oil products are based in the West, and so are powerful transnational companies like Unilever and Cargill (Friends of the Earth, 2004). The BRICS (Brazil, Russia, India, China and South Africa) and MICs (Middle Income Countries) comprise a vast majority of palm oil-based products consumers, but also major palm oil producers and traders (Alonso-Fradejas et al., 2016). The headquarters from some of the biggest palm oil companies active in Indonesia are based in China (Sinar Mas), Malaysia (Sime Darby, Kuala Lumpur Kepong, IOI Corporation, Hap Seng Plantation, Keck Seng Berhad), Indonesia (Musim Mas, Bumitama Agri Limited) and Singapore (Wilmar, Golden Agri Resources) (Butler, 2014b; Shibao, 2015). This shows that the palm oil sector is globalised, with big actors coming from Northern countries and others from Southern countries where 'sustainable' demand from 'responsible' consumers is generally lower (Cashore et al., 2007; CCSPS, 2010).

[7] Omont (2010); Rival (2013).
[8] Omont (2010); Rival (2013).

4.2. Palm Oil in Indonesia

Indonesia has invested massively in the palm oil sector, having built infrastructure, invested in research and development, launched marketing and commercial promotion programs, and provided various protections to the actors in this business (Omont, 2010). These measures have attracted a large number of local and foreign investors. Indonesian palm tree plantations expanded from 100,000 hectares in 1970 to over 9.3 million hectares in 2016 (Figure 3) (FAOSTAT, 2018). This number is expected to reach 13 million in 2020 (Indonesia Investments, 2017). In 1970, Indonesia produced just less than 217,000 tons of palm oil. In 2014, this figure rose to almost 30 million tons. Around 70% of the Indonesian production is exported, with exports totalling over than 20 million tons in 2014 (Figure 4) (FAOSTAT, 2018). While palm oil sold for less than US$ 300 per ton in 1990, prices peaked at US$ 1,125.42 per ton in 2011 and averaged US$ 700 in 2016. Palm kernel oil, which is mainly used in soaps, washing powders, and personal care products, has a higher market value; it sold at US$ 1,648.25 per ton in 2011, and was worth some US$ 1,300 in 2016 (Figure 5) (Musa, 2009; UNCTADstat, 2017).

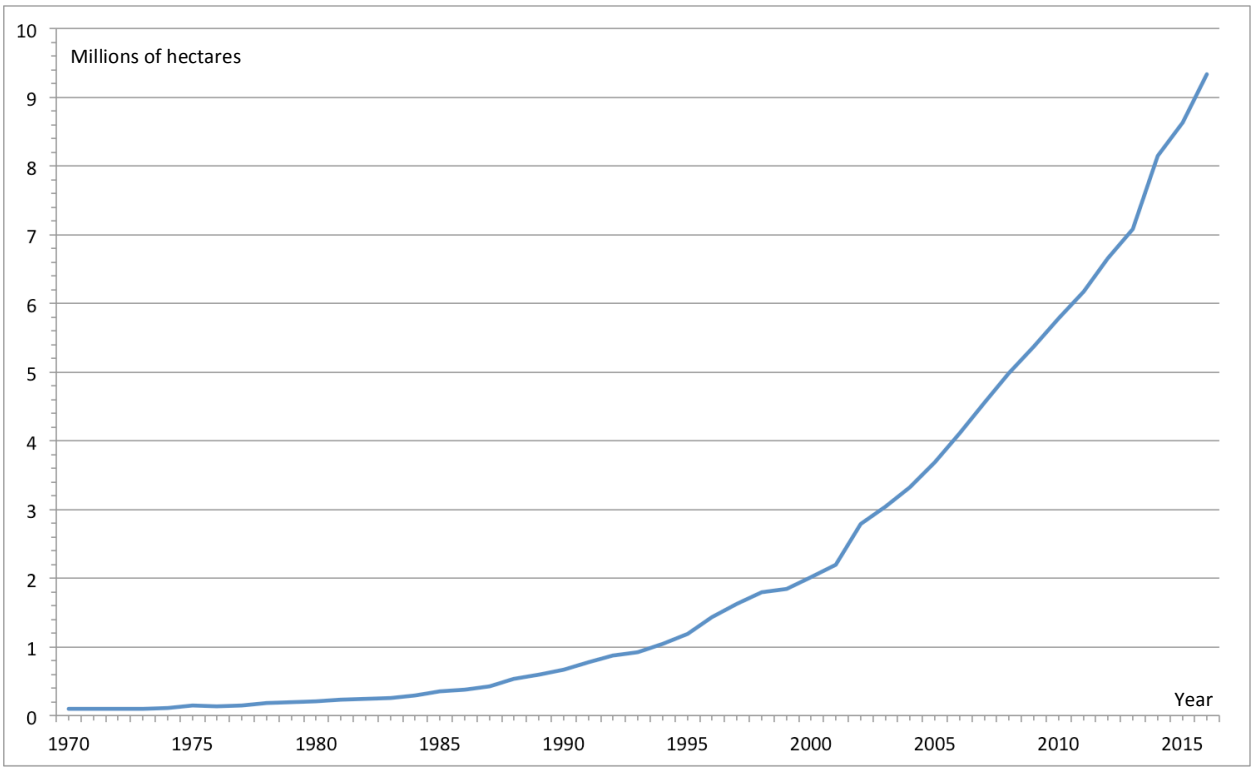

Figure 3: Palm fruit harvested area in Indonesia (in millions of hectares), 1970-2016[9]

[9] (FAOSTAT, 2018).

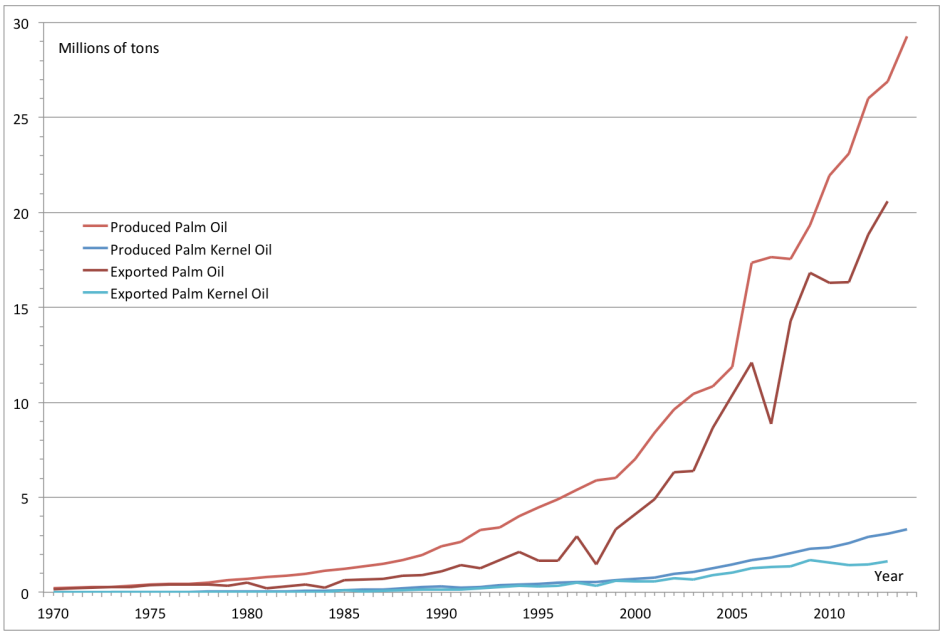

Figure 4: Indonesia palm oil and palm kernel production and exports oil (in millions of tons), 1970-2014[10]

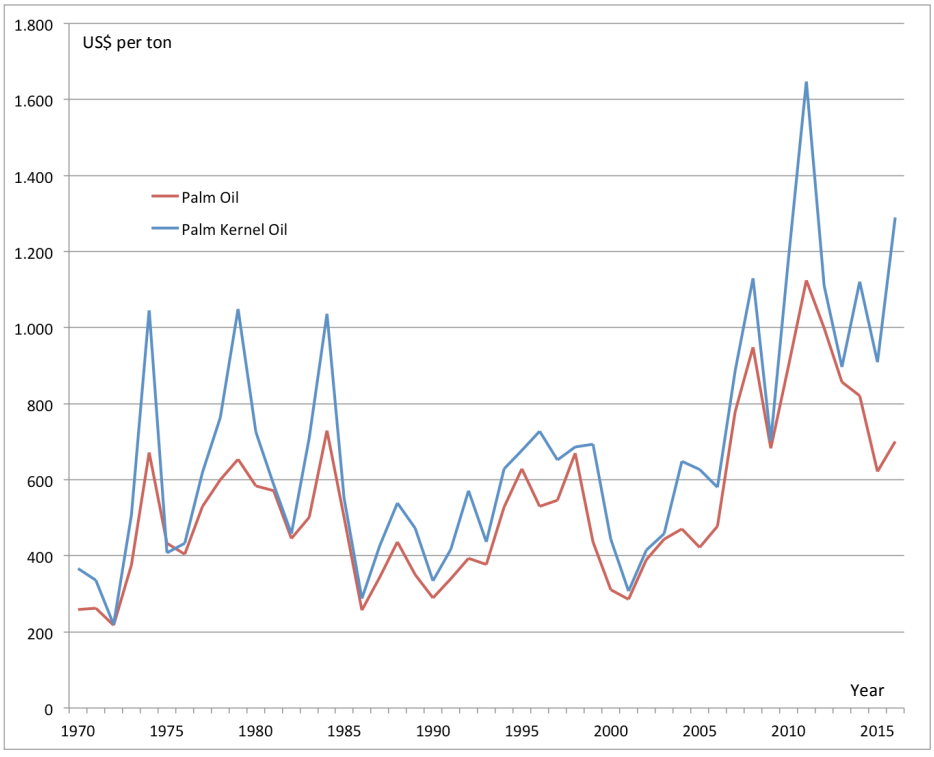

Figure 5: Palm oil and palm kernel oil price (in US$ per ton), 1970-2016[11]

[10] (FAOSTAT, 2018).
[11] (UNCTADstat, 2017).

The palm oil sector is key to Indonesia's economy. Palm oil is the most important industry in Indonesia and contributes between 1.5 and 2.5 % of the country's gross domestic product (GDP) (Indonesia Investments, 2017). It is estimated that 25 million Indonesians benefit from palm oil production, directly and indirectly (Omont 2010, Rival, 2013). State-owned enterprises own few plantations compared to large private actors, such as Wilmar and Sinar Mas, that produce more than half of the Indonesian palm oil output. Smallholders are responsible for around 40% of the total production, but remain vulnerable to price fluctuations (Indonesia Investments, 2017). Smallholders usually have lesser access to financial capital, which limits their access to fertilisers and other inputs, and prevents them from achieving high yields. In addition, smallholders do not always have access to the necessary transport, storage and refinery infrastructure, and are thus more likely to face a harvest failure (Cramb & McCarthy, 2016).

The production of palm oil has raised many critiques. In particular, it is held responsible for causing deforestation, loss of biodiversity, global warming, conflict with local and indigenous communities, and land grabbing (Alonso-Fradejas et al., 2016; Angerand, 2011; Hall, 2011; McCarthy, 2012; Omont, 2010; Rival, 2013; Ruysschaert & Salles, 2014). According to many activists and researchers, palm oil plantations are one of the main causes of deforestation in Southeast Asia (Angerand, 2011). It is estimated that 30% of the forest on the island of Borneo has been converted into palm tree plantations. In Indonesia as a whole, more than five million hectares of primary forest have been converted into such monocultures during the last decade. Palm tree plantation expansion has had disastrous consequences on biodiversity (Rival & Levang, 2013). Orangutans, a large primate and emblematic figure in the fight against deforestation, have had large parts of their habitats destroyed, and the species is now on the list of critically endangered species (Lemire & Rose, 2015). It is important to note that biodiversity loss in Indonesia is not limited to orangutans or other charismatic species such as tigers, elephants and gibbons which are often showcased in NGO campaigns, but also concerns soil biota, aquatic ecosystems and microorganisms (Patentreger et al., 2011). In addition, palm oil exploitation is responsible for increased greenhouse gas emissions. Land clearing is sometimes achieved through fires that, in addition to directly destroying the flora and fauna, release carbon dioxide into the atmosphere and contribute to global warming (Angerand, 2011; Lemire & Rose, 2015). Forest clearance also occurs over peatlands areas that release important quantities of GHGs as they are being cleared. As a result, Indonesia has become the third largest emitter of greenhouse

gases, after China and the United States (Indonesia Investments, 2017; Patentreger et al., 2011). Many authors also point out that the expansion of palm groves and the destruction of the rainforest is detrimental to local communities and indigenous peoples whose customary land tenure system, the Adat, is not recognized by Indonesian law (Angerand, 2011; Friends of the Earth, 2004; McCarthy, 2012; Omont, 2010; Patentreger et al., 2011; Ruysschaert & Salles, 2014). These communities are expelled from their lands and deprived from the environmental resources and services that forests formerly provided them with, such as the supply of drinking water, food, medicinal plants, etc. (Angerand, 2011; Omont, 2010). Their living, hunting and gathering territories have disappeared, together with their sacred sites (Patentreger et al., 2011). This is an important issue as it is estimated that 80 to 95 million Indonesian directly depend on forest resources (Kaag & Zoomers, 2014). To illustrate the extent of these conflicts, we introduce an example from the province of Riau in the following box.

Box 1: An empirical example from Riau Province

The province of Riau on Sumatra island has been particularly affected by the expansion of palm groves, and whole villages have been dispossessed of their land (Kaag & Zoomers, 2014). This is the case of the people of Kuala Cenaku where more than 8,000 hectares of forest were sold by the government to Asia Pulp and Paper, one of the world's largest forestry product companies. Once the forest was cleared, the land was converted into oil palm plantations. Forest cover in the province of Riau has decreased from 80% in 1980 to 30% in 2012, threatening the livelihoods of forest resource-dependent communities. The people of Kuala Cenaku used rattan to make furniture, wood to build their houses, and planted rubber trees in cleared areas to harvest rubber. These different practices are now limited, and people are forced to leave their land to find work elsewhere (Pearce, 2012). Paradoxically, one solution for them is to turn to palm oil exploitation, which is seen as a reliable income source due to its expansion in the country (Kaag & Zoomers, 2014). Areas characterised with high palm oil exploitation attract migrants dispossessed from their lands and seeking a job (Pearce, 2012). In these areas, conflict over access to land is frequent between migrant and local smallholders (Kaag & Zoomers, 2014). Business leaders, on the other hand, prefer to hire migrants, because locals are thought to be more likely to cause problems or to attempt sabotage (Pearce, 2012).

Certifications are being promoted as solutions to reduce the environmental and social impacts associated with palm oil production and we now turn to the two main palm oil certifications in Indonesia, the RSPO and ISPO.

4.3. RSPO

The RSPO was initiated in 2004 after a series of European campaigns directly targeted palm oil as the main contributor to rainforest destruction in Indonesia (Cramb & McCarthy, 2016). The RSPO first consisted in a co-operation framework between the WWF, Unilever, the Malaysian Palm Oil Association (MPOA), Migros [12] and Aarhus United UK [13] (AAK). Today, the Roundtable gathers a total of 3,659 members from 92 different countries[14] (RSPO, 2018). These members are divided into ten sectors: Banks and Investors, Consumer Goods Manufacturers, Environmental and Conservation NGOs, Oil Palm Growers, Palm Oil Processors and Traders, Retailers, Social and Developmental NGOs, Individuals, Organisations, and Supply Chain Group Manager (Figure 6). They "have committed to produce, source and/or use sustainable palm oil certified by the RSPO" (RSPO, 2018: online source). Some prominent RSPO members include the palm oil producers Sime Darby and Wilmar, banks such as HSBC or Credit Suisse, the retailers Carrefour and Sainsbury, traders such as Cargill or Mitsubishi, the Nestlé food company, the L'Oréal cosmetic maker, and the NGO Oxfam (Cramb & McCarthy, 2016).

[12] Migros is Switzerland's largest retail company, its largest supermarket chain and its largest employer. It is also one of the forty largest retailers in the world (Migros, 2018).
[13] AAK is a Swedish-Danish company and producer of high-value added vegetable oils and fats (AAK, 2018).
[14] RSPO's members mainly come from Germany, the UK, the US, the Netherlands, Italy, Belgium, France, Malaysia, Australia, and Spain (RSPO, 2018).

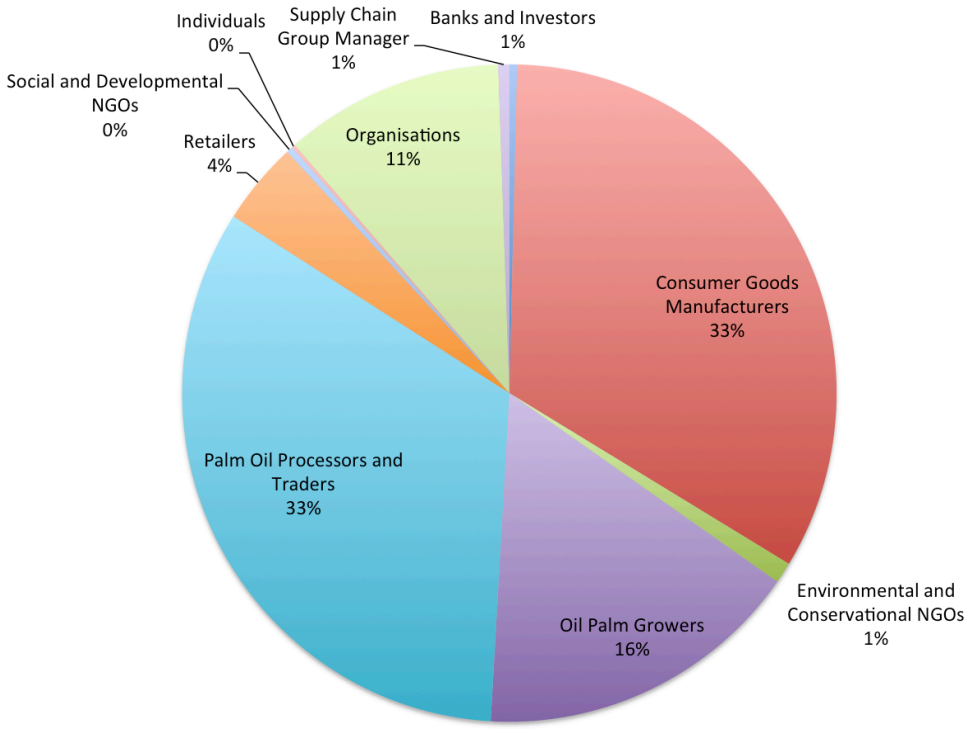

Figure 6: RSPO Members[15]

The RSPO exemplifies a form of privatised environmental governance, and consists of a multi-stakeholder initiative based on voluntary adherence, in which "best practice" criteria and performance indicators are negotiated among members, without governmental regulation (Cramb & McCarthy, 2016; Ruysschaert & Salles, 2014). Its aim is to develop the production and the use of sustainable palm oil along the supply chain thanks to "legal, economically viable, environmentally appropriate and socially beneficial management and operations" (Cramb & McCarthy, 2016: 414; see also RSPO, 2018). In order to do so, the RSPO is guided by a set of eight principles and 43 criteria (P&C), themselves linked with specific indicators (RSPO, 2018). These principles emerged as responses to critiques addressed to the palm oil sector, notably blamed for converting rainforests into plantations (Principle 5 and 7), expropriating indigenous people from their land (Principles 6 and 7), using poisonous herbicides (Principle 4), as well as employing child labourer and paying low salaries (Principle 6) (Cramb & McCarthy, 2016).

The RSPO certifies palm oil producers and other actors in the palm oil supply chain use RSPO-certified products. There are four different supply-chain certifications: *Identity Preserved*: 100%

[15] Calculated from RSPO (2018).

of the palm oil used is certified and traceable to a single source; *Segregation*, at least 95% of the palm oil used is certified and traceable to various sources; *Mass balance*, part of the palm oil used in the product is certified and traceable; and *Book and Claim*, the final product does not contain RSPO-certified palm oil but the manufacturer or retailer buys the equivalent palm oil volumes in *Greenpalm credits,* an impact offsetting instrument, to support the sustainable palm oil sector (Patentreger et al., 2011; RSPO, 2018). RSPO membership is mandatory to obtain certification. Today, the RSPO has certified some 80 growers, 310 mills, 1,934 companies, and 4,471 facilities in 53 different countries. Certified plantations total 2.55 million hectares worldwide. Indonesia is the most RSPO-certified country, with 1,719,606 hectares certified, representing 68.6% of all RSPO certification (RSPO, 2017, 2018). The cost of RSPO certification is estimated to be between US$ 20 and 25 per hectare, not to mention the other costs associated with RSPO membership (McCarthy, 2012). Third-party bodies oversee the certification audit. On its website, the RSPO refers to various certification bodies, all of which are accredited by the *Accreditation Services International* (ASI) (RSPO, 2018). In addition, the RSPO provides trainings to palm oil companies on how they can meet RSPO's standards (McCarthy, 2012). In case a member does not fulfill its RSPO commitments, it risks the suspension or the termination of its membership (RSPO, 2015).

Despite some good initiatives, such as the introduction of High Conservation Value (HCV) areas consisting in primary forests that cannot be converted into palm groves[16], the RSPO remains contested (Cramb & McCarthy, 2016; RSPO, 2018). NGO reports and campaigns target specific RSPO members and specific projects from these actors, including RSPO-certified projects.[17] Critiques denounce practices such as the expansion of palm tree plantations into rainforests, HCV forests, orangutan habitats and peatlands, and the violation of local communities' rights (Angerand, 2011; Greenpeace International, 2008, 2013; Oxfam International, 2011). Other critiques directly target the RSPO, highlighting its incapacity to enforce its own standards, the overrepresentation of big companies among its members, and the underrepresentation of local and indigenous communities (Angerand, 2011; Greenpeace International, 2008, 2013). A major critique from Friends of the Earth claims that the RSPO remains an economic instrument that allows companies to expand their markets, that stimulates growing consumption of palm oil-

[16] Degraded and secondary forests are not included in this designation, even though they harbour great biodiversity and provide services to local communities (Angerand, 2011).
[17] The projects from RSPO members are not necessarily all certified.

based products, and that encourages economies from the Global South to maintain their dependence on natural resource exports (Angerand, 2011).

Scientific articles complement these critiques. To start with, McCarthy (2012) emphasizes two major critiques concerning the RSPO members and structure. First, the Roundtable is dominated by large industrial groups and does not really represent smallholder farmers. Second, companies can become members of the certification body even though their production is not certified, which impels upon the Roundtable's credibility. Ruysschaert & Salles (2014) underline imprecisions in the RSPO guidelines about chemical input utilization, primary forest and peatlands conversion, and endangered species protection. Also, the market share of certified palm oil remains very low. In 2012, RSPO-certified palm oil only accounted for 5% of Europe's total palm oil consumption. It is estimated that less than 50% of RSPO-certified palm oil production is sold at a premium of only US$ 2.76 per ton, making the price of RSPO-certified palm oil 8% to 15% higher than regular palm oil (Butler, 2014; McCarthy, 2012). Thereby, there is little incentive for producers to change their practices (McCarthy, 2012; Richardson, 2015; Ruysschaert & Salles, 2014). Finally, critiques probe the relation of the RSPO with the Indonesian government. Richardson (2015) underlines that the RSPO is a market-driven initiative and that neither the Indonesian government nor any other supranational authority was involved in its inception. Ruysschaert & Salles (2014) also emphasise that the RSPO is not well connected to the social, political and legal contexts in Indonesia, and that this can have serious impacts. For instance, while the RSPO delimits HCV forests its members should not use, the government can still concede these targeted areas to exploiters because the RSPO HCV denomination is not legally binding (Ruysschaert & Salles, 2014).

4.4. ISPO

The ISPO was created in 2011 by the Indonesian government in order to regulate the palm oil sector and is effective since 2012. ISPO participation is currently mandatory for selected large scale palm oil companies, but wider application to the overall Indonesian palm oil sector is expected (Gillespie & Harjanthi, 2012; McCarthy, 2012; Patentreger et al., 2011). The ISPO entwines various Ministries (Agriculture, Environment, Forestry, Manpower and Labour) and the National Land Agency (Sardjono, 2014; Suharto, 2012). Its seven Principles, 40 Criteria and 140 indicators are based on existing Indonesian laws and regulations (Eco-Business, 2011; Gillespie

& Harjanthi, 2012; Sardjono, 2014). The ISPO is a component from the Sustainable Palm Oil (SPO)[18] initiative developed by the United Nations Development Programme (UNDP) in order to ensure that economic growth linked to palm oil production becomes sustainable and empowers poor and marginalized populations in developing countries (SPOTT, 2016). Currently, only large-scale plantations and mills of Class I, II or III[19] are required to achieve ISPO certification (Harsono et al., 2012). Class IV and V plantations and mills and smallholders are given a one-year improvement period to conform to less strict standards and principles[20] (Hidayat et al., 2017; Winarni et al., 2014).

Because of its national reach and its mandatory application, the ISPO has the potential to improve the entire Indonesian plantation industry. It is legally binding and violators expose themselves to sanctions such as the withdrawal of their Business Plantation Permits or Land Right Licenses (Gillespie & Harjanthi, 2012; Sardjono, 2014). All Class I, II and III companies had to be certified by the end of 2014, but we were not able to find out if this was achieved (Eco-Business, 2011; Gillespie & Harjanthi, 2012; SPOTT, 2016). That said, a 2014 report from Minister of Agriculture states that 63 palm oil companies out of the 127 companies eligible to ISPO certification had been certified (Sardjono, 2014).

Even though the RSPO has already been established in Indonesia for a while, some have argued that the ISPO is better adapted to the Indonesian context (Eco-Business, 2011). The ISPO objectives are to: increase awareness on the importance of producing sustainable palm oil; reduce greenhouse gas (GHG) emission; improve the competitive advantage of the Indonesian palm oil industry; and gain credibility on international markets (Harsono et al., 2012; Sardjono, 2014; SPOTT, 2016). In that regard, promotional trade missions have been undertaken in Europe, Russia and Indonesia in 2011-2012 (Giessen et al., 2016; Suharto, 2012). Indonesia likewise hopes to host the main certified palm oil exchange, currently based in Rotterdam (Eco-Business, 2011). To stimulate interest and compliance, the government has indicated that ISPO certified companies would be eligible for a reduction on certified palm oil export taxes (Obidzinski et al., 2013). ISPO certification is also said to be less expensive to achieve than RSPO certification, and

[18] Despite acronyms' similarities, the RSPO does not partake in the Sustainable Palm Oil (SPO) initiative.
[19] Plantations and mills are classified into five different classes depending on their practices, which are Class I (very good), Class II (good), Class III (adequate), Class IV (inadequate) and Class V (highly inadequate) (Suharto, 2012).
[20] More particularly, they will be asked to abide to Principles one, two, four and seven (Hidayat et al., 2017).

thus more accessible to smallholders[21] (Eco-Business, 2011). Similar to the RSPO, third-party bodies are in charge of the audit process for the ISPO (Gillespie & Harjanthi, 2012). The ISPO recognizes four auditors: Mutu Certification International, Sucofindo, TUV NORD Indonesia and TUV Rheinland Indonesia[22]. Nine other certification bodies are waiting to be approved to deliver ISPO certification (Suharto, 2012).

NGOs and experts are skeptical towards ISPO standards and their efficiency in addressing the current challenges of the Indonesian palm oil production, such as plantation expansion in rainforests (Hidayat et al., 2017; Obidzinski et al., 2013; Winarni et al., 2014). Besides this, the ISPO makes no specific reference to fighting corruption, avoiding toxic pesticides, or the necessity to obtain free, prior and informed consent from affected communities and/or indigenous people (Winarni et al., 2014). These shortcomings challenge ISPO's international and national credibility. The Indonesian population already holds little confidence in the government's independence and efficacy, as Indonesian laws have rarely protected land rights or the environment (Gillespie & Harjanthi, 2012; McCarthy, 2012). Critiques also cast doubts towards the ISPO weak administrative structures, as national and local governmental structures are typically under-resourced in Indonesia (Hidayat et al., 2017).

5. Comparison

In order to compare the RSPO and the ISPO, we investigate how a list of characteristics manifests for each certification (Table 4).

[21] We were not able to find more precise information on that regard.
[22] All these certification bodies also provide audits for the RSPO (RSPO, 2018).

Table 4: Comparison of the RSPO and ISPO

	RSPO[23]	ISPO[24]
Date of creation	2002	2011
Effective since	2004	2012
Initiators	WWF, Unilever, MPOA, Migros and AAK	Indonesian State and UNDP
Members	3659 members from 92 countries	Ministries (Agriculture, Environment, Forestry, Manpower and Labour) and National Land Agency
Aim and objectives	• Transform markets to make sustainable palm oil the norm • Advance the production, procurement, financing and use of sustainable palm oil products • Develop, implement, verify, assure and periodically review credible global standards for the entire supply chain of sustainable palm oil • Monitor and evaluate the economic, environmental and social impacts of the uptake of sustainable palm oil in the market • Engage and commit all stakeholders throughout the supply chain, including governments and consumers	• Increase awareness on the importance of producing sustainable palm oil • Reduce greenhouse gas (GHG) emission as committed by Indonesian leaders internationally • Improve the competitive advantage of the Indonesian palm oil industry • Gain credibility on the international market
Principles	1. Commitment to transparency 2. Compliance with applicable laws and regulations 3. Commitment to long-term economic and financial viability 4. Use of appropriate best practices by growers and millers 5. Environmental responsibility and conservation of natural	1. Compliance with legal business permits 2. Implementation of plantation management based on Good Agricultural Practices (GAP) 3. Protecting primary forest and peat land 4. Conducting and monitoring environmental management

[23] Based on: RSPO (2015); RSPO (2018).
[24] Based on: Eco-Business (2011); Giessen et al. (2016); Gillespie & Harjanthi (2012); Harsono et al. (2012); Hidayat et al. (2017); McCarthy (2012); Obidzinski et al. (2013); Sardjono (2014); SPOTT (2016); Suharto (2012); Winarni et al. (2014).

	resources and biodiversity 6. Responsible consideration of employees, and of individuals and communities affected by growers and mills 7. Responsible development of new plantings 8. Commitment to continuous improvement in key areas of activity	(e.g., protecting biodiversity, waste management, and fire prevention and mitigation) 5. Showing responsibility towards employees 6. Contributing to social and economic empowerment of society 7. Commitment to continuous improvements in sustainable palm oil production
Adherence	Voluntary	Mandatory
Accreditation	Third-party accreditation	Third-party accreditation
Sanctions	Membership suspension or termination	Business Plantation Permit or Land Right License withdrawal
Certified Area in Indonesia	1,717,606 ha	378,061 ha Potentially 9,333,482 ha
Certified palm oil quantity in Indonesia	6,521,589 tons	2,106,030 tons Potentially 29,278,200 tons
Global representation[25]	• 7.97% of global plantations • 11.33% of global production	• 1.79% of global plantations • Potential area: 44.16% of global plantations • 3.66% of global production • Potential quantity: 50.86% of global production
Critiques	• Incapacity to enforce its own standards • Overrepresentation of big companies and industries • Limited market, high certification cost and low price premium • Government independent	• Weak standards based on weak laws and regulations • State corruption • State efficiency • International and national credibility

Thanks to this comparative table, we can already observe the following outcomes. The RSPO and the ISPO were created a decade apart, the RSPO being created in 2002 and effective since 2004, and the ISPO being created in 2011 and effective since 2012. RSPO's initiators gather private

[25] Based on the 2016 world harvested area dedicated to palm oil of 21,137,830 hectares and on the 2014 world production of palm oil of 57,562,064 tons (FAOSTAT, 2018).

actors involved in the palm oil sector, all being external to Indonesia; whereas it was the Indonesian government, supported by the international community, that initiated the ISPO. The RSPO is composed of various members representing all sectors from the palm oil industry. The ISPO, on the other hand, is under the authority of various Indonesian Ministries and the National Land Agency. Both certifications have different objectives that reflect their private-Northern or State-Southern origins. While the RSPO is focused on the markets and its stakeholders, the ISPO concentrates its efforts on Indonesia's credibility and recognition on the international scene. Both standards use a set of Principles and Criteria (P&C) to clarify what they define as 'sustainable' palm oil. We can highlight a few similarities and differences between their principles. Both certifications value the implementation of good agricultural practices (GAP), environmental and biodiversity protection, the respect of employees, and aim towards the continuous improvement of the palm oil sector practices. RSPO principles underline transparency, long-term economic and financial viability, and responsible development of new plantations, all of which are absent within ISPO's principles. RSPO guidelines mention compliance with applicable laws, whereas the ISPO's only mention compliance with legal business permits; and the RSPO brings attention to the respect of individuals and communities affected by growers and mills, whereas the ISPO mentions the social and economic empowerment of the whole society. The sustainability of the RSPO and ISPO P&C is assessed in more details in the following section.

Besides this, a major distinction between the two certifications is that the RSPO is voluntary whereas the ISPO mandatory. Both the RSPO and the ISPO work with third-party certification bodies to ensure independent audits. In case of P&C violations, the RSPO can suspend or terminate a member's membership, and the ISPO can withdraw the exploiter's Business Plantation Permit or Land Right License. Looking at the certifications' territorial extent, we see that RSPO-certified plantations are more numerous and wider than ISPO equivalents. However, the ISPO is dedicated to certify the entire Indonesian palm oil estate.

Finally, both certifications face critiques. The RSPO is said to be unable to enforce its own standards, to favour big companies and industries, to operate without support from the Indonesian government, and yield a very limited market, while the price of RSPO certification is high and the premium for RSPO-certified products is low. The ISPO is critiqued for promoting weak standards, themselves founded on weak laws and regulations. Corruption and limited efficiency are factors that imperil the certification's international and national credibility.

6. Analysis

In this section, we used the SDGs as a benchmark to create an analytical grid allowing us to gauge the sustainability of the RSPO and the ISPO (Table 5). In order to establish this analytical grid, we looked in more details at the different goals and targets from the SDGs, and the various indicators used to assess them (Annex 1). For each goal, we gathered the targets and indicators that were the most relevant to our case study, in particular those concerning the active and working population, as well as those dedicated to the agricultural sector. Faced with pages of details for each SDG, we decided to select a maximum of four objectives per goal, allowing us to gather a total of 46 criteria in our analytical grid. We then proceeded to a systematic evaluation of the presence of these objectives in the RSPO and ISPO's P&C (Annexes 2, 3 and 4). We used three different symbols to illustrate the mention of specific SDGs targets and indicators in the RSPO and ISPO's P&C. We used red symbols to highlight instances where results were different between the two certification bodies. We also gave a value to each symbol to allow us to calculate a 'sustainability score' for both certifications. The values we set are as follows:

- The certification body does not mention this goal: ☒ = 0
- The certification body partially mentions this goal: ⊙ = 0.5
- The certification body mentions this goal: ☑ = 1

Table 5: Sustainability Analysis of the RSPO and ISPO[26]

Goals and Indicators	RSPO	ISPO
Goal 1: End poverty in all its forms everywhere		
- Ensure people live with more than US$ 1.25 a day	⊙	⊙
- Implement social protection systems	☒	☒
- Ensure right to land and access to natural resources and basic services	☑	☑
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture		
- Increase the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples and family farmers	⊙	☒
- Implement resilient agricultural practices	☑	☑
- Maintain the genetic diversity of seeds and cultivated plants	☒	☒
- Invest in rural infrastructure and agricultural research	☑	☑
Goal 3: Ensure healthy lives and promote well-being for all at all ages		
- Promote mental health and well-being	☒	☒
- Prevent the use of drugs and alcohol	☒	☒
- Ensure access to sexual and reproductive health-care services	⊙	☒
- Reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	☑	☑
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all		
- Ensure access to pre-primary, primary, secondary and tertiary education	⊙	⊙
- Ensure literacy and numeracy among adults	☒	☒
Goal 5: Achieve gender equality and empower all women and girls		
- End discrimination and violence against women and girls	☑	⊙
- Give women equal rights to economic resources and property	☒	☒
Goal 6: Ensure availability and sustainable management of water and sanitation for all		
- Ensure access to safe and affordable drinking water	☑	☒
- Ensure adequate sanitation and hygiene and end open defecation	☒	☒
- Reduce pollution, eliminate dumping and minimize release of hazardous chemicals and materials	☑	☑
- Protect and restore water-related ecosystems (mountains, forests, etc.)	☑	☑
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all		
- Ensure access to electricity	☒	☒

[26] Based on: ISPO (2013); RSPO (2013); Statistical Commission (2017).

- Diminish reliance on fossil fuels and favour clean energy technology	☑	☑
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all		
- Participate to economic growth	☒	⊙
- Support productive activities and decent job creation	☒	☑
- Decouple economic growth from environmental degradation	⊙	⊙
- Eradicate forced and child labour	☑	☑
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation		
- Integrate small-scale industrial enterprises into value chains and markets	☑	☒
- Upgrade infrastructure towards clean and environmentally sound technologies	☒	☒
Goal 10: Reduce inequality within and among countries		
- Sustain income growth of the bottom 40% of the population	☒	☒
- Ensure enhanced representation and voice for developing countries	☒	☒
- Facilitate orderly, safe and regular migration and mobility of people	☒	☒
Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable		
- Ensure access to adequate, safe and affordable housing	☑	☑
- Provide access to safe, affordable and sustainable transport systems	☑	☑
- Protect cultural and natural heritage	⊙	⊙
Goal 12: Ensure sustainable consumption and production patterns		
- Achieve the sustainable management and efficient use of natural resources	☑	☑
- Reduce food losses along production and supply chains	☒	☑
- Encourage companies to adopt sustainable practices	☑	☑
Goal 13: Take urgent action to combat climate change and its impacts		
- Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters	☒	☒
- Integrate climate-change measures into national policies, strategies and planning	☒	☒
Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development		
- Reduce marine pollution, in particular from land-based activities	☑	☑
Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss		

- Ensure the conservation of terrestrial and inland ecosystems and their services (forests, wetlands, mountains, drylands, etc.) - Implement the sustainable management of all types of forests, halt deforestation, restore degraded forests and increase afforestation and reforestation - Reduce the degradation of natural habitats, halt the loss of biodiversity and prevent the extinction of threatened species	⊙ ⊙ ☑	⊙ ⊙ ☑
Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels - Promote access to justice for all - Reduce corruption and bribery - Develop effective, accountable and transparent institutions at all levels	 ☒ ☑ ☒	 ☒ ☒ ☒
Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development - Assist and support developing countries in attaining sustainable goals through coordinated policies	 ☒	 ☒
Sustainability score	**22/46**	**20/46**

By applying our analytical grid to the RSPO and ISPO P&C, we are able to make the following observations.

Goal 1: End poverty in all its forms everywhere

Both the RSPO and ISPO require employees to be paid the minimum legal standards. We could not find any specific mention of social protection systems provided to workers by certified employers in any of the certifications' guidelines. However, the right to own land is mentioned in RSPO Principle 2 and in ISPO Principle 1, both requiring compliance with applicable laws and regulations. Indigenous people's right to own, use, develop and control land is not directly mentioned in the RSPO P&C, although it is cited in an annex dedicated to the international laws and conventions applicable to the production of palm oil. ISPO Principle 1 introduces various regulations concerning land permits, land disputes, customary rights, etc. Lastly, we found no mention of the word "poverty" in RSPO and ISPO P&C.

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

The RSPO P&C express consideration for smallholders to be trained to good agricultural practices (GAP), to be able to hold land titles and to improve their productivity, but there is no mention of increased income, and no particular attention is given to indigenous peoples, women and family farmers. The maintenance of the genetic diversity of seeds and cultivated plants is not mentioned in the RSPO P&C, but the certification body invests in rural infrastructure and agricultural research. As for the ISPO, the aim to increase agricultural productivity and income is not mentioned. However, the ISPO requires the implementation of GAP, similar to the RSPO. There is no particular mention of small-scale food producers or women, but indigenous communities and communities surrounding plantations are mentioned. The maintenance of the genetic diversity of seeds and cultivated plants is not mentioned in the ISPO P&C, which nonetheless advocate for 'superior seeds'. The ISPO aims to provide adequate rural infrastructure and invests in research on new technology.

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Both the RSPO and the ISPO P&C allocate special attention towards the health of workers who conduct potentially hazardous operations, such as pesticide application. High occupational injury risks are also mentioned in both schemes. The RSPO states that agricultural practices and waste management should avoid air, water and soil pollution and contamination. The ISPO P&C emphasize the management of hazardous and toxic materials and waste. Neither the RSPO nor the ISPO consider mental health, well-being, the use of drugs and alcohol, or the access to sexual and reproductive health-care services. Yet, the RSPO does mention reproductive rights.

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

RSPO-certified growers and millers are supposed to provide adequate educational amenities as required by national standards, and to provide training to workers. ISPO-certified companies should include educational facilities for workers and provide surrounding communities with access to education. The words "literacy" and "numeracy" are not mentioned in either the RSPO or ISPO P&C.

Goal 5: Achieve gender equality and empower all women and girls

The RSPO prohibits discrimination based on gender, as well as harassment, abuse and sexual violence in the working place. The ISPO prohibits discrimination based on gender, but does not mention violence against women and girls. Giving women equal rights to economic resources and property is not mentioned in any of the certifications.

Goal 6: Ensure availability and sustainable management of water and sanitation for all

The RSPO gives specific attention to water resources preservation and pollution reduction and requires that certified entities implement water management and waste disposal plans. It also emphasises access to clean drinking water to local communities, workers and their families. ISPO guidelines stress water and hazardous and toxic waste management and aim towards pollution reduction. However, the ISPO does not address access to drinking water in its P&C. Neither the RSPO nor the ISPO mention the words “sanitation”, “hygiene” and “defecation”.

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

The RSPO promotes the efficiency of fossil fuel use and the optimisation of renewable energy use in its Principle 5. However, it does not specifically mention access to electricity. For its part, the ISPO does not mention access to electricity, but does promote biomass alternatives to fossil fuels. ISPO P&C also emphasize new technologies development and research.

Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

The RSPO does not state economic growth or creating decent jobs as objectives. The ISPO does not mention economic growth either, but it does not allow activities that would impact the economy negatively, and it promotes the economic empowerment of communities. The ISPO also requires certified plantations to provide job opportunities to surrounding communities. Both certification bodies fight against environmental degradation, but do not connect it with economic growth. Lastly, the RSPO prohibits forced, trafficked and child labour, and the ISPO prohibits child labour.

Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

In contrast to the ISPO, the RSPO allocates special attention to smallholders and their integration into the certification body, giving them access to a particular market. Neither the RSPO nor the ISPO mentions the intention to upgrade infrastructure towards clean and environmentally sound technologies.

Goal 10: Reduce inequality within and among countries

The RSPO and ISPO P&C make no mention of the words "income", "salary", "developing countries", and "migration". More generally, neither the RSPO nor the ISPO refers to issues of structural global economic inequality, and no measure is encouraging the reduction of inequalities within and between countries.

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

Both the RSPO and the ISPO require certified companies to provide employees with housing and transportation. The RSPO does not mention the protection of cultural heritage, but includes the protection of natural heritage in its Principle 5 on the conservation of natural resources. The ISPO does not mention the protection of the cultural and natural heritage.

Goal 12: Ensure sustainable consumption and production patterns

Within the RSPO, Principle 5 is dedicated to the environment, biodiversity and natural resources conservation, and certified companies are encouraged to adopt sustainable practices. However, there is no particular attention given to the mitigation of food losses along production and supply chains. Within the ISPO, Principle 4 is dedicated to the good management of the environment, and companies are encouraged to adopt sustainable practices. Unlike the RSPO, the ISPO requires avoiding loss or damaging and contaminating fresh fruits during transport.

Goal 13: Take urgent action to combat climate change and its impacts

Climate change is not mentioned at all in RSPO and ISPO P&C.

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

As mentioned earlier for Goals 3 and 6, the RSPO and the ISPO promote agricultural and waste management practices aiming to reduce water pollution. In addition, all RSPO-certified companies have to implement a water management plan.

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

The RSPO aims to protect endangered ecosystems, natural habitats, endangered species, and biodiversity, but does not mention ecosystem service protection. The ISPO requires the protection of the environment and endangered species, but does not mention the protection of ecosystem services per se either. Both the RSPO and the ISPO protect primary forests, but not all types of forests (secondary or degraded forests are not targeted for instance). The words "deforestation", "afforestation" and "reforestation" could not be found in both RSPO and ISPO P&C.

Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

The RSPO does not mention access to justice for all but prohibits corruption and bribery in its Principle 1 on commitment to transparency. The RSPO also promotes the transparency of its institutions, but does not work towards more transparency at a national level. The ISPO does not mention justice, transparent institutions, corruption, or bribery in its P&C.

Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Neither the RSPO nor the ISPO mentions any collaboration with developing countries in its P&C.

7. Discussion of Findings

Based on our analytical grid, we reach the following conclusions: first, the RSPO achieves a better 'sustainability score' than the ISPO, but the difference between the two is very small, with

the RSPO having only two more points than the ISPO. Second, both certifications' scores are very low. The guidelines of the RSPO and the ISPO mention less than 50% of the SDGs targets introduced in the grid. Third, we can see that the results for the RSPO and the ISPO are pretty similar. There are only nine goals for which the RSPO and the ISPO score differently, and when this occurs, the RSPO scores better than the ISPO six times.

These mitigated results highlight that the RSPO is not much more effective in promoting sustainable development than the ISPO, as often suggested. Throughout our literature review, we noticed that the ISPO was denigrated from its onset, NGOs and experts being sceptical of its efficiency and credibility, mostly because it was initiated by a corrupted country with weak institutions (Gillespie & Harjanthi, 2012; Hidayat et al., 2017; McCarthy, 2012; Winarni et al., 2014). However, the analytical grid developed in this research reveals that the ISPO is on par with the RSPO, and that it even sometimes mentions more sustainable objectives that the RSPO. For instance, the ISPO requires that waste, damage and contamination be avoided during fresh palm fruit transportation, whereas the RSPO does not emphasise mitigating food losses along production and supply chains. It is important to point out that in this research, we are looking at the standards that both certification organisms promote. We do not take into account their capacities, or their will, to monitor and enforce these standards. Maybe doing so would indeed corroborate the critiques raised against the ISPO, but this analysis is beyond the scope of this research.

Our data also question whether both certifications can genuinely foster more sustainable practices in the Indonesian palm oil sector. Since both certifications mention less than half of the selected SDGs targets and indicators in their guidelines, their real impact upon sustainability appears mitigated, in the least. In addition, as we focused on P&C guidelines only, our analysis does not account for the various critiques addressed to both the RSPO and the ISPO. For instance, different RSPO members have been criticised for expelling local and indigenous communities from their land, casting doubts on the RSPO's achievements in regards to its commitment to enforce local tenure arrangement (Greenpeace International, 2013). Several critiques further blame the RSPO's poor record on its objective to alleviate environmental degradation. These critiques point to the expansion of RSPO-certified palm tree plantations into rainforests, HCV forests, orangutan habitats and peatlands (Angerand, 2011; Greenpeace International, 2008, 2013). Likewise, Indonesian laws could not prevent local communities' expulsion from their land

and environmental degradation, casting doubts on the ISPO's achievements in regards to its commitments in securing local communities' land rights and enforcing environmental protection (Gillespie & Harjanthi, 2012; Obidzinski et al., 2013).

In contrast, other factors suggest that the ISPO could achieve a better score on our analytical grid. For instance, while the ISPO P&C do not mention the promotion of international cooperation, the ISPO emerged from a partnership between the UN and the Indonesian government. This suggests that international cooperation (SDG Goal 17) is a core aspect from this scheme. Also, smallholders do not partake in the ISPO as of now, it is nonetheless expected that small-scale Indonesian producers will integrate the certification scheme in the near future.

There are many aspects on which both certifications could focus to foster more sustainable practices in the Indonesian palm oil industry. Both certifications could introduce greater requirements on working conditions, including minimum wage requirements or the implementation of social protection systems. Concerning land rights, both certifications only require compliance with applicable laws, but they could strengthen their requirements to account to local tenure systems such as the Adat, which is not recognized by Indonesian law (Friends of the Earth, 2004). Mental health is also completely absent from both certifications' guidelines towards sustainability. There is no particular intention to improve the educational level of workers or people affected by certified palm oil exploitations. The minimum requirements are based on national standards, but we do not know if these require pre-primary, primary, secondary and tertiary education for all. The RSPO and the ISPO could also dedicate more attention to indigenous communities and women in order to be inclusive of all. We have noticed that even though women are sometimes mentioned, they are not fully considered. Special focus on women concerns discrimination, harassment, abuse and sexual violence, but no particular attention is given to the enhancement of women's economic rights for instance. Also significant is that none of the certification recognizes the connection between environmental degradation and economic growth, or even mentions climate change and deforestation, in spite of these aspects being key issues in the palm oil sector. Both certifications aim to protect biodiversity, habitats, and species, but this is contradictory because monocultures are in essence incompatible with biodiversity protection. In addition, no specific attention is allocated to oceans and seas, which nonetheless stand out as a key priority in an archipelago composed of thousands of islands.

Furthermore, achieving certain SDGs goals, such as managing migratory flows or ensuring access to justice, appears to be beyond the responsibilities of a certification organism. The RSPO's focus on these aspects recalls critiques addressed toward certification processes in general. As we mentioned earlier in our conceptual framework, non-state certifications bodies are critiqued for imposing their views and ways from afar, recalling relations of domination of the North over the South from the time of colonization (Auld & Gulbrandsen, 2010; CCSPS, 2010; Vandergeest & Unno, 2012). The ISPO does not face this problem because it was implemented by the government in its own country. As such, the ISPO is part of a recent trend among Southern countries to reclaim authority and control through state-led mandatory certifications (Giessen et al., 2016; Hospes, 2014).

Considering these two different dynamics, we argue that even though the RSPO and the ISPO appear to be promoting different understandings of 'sustainable palm oil', contentions that are partly related to their respective private versus state origins, they have the potential to be complementary. The RSPO has the advantages of being widely implemented in Indonesia already, of being recognized on the international scene, and of assembling a lot of stakeholders from the palm oil sector. As a governmental initiative, the ISPO upholds the capacity to influence the whole palm oil sector in Indonesia, to establish real sanctions, and it is better placed to implement regulations and social measures than the RSPO, a private initiative. However, we argue that sustainability goes beyond what the RSPO and the ISPO promote. The two certification bodies' regulations remain largely focused on agricultural practices and economic gains, and fail to thoroughly consider other sectors – such as health, education, and energy – and larger target groups – such as children, women, smallholders, indigenous people and local communities. We consider that more requirements are needed for the two certifications to be able to be considered "sustainable". As of now, the guidelines that the RSPO and the ISPO promote only represent a facet of sustainable development. We recognize it is not the responsibility of one organization such as a certification body to emphasise each of the SDGs. Because of this, and because sustainable development comprises so many dimensions, we argue it is necessary for the RSPO and the ISPO to collaborate and work in partnership. For instance, the ISPO could legally recognize the RSPO-designated HCV areas, which would prevent further exploitation on these lands.

Finally, this research highlighted an important conceptual issue regarding certification bodies in general. Throughout our analysis, we noticed that the RSPO and ISPO guidelines often required companies to only comply with national laws and regulations to achieve certification. We first point out that this is not their role, as the government or the police should be in charge of maintaining legal frameworks. Also, we argue that requiring compliance with national laws is not enough for certifications to be able to promote sustainable development and to claim their added value. In order to really improve practices within the palm oil industry, certifications should promote and ensure the implementation of higher standards and requirement than those enshrined in national laws. Their incapacity to do so adds to the list of issues we have already highlighted regarding certifications' genuine impact on sustainability.

8. Conclusion

The palm oil sector has triggered lots of discussions and debates among various actors – NGOs, academics, and the general public – which often centered on this sector's disastrous ecological impacts on the rainforest, or its role in driving conflicts between private actors and local and indigenous communities (Alonso-Fradejas et al., 2016; Angerand, 2011; Hall, 2011; McCarthy, 2012; Omont, 2010; Rival, 2013; Ruysschaert & Salles, 2014). Certification was put forward as a means to improve this situation and create a 'sustainable' palm oil industry (CCSPS, 2010). In this research, we decided to focus on Indonesia, the world's largest producer and exporter of palm oil, and to approach two major palm oil certifications: the private/NGO actor overseen RSPO and the state-managed ISPO. Our aim was to investigate the roles and outcomes of certification upon palm oil plantations in Indonesia and our main research question sought to investigate to what extent do the RSPO and ISPO guidelines correlate with sustainable development objectives and strategies in the implementation of more sustainable practices in the palm oil sector in Indonesia. More precisely, we queried whether these standards are complementary or if they emphasised competing understandings of sustainability.

In order to achieve our aim and answer our research questions, we first elaborated a conceptual framework in which we gathered theoretical knowledge on sustainable development and on certifications. We adopted a historical perspective to review the emergence and evolution of the concept of sustainable development, from the 1972 *United Nations Conference on the Human*

Environment in Stockholm to the *Sustainable Development Goals* (SDGs), and then discussed the critiques addressed to the SDGs. A major critique of the SDGs is that while they reflect a global awareness of the deterioration of the planet and its ecosystems, they still rely on the old model of industrial growth responsible for this deterioration (Hickel, 2015). We then presented the emergence of certifications within debates on sustainable development and discussed the ability of certifications to be considered as sustainable development tools. Certifications also face several critiques, including on their legitimacy – especially for non-state certifications – and on their capacity to genuinely foster sustainable development on a global scale (Auld & Gulbrandsen, 2010; Auld et al., 2008; Carlson & Palmer, 2016; Cashore et al., 2007; Eden & Bear, 2010; Gulbrandsen, 2005).

Second, we introduced the context from our research. We focused on palm oil in the global economy more generally and presented the sector's main actors. We then focused on palm oil in Indonesia and introduced data on the country's palm fruit harvested area, production exports as well market price evolution.

In our analysis section, we first compared the two certification bodies according to a list of general characteristics, such as their dates of creation, their aims and objectives, the plantation areas and palm oil outputs they have certified, as well as their adherence and accreditation systems. This first round of comparison allowed us to reveal a few distinctions between the RSPO and the ISPO. Then, we elaborated an analytical grid based on the SDGs that allowed us to gauge the sustainability of both standards' guidelines. We focused on up to four targets and objectives for each SDG and probed whether these were mentioned in the RSPO and ISPO P&C. This allowed us to calculate a 'sustainability score' for both certifications. Our analysis shows that the guidelines of the RSPO and the ISPO are, after all, pretty similar, both mentioning less than 50% of the SDGs targets introduced in our grid. This adds nuances to the argument that the RSPO is more efficient in promoting sustainability than the ISPO, and questions the ability of both certifications to foster sustainable practices in the Indonesian palm oil sector. In addition, we argue that the actual results are probably lower in light of various critiques that highlight shortcoming in regards to the implementation of both the RSPO and ISPO guidelines. The guidelines that the RSPO and the ISPO promote only speak to some facets of sustainable development. We argue that even though the RSPO and the ISPO have emanated from very different – and potentially oppositional – contexts, they have the potential to be complementary

by collaborating and combining their respective strengths. We are aware that more in-depth research is necessary to confirm our results. Field research would allow us to investigate how certifications work on the ground and probe the microdynamics of their implementations so as to further document the extent to which RSPO and ISPO-certified plantations differ from one another, and from non-certified estates. Finally, the fact that RSPO and ISPO guidelines seldom require certified companies to go beyond compliance with national laws and regulations raise questions towards these schemes' genuine impact upon sustainability. We argue that this approach is insufficient for certifications to yield added value and sustainable development. In order to really improve practices within the palm oil industry, certifications should promote state-of-the-art practices, and aligning more closely to the SDGs should only be a first step in that regard.

9. Sources

AAK. (2018). This is AAK. Retrieved January 30, 2018, from https://aak.com/about-us/

Adams, W. M. (2009). *Green Development: Environment and Sustainability in a Developing World* (3rd ed.). London: Routledge.

Akaike, Y. (1985). Other oleochemical uses: Palm oil products. *Journal of the American Oil Chemists' Society*, *62*(2), 335–340. https://doi.org/10.1007/BF02541401

Alonso-Fradejas, A., Liu, J., Salerno, T., & Xu, Y. (2016). Inquiring into the political economy of oil palm as a global flex crop. *The Journal of Peasant Studies*, *43*(1), 141–165. https://doi.org/10.1080/03066150.2015.1052801

Amin, S. (2006, March 1). The Millennium Development Goals: A Critique from the South. Retrieved February 16, 2018, from https://monthlyreview.org/2006/03/01/the-millennium-development-goals-a-critique-from-the-south/

Anctil, F., & Diaz, L. (2015). *Développement durable: enjeux et trajectoires*. Québec, QC: Presses de l'Université Laval, Ottawa, Ontario.

Angerand, S. (2011). *Arnaque à l'huile de palme durable : 12 questions pour comprendre les enjeux*. Les Amis de la Terre.

ASC. (2018). About us. Retrieved February 1, 2018, from https://www.asc-aqua.org/about-us/

Auld, G., & Gulbrandsen, L. H. (2010). Transparency in Nonstate Certification: Consequences for Accountability and Legitimacy. *Global Environmental Politics*, *10*(3), 97–119.

Auld, G., Gulbrandsen, L. H., & McDermott, C. L. (2008). Certification Schemes and the Impacts on Forests and Forestry. *Annual Review of Environment and Resources*, *33*, 187–211. https://doi.org/10.1146/annurev.environ.33.013007.103754

Boiral, O., & Gendron, Y. (2011). Sustainable Development and Certification Practices: Lessons Learned and Prospects. *Business Strategy and the Environment*, *20*(5), 331–347. https://doi.org/10.1002/bse.701

Brugvin, T. (2016). Gouvernance et démocratie au regard de la privatisation des normes. *L'Homme et la société*, (199), 61–78. https://doi.org/10.3917/lhs.199.0061

Butler, R. (2014a, February 12). Despite falling palm oil price, premium for "sustainable" product rises. Retrieved February 10, 2018, from https://news.mongabay.com/2014/02/despite-falling-palm-oil-price-premium-for-sustainable-product-rises/

Butler, R. (2014b, November 20). Ranking the world's best - and worst - palm oil companies in terms of sustainability. Retrieved August 14, 2017, from https://news.mongabay.com/2014/11/ranking-the-worlds-best-and-worst-palm-oil-companies-in-terms-of-sustainability/

Carlson, A., & Palmer, C. (2016). A qualitative meta-synthesis of the benefits of eco-labeling in developing countries. *Ecological Economics*, *127*, 129–145. https://doi.org/10.1016/j.ecolecon.2016.03.020

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. https://doi.org/10.1111/j.1467-9388.2007.00560.x

CCSPS. (2010). *Certifiably Sustainable?: The Role of Third-Party Certification Systems: Report of a Workshop* (p. 144). Washington, D.C.: National Academies Press.

Cramb, R. A., & McCarthy, J. F. (2016). *The oil palm complex: smallholders, agribusiness and the state in Indonesia and Malaysia*. Singapore: NUS Press.

Demaze, M. T. (2009). Paradoxes conceptuels du développement durable et nouvelles initiatives de coopération Nord-Sud: Le mécanisme pour un développementPropre (MDP). *CyberGeo*, *2009*, <xocs:firstpage xmlns:xocs=""/>.

Dolique, L. (2007). *Risques globaux et développement durable: fausses pistes et vraies solutions*. Paris: Harmattan.

Eco-Business. (2011, March 30). Indonesia to launch Indonesian Sustainable Palm Oil standard. *Eco-Business*. Retrieved from http://www.eco-business.com/news/indonesia-to-launch-indonesian-sustainable-palm-oil-standard/

Eden, S., & Bear, C. (2010). Third-sector Global Environmental Governance, Space and Science: Comparing Fishery and Forestry Certification. *Journal of Environmental Policy & Planning*, *12*(1), 83–106. https://doi.org/10.1080/15239081003626000

FAOSTAT. (2017). Crops processed. Retrieved August 2, 2017, from http://www.fao.org/faostat/en/#data/QD/visualize

FAOSTAT. (2018). Data Crops. Retrieved January 28, 2018, from http://www.fao.org/faostat/en/#data/QC

Fehling, M., Nelson, B. D., & Venkatapuram, S. (2013). Limitations of the Millennium Development Goals: a literature review. *Global Public Health*, *8*(10), 1109–1122. https://doi.org/10.1080/17441692.2013.845676

Felli, R. (2015). La durabilité ou l'escamotage du développement durable. *Raisons politiques*, *60*(4), 149. https://doi.org/10.3917/rai.060.0149

Food Alliance. (2016). Food Alliance - Sustainability for Food and Agriculture. Retrieved January 18, 2018, from https://foodalliance.org/

Friends of the Earth. (2004). *Greasy palms - palm oil, the environment and big business* (p. 28). London, England: Friends of the Earth.

FSC International. (2018). WHAT IS FSC? Retrieved February 1, 2018, from https://ic.fsc.org/en/what-is-fsc

Gale, F., & Haward, M. (2011). *Global commodity governance: state responses to sustainable forest and fisheries certification*. Basingstoke ; New York: Palgrave Macmillan.

Giessen, L., Burns, S., Sahide, M. A. K., & Wibowo, A. (2016). From governance to government: The strengthened role of state bureaucracies in forest and agricultural certification. *Policy and Society*, *35*(1), 71–89. https://doi.org/10.1016/j.polsoc.2016.02.001

Gillespie, P., & Harjanthi, R. S. (2012). ISPO, RSPO: Two sides of the same coin? *The Jakarta Post*. Retrieved from http://cbe.thejakartapost.com/news/2012/11/02/ispo-rspo-two-sides-same-coin.html

Greenpeace International. (2008). *How Unilever Palm Oil Suppliers Are Burning Up Borneo*. Amsterdam, The Netherlands: Greenpeace International. Retrieved from http://www.greenpeace.org/international/Global/international/planet-2/report/2009/10/how-unilever-palm-oil-supplier.pdf

Greenpeace International. (2013). *Certifying Destruction* (p. 8). Retrieved from http://www.greenpeace.org/international/Global/international/publications/forests/2013/Indonesia/RSPO-Certifying-Destruction.pdf

GSTC. (2017). About Us - Global Sustainable Tourism Council (GSTC). Retrieved February 1, 2018, from https://www.gstcouncil.org/about/about-us/

Gulbrandsen, L. H. (2005). Mark of Sustainability? Challenges for Fishery and Forestry Eco-labeling. *Environment: Science and Policy for Sustainable Development*, *47*(5), 8–23. https://doi.org/10.3200/ENVT.47.5.8-23

Hall, D. (2011). Land grabs, land control, and Southeast Asian crop booms. *The Journal of Peasant Studies*, *38*(4), 837–857. https://doi.org/10.1080/03066150.2011.607706

Harsono, D., Chozin, M. A., & Fauzi, A. M. (2012). Analysis on Indonesian Sustainable Palm Oil (ISPO):A Qualitative Assessment on the Success Factors for ISPO. *Journal of Management & Agribusiness*, *9*(2), 39–48. https://doi.org/10.17358/jma.9.2.39-48

Hettne, B. (1995). *Development theory and the three worlds: towards an international political economy of development* (2nd ed..). Essex, England : New York, NY: Longman Scientific & Technical ; Copublished in the United States by John Wiley.

Hickel, J. (2015, August 8). The Problem with Saving the World. *Jacobin*. Retrieved from http://jacobinmag.com/2015/08/global-poverty-climate-change-sdgs/

Hidayat, N. K., Offermans, A., & Glasbergen, P. (2017). Sustainable palm oil as a public responsibility? On the governance capacity of Indonesian Standard for Sustainable Palm Oil (ISPO). *Agriculture and Human Values*, 1–20. https://doi.org/10.1007/s10460-017-9816-6

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

Indonesia Investments. (2017, June 26). Palm Oil Industry in Indonesia - CPO Production & Export. Retrieved January 2, 2018, from https://www.indonesia-investments.com/business/commodities/palm-oil/item166

ISPO. (2013). *Sustainable Palm Oil (ISPO) Principles and Sustinable Palm Oil (ISPO) Policies* (p. 32).

Kaag, M. M. A., & Zoomers, E. B. (2014). *The global land grab: beyond the hype*. London, UK: Zed Books.

Lele, S. (2013). Rethinking Sustainable Development. *Current History; Philadelphia*, *112*(757), 311–316.

Lemire, J., & Rose, Y. (2015). Les victimes de l'huile de palme. Montréal: Radio-Canada.

McCarthy, J. F. (2012). Certifying in Contested Spaces: private regulation in Indonesian forestry and palm oil. *Third World Quarterly*, *33*(10), 1871–1888. https://doi.org/10.1080/01436597.2012.729721

Meadows, D. H., Meadows, D. L., Randers, J., & Behrens III, W. W. (1972). *The Limits to growth: a report for the Club of Rome's project on the predicament of mankind*. New York: Universe Books.

Michel-Guillou, É., & Raymond, A. (2011). Développement durable… question de sens. *Développement Durable et Territoires*, *2*(3). Retrieved from https://doaj.org/article/d092929a453046d1b013d078bc915c47

Migros. (2018). Histoire de Migros. Retrieved January 30, 2018, from https://www.migros.ch/fr/histoire-de-migros.html

Mills, M. C. (2008). Comparative Research. In Given, Lisa M. (Ed.), *The SAGE Encyclopedia of Qualitative Research Methods, 2v*. Sage Publications, Inc.

MSC. (2018). About us — Marine Stewardship Council. Retrieved February 1, 2018, from https://www.msc.org/about-us

Musa, J. J. (2009). Evaluation of the lubricating properties of palm kernel oil. *Leonardo Electronic Journal of Practices and Technologies*, *14*, 107–114.

Obidzinski, K., Takahashi, I., Dermawan, A., Komarudin, H., & Andrianto, A. (2013). Can large scale land acquisition for agro-development in Indonesia be managed sustainably? *Land Use Policy*, *30*(1), 952–965. https://doi.org/10.1016/j.landusepol.2012.06.018

Omont, H. (2010). Contributions de la production d'huile de palme au développement durable-Problématique générale, controverses. *Oléagineux, Corps Gras, Lipides*, *17*(6), 362–367.

Oxfam International. (2011, October 14). Oxfam appelle une entreprise d'huile de palme à remédier aux violations des droits des communautés en Indonésie. Retrieved July 23, 2017, from https://oxf.am/2syCD7L

Patentreger, B., Fauvelle, E., & Moluçon, C. (2011). *Huile de palme : de la déforestation à la nécessaire durabilité* (p. 40). Paris: WWF France. Retrieved from http://awsassets.wwfffr.panda.org/downloads/huile_de_palme_deforestation.pdf

Pearce, F. (2012). *The land grabbers: the new fight over who owns the Earth*. Boston: Beacon Press.

Ponte, S., & Cheyns, E. (2013). Voluntary standards, expert knowledge and the governance of sustainability networks. *Global Networks*, *13*(4), 459–477.

Rafols, X. P., & Brander, L. (2004). The Stewardship Council Model: A Comparison of the FSC and MSC. *ILSA J. Int'l & Comp. L.*, *11*, 637–663.

Richardson, B. (2015). Making a Market for Sustainability: The Commodification of Certified Palm Oil. *New Political Economy*, *20*(4), 545–568. https://doi.org/10.1080/13563467.2014.923829

Rival, A. (2013). Palmier à huile : défis et questions à la recherche. *Oléagineux, Corps Gras, Lipides*, *20*(3), 133–142.

Rival, A., & Levang, P. (2013). *La palme des controverses : Palmier à huile et enjeux de développement* (Quae). Versailles.

Rouse, M. (2013, March). What is supply chain (SC)? - Definition from WhatIs.com. Retrieved January 19, 2018, from http://whatis.techtarget.com/definition/supply-chain

RSB. (2016). Roundtable On Sustainable Biomaterials | About | RSB. Retrieved February 1, 2018, from http://rsb.org/about/

RSPO. (2013). *Principles and Criteria for the Production of Sustainable Palm Oil* (p. 72).

RSPO. (2015). Sanctions applied by the RSPO Complaints Panel. Retrieved February 10, 2018, from http://askrspo.custhelp.com/app/answers/detail/a_id/241/~/sanctions-applied-by-the-rspo-complaints-panel

RSPO. (2017). *RSPO Impact Report 2017* (p. 47). Kuala Lumpur, Malaysia: RSPO. Retrieved from file:///Users/manonfleurus/Downloads/2017%20Impact%20Report-English.pdf

RSPO. (2018). About us. Retrieved January 30, 2018, from https://www.rspo.org/about

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.

Sardjono, M. (2014). *Indonesian Policy on Sustainable Oil Palm Development*. Jakarta. Retrieved from http://www.conservationgateway.org/ConservationPractices/ClimateChange/ForestCarbon/Documents/Indonesian%20policy%20on%20sustainable%20oil%20palm%20development.pdf

SBP. (2018). Sustainable Biomass Program. Retrieved February 1, 2018, from https://sbp-cert.org/

Scoones, I. (2007). Sustainability. *Development in Practice*, *17*(4–5), 589–596. https://doi.org/10.1080/09614520701469609

Shibao, P. (2015, July 27). Big Palm Oil's financiers. Retrieved August 14, 2017, from https://news.mongabay.com/2015/07/big-palm-oils-financiers/

Shimizu, H., & Desrochers, P. (2012). L'huile de palme: avantages sanitaires, environnementaux et économiques. *Institut Économique Molinari*. Retrieved from http://www.institutmolinari.org/IMG/pdf/note0912_fr.pdf

SPOTT. (2016, September 30). Standards for palm oil production. Retrieved November 7, 2017, from https://www.spott.org/palm-oil-resource-archive/standards/

Statistical Commission. (2017). Annex: Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development, 21.

Suharto, R. (2012). *ISPO Certification - An Update*. Presented at the IPOSC, Malaysia.

Transparency International. (2016). Indonesia. Retrieved September 4, 2017, from https://www.transparency.org/country/IDN#

UNCTADstat. (2017). Free market commodity prices, monthly, January 1960 - January 2017. Retrieved March 26, 2017, from http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=28768

United Nations. (2015). *The Millennium Development Goals Report* (p. 75). New York: United Nations.

United Nations. (2017). *The Sustainable Development Goals Report* (p. 64). New York: United Nations.

United Nations. (2018). Le programme de Développement Durable. Retrieved February 17, 2018, from http://www.un.org/sustainabledevelopment/fr/development-agenda/

Vandergeest, P., & Unno, A. (2012). A new extraterritoriality? Aquaculture certification, sovereignty, and empire. *Political Geography*, *31*(6), 358–367. https://doi.org/10.1016/j.polgeo.2012.05.005

Winarni, R. R., Sutrisno, E., & Jiwan, N. (2014). Beyond EU, RSPO and ISPO Sustainability Requirements1.

World Commission on Environment and Development. (1987). *Our common future*. Oxford ; New York: Oxford University Press.