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Implementation and effectiveness of sustainability initiatives in the palm oil sector: a review

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PALM OIL IN SOUTHEAST ASIA: THE SUSTAINABILITY OF A TWOFOLD SYSTEM INTO QUESTION

In Southeast Asia, two broad types of palm oil production systems coexist: industrial plantations and independent smallholders. Recent research suggests that while smalholder production lags clearly behind the industrial one in terms of yields/productivity, it tends to have lower impact on deforestation and better impact on rural development/rural poverty alleviation. As a consequence, taking action to improve the sustainability of the sector means simultaneously (i) helping smahollders to improve their yields while monitoring their environmental and social performance to continue enhancing their level of sustainability, and (ii) supporting private actors to meet their sustainability commitments through both incentives and regulations.

SUSTAINABILITY INITIATIVES: CERTIFICATIONS, COMMITTED BUSINESS, TERRITORIAL APPROACHES

Existing initiatives to encourage sustainability in the palm oil industry inlude: certification schemes (whichever standard is considered); private commitments that are independent from or go beyond certification standards; and territorial approaches, based on "production area". Their respective level of stringency results from the relationships that exist between actors that bear each of them, and has gradually increased over the last 5 to 10 years, following a very positive “race to the top”. Their actual impact is however still well below what they aim to achieve and there are avenues for improvement.

GUIDELINES FOR PROMOTING THE SUSTAINABILITY OF PALM OIL PLANTATIONS

The improvement of certification schemes relies first on: developing independent audit systems, in which the direct client-supplier relationship between the auditee and the auditor is severed; strengthening dispute settlement procedures; and ensuring the recognition of the protected status of forests, and more specifically of HCV and HCS forests, in all existing standards. Other policy recommendations include better documenting the negotiation processes between actors of the value chain to reinforce the effectiveness of corporate commitments, and strengthening international cooperation to transform agricultural and rural development policies.

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LIST OF ACRONYMS

ASI	Accreditation Services International
CDP	Carbon Disclosure Project
CGF	Consumer Goods Forum
CI	Conservation International
CIFOR	Centre for International Forestry Research
CPI	Climate Policy Initiative
CPO	Crude Palm Oil
CPOPC	Council of Palm Oil Producing Countries
CSPO	Certified Sustainable Palm Oil
EHP	Eagle High Plantation
EIA	Environmental Investigation Agency
EII	Earth Innovation Institute
FPIC	Free, Prior and Informed consent
FPP	Forest People Programme
GAPKI	Gabungan Pengusaha Kelapa Sawit Indonesia (Indonesian Palm Oil Association)
GAR	Golden Agri-Resources Ltd
GCP	Global Canopy Programme
GP	Greenpeace
GVL	Golden Veroleum Liberia
HCS-A	High Carbon Stock Forests Approach
HCS+	High Carbon Stock Forest Study (piloté par le SPOM)
IDH	The Sustainable Trade Initiative
InPOP	The Indonesian Palm Oil Platform
IPOP	Indonesian Palm Oil Pledge
ISCC	International Sustainabilty and Carbon Certification
ISPO	Indonesian Sustainable Palm Oil
LUP	Land Use Planning
MPOCC	Malaysian Palm Oil Certification Council
MSPO	Malaysian Sustainable Palm Oil
NBPOL	New Britain Palm Oil Limited (planteur, racheté par Sime Darby)
NDPE	No Deforestation, no Peat, no Exploitation
OECD	Organisation for economic cooperation and development
PCI	Principles, Criteria and Indicators
PK	Palm Kernel
PKE	Palm Kernal Expeller
PKO	Palm Kernel Oil
POIG	Palm Oil Innovative Group
RAN	Rainforest Alliance Network
RSPO	Roundtable on Sustainable Palm Oil
SAN	Sustainable Agriculture Network
SEI	Stockholm Environmental Institute
SEIA	Social and Environmental Impact Assessment
SPOM	Sustainable Palm Oil Manifesto
TFA 2020	Tropical Forest Alliance 2020
TFT	The Forest Trust
TNC	The Nature Conservancy
UNDP/PNUD	United Nations Programme for Development
WRI	World Resources Institute
WWF	World Wide Fund for Nature
ZSL	Zoological Society of London

EXECUTIVE SUMMARY

Introduction and methodology

This study is the first publication from IDDRI's initiative on the links between global trade and local biodiversity management. It focuses on the impacts of palm oil production in Southeast Asia and on the ability of existing sustainability initiatives to bring substantial improvements to the situation. It is based mainly on the analysis of the existing documentation for each initiative and on the available academic literature. More than 150 documents were studied. To complete the analysis, 18 formal interviews were conducted with sustainability actors from several organizations and industry experts. The list of organizations consulted is shown in Appendix 1 of this study.

Three main intervention types to encourage sustainability in the palm oil industry were identified. They are not mutually exclusive and a single actor or a single territory can apply a combination of types. They are based on:

1. certification (whichever standard is considered);
2. the definition of internal company policies that are independent from or go beyond certification standards;
3. territorial approaches, based on "production area".

While these approaches are often presented as complementary (e.g.Nepstad *et al.*, 2013), this paper begins by analysing them individually and giving details of their practical implementation modalities. This first step allows for a qualitative assessment of their possible impact on the three issues broadly covered by this study: deforestation (and the associated loss of biodiversity and related GHG emissions); rural poverty and working conditions; and respect for customary land rights.

To achieve this, the analysis was carried out in three steps.

1. Firstly, we describe the processes by which palm oil production affects the 3 issues mentioned above.

2. Secondly, the report presents the theory of change specific to each initiative. By theory of change, we mean here the theory of how and why an initiative works, i.e. how it is supposed to attain its stated outcomes through the implementation of a diversity of activities and measures. In our case, it encompasses all assumptions made by each initiative, implicitly or explicitly, about the actions that should be taken to enable the sustainable transformation of the palm oil sector towards more sustainability;

3. Thirdly and finally, this theory of change is compared with our knowledge about the implementation of each initiative to date. This last analytical step enables a qualitative assessment of their actual or potential impact.

A fundamental distinction between modes of production with respect to their impact on sustainability

In Southeast Asia, two broad types of palm oil production systems coexist:

- Industrial plantations (above thousands of hectares), which are operated either by large, vertically integrated companies, often the subsidiaries of large trusts, and which invest significantly

in this production: purchase of concessions, land management (including wetlands reclamation), building and maintaining mills, etc.; or by national companies that are mainly/solely active in the palm oil sector.
- Independent smallholders, which are mostly—though not only—family farms of 2 to 25 ha maximum who plant oil palm on their land in place of other crops (rice, avocado, pineapple) or forest.

In Indonesia and Malaysia, about 60% of planted areas are operated by industrial plantations as of December 2016. However, out of the 4 million people working in the palm oil sector, 30 to 40% are smallholders. Recent research suggests their practices appear more sustainable than industrial production with respect to the three dimensions of sustainable development:
- In economic terms, the monthly income of Indonesian independent smallholders is said to be 50% higher than that of plantation workers (bearing in mind that on average plantation workers earn a monthly wage that barely covers their needs).
- With respect to social issues, concerns regarding poor working conditions and infringement of the land rights of forest populations are almost exclusively linked to industrial plantations;
- In the environmental field, smallholders are much less implicated in deforestation than industrial plantations. This is exemplified by the deforestation dynamics of Sumatra, an area in which most of Indonesia's production is concentrated, and where 89% of the area deforested for palm oil between 2000 and 2010 was due to large scale / industrial plantations. One reason for this trend is that the oil palms planted by independent producers have more often replaced rice or rubber trees than forest.

While smallholders depend on mills and transport infrastructure that are generally provided by industrial plantations, there are few technical or economic reasons why harvesting and primary processing could not be carried out in a decentralized manner, as economies of scale in the palm oil sector are low. From a quantitative point of view, it would also be possible to substantially improve the productivity of smallholder plantations. Such an increase could be sufficient to meet the growing international demand if the share of palm oil used for biofuel slightly decreases, particularly in Europe.

Data collected so far therefore suggest that taking action to improve the sustainability of the sector means simultaneously (a) favouring independent producers while monitoring their environmental and social performance to continue improving their level of sustainability and (b) better regulating industrial production. Certification initiatives, as well as other private sustainability approaches and their contribution to a more sustainable palm oil sector should therefore be assessed with respect to both of these objectives.

Limitations of certifications and of their alternatives

Certifications

Certification schemes are based on a set of principles and indicators which producers and supply chain operators have to comply with to get certified. Their compliance is assessed through third party audits and then verified with a label / certificate if standards are met. Such schemes, and their governance, can be private (i.e. NGOs and companies defining the rules together) or public (the government defines and runs the mechanism and issues certificates).

The first certification scheme in the palm oil sector, the Roundtable for Responsible Palm Oil (RSPO) is a private undertaking. Established in 2004, it was initiated by WWF and companies within the sector. It now covers 17% of global production and coexists with other standards; two of which are private and voluntary - the International Standard for Carbon Certification (ISCC) and the palm oil standards of the Sustainable Agriculture Network; and the other two are mandatory governmental standards, the Indonesian Sustainable Palm Oil (ISPO) system and the Malaysian Sustainable Palm Oil (MSPO) certification scheme.

The scope and effectiveness of certification initiatives are based on the assumptions that: (1) certified oil is sold at a higher price than uncertified oil; (2) this additional payment leads to a change towards more sustainable practices; and (3) compliance with certification provisions is guaranteed without the possibility of evading the system. For Southeast Asia, these three hypotheses are only partially true, irrespective of the system under consideration.

(1) Certification provides a very low economic incentive. While nearly 20% of production is certified today (adding together the ISCC and RSPO's certified production), less than half is actually sold at a certified price. Since the certification premium rarely exceeds 5%, it has virtually no impact on the net income of producers, even when considering improvements in productivity and input reductions. Moreover, the economic incentive is non-existent for all the operators that sell in countries with low demand for certified products, such

as China, India or Indonesia (these three countries alone account for nearly 40% of demand).

(2) Certification schemes do not really induce significant changes in practices. On the one hand, such changes depend on the level of requirement imposed by different standards, which are far from homogeneous. On the environmental side for example, not all standards recognize forests with high conservation value (HCV) or high carbon stocks (HCS), although this recognition is known to be the only way to ensure that palm oil does not come from deforestation. On the other hand, most certification schemes mainly require operators to provide auditors with impact assessments, legal documents, action plans, or evidence that awareness and information procedures have been put in place. Requirements for actual changes in production and operational practices represent less than a quarter of the RSPO criteria and about half for ISCC. Industrial groups, which are well versed in reporting to their shareholders, have thus managed to comply with certification procedures without significantly transforming their practices. While independent smallholders have recently been identified as one of the priority targets for all standards, certification remains costly and complex for them, even though criteria and indicators have been adapted. Certification yields a very low additional income, no significant increase in their market opportunities, and no way to differentiate themselves from industrial producers.

(3) The conflict management procedures and the penalties incurred are insufficient to ensure compliance with the certification criteria. Conflicts of interest between auditees and auditors and their consequences are well documented and the management of potential disputes is often slow and partial.

Corporate commitments going beyond certification

Faced with the limits of certification, some NGOs have turned to the purchasing and leading companies in the sector, who are often already members of the RSPO, to require additional guarantees with respect to deforestation, peatland destruction and the mistreatment of local populations. Such commitments, known as "No Deforestation, No Peat, No Exploitation" commitments with reference to the first policy presented by Wilmar in December 2013, now cover nearly 90% of the oil traded on world markets. The approach relies on a twofold hypothesis: (1) that committed companies will increase their level of transparency by making public their supply chain; and (2) that they will be able to bring their suppliers to gradually align with their own commitments.

This approach has generated significant advances for some plantation companies. To date, its impact however is not as strong as expected. The power of buyers in respect to suppliers does not appear as great as initially envisaged, since many of the largest companies in Indonesia have not yet transformed their practices to comply with the requirements of buyers. Besides, this approach is hampered by a lack of alignment between buyers' requirements and the policy orientations of producer countries, which focus primarily on economic development in rural areas.

Landscape approaches

Aiming to respond to these shortcomings, a third kind of approach, termed "landscape approaches", have developed since the beginning of this decade. Landscape approaches are based on negotiating a sustainable land use plan between all the players in an administrative territory and then translating it into local regulations, while providing specific support to small independent producers.

International NGOs and local governments have initiated such approaches in about ten Indonesian territories. Projects rely on two key ideas: (1) the remuneration of "performing" territories via climate finance and the implementation of an adapted metric; and (2) focusing buyers' procurement policies on these areas (a so-called "jurisdictional" certification approach, e.g. in the Sabah State of Malaysia). We still lack experience and knowledge for the effective implementation of these approaches, but their implementation appears as rather complex and time-consuming.

Guidelines for promoting the sustainability of palm oil plantations

Improving the performance of large-scale plantations

The improvement of certification schemes relies first on developing independent audit systems, in which the direct client-supplier relationship between the auditee and the auditor is severed. One option to achieve this objective would be the development of an "auditing fund", managed by the organisations in charge a particular certification scheme: instead of directly hiring an auditing company, a producer would pay auditing fees to the RSPO or the ISCC, who would in turn hire the auditing company.

Strengthening dispute settlement procedures is another important point, which could, in particular, allow for a better consideration of the point of view of the local population.

Lastly, ensuring the recognition of the protected status of forests, and more specifically of HCV and HCS forests, in all existing standards, is key.

Measures supporting the demand for certified oil to ensure a higher market value and new market opportunities for sustainable production should also be considered. They would however only make sense if certification schemes have been strengthened beforehand: there would be no point in increasing demand if certified production methods remain unsustainable.

Better documenting the negotiation between actors of the sector to reinforce the effectiveness of corporate commitments

Approaches based on private commitments rely heavily on an externalization of constraints to producers, assuming that the market power of buyers will be sufficient to constrain their suppliers. The efficiency of this operating mode on a large scale has still to be proven. Corporate commitments could however benefit from a better understanding of buyer/supplier negotiation conditions, in particular on the compensation offered by buyers to their suppliers in exchange for their alignment with increasingly demanding requirements.

Strengthening international cooperation to transform agricultural and rural development policies

Until now, neither certification schemes nor corporate commitments have proven sufficient to support independent production. To attain such support would indeed mean (re)orienting economic and rural development policies. In this perspective, the EU, its businesses and its civil society should reinforce the dialogue with producing countries, with a twofold objective:

- to develop a sector-based policy that would structure the supply capacity of independent producers and enable them to capture a greater share of the added value, for example through the development of cooperative agricultural models. The work of development agencies in that sector, in which they often have an extensive experience, could be supported.
- to support ongoing discussions in producing countries towards the legal recognition of the protected status of HCV and HCS forests. Such decisions would support countries in the implementation of their commitments under the Paris Climate Accord, which include large-scale actions targeting land-use, and which could mobilize part of the climate finance funds.

INTRODUCTION

Since the early 2000s, civil society has placed a particular focus on palm oil production. Its environmental and social impacts in large production areas, in Southeast Asia in particular, have raised many concerns: tropical deforestation, harsh working conditions in industrial plantations, land grabbing... although the contribution of palm oil development to economic growth in these countries has also been highlighted.

In response to these criticisms, the number of initiatives—both private and public—aiming to mitigate the environmental and social impacts of production has multiplied. While they have helped to considerably improved the sustainability of the sector over the last five to ten years, deforestation rates are still high and land conflicts widespread, calling for all actors to continue their efforts. Today, there are no fewer than 15 sustainability initiatives in the sector, making the situation particularly complex.

It is in this context that several European operators—public and private—have recently (re) affirmed their willingness to move towards a "zero deforestation" palm oil sector. Such examples include the Amsterdam Declaration, the Consumer Goods Forum commitments and the European Parliament's resolution on palm oil and tropical deforestation (see Table 1).

In this context, this study (part of IDDRI's Studies collection) aims to identify practical leeway for private, public and civil society actors to improve the effectiveness of the main existing sustainability initiatives. This study focuses on the Southeast Asia, and more particularly the case of Indonesian for which much literature is available. Data from Malaysia are also used when available, the two countries now accounting for nearly 85% of world production. It provides three main contributions to the ongoing debates:

1. It characterizes the impacts of the main existing production modes on three aspects of sustainable development—environmental (deforestation and biodiversity), economic (fighting poverty in rural areas) and social (respect for customary land rights)—(Section 1);

2. It presents the sequence of strategic actions which, from 2004 to 2016, has resulted in the emergence of more than fifteen different initiatives, to explain the different requirements of each initiative in relation to the three sustainability issues considered here (Sections 2 & 3);

3. Finally, it assesses qualitatively the impact of these initiatives on upstream production methods by comparing for each of them the theory of change on which they are based and the practical modalities of their deployment (Section 4).

Based on these results, a final concluding section provides three recommendations to improve the effectiveness of existing initiatives. The results presented are based on a review of the available literature—more than 150 documents from the grey and academic literature—supplemented by 18 interviews with major experts and actors in the sector (the list of organizations and interview grid are shown in Annex 1).

This study is the first step of an initiative launched at IDDRI at the end of 2016, focusing on the links between governance of global value chains and environmental management of territories in the case of three raw materials: palm oil, tuna and cocoa. In relation to palm oil, there will be two following

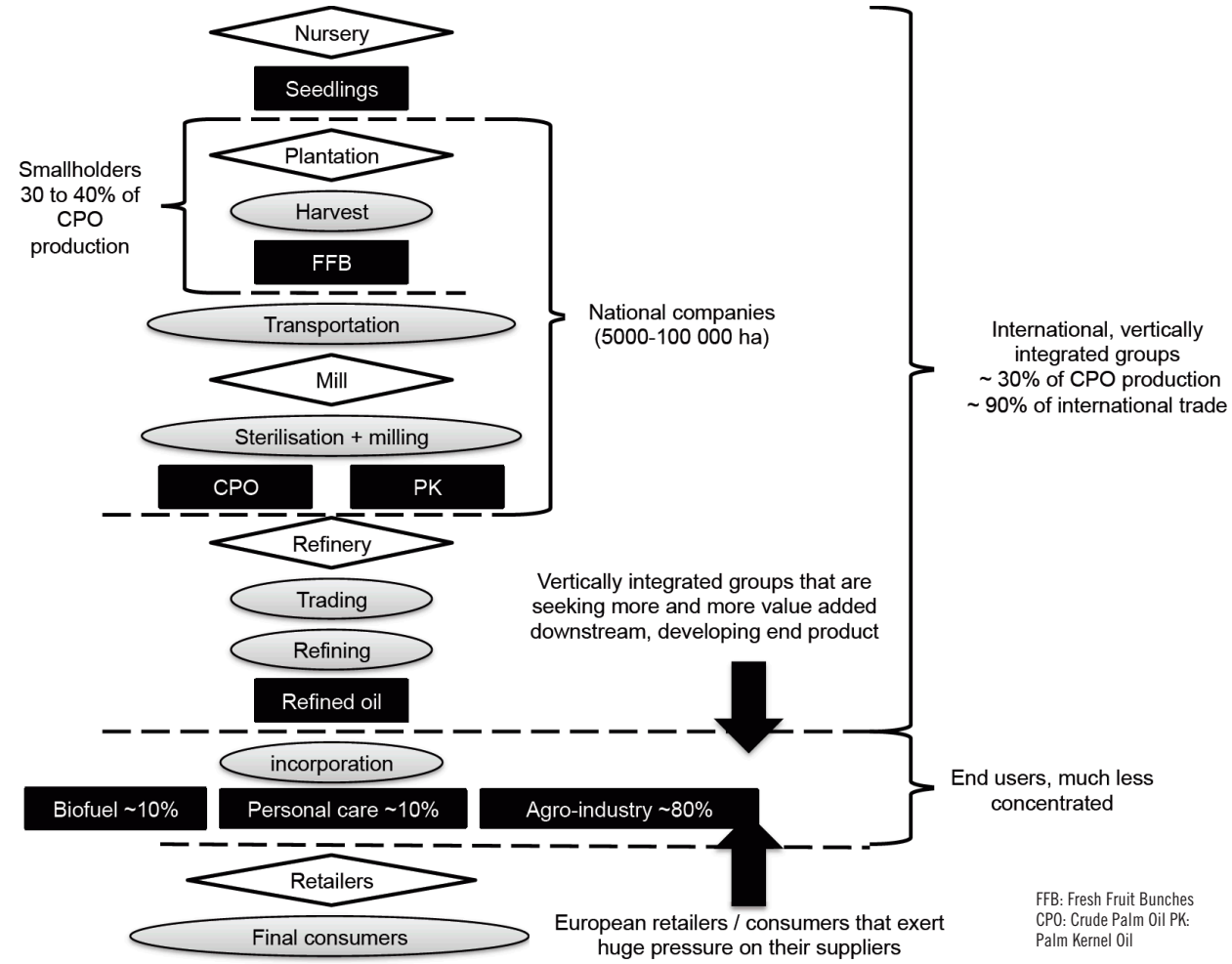
Table 1. The main initiatives to improve the sustainability of the palm oil sector launched between 2004 and 2017

Name of initiative	Acronym	Year	Actors driving initiative	Initiative type	Specific	Analysed
Round Table on Sustainable Palm Oil	RSPO	2004	WWF, Unilever, MPOB	Private Standard / Certification	Y	Y
Sustainable agriculture network	SAN	2008	Rainforest Alliance	Private Standard / Certification	N	Y
International Standard on Carbon Certification	ISCC	2010	WWF Germany, IOI	Private Standard / Certification	N	Y
Deforestation Resolution		2010	Consumer Goods Forum	Private Sector Commitment	N	N
Indonesian Sustainable Palm Oil	ISPO	2011	Indonesian government	National / Legal Standard	Y	N
High Carbon Stock Approach	HCS-A	2012	GP, TFT, GAR	Prioritization / land management tool	Y	Y
Palm Oil Innovative Group	POIG	2013	WWF, GP, FPP, GAR	Private Sector Commitment	Y	Y
Malaysian Sustainable Palm Oil	MSPO	2013	Malaysian government (upon the request of the national industries)	National / Legal Standard	Y	Y
Sustainable Landscape Partnership	SLP	2013	CI, USAID	Territorial approach	N	Y
Sustainable Palm Oil Manifesto / High Carbon Stock Study	SPOM / HCS-+	2014	Sime Darby, IOI, Cargill, Asian Agri, Musim Mas	Private Sector Commitment / Land Use Planning Tool	Y	Y
Indonesian Palm Oil Platform	InPOP	2014	Indonesian government	Platform for coordination between actors in palm oil sector to benefit small producers	Y	N
Indonesian Palm Oil Pledge	IPOP	2014	Main traders operating in Indonesia + Chamber of Commerce	Private Sector Commitment / Link with public policies in producer countries	Y	Y
RSPO Next		2014	RSPO Secretariat	Private Standard / Certification	Y	Y
New York Declaration on Forests		2014	United Nations	International and multi-actor declaration of intent	N	Y
Amsterdam Declaration in Support of a Fully Sustainable Palm Oil Supply Chain		2015	Government of the Netherlands	International declaration of intent to support the private sector	Y	N
French Biodiversity Law, article 27		2016	French government	Consumer country regulation	Y	N
International Sustainable Landscape	ISLA	2016	IDH	Territorial approach	N	Y
Landscape Programme		2016	TFT	Territorial approach	Y	Y
Resolution on Palm Oil and Deforestation of rainforests		2017	European Parliament	Consumer country regulation	Y	N

Source: authors

thematic studies by mid-2018. One will have a particular focus on the evolution of the governance of the palm oil value chain over the past 40 years. The other will focus on the policy framework that accompanies the expansion of palm oil in the major producing countries. These two subjects will therefore only be marginally addressed in the following pages.

Figure 1. Main stages and main operators of the palm oil sector



Source: author

1. IMPACTS OF PALM OIL PRODUCTION ON TERRITORIES

On the basis on technical and economic criteria (particularly access to the main production factors, namely land, capital and labour), this section will identify the main palm oil production systems existing in Southeast Asia. This distinction, however schematic, will enable to analyse the contrasting impacts of each production system on the three core issues of this study: deforestation (and the associated biodiversity and greenhouse gas emissions – GHGs); rural poverty and working conditions; and respect for customary land rights. This part is organized as follows: a first section recalls the main features of the palm oil sector regarding its technical and economic organization. The second section presents their respective characteristics, followed by an impact evaluation in a third section.

1.1. Structure and governance of the palm oil sector, from upstream to downstream

1.1.1. Main stages of the production process

Figure 1 shows the main stages of the palm oil industry. Plantations, which vary in size from a few hundred square metres to thousands of hectares, are derived either from plant material selected in a nursery (in the case of industrial plantations and the small producers linked to them), or are cloned or reproduced by independent smallholders. After planting, oil palms go into production after 2 to 3 years. They will be at maximum productive capacity after about 15 years, with an average lifespan of 25 to 30 years. The harvest of fresh fruit bunches (FFB), which can weigh up to 25kg, is carried out by hand throughout the year. The older the age of the plantation, the taller the oil palm and therefore the more difficult the process becomes.

Once the bunches have been collected, the grower has 24 to 48 hours to take them to be pressed at a mill. The longer the delay before pressing, the higher the free fatty acid (FFA) content, which adversely affects the quality of the oil produced, which gradually becomes less fit for consumption. A specific feature of the oil palm is that it provides two different oils: one is extracted from the fruit pulp, the other from the kernel. The former is crude palm oil proper (CPO), the second is known as palm kernel oil (PKO). While the composition of these two oils differs significantly, giving rise to different uses, this report largely sets aside this distinction.

Following extraction, crude palm oil and palm kernel oil must be refined before use. There are three main sectors that utilize palm oil: agri-food, body care and biofuels.

1.1.2. Actors and markets in the palm oil sector

Without entering here into too much detail, four main production systems upstream can be distinguished:

- Large, vertically integrated groups, able to control the whole production process from the nursery to the refinery, and which usually control several thousands hectares of plantation;
- large independent farmers / plantations, who sometimes have had the opportunity to invest in a mill and can control all stages from planting to pressing;
- Smallholder plantations linked to an industrial plantation—known as a tied or schemed smallholder, regardless of the type of link;
- and independent smallholder plantations.

Both tied and independent smallholders are concentrated on the most upstream stages of production: planting and harvesting of fresh fruit bunches. They generally sell their produce to intermediaries along the roads at gathering points, who then transport it to the nearest mill;

The sector is today polarized towards the upstream, with a strong level of horizontal concentration and vertical integration. About fifteen large groups in Southeast Asia (based in Malaysia, Singapore and Indonesia) share 25-30% of world production, depending on the year, and 80-90% of world trade (see Figure 1 & Figure 2).

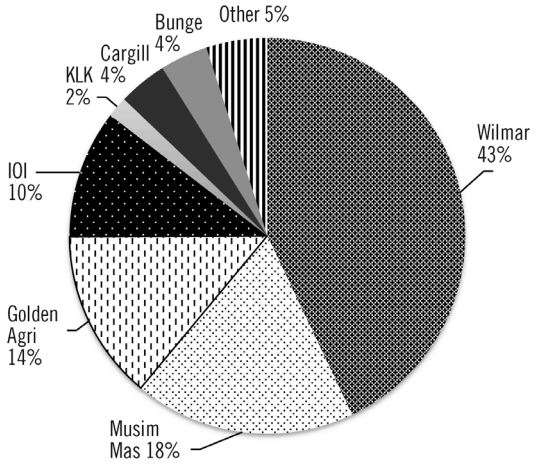
Table 2. Main upstream operators and respective shares of world production (2014)

Company	Production of crude palm oil (million tonnes)	World production share (in %)
FELDA	3.09	4.9%
Golden Agri-Resources Ltd	2.38	3.8%
Sime Darby Plantation Sdn Bhd	2.18	3.5%
Wilmar International Ltd	1.52	2.4%
Kuala Lumpur Kepong Berhad	1.06	1.7%
PT Salim Ivomas Pratama Tbk	1.00	1.6%
IOI Group	0.78	1.2%
Bumitama Agri Ltd	0.74	1.2%
PT Smart Tbk	0.74	1.2%
First Resources Limited	0.69	1.1%
PT Perkebunan Nusantara III	0.60	1.0%
PT Ivo Mas Tunggal	0.55	0.9%
New Britain Palm Oil Ltd	0.50	0.8%
PT PERKEBUNAN NUSANTARA IV	0.48	0.8%
PT PP London Sumatra Indonesia Tbk	0.48	0.8%
PT Agrowiratama	0.45	0.7%
PPB Oil Palms Berhad	0.43	0.7%
TOTAL	17.66	28.2%

Source: RSPO / Growers sectoral report, ACOP 2015.

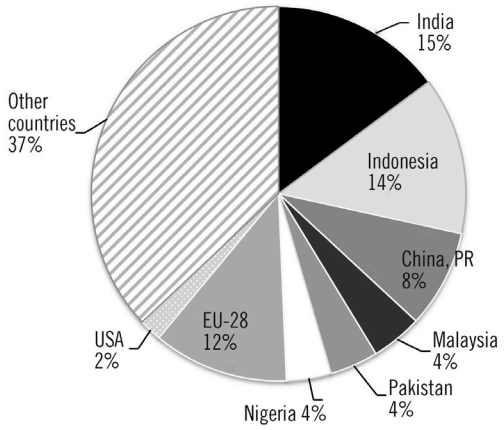
While currently only moderately developed downstream, giants like Wilmar, Golden Agri Resources or Indofood (which owns 79.99% of Salim Ivomas and 59.5% of London Sumatra, both listed in Table 2) all have finished product lines that are destined for consumers in the Chinese, Indian, Malaysian and Indonesian markets. In this way, they have progressively encroached on market segments of the major European agri-food groups, which a few decades ago controlled not only downstream but also the upstream of this sector (Unilever in particular) (OECD, 2012, p. 229). The emergence and development of these Asian giants, which today represent tens of billions of dollars in annual turnover and have diversified in many areas, is the result in particular of the support provided by the Malaysian and Indonesian states within the framework of consolidated developmentalist strategies (see, for example, Cramb, 2016). Their progressive rise in dominance in the upstream of the sector and their increasing downstream involvement seems to testify to a particularly successful process of economic "upgrading" (regarding upgrading, see in particular Gereffi, 1999).

Figure 2. Market shares of main palm oil traders on the world market



Source: https//chainreactionresearch.com

Figure 3. Global consumption of palm oil in 2015



Source:Oil World (2016).

The current preeminent position of upstream firms and their proximity to states (which often hold a large proportion of the capital of firms, as is the case for Malaysia) is to a large extent responsible for the impacts of the expansion of industry at the territorial level, which is particularly due to collusion of economic and political interests and the clientelist mechanisms that characterize the sector. Stéphanie Barral (2015), and also Rob Cramb (2016), both provide a good description of the political economics underlying the expansion of these major groups and the negative consequences on forests, which have an ambiguous impact on local populations in the cases of Indonesia and Malaysia.

Downstream, however, the use of palm oil and refined palm kernel oil is particularly widespread, whatever the type of usage considered. In 2013, the distribution of global volumes between the three main uses of palm oil was estimated as follows: 80% for agri-food, 10% for body care and 10% for biofuels (Dufour, 2014). Nevertheless, Transport & Environment has shown that the proportion of European imports of palm oil dedicated to biofuels is now 46% (Transport & Environment, 2016). Although Europe today represents only 12% of global consumption (see Figure 3), the policies to support the development of palm oil-based biofuels, launched 10 years ago in Indonesia and Malaysia, have probably had a similar impact. The largest markets are in Asia - China, India, Indonesia and Malaysia (accounting for 41%) - while the European Union only represents 12% of global consumption, and Northern America barely 2% (see Figure 3). If we also take Japan, Australia and Russia into account, consumption in the North only just reaches 17% of world production.

The companies that consume the most palm oil account for up to 1.5% of world production, for example Unilever and Ruchi Soya (an Indian company), or 1.5 million tonnes of CPO. The vast majority of multinationals purchase a few hundred thousand tonnes when firms of national size rarely exceed 100,000 tonnes. However, it is on downstream companies in the European and North American markets where the reputational risk is focused. This is due in particular to the sensitivity of consumers and civil society to social and environmental issues. This, in turn, has triggered the development of sustainability initiatives at first in these countries, as part 3 of this report will explain.

1.2. Four main modes of production upstream

Based on technical and economic criteria (in particular access to the three main production factors: land, capital and labour), the literature usually distinguishes between four main palm oil production systems in Southeast Asia (e.g.Daemeter, 2015 ; Marzin *et al.*, 2015 ; Cramb & McCarthy, 2016): large industrial and capitalist plantations, medium-size and independent plantations, smallholder plantations linked to industrial plantations (irrespective of the type of link), and independent smallholder plantations.

- Large industrial plantations are plantations of more than a thousand hectares that are equipped with industrial facilities—especially mills—for primary processing. They are most often implemented by companies that are themselves subsidiaries of global or national-wide groups.
- Medium size and independent plantations can be a few dozen to a few hundred hectares large.

They are owned by local middle class entrepreneurs or political elites.

- Smallholder plantations linked to industrial plantations are known as schemed or tied smallholder. In this type of organization, individuals are allocated with a plantation area of 1 to 2 hectares in the immediate vicinity of the industrial plantation, and also provided with technical assistance, as well as a guarantee that a mill, included in a development scheme, will purchase and press their produce. The smallholders gradually repay the cost of starting up the plantation through a levy system on sales to the mill. Such families can either be the landowners, who receive an associated plantation in exchange for handing over the land-use rights to the industrial plantation, as is the case in some "Nucleus-Plasma schemes" (known hereafter as "NES" for those in Indonesia and "FELCRA" for Malaysia). These families may also be landless or semi-landless peasants who, in the case of the Indonesian Transmigration Program or the Malaysian FELDA, have been allocated a plot of land.
- The term "independent smallholders" refers to individuals who are free from any contractual relationships and who manage their plantations in a completely autonomous way, although in some cases they receive state support (see RSPO, 2012, p. 4). In many ways, this production method is the closest to traditional agricultural production methods. Independent smallholders account for a significant proportion of total production, even though there are no reliable figures currently available for Indonesia; the most common estimates suggest that 30-40% of smallholders are independent. These smallholders have often converted all or part of their agroforestry plots into palm groves, in response in particular to favourable world prices, generating a substantial income for a crop that is technically less demanding (Feintrenie *et al.*, 2010b, p. 6).

This distinction of four groups should not hide neither the extreme heterogeneity of each group in terms of their endowment in production factors and of operational practices, nor the multiple ways in which they relate to each other. For example, many tied / schemed smallholders have been able over time to acquire new plots of land on which they have developed independent plantations (IFC, 2013). Conversely, independent smallholders can also decide to invest into plasma plots which are often more productive in order to intensify their exploitation (Baudoin *et al.*, 2015, p. 525). Barral (2012) also makes the case that permanent workers (more specifically foreman) of industrial plantations have been able to invest into oil palm plots—sometimes up to a few dozen of hectares—to secure a living for their retirement. In such case, they are simultaneously workers in industrial plantations and owners of medium size independent plantations. It must be noted here that almost no data is available concerning those medium size plantations. As a consequence, and despite they are sometimes said to be a growing driver of deforestation (Daemeter, 2015, p. 7), they are not included *per se* in the rest of this report which will stick to the classical distinction between large scale, industrial plantations and smallholder ones (RSPO, 2012).

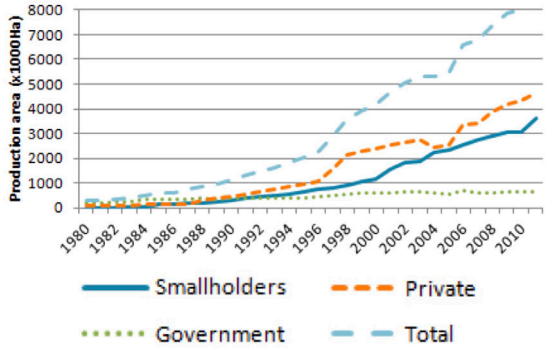
The proportion of these modes of production in terms of volumes produced and areas exploited varies greatly from one region to another. It is estimated that industrial plantation represents less than 4% of the volume in Nigeria, but around 60% to 70% in Indonesia, Ghana and Papua New Guinea.

For just over a decade, two contradictory trends seem to be characteristic of the relationship between capitalist plantations, associated smallholders and independent smallholders in Indonesia and Malaysia. Regarding industrial plantations and associated smallholders, the proportion of the latter has gradually decreased in favour of the ever-growing development of large plantations. The different schemes, funded by governments to support a form of rural development, particularly through transmigration programmes (in the case of Indonesia) have gradually evolved towards less support for smallholders and stronger support for industrial plantations. In the late 1990s in Malaysia, development agencies responsible for the development of organised smallholder schemes (FELDA and FELCRA) became companies and are now listed on the Malaysian Stock Exchange (Cramb & McCarthy, 2016). Over time, public authorities have reversed the proportions of smallholders required in their different schemes. From 80% smallholders and 20% plantations in the 1970s and 1980s, to become 20/80 in the late 1990s (see IFC, 2013).

At the same time, the enthusiasm of independent smallholders for oil palm has resulted in a steady increase in the area they manage, and a relative increase in their share of total production in both Indonesia and Malaysia (for an analysis of the processes of converting traditional crops into palm oil plantations see Feintrenie *et al.*, 2010a). Despite the increase in the share of smallholder farmers in overall production, and also despite the profusion of announcements aimed at improving their circumstances (IFC, 2013),

Cramb and McCarthy (2016) showed that their access to production factors (land and capital in particular) has become more complicated with the decrease of government support for smallholders and the financialization of major producer groups. The authors indeed argue that increased profitability sought by such groups is incompatible with the coexistence of large plantations and smallholders.

Figure 4. Evolution of areas managed by smallholders and industrial plantations in Indonesia



Source IFC (2013).

1.3. Differing impact of the three production modes on territories

The territorial impact of oil palm production in Southeast Asia, particularly in Indonesia and Malaysia, is particularly ambivalent. On the one hand, it is considered to be responsible for a large proportion of the deforestation that has occurred in these two countries over the last 20 years. It is also presented as one of the main engines of growth and rural development that these countries have experienced. Presented in these terms, the situation presents a dilemma: having to choose between forest conservation or rural development and economic growth. However, this section seeks to show that the impacts of palm oil production, both economically and environmentally, differ significantly according to the production method, thus potentially revealing possibilities for trajectories of sustainable trade-offs. As stated above, the analysis that follows will only make the distinction between large scale industrial plantations and independent smallholder ones. As such, it will leave out of the scope medium size plantations operated by middle class actors or local political elite, as well as tied / schemed smallholder plantations, as their impact greatly vary depending on the type of link they have with the industrial plantations on which they depend.

1.3.1. Environment: small producers are relatively less responsible for deforestation

From 2000 to 2012 it is estimated that between 8 and 15 million ha of forests disappeared in Indonesia, of which about 6 million ha could have been described as intact or degraded primary forests (Margono *et al.*, 2014). At the same time, the oil palm planted area rose from 3.6 million to 9.2 million ha. Although not all oil palm development has been carried out in forest areas, it has clearly contributed to the deforestation that has occurred in both countries—though many controversies exist about the exact figures (see Wicke *et al.*, 2011 ; Tsujino *et al.*, 2016). However, there are great disparities when focusing on the production methods. The study by Lee *et al.* (2014) in Sumatra is revealing in this respect.

Between 2000 and 2010, the island of Sumatra lost about 3.5 Mha of forests, of which 19% is directly attributable to the development of oil palm, i.e. a little less than 680,000 ha. At the same time, industrial plantations have increased by 68% (from 1.4 to 2.4 Mha) and smallholder (independent and associated) plantations have increased by 207% (from 0.9 Mha to 2.7 Mha). While the area of plantations managed by smallholders has increased faster than that managed by large plantations, the impact of the latter in terms of both deforestation and GHG emissions is much higher. Their study shows that large plantations account for 88% of forest conversions, compared to less than 10% for smallholders, and more than 90% of GHG emissions compared to 9% for smallholders. There are three reasons that partly explain this difference:

- The majority of smallholder palm areas were first established on former agricultural plots that were already no longer forest areas, whereas concessions entrusted to companies are in nearly all cases in forest areas;
- Secondly, most smallholders do not have the means to convert dense forests or peatlands into plantations because this requires significant investment in terms of time and capital;
- Finally, large companies tend to prioritize the conversion of areas where there is a low probability of land conflicts with local populations, this often means areas that are located in dense forest and/or peatlands that are difficult to develop.

While it is of course impossible to extrapolate these results to Indonesia as a whole, they provide a fairly good illustration of the importance of analysing the impacts of palm expansion *according to the production methods*. The assumption that similar dynamics are at work in other Indonesian and

Malaysian islands nevertheless appears realistic, especially given the fact that large plantations are largely dominant in these islands.

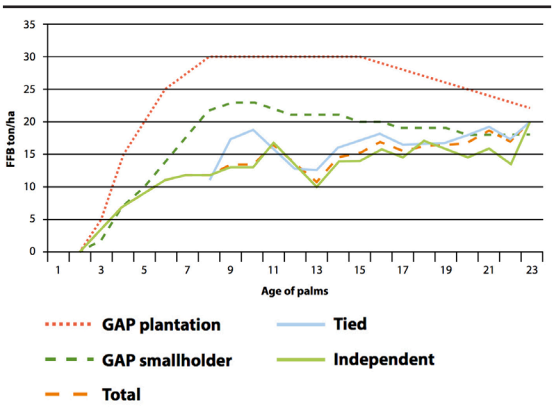
However, three elements call for tempering this first assessment when considering other environmental issues and not only deforestation alone. The first relates to the role of smallholders in fire outbreaks in Indonesia since the mid-1980s in times of drought, the impact of which in terms of both GHGs and public health is dramatic—the burning of peatlands representing more than 15% of Indonesia's total emissions over the period 2000-2012 (Boer *et al.*, 2016). Several studies focusing on different episodes (1997, 2006, 2013) show that burned areas outside concessions, for which smallholders are therefore potentially responsible, vary between 45 and 80% (Gaveau *et al.*, 2014 ; Marlier *et al.*, 2015). Practices include slash-and-burn agriculture (*swidden*), "clean-up" of plots or their preparation prior to the plantation of oil palm or other tree species, but also arson in cases of land conflicts (Dennis *et al.*, 2005). However, in recent fire outbreaks, because a large proportion of the burned areas outside of concessions were sparsely treed, the proportion of GHG emissions attributable to smallholders remained below 50% (Gaveau *et al.*, 2014 ; Marlier *et al.*, 2015).

A second element concerns the impact of the conversion of smallholder agricultural plots into oil palm plantations. As well described by Feintrenie *et al.* (2010a ; 2010b), the tendency of smallholders to transform complex agroforestry mosaics into monoculture plantations, particularly for palm oil, is mainly linked to two parameters: the much greater economic benefits of monoculture systems - at least in the short term - and the technical simplicity of the crop management. The transition from one to the other, however, results in a drastic simplification of the ecosystem and a subsequent significant decrease in the ecosystem services provided (Clough *et al.*, 2016).

Finally, the increasing development of oil palm by independent producers goes hand in hand with low yields, sometimes less than half of those obtained in industrial plantations (see Figure 5). For Cramb & McCarthy, this situation is a consequence of the increasing difficulty for smallholders to access credit, investment and training (Cramb & McCarthy, 2016). In some cases, however, it has resulted in an expansion of cultivated areas to the detriment of agroforests, while an improvement in productivity could have led to better economic results and less environmental impact (IFC, 2013).

While the impact of smallholders on deforestation, GHG emissions and associated biodiversity is actually lower than that of large plantations, we should not be too quick to jump to the conclusion that their practices are exemplary. Firstly, they do contribute—even to a lesser degree—to Indonesian deforestation through the development of oil palms on forest areas in an often informal way. Secondly, they have a significant involvement in large-scale fires and contribute to the country's GHG emissions. Finally, while the conversion of agroforests into oil palm plantations is not deforestation per se, it does results in a drastic simplification of ecosystems and a significant biodiversity loss. Moreover, this is partly due to the lower yields obtained by smallholders on their plots.

Figure 5. Scenarios for changes in smallholder yields according to the adopted practice



Source: IFC (2013).

The small dotted lines show a scenario where industrial plantations adopt best practices; the dashed line shows a scenario whereby smallholders use the same good practices according to their capacities; the two solid lines indicate the actual yields obtained by smallholders, both tied and independent.

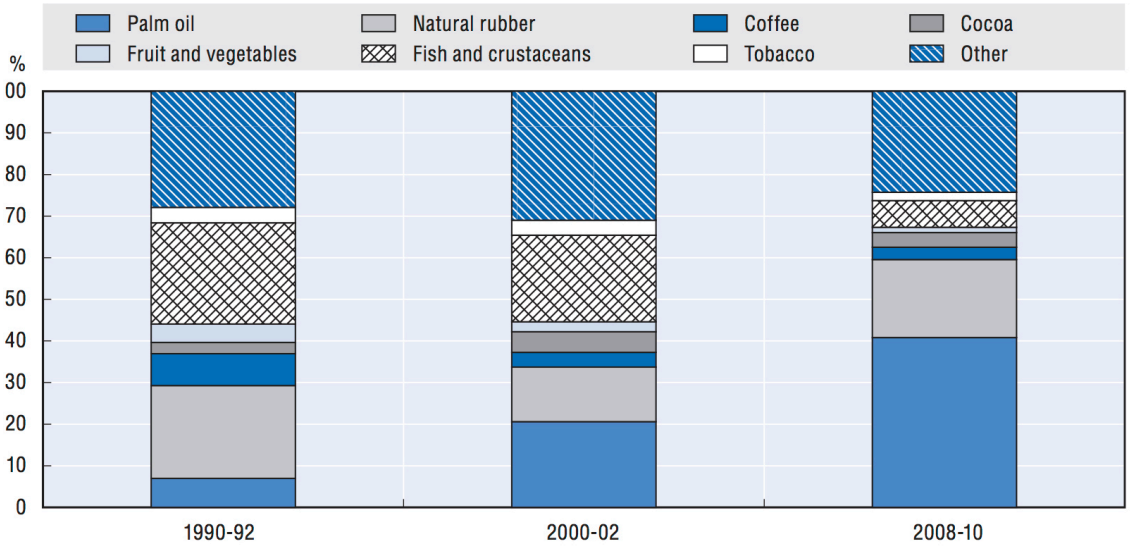
1.3.2. Significantly different social outcomes and impacts of production methods

1.3.2.1. Industrial plantations often imply difficult working conditions

About 4 million people work in the palm oil industry in Indonesia and Malaysia. Of these 4 million people, one third (and up to two-fifths, depending on the estimates) are independent smallholders who manage their own working conditions and for whom oil palm exploitation can represent only a part of their activity, sometimes a small one. Although the functioning of family farms is frequently associated with child labour, the head of the family remains the "master" of the working conditions.

This is not the case for the remaining two-thirds of palm oil workers who are either employed in an industrial plantation or are smallholders tied to a major plantation. Large plantations, the homeland of agrarian capitalism, have always been characterized by difficult working conditions, although the situation has evolved positively over time

Figure 6. Structure of Indonesian agri-food exports from 1990 to 2010



Source: OECD (2012).

(Barral, 2015). In the case of palm oil, respect for safety conditions, working hours, weekly time off, child labour and forced labour, especially for migrants, are all subjects that cause tensions between companies and NGOs. Amnesty International's recent report on working conditions in the Wilmar plantations and its third party suppliers (Amnesty International, 2016) points out that this issue is not confined to history and, despite the many regulations, it remains highly topical. Furthermore, Barral (2015) and also Cramb and McCarthy (2016), demonstrate the way public power in both Indonesia and Malaysia has contributed to the structuring of a labour market that can meet the needs and challenges of plantation companies in terms of human resources, to the detriment of the social protection of employees.

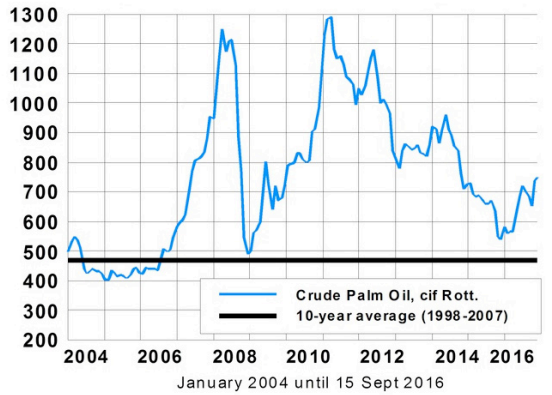
1.3.2.2. Contrasting spin-offs in terms of economic and rural development

Economic spin-offs remain important for the national economies of producing countries

Export crops have played a key role in the Indonesian development strategy for a long time. Such crops have long been dominated by rubber, which was only overtaken by palm oil at the beginning of the 2000s—the two types of production represented, during the period 2008-2010, more than 60% of agro-exports in terms of value.

Since then, palm oil has been a key currency earning source for the Indonesian economy as a whole, although its contribution to GDP growth remains marginal (2.2% in 2007, 2% in 2013, current figures not available) (Rhein, 2014). The importance of exports, however, means that Indonesia, and producers in general, face price volatility on agricultural commodity markets, which has been growing steadily over the past 20 years (see Figure 7).

Figure 7. Monthly prices of crude palm oil in Rotterdam from January 2004 to September 2016



Source: Oil World (2016).

Nevertheless, when focusing more specifically on the rural area, the importance of palm oil cannot be denied. Based on a counterfactual assessment, Ryan Edwards (2016) showed that the standard of living for more than 1.3 million Indonesian rural people was directly improved by the development of palm oil in their region.

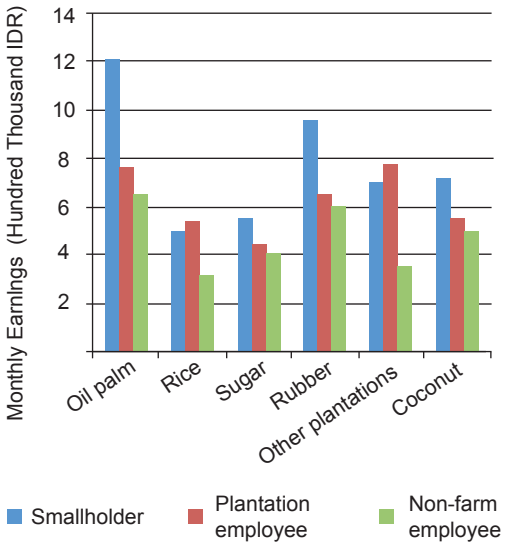
The economic spin-offs of independent production are conducive to local development

In a retrospective analysis of palm oil's contribution

to the Indonesian economy, Matthias Rhein (2014), however, is more nuanced. While he recognizes the importance of oil palms in improving rural incomes, he however stresses that this contribution is much higher for small independent growers than for workers in large plantations, with wage differentials close to 50% in favour of smallholders (see Figure 8).

Among plantation workers, Stéphanie Barral (2012) showed that a form of "de-proletarianization" was nevertheless possible. This is, however, based on the possibility of the workers to reinvest part of their earnings in the development of their own oil palm plots. Such a scenario, however, can only take place in contexts where access to land does not pose difficulties: uncultivated land is available, which is not already claimed.

Figure 8. Monthly salaries for major Indonesian crops according to type of tenure



Source: Rhein (2014).

For tied smallholders, their 2 hectares of land allocated under the Nucleus-Plasma schemes is often insufficient to ensure the perpetuation of the family farm, forcing families to sell their land or the heads of households to work in neighbouring plantations and leave their children in charge of running the family plantation. In such a context, it is difficult to speak of true "development trajectories" (Zen *et al.*, 2016).

Finally, independent smallholders who obtain the necessary resources to develop palm oil manage to generate a much higher income than employees or tied smallholders, as shown in Figure 8. Feintrenie *et al.* (2010a) showed how the expected gain associated with palm oil development was a determining factor in the expansion of this crop among small growers, who gradually convert their rice fields or rubber agro-forests, or sometimes open up new plots in the middle of forests. The necessity to "freeze" a plot for 2 to 3 years after planting, the time needed before oil palms begin to produce, is nevertheless the vector of a growing social differentiation between small landowners. Thus, only those with a minimum capital and alternative sources of income can engage in this culture which, in return, will help to consolidate their incomes, further increasing the gap that already separates them from the less affluent (McCarthy, 2010).

While it is necessary to distinguish between production methods to enable the understanding of the impact of palm oil in terms of rural development, we must also consider two parameters of the territorial context: land accessibility and infrastructure density. From a macroeconomic point of view, the OECD agrees with Barral's findings that palm oil-related rural poverty reduction has been greater in districts with large land reserves (i.e. when a large part of forest has been converted…):

> *In Kalimantan, Sulawesi and Sumatra where land is still available for crop expansion, a larger share of income is derived from high-productivity perennial crops and non-agricultural activities than from food crops. In these regions rural income growth is generally above the national average and rural poverty incidence is lower (OECD, 2012, p. 94-95).*

In terms of infrastructure, Hayami (2010, for a summary of his work) showed that in the field of palm oil, large plantations do not allow for specific economies of scale, although this is often claimed (see also Cramb & McCarthy, 2016, pp.34-35). Nevertheless, a sufficient rural infrastructure is necessary to enable the processing of the fresh fruit bunches at the mill in less than 24 hours. Thus, the comparative advantage of large-scale planting decreases as rural infrastructure develops, enabling small-scale producers to deliver their production quickly enough.

The impact of oil palms on the socio-economic level is therefore far from being unambiguous and depends largely on (i) production patterns and (ii) territorial context. This ambiguous impact is even clearer if we analyse more broadly the conditions for the establishment of palm groves and the land access modalities. This is addressed in the following section.

1.3.3. Socio-political impacts and the land issue

The land issue is one of the most structuring aspects of palm oil, particularly because it often enables a link to be made between environmental

and social issues, especially concerning populations living in or around forests. Industrial plantations and tied smallholders are particularly concerned with these issues. Large plantations have been established within the framework of the so-called Nucleus-Plasma scheme (see section 2) where the "nucleus" (= large plantations) has represented between 20% in the early years and up to 70% or even 80% today. "Plasma" designates the proportion of the concession reserved for smallholders who are tied by the following conditions: in exchange for the transfer of their land rights for the development of the plantation, local populations are allocated 2 hectare production plots (+ 1 hectare for food crops from 1984) on which the company is committed to financing production costs, purchasing bunches, monitoring, and the provision of agricultural advice throughout the planting cycle. Until the mid-1990s and even until today, the NGO FPP (Colchester *et al.*, 2014) and Zen *et al.* (2016) reported that the NES schemes have rarely been implemented in a fully transparent way. In many cases—that are difficult to quantify—the plantation has developed without the consent of the populations concerned. In other cases, local people have given away their land without obtaining all of the compensation promised by the contract. While the situation is not unique to palm oil and concerns all of the agro-industrial and forestry sectors (rubber, pulp/plantation), it has taken on a new dimension with the boom of the late 1990s. For example, in 2007, the OECD identified over 7,500 cases of land disputes reported to the courts, amounting to a total area of 608,000 ha, mostly related to cases of concession expansion.

This mode of oil palm expansion, though it has often been justified in the name of national development and national interest, therefore appears to be particularly problematic from a socio-political point of view. However, it largely accounts for the low cost of land access in the Indonesian context and therefore the comparative advantage of the country on the international market. Any modification of this access regime is thus inevitably likely to increase the cost of land and therefore to question the country's competitiveness.

1.4. Balance sheet of impacts, production modes and transition

This broad analysis ultimately highlights that in terms of sustainability, smallholder/family-type production systems are more beneficial than large-scale plantation systems. Their environmental impact is lower, they generate a higher income per worker and they pose few problems in terms of land access. Consequently, actions to be undertaken to improve sustainability are different for each of these systems. Table 3 identifies, for each production mode, the processes on which action is required to improve their impact on the three issues considered (deforestation/biodiversity, rural development/working conditions, respect for land rights).

Schematically, we can conclude that an initiative to improve the sustainability of the sector should simultaneously aim at the better control of industrial production while supporting the improvement of small producers. More specifically, four intervention types seem essential:

- Limiting/preventing the expansion of plantations into forests of ecological value (regardless of the production mode) by ensuring their identification and preservation;
- Guaranteeing better working conditions and a living wage for all workers in the sector;
- Ensuring greater transparency in the allocation of land for the development of oil palm, particularly by guaranteeing fair negotiation conditions between plantation companies and local populations;
- Encouraging the improvement of the abilities of smallholders through (i) training, (ii) access to credit, and (iii) enhancing their bargaining capacity in relation to buyers.

In the following sections, each initiative will be studied in the light of this first result. Thus, Section 2 shows the differences in ambition between the initiatives studied. Part 3 then explains the identified differences by analysing simultaneously (i) the political processes that led to their emergence and (ii) their mode of governance. Finally, part 4 provides the basis for a qualitative assessment of the capacity of these initiatives to achieve their objectives by comparing their theory of change with the actual modalities of their implementation. The conclusion summarizes the main results obtained and discusses their main implications in the form of recommendations.

Table 3. Main issues to improve the impact of each production mode

	Deforestation / biodiversity	Rural development / working conditions / rural household income	Respect for customary land rights
Independent Smallholders	Limiting expansion into environmentally important forests and agroforest conversion. Improving productivity (and therefore improving access to credit / capital)	Improving the quality of production to raise incomes Improving bargaining capacity with buyers / mills	—
Tied Smallholders	Highly context dependent		
Large, capitalist plantations	Limiting the expansion of new plantations into environmentally important forests.	Improving working conditions Increasing daily salaries to reach the living wage, especially for temporary workers	Transparency in the process of granting concessions and developing new plantations

Source: authors

2. INITIATIVES THAT RESPOND CONTRASTINGLY TO THE IMPACTS OF PALM OIL PRODUCTION ON THE TERRITORIES

Table 1, which presents the main sustainability initiatives of the palm oil sector, was proposed in the introduction and is shown again on the following page. It enables the identification four main types of initiatives, namely:

- Certification managed by private actors, NGOs and companies: RSPO, RSPO-Next, Sustainable Agriculture Network standard, and the standard initially developed for the biofuel sector by Germany now used for a diversity of uses: the ISCC;
- Private sector commitments, resulting in declarations or charter formalization: POIG, SPOM, the Consumer Goods Forum statement. More broadly, this category includes all commitments made by companies on an individual basis according to their own CSR/sustainability policy. These commitments are not shown in this table but have been identified by McCarthy (2016);
- The so-called "mandatory" certifications, led by producer countries: ISPO and MSPO;
- Finally, territorial/landscape approaches, that are more recent and most often led by international NGOs.

While these four groups of initiatives differ in the type of actors who manage them, their modes of governance and the theory of change on which they rely, they are not necessarily mutually exclusive. In particular, the operationalization of commitments undertaken by the private sector may well be based on one or more of the other three types of initiatives, or involve the development of ad-hoc approaches.

The coexistence of these different types of initiative results from a series of proposals/counter-proposals made over the past 15 years by actors with different definitions of what constitutes sustainable palm oil. Five main types of actors have contributed to this debate: the upstream industrial operators, who are most often the target of blame; the governments of producer countries; downstream buyers (distributors and agri-food industries); environmental NGOs; and NGOs supporting human rights and local populations.

Prior to further analysis of this process, this part compares eight of the most important initiatives in terms of their level of ambition towards the main issues that were identified in part 1, i.e.:

- Limiting/preventing the expansion of plantations into forests of ecological interest (regardless of the production mode) by ensuring their identification and preservation;
- Guaranteeing better working conditions and a living wage for all workers in the sector;
- Ensuring greater transparency in the allocation of land for the development of oil palm, guaranteeing in particular conditions for balanced negotiations between plantation companies and local populations;

The initiatives studied in detail in this part are shown in Table 4. The so-called "landscape" or territorial approaches, in particular, were not included in this first benchmark. Indeed, one of their particularities is a capacity to adapt to different contexts; they do not therefore really provide a generic framework that explicitly outlines sustainability criteria/indicators.

Table 4. List of initiatives studied according to type

Type	Initiatives
Private Standards / Certification	RSPO, RSPO-Next, RA-SAN, ISCC
National legal standard	ISPO, MSPO
Private sector commitment *outside of certification*	POIG, No Deforestation – No Peat – No Exploitation (NDPE) Wilmar

This comparison is based both on a thorough analysis of the content of each initiative and a review of the other benchmarks established recently by WWF (Schlamann *et al.*, 2013), Daemeter

Table 5. Comparison of the 8 initiatives according to the main issues considered

	RSPO	RSPO-Next	ISCC	RA-SAN	ISPO	MSPO	POIG	NDPE
Deforestation	2	3	4	4	1	1	4	4
Forests with high conservation value HCV	+	++	Very wide definition of forest, preventing any conversion	No possible conversion of natural ecosystem	No formal recognition of HCV and HCS forests	No formal recognition of HCV and HCS forests	++	++
High Carbon Stock Forests HCS	0	+					++	++
Socio-economy	2	3	2	3	2	2	4	2
Living wage (beyond minimum wage)	+	+	++ (Explicit mention)	+	0	0	++ (Explicit mention)	0 (only minimum wage)
Working conditions	+	++	+ (base ILO)	+	0	+	++	++
Employment of local populations	+ (Minimum but not mandatory quotas)	+	0	+ (Ambitious but not very detailed criterion for implementation)	++	+	++	0 (no detail)
Land Issues	2	3	2	2	1	2	4	4
Consultation with local populations, customary rights and FPIC	+	++	0/+	+ (No explicit reference to FPIC but very detailed criteria)	0	+ (FPIC mentioned without methodology)	++ Requires enforceable participatory mapping	++
Land dispute management mechanism	+	+	0 (no precision)	0	+	+	++ (Detailed requirements)	++

Source: authors

(2014), Rainforest Alliance (2016) and the joint RSPO-ISPO study carried out with the support of UNDP in 2015-2016 (ISPO & RSPO, 2016). It is also based on the analyses suggested by the www.standardsmap.org website, which provides an almost exhaustive comparison of the different standards. The results are given in the form of a summary table (see Table 5), but the details of the criteria and indicators considered for comparison are given in the appendix to this document.

Moreover, at this stage it is important to note that, on its own, the level of ambition shown by an initiative says little or nothing about its effective capacity to lead to more sustainability: for example, a less ambitious initiative can be very effective, therefore being a greater catalyst for change than a very ambitious initiative, the implementation of which is minimal. What makes this study unique is that it goes beyond the mere comparison of objectives - as is the case with all the reports studied as part of the research for this comparison - by analysing more precisely how each initiative is practically implemented / set in motion (part 4).

Three main conclusions can be drawn from Table 5, which serve as starting points for the next part of this paper.

- Not all initiatives have *effectively* the same levels of requirement, ambition and precision on the three issues that concern this study. A general classification, which is of course subjective, can be proposed as follows:
  POIG > NDPE Policies > RSPO-Next & RA-SAN > ISCC > RSPO > ISPO-
- In general, the legal standards steered by the governments of producing countries show a definition of sustainability and a degree of requirement that are lower than private commitments and certifications/labels.
- The table clearly shows that tensions between actors regarding the modalities of dealing with particular problems are crystallized in the negotiations, and also shows the gradual adoption of increasingly standardized tools to identify and address a problem. This applies to the issue of deforestation surrounding definitions of high conservation value and high carbon stock forests. In the socio-economic area, current discussions focus on the notion of a living wage, which is today little respected in the palm oil sector. Finally, in the area of land tenure and the recognition of customary rights, the so-called FPIC process, which means Free, Prior and Informed Consent, has gradually gained recognition but its application remains open to interpretation. While the RSPO explicitly refers to the United Nations guidelines, the MSPO mentions the FPIC without reference to any methodology of application, while ISPO makes no reference to it at all.

3. A STRATEGIC AND COMPETITIVE DYNAMIC THAT EXPLAINS THE DIFFERENCE IN THE AMBITIONS OF THE INITIATIVES

This third part aims to account for the differences noted above through an analysis of the political processes that led to their emergence and stabilization. In addition to the eight initiatives outlined above, we have added the internal policies of companies, large producers and traders, which in some cases are more demanding and have taken on increasing importance over five years. For each initiative, we analysed the negotiations through which a definition of sustainability was adopted, focusing on two main issues:

1. Externally: How did actors who proposed new initiatives have to position themselves vis-à-vis other initiatives and their proponents?

2. Internally: who participates in the definition of the sustainability criteria adopted: level of inclusiveness, type of representativeness? What are the modalities of decision-making: by consensus, by simple/qualified majority voting? How were the instruments for the implementation of the adopted sustainability definition defined?

The result of this analysis is a six-tier narrative, summarized below:

(i) The development of the Roundtable for Responsible Palm Oil (RSPO) and its progressive affirmation as a reference initiative for all actors;

(ii) Challenges to the RSPO and the emergence of proposals and then counter-proposals regarding the zero deforestation component;

(iii) The subsequent development of private commitments such as "no deforestation, no peat, no exploitation" (NDPE) by major upstream and trading actors, faced with pressure from their buyers and civil societies;

(iv) the emergence of national standards as an expression of the willingness of producer countries to resume (or retain) control over sustainability issues;

(v) In parallel, the development of biofuels in Europe that gave rise to the ISCC, which rapidly established itself as an important actor in the palm oil sector;

(vi) More recently, and to deal with what more and more actors perceive as the limits of certification standards, territorial approaches have been launched, which do not however exclude forms of links with private commitments outside standards or with certification mechanisms.

3.1. The RSPO, a criticized standard but a reference for all actors

In the early 2000s, as the expansion of oil palm plantations in Southeast Asia led to significant deforestation rates, WWF began to explore the idea of a sustainability standard for palm oil. Thus, in 2002 an informal cooperation was launched between WWF and several companies in the sector, Aarhus United UK Ltd, Migros, the Malaysian Palm Oil Association and Unilever. In 2004, the RSPO was formally established and 47 organizations signed a press release declaring their intention to participate in the RSPO. In November 2005, an initial version of RSPO's Principles and Criteria (P&C) was adopted by 14 companies for an initial implementation pilot period. A review process of these RSPO P&Cs was carried out in 2007 and in October 2007, and a new revised version of the RSPO P&Cs was adopted. Compared with the previous ones, it incorporates more precise indicators and guidelines.

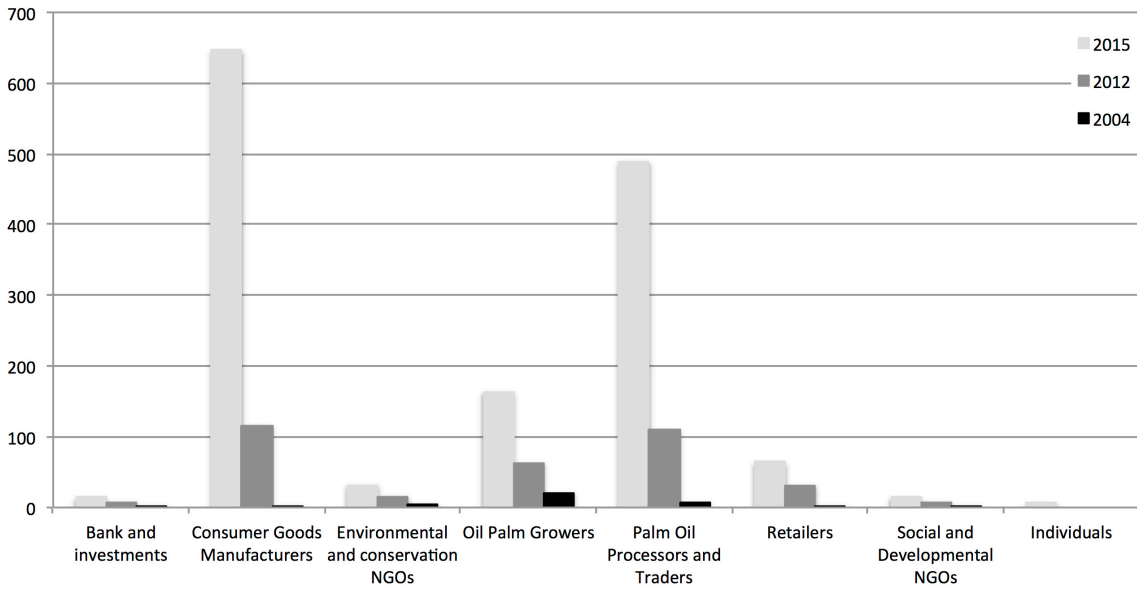
The initiative grew rapidly to the present day. In August 2011, the RSPO was already certifying 1 million hectares of oil palm plantations, i.e. 5 million tonnes of certified palm oil (10% of world production). As of 30 June 2016, the RSPO has certified nearly 2.2 million hectares of plantations and has more than 1,500 ordinary members distributed across seven fields: growers, refiners/traders, downstream industrialists, distributors, financial actors, ENGOs and NGOs. This extremely broad membership gives the RSPO its strength and indispensible nature. RSPO certified oil (according to one of three processes: green palm, book and claim, segregated) now accounts for 16% of the world market.

Nevertheless, the RSPO is also the subject of numerous criticisms on the social and environmental levels:

- On the social level: marginalization of small-scale producers, little consideration of local populations, few safeguards for working conditions (Cheyns, 2012);
- On the environmental level: the possibility of using chemical inputs deemed dangerous for workers and the environment, an overly flexible framework for fighting against deforestation (Laurance *et al.*, 2010).

The history of the RSPO, as well as the current modalities for the definition of its Principles, Criteria and Indicators (PCI), makes it possible to account for this situation. In terms of history, Nikoloyuk *et al.* (2010) showed that the initiative, initially conceived as a downstream coalition to

Figure 9. Membership of RSPO according to activity field, between 2004 (creation) and 2015



Source: based on RSPO data

promote palm oil with strict environmental requirements, has gradually had to deal with important upstream actors without whom it would have lost all legitimacy. The latter have, in particular, imposed a formal structure which gives them a decision-making influence that is at least equal to that of NGOs, a crucial aspect at the time of revising the RSPO's PCIs.

These revisions occur every five years, the last revision taking place in 2013. The review process involves a standing committee on PCIs, in charge of steering the process of their review. This standing committee must draw up a review draft which, once validated internally, is submitted to the Board of Governors of the RSPO. If the review is validated, the proposal for revision is subsequently put to the vote of the RSPO General Assembly, where decisions are taken by simple majority, with each member counting for one vote (RSPO, 2014).

However, the Board of Governors is rather dominated by the upstream of the sector, because out of the 16 seats on the Board, 4 are reserved for growers and 2 for refiners/traders (who are also growers). Also, up until the last revision of the PCIs, membership was largely dominated by the upstream palm oil sector, although things have since changed, as shown in Figure 9.

In this context, the possibility of making the RSPO evolve towards a more socially and environmentally demanding standard, adding direct constraints on producers without the certified oil market really being profitable, appears difficult because the same producers occupy strong positions in the decision-making processes. Moreover, as shown by Emmanuelle Cheyns (2012 ; 2014), the mode of discussion leaves little room for local populations (plantation workers and smallholders) who are not experienced in defending their viewpoints and concerns in the language of this type of arena.

Among current members, downstream actors now occupy a decisive position, which could lead to major changes/developments in the upcoming revision of RSPO PCIs in 2018. Until then, actors who are not satisfied with the RSPO have already looked for other ways to improve the sustainability of the sector, leading in particular to the creation of RSPO-Next (which is discussed below).

3.2. Environmental criticisms of the RSPO and the emergence of a methodology for "no deforestation": the HCS approach

Greenpeace has never been a member of RSPO and has was quick to denounced its limitations, especially with regard to the challenges of climate change (Greenpeace, 2007) and deforestation (Greenpeace, 2013). Following a series of campaigns against Golden Agri Resources (GAR), the world's leading producer at the time, and then its main clients, Unilever and Nestlé, in 2010, the organisation put forth the notion of "High Carbon Stocks Forest" to operationalize the "no deforestation" commitment taken by GAR (for a detailed account of the adoption of this methodology see Aubert *et al.*, 2016).

The methodology is based on vegetation mapping that enables the distinction of vegetation units considered as "forests" - and therefore to be preserved - from non-forests - on which it is possible to develop oil palm. Originally developed without consultation with local populations or their representatives, the methodology took little account of land-use patterns by local populations. To address these limitations, which were highlighted in a report by the Forest People Program NGO (FPP, 2013), a broader consultation of NGOs and actors involved in the palm oil sector was organized to refine the methodology between 2013 and 2014. The academic community was also largely involved in this exercise, which culminated in the formalization of a toolkit in spring 2015 (HCS Approach Steering Group, 2015).

In this process, the opening up of the decision-making process to include a number of environmental NGOs and an NGO advocating social rights that worked closely with the former is one of the key elements in achieving a much more ambitious definition of sustainability. From the environmental perspective, the HCS approach enables the more precise operationalization of a zero deforestation commitment. From a social perspective, it defines a modus operandi for implementing objectives that have already been formulated in the RSPO, detailing for the FPIC in particular the modalities of the deployment of a participatory mapping. The maturation process of the HCS approach lasted almost 4 years, between 2011 and 2015. Within this same timeframe, some of the actors supporting the HCS approach sought to highlight the innovations that they had developed within the RSPO, launching the Palm Oil Innovative Group (POIG).

3.3. From HCS to POIG, SPOM and RSPO-Next

3.3.1. The launch of POIG in 2013: testing innovations to improve the RSPO

3.3.1.1. Origin and creation of POIG

The Palm Oil Innovative Group (POIG) was launched on 28 June 2013 at a meeting of the Tropical Forest Alliance (TFA) in Jakarta, two months after completion of the RSPO P&C review process. The declaration of the creation of the POIG announced the intention of the group's members to go beyond the requirements of the RSPO, which was considered to be insufficient to address the challenges of the sector. This first press release was signed by four palm oil producing companies (DAABON, AgroPalma, NBPO and GAR), three environmental NGOs (Greenpeace, WWF and Rainforest Action Network), and a social NGO (Forest People Program). While the four NGOs that initiated POIG have contributed to the development of the HCS approach, only one of the four companies (GAR) participated, the other three being new entrants into the sustainability debate. Two of them, DAABON and AgroPalma, particularly operate in Latin America, where oil palm is still moderately developed.

It was not until several months later, on 13 November 2013, that version 1 of the POIG Charter was formally signed by the same organizations (companies and NGOs) with the exception of the GAR group. It includes in particular the strengthening of the existing RSPO criteria: protection of HCS forests, prohibition of the use of Paraquat and other toxic inputs, prohibition of GMOs, respect for the customary rights of populations through the implementation of the FPIC procedure, and complete traceability all the way to the mill. Notably, none of the sector's leaders from Indonesia and Malaysia were present within POIG at the time of the launch of the first version of the charter.

The first sentence in the introduction to the charter states that the POIG aims to support the RSPO by building onto it, by experimenting with innovations in the setting up of the existing RSPO standards but also with additional critical issues. The POIG charter focuses openly on the specific commitments of palm oil production companies (growers). In particular, it aims to increase market demand for innovative palm oil products and remains open to all types of private actors and civil society. The charter plans to integrate additional components for negotiators, investors, manufacturers, resellers and consumers who support the charter to ensure that its standards apply to the entire value chain. Thus, in November 2015, the POIG Charter was adopted for retailers and manufacturers.

3.3.1.2. Governance of the POIG

The POIG is a network and not a formal organization. All decisions are therefore taken by consensus. Members discuss and establish charter indicators, audit and verification procedures, budgets for specific initiatives and communication initiatives. A POIG organizing committee consisting of five founding members (Agropalma, DABOON, GP, WWF and FFP) is responsible for the admission, suspension or exclusion of members, governance structures and development of the initiative. It should be noted that this organizing committee includes 2 companies, 2 environmental NGOs and 1 social NGO. However, this governance element relating to the internal operation of the network must be verified through interviews. This situation, which is apparently favourable for NGOs,

is balanced by a consensus-based decision-making method; nevertheless, the absence of historical companies (GAR, Sime Darby, Wilmar...) is clearly a factor that facilitates the setting of ambitious objectives. It can nevertheless also be considered as a limitation to the POIG's influential capacity with respect to the sector as a whole. Finally, the POIG secretariat is provided by a sustainable development consultancy, Helikonia, based in Malaysia.

In addition, the POIG was expanded through the recruitment of new members, including Musim Mas, a major grower, refiner and trader (18% of global trading market), and also Ferrero, Danon and Boulder Brands. This enlargement gives the POIG an increasingly strong voice and ability to have an impact on the discussions in other fora, particularly on the RSPO, its main target. However, while the initial ambition was to change the RSPO "from the inside" by proving that more ambitious sustainability criteria were compatible with an economically viable activity, one of the RSPO's responses was the creation in 2015 of the RSPO-Next. This decision received a mixed reaction within the POIG because it ran the risk of generating a "two-speed" system, the transformative scope of which could rapidly become limited. The creation of the RSPO-Next (see Section 3.3.3.) cannot however be understood without taking into account the emergence of another grower-led initiative: the Sustainable Palm Oil Manifesto (SPOM).

3.3.2. SPOM: a "firewall" built by large industries that led to an open and transparent process

The emergence and consolidation of the HCS approach between 2011 and 2013 shone the spotlight onto a way of defining the forest, which made it very difficult to implement any zero deforestation policies. One of the most contentious aspects was the threshold value of 35-40 tonnes of above ground carbon per hectare as the threshold between forest and non-forest vegetation. The first validation of this threshold after several pilot phases in Kalimantan, and then in a GAR subsidiary in Liberia (see Aubert *et al.*, 2016) led to the main actors in the sector fearing the consequences of its possible widespread application which, according to them, would have brought an end to the development of palm oil.

3.3.2.1. Creation of the SPOM

It is on the basis of these concerns that the idea for SPOM emerged among several actors, including Unilever and the large plantation companies in Southeast Asia. Unilever supported the first version of SPOM that was launched on 5 November 2013; it was however only in July 2014 that five grower companies signed the current version of SPOM, this time not including Unilever. These companies were Sime Darby, IOI Corporation Bhd, Kuala Lumpur Kepong Bhd (KLK), Musim Mas Group and Asian Agri. These five companies account for about 9% of the world's palm oil production. In addition to these five grower companies were two important actors from the global palm oil trade: Apical and Cargill.

The SPOM is a "manifesto" signed by a group of companies wishing to exceed the commitments of the 2013 RSPO P&C, but which, above all, do not subscribe to the HCS approach as adopted by POIG members. To establish a definition and methodology for the identification of HCS forests, one that competes with the existing one and is potentially more favourable, SPOM signatory companies are financing, conducting and commissioning independent research under the heading of "HCS+ study".

3.3.2.2. HCS+ Steering Committee and governance

To steer and manage this study over a period of 12 months, the SPOM signatories created a Steering Committee, which mainly gathered actors with a direct or indirect interest in the current palm oil development model, such as the Indonesian Growers' Association, the MPOB and the RSPO. However, the presence of ProForest and the London Zoological Society brings a degree of openness. In contrast, the study was based on researchers and consultants with alternative positions, particularly in the socio-economic field, that were known to all. This resulted in particularly critical reports and ambitious recommendations for the development of a possible HCS+ approach.

At the same time as when the governance of HCS+ was taking shape, and when the HCS Study was underway, organizations working on the "initial" HCS approach developed by Greenpeace, TFT and GAR, were continuing their formalization work. In the second half of 2014 and the first half of 2015, the coexistence of these two processes gave rise to important—yet informal—exchanges between the two approaches. The following part analyses the convergence process followed by both approaches up to the present day, and the reciprocal influence between this process of convergence and the creation of RSPO-Next.

3.3.3. The HCS Convergence Working Group and RSPO-Next

After a little more than a year of informal exchanges between the actors of the two processes, encouraged in particular by Wilmar, RSPO and IDH, a convergence process was officially launched on

October 6, 2015 at a meeting held in Singapore, which gathered the leaders of the HCS Approach and the HCS+ Science Study, as well as representatives from Unilever, Wilmar, Musim Mas, GAR, Sime Darby, Cargill, Greenpeace, The Forest Trust, Union of Concerned Scientists, Forest Peoples Programme and WWF. The objective of the newly created "HCS Convergence Working Group", as stated in a press release, was to work together on an agreement to define a clear and unique set of rules for the implementation of zero-deforestation commitments for companies. Points of convergence were identified, although the members of the working group also acknowledged the existence of important issues: working with local communities, integrating the HCS Approach into the RSPO, and adaptation of the methodology to areas with high forest cover.

The convergence work continued throughout 2016 to reach a formal agreement during the 2016 RSPO roundtable. While this agreement put forward the convergences found regarding the aspect of above-ground vegetation, it also mentions areas where there is still work to be done, in particular with regard to taking social and land issues into account.

In this convergence process, the RSPO has played an essential role. Indeed, in a document entitled "RSPO-Next", that was published on the launch day of the 2015 RSPO roundtable, this approach was presented as follows:

- RSPO NEXT is a voluntary effort that engages with RSPO member companies that have met the current requirements and guidance of the RSPO Principles and Criteria […] The components of RSPO NEXT fall into the following categories: No Deforestation, No Fire, No Planting on Peat, Reduction of GHGs, Respect for Human Rights and Transparency. […] The **RSPO members need consensus on a definition and methodology to identify High Carbon Stock Forest which will be endorsed by the RSPO**. **Without such convergence, the development of a fundamental part of a working definition of "No Deforestation" is not possible**. As convergence emerges **it will be incorporated into the indicators below** (RSPO, 2015b, p. 1).

The HCS-A/POIG/SPOM/RSPO-Next sequence thus shows how the actors have changed their positions in the game and the consequences that this has had on the definition of sustainability. While the RSPO appeared "closed" to NGOs, which could not make themselves heard here, it was by forming alliances with downstream industrialists that they succeeded in changing the positions of the growers/refiners/traders, in some way forcing the RSPO to position itself with the launch of the RSPO-Next. The creation of the RSPO-Next was however criticized for two main reasons: it envisages two-tier certification, and the market will probably not be able to provide remuneration for "Next" given that RSPO produced and certified volumes do not always find buyers. Its emergence was nevertheless also a consequence of the fact that many companies had already moved forwards in terms of sustainability, as discussed in the next section.

3.4. From the multiplication of private commitments to their consequences in producing countries

Faced with the limits of certification, some NGOs have turned towards buying companies that are leaders in their sector to demand additional guarantees against deforestation, the destruction of peat, and the exploitation of local populations. Following a series of campaigns which were sometimes quite violent, many downstream companies made commitments in 2010 and 2013. This, in turn, led their suppliers to make similar individual commitments to no deforestation, no peatland exploitation, and no labour exploitation (most often abbreviated as NDPE for No Deforestation, No Peat and No Exploitation).

Table 6 shows, in chronological order, the main corporate policies made between 2011 and 2015 by the major actors in the upstream palm sector. It illustrates an uncommon "race to the top" phenomenon in highly competitive markets, where the commitments of some stimulate those of others, in a circle that is at first glance very virtuous (we return to this in part 4). In this process, two events were probably key:

- the commitment made by Wilmar, which represents nearly 50% of global trading, in December 2013;
- the mid-2014 negotiations between SPOM and the NGOs supporting the HCS-A, during which the SPOM initiators had to commit to the freezing of any conversion of peatlands or forest areas, pending the finalization of the HCS+ study. This commitment was eventually included in their corporate policies.

The role of The Forest Trust (TFT), a non-profit organization working with industries in the sector, should also be highlighted. Indeed, the major actors in the upstream sector (GAR, Wilmar, Cargill, NBPO) and downstream (Nestlé, Ferrero, Johnson & Johnson, Mars…) are all members of

the TFT, while others have approached it regarding the traceability of their supply (Musim Mas in particular).

Table 6. Successive launch of sustainability policies of the main upstream actors Source: authors

	Release date of sustainability policy (NDPE)	Production (% global S)	Share of global trading
GAR	Feb-11	3.8 %	14 %
Wilmar	Dec-13	2.4 %	43 %
Cargill	Jul-14	0.6 %	4 %
Asian Agri / Apical	Sept-14	1.0 %	< 2 %
IOI (Malaysia)	Dec -14	1.2 %	10 %
Musim Mas	Dec -14	0.4 %	18 %
KLK	Dec -14	1.7 %	2 %
Astra Agro Lestari	Sept-15	1.9 %	< 2 %
TOTAL		12.9 %	91 %

One of the main drivers of these commitments was the successive challenges made regarding certification standards (in particular the RSPO), highlighting their inability to guarantee to consumers that palm oil had not been obtained through deforestation. The commitment of the Consumer Goods Forum in 2010 to "help achieve zero net deforestation by 2020" was also an important step in this respect. Since then, the latest Supply Change report has identified 253 companies that have made a commitment to reduce their impact on deforestation in the palm oil sector (McCarthy, 2016, p.7).

Another important driver of these commitments is risk management, particularly reputational, even if the operational and compliance aspects are also mentioned. For many downstream companies, certification indeed no longer guarantees protection from NGO criticism on social and environmental aspects. In contrast, companies who are not worried about this type of reputational risk clearly state their lack of concern, as is the case for Ruchi Soya, an Indian company that handles the same volumes as Unilever:

"CSPO material is costly. In India due to costing factor, there is no demand for CSPO material. As soon as there would be demand, we will surely use CSPO material" (ACOP 2014 Ruchi Soya).

Interestingly, this essentially private dynamic has also tried to influence public policies in producing countries. In September 2014, Cargill, Asian Agri, GAR and Wilmar, with the support of the Indonesian Chamber of Commerce, launched the Indonesian Palm Oil Pledge (IPOP), with two objectives: (i) to make public and collective their commitment to end deforestation and human rights violations within their own operations, as well as those of all their suppliers and subsidiaries; (ii) to work with the Indonesian Government to ensure that their objectives are ultimately formalized and codified within the framework of Indonesian legislation.

Nevertheless, the Indonesian State has constantly criticized the IPOP, denouncing the companies as operating as a cartel and influencing prices in contravention to WTO rules, as well as their initiatives that were deemed to interfere in national affairs (none of the companies being based in Indonesia). Despite Asian Agri and then Musim Mas joining IPOP, tensions between the IPOP and the Indonesian government led to its dissolution on July 1, 2016. Officially the companies announced this dissolution as the logical consequence of the new commitments made by the Government of Indonesia. However, it was also largely the result of pressure on signatories from government and a number of national companies that were disgruntled by being "blacklisted" by IPOP signatories due to their non-compliance with HCS, FPIC or other commitments.

This process in fact illustrates the major difficulties in the dialogue between Indonesian and Malaysian governments and some actors in the palm oil sector, particularly those with ambitious proposals for sustainability. The creation of national standards in these two countries, mainly steered by governments, illustrates this point well.

3.5. Parallel processes that interfere politically: the emergence of ISPO and MSPO national standards

Indonesia and Malaysia are the world's two largest palm oil producers. These two countries alone account for 86% of world palm oil production. In the front line against the criticisms of environmental NGOs regarding deforestation and its impacts on climate change and biodiversity loss, Indonesia and Malaysia have particularly reacted through the creation of certification standards. This approach, however, is part of a more global movement to develop certification standards steered by producing countries in the South. As demonstrated by Schouten and Bitzer (2015), this dynamic is characterized in particular by the willingness of Southern countries to set standards that are adapted to their own issues and constraints, rather than to what they often consider as "injunctions" from Northern countries or even neo-colonialism.

3.5.1. Creation of ISPO and MSPO

As early as July 2009, the Indonesian government, through its Ministry of Agriculture, launched the creation of the Indonesian Sustainable Palm Oil standard (or ISPO), which did not start until 2011: a mandatory certification and "legal" standard for all companies operating in the Indonesian palm oil sector. Officially, the aim was to improve the competitiveness of Indonesian palm oil in the global market that is increasingly aiming for sustainability, as shown by the significant growth of the RSPO. One of the reasons for the creation of ISPO was therefore a market logic, which persuaded the Indonesian government to support its domestic producers in an evolving international context where the sustainability of production was becoming more important. ISPO's second objective is also to reduce GHG emissions and to take account of environmental issues (source: ISPO website). In concrete terms, the objective is also to strengthen compliance and enforcement of laws in the palm oil sector and to encourage small and medium-sized producers to adopt good practices. ISPO allows producers to obtain certification who do not have the means or the desire to join the RSPO. Indeed, ISPO is generally less demanding than the RSPO and essentially corresponds to a standard that requires, as a minimum, compliance with national laws and regulations. The ISPO has indeed been designed to be applicable by any actor in the palm oil sector.

Faced with the establishment of ISPO by its neighbour and the same international context, Malaysia also launched its certification standard in 2013. Developed by the Malaysian government with the support of many actors in the palm oil industry, the MSPO Standards were officially launched in November 2013 but its implementation did not start until 1 January 2015. The Malaysian Palm Oil Board (MPOB) was particularly involved in the development of the standard, an organization responsible for the drafting of the standard and initially responsible for its international promotion. In practice, the MSPO provides a framework for the management of oil palm production, with many existing national laws and regulations, while using the 3 pillars of sustainability to define many criteria. Unlike ISPO, the MSPO was not mandatory at the beginning. However, the discussions that have gone on since the end of 2016 and the beginning of 2017 have been clearly directed towards making the MSPO mandatory for all operators in the very short term. Like the ISPO, the MSPO was initially launched to allow small and medium-sized producers who cannot afford the RSPO to work towards sustainability. It was also intended to support the competitiveness of Malaysian palm oil on the international market.

3.5.2. A complex legitimacy for standards with modest ambitions

The modest level of ambition shown by the Malaysian and Indonesian national standards is primarily due to the motivation underlying their creation: to set a standard that is accessible to small national operators (smallholders and medium-sized industries) for whom "paying" for RSPO certification is impossible or very difficult. The fact that these two standards are aligned with the legislation in place, which is why most NGOs say that they are ultimately "legal" standards, also shows that the public policy framework in place is in itself a guarantee of sustainability.

The setting up of both ISPO and the MSPO have mainly involved the main industrial and national actors of the sector. Representatives of local populations, environmental or social NGOs, have barely been invited to take part in defining the content of both standards, though their governance has gradually evolved over time to leave more space to those actors. As a result, MSPO and ISPO standards tend to have a strong legitimacy in the eyes of the national industrial actors, particularly the Malaysian Palm Oil Board and GAPKI (producer organizations in Malaysia and Indonesia) and, on the other hand, a rather weak legitimacy from the point of view of downstream actors.

3.6. Territorial and jurisdictional approaches: the gamble of strengthened links between corporate commitments, certification and local policies

3.6.1. Territorial approaches or the "rediscovery" of land use planning issues

In a recently published literature review, Reed and colleagues (2016) showed that while the notion of "landscape approach" has been proposed since the early 1990s, it became increasingly important at the turn of 2010s. It has sparked the interest of the academic sphere as well as among practitioners, development and conservation operators. The idea of a territorial approach, in the context of tropical deforestation, is indeed at the crossroads of two types of concern.

On the one hand, industrial actors, which have committed en masse to eliminating deforestation from their supply chains, have clearly perceived the limits of the approaches developed so far. Certification, by stopping at the farm gates, does not fully enable the effects induced at the territorial level (food security, fight against poverty, need for biodiversity corridors, etc.) to be taken into account. Private commitments such

as certification have, moreover, been in many cases inconsistent, and sometimes frankly incompatible, with existing public policy frameworks. This has led actors to seek further collaboration with public authorities, particularly at territorial levels where local governments are expected to have more manoeuvre room and flexibility than national governments.

On the other hand, forestry and climate actors have developed so-called jurisdictional approaches within the REDD+ framework to address the complexity and slowness of REDD implementation in the national context. The possibility of combining the gains of certification and supply chain approaches with the jurisdictional approaches of REDD+, revealed a source of additional incentives for local governments and donors to stimulate project development.

The palm oil sector, of Indonesia in particular, has not escaped this trend. Over the past five years, a dozen or so projects have been launched by a few key players: IDH, Earth Innovation Institute (EII), Conservation International (CI), The Nature Conservancy (TNC) and TFT. The analyses presented below are based on these experiments. Before going into detail on these projects, some diachronic and definitional elements seem important.

Drawing on the definition proposed by Denier and colleagues (2015), a territory/landscape can be considered as a socio-ecological system composed of natural and/or human-modified ecosystems. The properties of which are the result of ecological, social, political and economic processes. In particular, different land uses may either coexist in a complementary manner or, in contrast, be mutually exclusive. In this case, the appropriation of land and the choice of its use are subject to competition or even conflicts that are regulated more or less peacefully by forms of governance specific to each territory.

Adopting a territorial approach thus consists in acting on this governance framework to foster the integration of different practices and usages, that are possibly conflictual, taking into account multiple objectives among which there is at least: conservation (biodiversity, regulation of water regimes and climate change), agricultural production and the fight against poverty. More specifically, a territorial approach can thus be defined as an intervention aimed at influencing the land use on a territory and at a given time horizon, in particular by influencing two aspects of the territorial governance framework:

(i) The nature of the decision-making process: which actors can participate, how and with what mandates and resources?

(ii) What are the criteria that are taken into account when choosing between different land uses in the case of mutually exclusive usages, and how are they weighted (between conservation, economic development, distribution of benefits, land access and recognition of customary rights, etc.)?

This working definition of territorial approaches leads to two preliminary remarks.

Firstly, as Reed *et al.* (2016, p. 2544) states, it requires explicit recognition that it will not necessarily be possible to satisfy all actors in a territory. One of the challenges of such an approach is thus to characterize the expectations of the various actors to identify possible synergies, needs for compromise, winning and losing actors, and the necessary compensation or alternatives.

Secondly, this working definition leaves open the question of the leadership of the territorial approach developed. In this perspective, jurisdictional approaches appear to be a subset of territorial approaches in which leadership is entrusted (or proactively taken over) by a local government.

3.6.2. A diversity of projects on a few well-identified territories supported by internationally leading actors

Table 7 lists the various Indonesian territories on which one or more projects are in progress or have been developed in previous years. It also identifies for each territory the main actors involved and, when the data are available, the type of approach developed. Ten provinces are concerned (to which West Papua should be added, but on which no information is available at this stage), which concentrate most of the issues in terms of deforestation and biodiversity conservation.

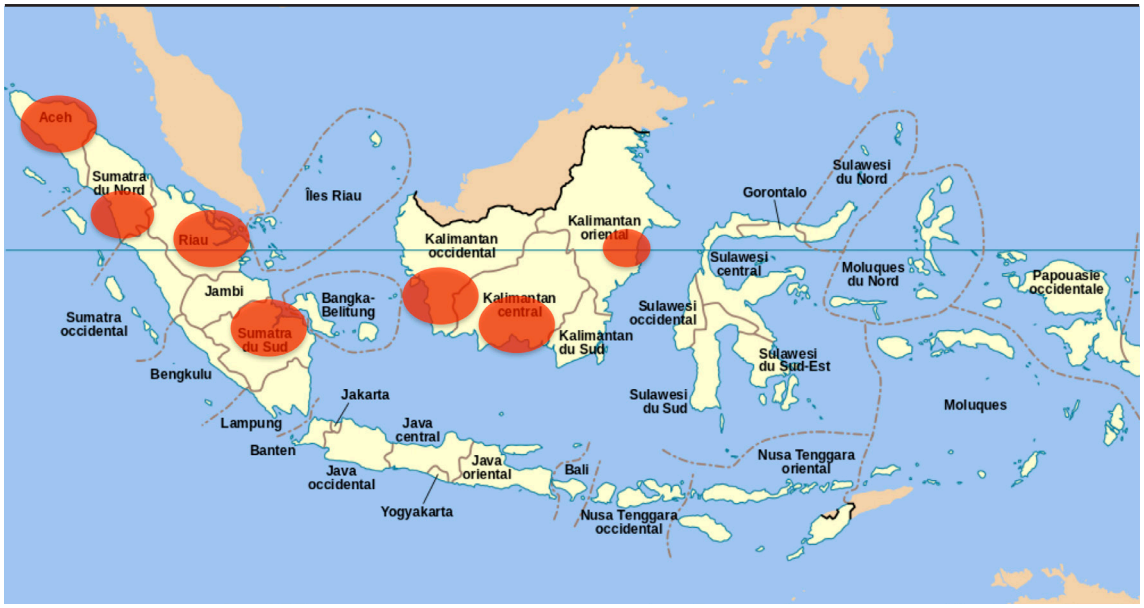
These projects intersect with broader programmes undertaken by different organizations. Examples include the Sustainable Landscape Partnership (CI, USAID), the Farm and Finance Initiative (EII), the Integrated Sustainable Landscape Approach (IDH) and the Landscape Program (TFT). While the table shows that several organizations are sometimes present on the same territory, the precise nature of their interactions is difficult to assess from a review of the literature and a few interviews. Partnerships are mentioned in some documents, while some interviewees have mentioned collaborations that were sometimes difficult.

A significant proportion of the identified project leaders are not only operationally active but regularly contribute to the updating of

Table 7. Review of territorial projects/approaches in Indonesia over the last 10 years

Province	District	NGO / Development operators	Companies	Local government involvement	Approach	Date
Aceh	Tamiang, Timur, Singkil	IDH, TFT,	Wilmar, APP	No data	Development of a provincial "Green Growth Plan"	2016-
Riau	Giam Siak Kecil	TFT	APP, Wimar	No data		2016-
West Kalimantan	Ketapang	IDH, RSPO	No data	Governors province and district,	Biodiv. corridor + development of provincial "Green Growth Plan"	2015-
South Sumatra	Musi Banyuasin	IDH, ZSL, Daemeter, FPP, SNV, RSPO	No data	Governors district	District 100% RSPO by 2018 + Development of a "Green Growth Plan"	2015-
Jambi	Muaro Jambi & Tanjung Jabung	SNV, Deltares, ZSL + National Partners	No data	No data	No data	2016-2018
North Sumatra	5 districts	IDH, CI	Unilever	No data	No data	2015-
North Sumatra	Mandailing Natal, Tapanuli Selatan	CI, USAID, Walter Family Foundation, ZSL	No data	Central provincial & district governments	Support for the realization of Strategic Environmental Assessment for LUP	2013-2018
Central Kalimantan	Seruyan, Kotawaringin Barat	EII, INOBU, CPI, RSPO, Governor's Climate and Forest Group	No data	Provincial & district governments	Province 100% RSPO by 2020 + development of Low Emission Development Strategy	2012-
East Kalimantan	Timur Kutai	TFT	APP	No data	No data	2016-
East Kalimantan	Berau district	TNC, ICRAF	No data		REDD + pilot jurisdiction from 2010 to 2014	2010-2014

Figure 10. Approximate location of the main territorial approaches in Indonesia



Source: author, from different organisations' websites

guidelines and other assessments of best practice (e.g. Wolosin, 2016). While all the identified projects do not proceed in a similar way, all use the main building blocks of territorial approaches as identified in The Little Sustainable Landscape Book (Denier *et al.*, 2015). Four components can be distinguished:

1. A mapping of the territory in question, making it possible to prioritize the areas to be protected, areas for agricultural development and areas that are reserved for local populations. Several methodologies have been developed for this purpose, putting the emphasis on one aspect or another (Sitting Tool, Starling, SMART, Palm Risk, etc.). They are all based on the identification of biophysical parameters (HCV and HCS), climate change for Sitting Tool, social aspects (FPIC and participatory mapping) and, less systematically, elements relating to the organization of the most important sector(s) in the territory.

2. Mobilization of the maps thus produced in a multi-stakeholder discussion on land use planning in the short, medium or long term. This discussion can take place in the framework of a very formalized or, conversely, relatively informal process.

3. The integration of the results of this discussion into a local development strategy, a formal land-use plan or a territorial development plan, whatever the term used. What matters is that the trade-offs made by actors regarding the competing land uses are translated into a guideline document that frames the future practices of each.

4. The implementation of this action plan that particularly requires support for the actors of the territory to change their practices according to the "new" territorial governance framework or land use scheme. The focus is most often on smallholders, in order to support them with farm development in a both controlled and profitable way. Some actors such as the TFT also emphasize the need to support companies of varying sizes located in the most at risk areas, which are the least likely to change their behaviour.

Despite broadly similar modus operandi, these approaches do not emphasize the same aspects, particularly between local governments, the private sector and smallholders. In the last part of this report, we see that these choices have major consequences for the practical implementation of the projects considered.

4. INITIATIVES HAVE DIFFERENT IMPACTS DUE TO CONTRASTING IMPLEMENTATION MODALITIES

In this fourth and final part, the aim is to compare, for each of the three types of initiative considered, the *theory of change* that characterizes it with the *practical modalities* of its implementation. Let us briefly recall here what we mean by the *theory of change* of an initiative—a concept we borrow from Weiss (1997): the concept encompasses the assumptions made about the actions that should be taken either to counter / reverse processes which are considered as impacting upon the sustainability of the sector; or to foster other processes that are deemed to enhance this sustainability.

4.1. Approaches through certification

Different certification schemes are considered in this study, namely: RSPO, ISCC, Rainforest Alliance, MSPO and ISPO. The first three are purely private initiatives while the latter two have been developed and are being implemented by the Malaysian and Indonesian governments. This difference between the actors who have promoted the development and implementation of these standards has certain impacts on the underlying *theory of change*. Due to a lack of data on national standards, this part will mainly deal with the standards promoted by private actors. It is organized into three sections. The theory of change of private standards is presented in the first section. In the second section, this theory of change is contrasted with the practical implementation modalities of these standards, particularly basing our work on the RSPO, for which there is some perspective. The final section puts these analyses into perspective with what is known about the Malaysian and Indonesian government standards and the possible links between private and national standards.

4.1.1. A theory of change at three levels

The modus operandi of any standard has three operational components:

1. An operator must first change his or her practices to comply with the Principles, Criteria and Indicators (PCI) of the targeted standard;

2. The operator must then be audited by a third party that will certify—or not—that the company complies with all PCIs; the audit may reveal instances of non-compliance, which may be major or minor. In this case, the company must undertake corrective actions in the relatively short term, depending on the level of severity.

3. In the event that the company applying for the certification and the auditor or another actor (often from civil society) cannot agree on the validity of the conducted audit, the certification schemes have mechanisms for conflict management and resolution.

This modus operandi is backed by a theory of change, where three levels can be distinguished. At the first, and most general, level, which concerns the links between the market and the production modes, the certification schemes make the following assumptions:

(i) Buyers are willing to pay more for a product that is guaranteed to have been "sustainably" produced.

(ii) The premium they are prepared to pay is a sufficient incentive for producers to modify their practices according to the sustainability criteria required.

(iii) Consumer demand is strong enough to transform the entire market in this way, and thus the production sector.

At a second, more specific level, all standards are based on the definition of objectively verifiable criteria and indicators, which, once monitored, must ensure that production has no impact or only limited impacts, on the issues identified by the standard. This approach is based on a double assumption:

(i) If an impact indicator (in terms of biodiversity or social conditions) is in a state *x*, it is because the operator has successfully implemented the corresponding type of procedure or corrective action, effectively leading to greater sustainability;

(ii) The involvement of all stakeholders in the definition of these criteria and indicators ensures that the diversity of issues is taken into account to obtain a true sustainability.

At a last level, that of the actual functioning of the standard, there are again two assumptions:

(i) The third party so-called independent audit enables the objective evaluation of the practices of the audited operator with regard to the standard reference;

(ii) The penalties incurred by an operator in case of failure to comply with the requirements of a standard are sufficiently dissuasive to avoid deviation from the standard or, when detected, for its rapid resolution.

The robustness of this theory of change is put to the test by the practical modalities of the deployment of the certification standards, for which reliable data are available, distinguishing on the one hand according to the three operational components mentioned above (change of practices, audits, conflict resolution), and on the other hand depending on the modes of production. This analysis will ultimately show that the theory of change underlying the certification mechanisms encounters many practical obstacles on the ground, largely explaining the low impact of the RSPO - and more generally of certification standards - in terms of sustainable and profound transformation of the sector.

4.1.2. A theory of change challenged at different levels

4.1.2.1. A low demand and low-paying market

To understand the functioning of the market for certified products it should first be noted that upstream operators, such as buyers, can choose between different terms of sale according to the types of certification. The RSPO distinguishes 4 types of marketing: the sale of Green Palm certificates, sale in mass balance, the sale of segregated oil and the sale of so-called "identity preserved" oil. Similarly, ISCC provides "mass balance", "segregated" and "identity preserved" sales. As for RA-SAN-certified products, they can only be sold through fully segregated channels and the possibility of selling in mass balance is not available.

While these different forms of marketing have no direct impact on the way fruit are produced at the scale of the plot, the choice of one or the other has a decisive impact on the rest of the logistics and processing chain. Thus, an RSPO-certified producer can sell his or her bunches in a totally undifferentiated way, while placing on the market a number of certificates equivalent to his or her production. Conversely, purchasing companies can buy oil without paying particular attention to whether it is certified or not, but can buy a number of certificates on the market equivalent to their purchase volume in order to support sustainable production. This system is called "Book and Claim".

With the mass balance, the fruit producer values his or her fruit at the price of the certified production (RSPO or ISCC), but these are then mixed with fruits and then oils that may or may not be certified. In this case the mill operator must maintain a register enabling him to sell on the market a volume of certified oil strictly equivalent to the volume of certified fruit that was bought; in contrast, it is impossible to guarantee that this oil comes from palm groves managed according to RSPO principles.

The systems of segregation and preserved identity go further. They impose a total segregation of the certified and non-certified channels and make it possible to guarantee that the oil thus purchased is exclusively sourced from RSPO palm groves. The "preserved identity" system is based on complete traceability to identify from which palm groves the oil is sourced from.

The logistical cost associated with each of these marketing methods will obviously increase as we move towards a completely traceable product, from planting to finished product.

In the context described above, we review the main assumptions of the certification process concerning the links between markets and production.

1. Buyers are willing to pay more for a "sustainable" product, and the premium is high enough to be an incentive for producers => untested hypothesis

In recent years, the certified oil market appears to be showing a trend towards lower remuneration, regardless of the mode of sale considered. This is particularly clear in the case of Green Palm certificates, whose average nominal value has only decreased since 2008, from close to $44.5/tonne to less than $2/tonne in 2014 for the CSPO (see below). Changes in the value of certificates for palm kernel oil (reported in the Figure 11) are still poorly understood to this day.

Regarding the premium obtained on oils sold as mass balance or segregated, there is little communication from the different standard managers (RSPO, ISCC, and Rainforest Alliance). One of the main reasons for this is the large variability in the price of the palm oil itself (see Figure 12) and the fact that the premium changes accordingly. One report, now slightly dated, mentions a premium of $25 to $50/tonnes for RSPO oil depending on the marketing method, i.e. mass balance or segregated (see WWF *et al.*, 2012). The interviews conducted in the framework of this study provided a similar range for ISCC as for RSPO, albeit slightly lower, from $20 to $40/tonne. The order of magnitude of the premium for certified oil is thus between 1.5 and 6% higher than uncertified oil, a value that is relatively convergent with the latest study published by the RSPO on this subject (6.5%) (Preusser, 2016).

The two studies commissioned by the RSPO (WWF *et al.*, 2012; Preusser, 2016) on the profitability of certification are moreover relatively convergent in terms of results. Indeed they show that while certification makes it possible to improve the productivity of a plantation (sometimes up to more than 40% productivity improvement) and to some extent to reduce costs (reduction of conflicts, of input use, improvement of internal procedures, etc.), it has no direct mechanical impacts on the income or profit of large-scale operators involved in certification as both variations do not occur simultaneously. The study conducted by Preusser involving 34 companies shows no statistically significant difference in company turnover or profit per hectare (Preusser, 2016, p.22). While the two above-mentioned reports welcome the impact of the RSPO on improving the functioning and productivity of plantations, their results also imply that there is a need to look elsewhere for an incentive for producers and not only at increases in incomes (at least in the short term). We return to this issue in the paragraph on the operational implementation of PCIs for producers.

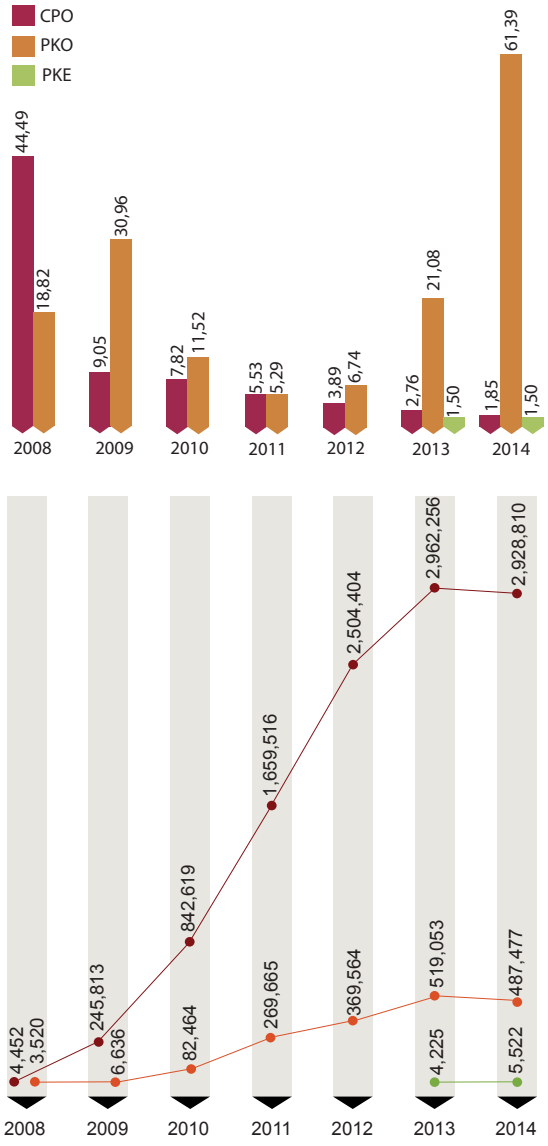
2. Demand is strong enough to transform the entire sector

If the market is not particularly profitable for certified oil, and certainly not sufficiently profitable to constitute a clear economic signal, this is particularly due to a demand that remains low, including in countries where buyers are most sensitive to reputational risk (Europe, United States). Thus, since the beginning of the RSPO, the proportion of certified palm oil that is able to find a buyer in the market has barely exceeded 50% (see RSPO, 2015a, p. 4 and figure 13), although the purchasing companies remain below their CSPO procurement targets (WWF, 2016). Moreover, some companies with a supply that is not solely CSPO tend to invest their resources in other approaches/strategies that are not based on certification. For example, less than a quarter of Nestlé's palm oil supply is certified (WWF, 2016, p.22), but the company has been very much involved in the "no deforestation, no peat, no exploitation" traceability approach, particularly with the support of the TFT.

Compared to other produce (coffee or cocoa for example), the palm oil sector is, however, characterized by a substantial proportion of certified production. Thus, RSPO certified production reached 12.9 million tonnes in 2015, i.e. just over 20% of world production. At the same time, about 5 million tonnes of ISCC-certified palm oil was purchased (the exact production figure is unavailable), however, the overall proportion of double certified oil (RSPO and ISCC) is probably significant.

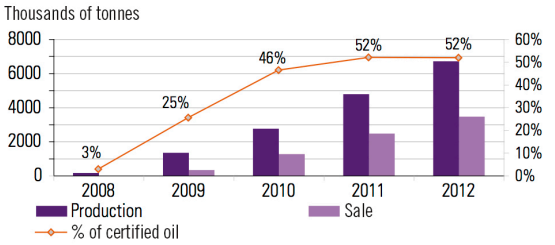
RSPO has set a target of 100% of the European market, 50% of the Indonesian and Malaysian markets and 30% of the Indian market to be RSPO certified by 2020 (RSPO, 2015a, p. 11). However, despite the formal commitments made by some companies, on which basis RSPO claims that its targets are realistic (RSPO, 2015a, p. 12), the current trends do not seem to be heading in this direction. It should be noted, however, that the document does not specify which marketing method is involved; indeed while it seems possible to progress rather rapidly in terms of book and claim or mass balance, the development of a segregated market generates significant logistical costs, and it will be necessary to see which actors are willing to cover such costs.

Figure 11. Average premium ($/certificate) and number of certificates sold for palm oil (CPO), palm kernel oil (PKO) and palm kernel expeller (PKE) 2008 to 2014



Source RSPO (2015a)

Figure 12. Share of certified RSPO production sold as RSPO



Source: RSPO

Until now, the certification market (for palm oil and other commodities) has been struggling against the central objective of the RSPO ("transforming the market to make sustainable palm oil the norm"). However, 20% of certified production cannot be considered as a negligible proportion. What is its impact on the practices of upstream operators? The following section provides insights on this issue.

4.1.2.2. The adoption of a certification standard does not lead to fundamental changes in the practices of growers

Two assumptions can be distinguished on the operational side:

1. Compliance with PCIs by an operator involves concrete changes in practices;
2. The definition of these PCIs satisfactorily covers the diversity of sustainability issues:

The second aspect has been addressed in part 2 of this report. We showed that the degree of precision, completeness and requirement varies from one standard to another and that not all standards can be considered on the same level. The following ranking was proposed, with a particular focus on environmental issues:

POIG / HCS > RSPO Next / ISCC > RSPO > RA-SAN > ISPO / MSPO.

Nevertheless, whatever the standard considered and whatever its degree of requirement, to be certified always implies that an operator should modify his/her practices according to the set of principles, criteria and indicators of the standard concerned. A comparative analysis of the different standards shows that five main types of measures can be required by the standards:

1. Carrying out studies to assess the potential or actual risks or impacts of the company's activity on the various issues identified by the standard;
2. Implementing action plans to minimize negative impacts/maximize positive impacts;
3. Establishing systems to monitor the implementation of the above-mentioned action plans and to assess the effectiveness/efficiency of this implementation;
4. Establishing internal operational procedures to guarantee compliance of the daily practices of all company employees with the PCIs of the relevant standard;
5. Keeping track of and making available all documents to the various stakeholders (in particular the auditors) that relate to the internal functioning of the company, its relations with external stakeholders, making it possible to judge the successful implementation of the four other types of measures mentioned above.

A detailed analysis of the measures demanded by RSPO, ISCC and MSPO shows that ISCC requires

the implementation of practical operational procedures much more than studies or action plans, and it therefore appears more "practical" or pragmatic. It also shows that the extent of the requirements of each standard is extremely broad; in this sense, implementation applied to the letter would be likely to have impacts that are far greater than what is documented today. To understand why we are still waiting for these impacts, we must therefore go down to the level of the actual functioning of the upstream operators and analyse *how* they translate, in their daily operation, the PCIs of the standards studied.

However, few studies document these aspects, or at least only in a very unequal way, depending on the production modes. Thus, there are (relatively) numerous works explaining how smallholders have organized themselves to meet the requirements of the standards or on what factors limit their adoption (e.g. Brandi *et al.*, 2015, Hidayat *et al.*, 2015, Hidayat *et al.*, 2016, Zen *et al.*, 2016). Conversely, work focusing on companies is very rare. The annual communication of progress (ACOP) reports submitted annually to the organization by RSPO members offer some elements of analysis but remain very brief and approximate. These reports nevertheless serve as a basis for the analysis of changes in a company's practices that follows below.

On the other hand, there are analyses that attempt to assess the consequences of certification using large-scale indicators (productivity, profitability, turnover, etc.), without however clarifying the nature of the changes in practices at stake. In particular, as mentioned above, two reports carried out on behalf of the RSPO tend to show that certified operators (smallholders as well as companies) have higher productivity per hectare than non-certified operators. Certain elements relating to the costs of certification are also available in the same reports. They show that it is possible to distinguish between three types of certification costs (WWF *et al.*, 2012):

The **initial costs** correspond to the cost of establishing new procedures to meet the requirements of the standard. They generally include a pre-audit phase, which identifies gaps between existing practices and the objectives of the standard; the establishment of the corrective actions and action plans required by the standard; and the costs of the audit itself. The total cost to the company is between $6 and $ 37.5/ha.

Operating costs correspond to the extra cost of maintaining operational practices and monitoring systems to meet the objectives of the standard over time. Although the data available to estimate these costs are limited, values of $2.5 to $13/ha/year are given for information.

Finally, **land management costs** are related to environmental and social impact studies ($1 to $11.67/ha for the environment and $0.47 to $1/ha for the social), HCV studies (between 0.8 and $5/ha on average, but up to $22 in complex landscapes) and then to protection/conservation of areas identified as important by these preliminary studies (between 0 and $13.4/ha, depending on the size of the areas considered).

The indicative costs for each of these categories per hectare vary within significant ranges and are obviously highly dependent on the type of operator considered. In particular, due to the importance of the initial fixed costs, the existence of economies of scale in terms of certification is largely attested, illustrating the comparative advantage of large companies over smaller ones for certification (WWF *et al.* 2012, p.19).

Based on this relatively scattered data, the following three paragraphs attempt to account for the practical consequences of adopting standards for different categories of upstream operators. In addition to the distinction between industrial plantations, tied smallholders and independent smallholders, a distinction was made between industrial plantations managed by large groups with international reach and industrial plantations managed by Indonesian or Malaysian companies of national size.

Major groups: compliance with PCIs through the adaptation of CSR policy and the use of the services of external consultants

Major groups have two characteristics that influence the way in which they implement a standard. Firstly, they are listed on the stock exchange and are dependent on external shareholders, which implies a certain familiarity with *reporting*, in particular as regards CSR. Moreover, most of the time they have already adhered to different standards well before the arrival of the RSPO, in particular from the ISO system (9 001, 14 000, 14 001), and are therefore already "trained" in adapting their practices to bring them in line with externally defined standards.

A large proportion of RSPO, ISCC and MSPO PCIs do not involve radical changes for these companies. They can formalize practices that could have pre-existed and subject them to an external analysis of the practices. This is the case, for example, with the company IOI, with "good agricultural practices", a theme that was introduced into the company as early as 2005, including zero-burning, methods for soil and water conservation, the conservation of riparian woodlands, an integrated pest management approach and energy savings.

The group then conducted internal audits to verify the implementation of these practices. Similar practices may also be required by the ISO system and other certifications such as the RSPO, which may have led NBPOL to attempt to integrate RSPO and ISO 14 001 audits:

In 2009, a joint program between NBPOL and British Standards International saw the first ever integration of the ISO and RSPO standards into a single audit procedure. […] The ISO framework has helped us tremendously to structure our sustainability activities, and as a result we are now undertaking integrated ISO14001 and RSPO audits in West New Britain.

However, regarding the most critical issues at the heart of this study (deforestation/biodiversity, working conditions, respect for land rights), available secondary data show that companies have had some difficulty in operationalizing the PCIs of standards.

On the social aspect (working conditions and wages) firstly, the various standards require, among other things:

- that salaries are indexed to a "minimum living wage", which is nevertheless left to the discretion of companies,
- that there is no "forced labour",
- that onsite accommodation, if offered, is decent, and
- that employees are not exposed to dangerous products without protection and training.

However, the way in which these requirements actually affect wage conditions appears complicated to analyse in the absence of precise data for at least two reasons. There is a lack of accurate data on life in plantations. It is also known from the work of Stéphanie Barral that the situation of Indonesian plantation workers is mainly determined by the liberalization of the system of social cover in the 1970s. This liberalization has imposed an obligation on workers to save money throughout their careers to ensure that they have a pension, since plantations were no longer supporting their retirement. This obligation is reflected in a permanent search for extra-salary activities, since the average worker's salary does not cover all the running costs of a family (Barral, 2015, p. 132-35). The obligation of a "living wage" included in the standards but little defined does not seem to be able to compensate for the consequences of legislation that is particularly advantageous for companies.

Regarding working conditions, Amnesty International's recent report (2016) illustrating the existence of types of forced labour, unsafe working conditions and the underpayment of wage-earning workers, including in certified plantations, seems to confirm the low influence of standards on the wage practices of plantations. A closer analysis would also need to distinguish between temporary workers and permanent workers in plantations, because the cases reported by Amnesty refer mainly to temporary workers, whose situations are often much more difficult than those of permanent workers.

Regarding deforestation and the respect of customary land rights, most of the issues crystallize around new plantations. Indeed, most standards today contain at least three obligations for the development of all new plantations: (i) respect for HCV forests, or even HCS forests; (ii) the conduct of an Environmental and Social Impact Assessment (SEIA); (iii) compliance with the principles of free, informed and prior consent (FPIC). Compliance with these obligations requires competences rarely available to companies internally, which leads them either to train internally or, more generally, to hire an external consultant.

A report by the Environmental Investigation Agency shows that external evaluations are very often partial and biased: HCV forests are sometimes deliberately omitted from the study submitted to the commissioning company, as are the existence of land conflicts (EIA, 2015).

To meet these challenges, the RSPO has recently outsourced to the HCV resource network the task of empowering consultants to conduct HCV studies. More seriousness is expected in the conduct of studies, but the practical effects of these changes are still to be assessed on the ground. These elements also illustrate the fact that, in relation to the issues relevant to our study, certification is not a guarantee of significant changes in practices.

National companies: little change despite a growing reputational challenge

There is today little information on the internal processes of small and medium-sized and growing companies, often less focused on international markets and thus less inclined to commit to a certification process that is otherwise costly for them. In a context where domestic Indonesian and Malaysian markets represent more than 20% of global consumption, the practices of these companies (or, on the contrary, the absence of any change in their practices) are likely to have a decisive impact on the future of rural areas, that are adapted to the development of oil palm. To illustrate the case of these companies, we examine here the example of Eagle High Plantation (EHP).

Created in 2000 under the name Budi Perdana, the group became Eagle Eye Plantation in 2014 after the friendly acquisition of the Green Eagle group. It has, as of 31/12/2015, a planted area of

just over 151,000 ha (of which 13,700 ha are plasma managed by smallholders) and a "landbank" of more than 420,000 ha. Between 2011 and 2015, 50,000 ha were planted at a decreasing rate, but none of these new plantations were RSPO certified and not therefore covered by the New Planting Procedures clauses. While the group has been an active member of RSPO since 2010 at least (the date when the first reference to the RSPO appears in its activity report), it has still not certified any hectares, although since 2012 it has regularly announced its desire to certify. Its action plan, as designated to the RSPO for certification, has thus changed twice, with the 100% certified target being postponed from 2020 to 2025, according to the following plan: 6% CSPO in 2016, 27% of CSPO in 2018 and only 66.8% of CSPO in 2020.

There is little doubt that the recent commitments to certification are the result of pressure exerted on the company by various NGOs, as noted in the 2014 activity report:

> *Other challenges we faced in 2014 were to explain why the Company had a weaker than expected production during the year which put pressure on our cash flow, and negative opinions about our business from a few large NGOs. […] And to answer criticism, we decided the best way is to focus on trying to get our sustainability certification as fast as possible and this is one of our key strategies for 2015.*

Indeed, the challenge is not so much to access international markets, for a group that clearly claims the Indonesian domestic market as its primary target (Eagle High Plantation, 2015, p.73), but rather to guard against strong criticism. While the group's annual sustainability reports refer to the integration of certain practices, such as "good agricultural practices" (from 2008) or good employee treatment (as of 2009), procedural aspects of new plantations (NPP, New Planting Procedures) are not addressed until 2015:

> *We commit to conducting rigorous Social and Environmental Impact Assessments and High Conservation Value assessments for all of our existing plantations and prior to commencing any new planting and to use the results to monitor and improve our operations. In early 2016 we have completed our first HCS study. We will strive to continuously improve ourselves in all these areas. We would like to reach the highest recognized standard, which is currently RSPO certification.*

The precise modalities of conducting HCV and SEIA studies are not, however, detailed. One can easily imagine that the company outsources these studies to a consultant or an NGO, with consequences similar to those of large groups.

Such companies represent crucial targets for all actors concerned with improving the sustainability of the sector. With a landbank of 420,000 ha, its potential impact is indeed enormous. Paradoxically, because of its position in the sector, the levers available to act on them are much less important: low international visibility, little link or no link with the world markets and traders who have undertaken commitments for no deforestation. The leaders of these companies are also frequently closely linked to the power in place and have a strong capacity to influence, enabling them in particular to limit any action taken against them. Many protagonist consider that it is companies like this one which, in 2016, pressured the government to require the dissolution of the Indonesian Palm Oil Pledge (IPOP), a collective commitment made by the main Indonesian traders to Indonesian policies (see note 2).

In parallel to RSPO commitments, which have not yet materialized, the company has had two of its ISPO plantations certified since 2015. In this way, it can boast of a form of sustainability vis-à-vis its buyers and its criticisms. This situation raises a crucial question, which will nevertheless be only slightly addressed here: that of "multi-certification" by many companies in the sector (RSPO, ISPO, ISCC most often).

Smallholder certification entails changes in practices that have no obvious consequences for ecological sustainability or income

For the certification systems, the fact of targeting smallholders has for a long time been associated with two main issues. On the one hand, their system generates the most benefits. It must therefore be encouraged, promoted, improved, and prevented from being marginalized because it would no longer have access to markets requiring only certified production (a situation common in the agricultural sectors, even if very dependent on the sector's governance, see Lee *et al.*, 2012). Ideally, it is also important to ensure that a certified smallholder can benefit from additional income in a context where certification, because it represents a significant initial cost, often plays the role of a barrier to entry for smallholders. This first issue was at the heart of the first RSPO smallholder Task Force: "ensure that smallholders are not marginalised from the sustainable palm oil market and are able to benefit from improved standards and best practice".

On the other hand, insofar as smallholders also represent a major proportion of production, there is a strong need to accompany the development of their production systems towards the best possible sustainable trajectory, particularly without affecting forest areas that are important for conservation.

Faced with these two challenges, and in view of the fact that certification was originally conceived for large companies (apart from RA-SAN which is

more specifically focused on smallholders), the different certification systems have established special procedures for smallholders, including:

(i) an adaptation of PCIs to their specific situation;

(ii) specific funds to support certification implementation.

Practically, smallholder certification takes different forms depending on whether the focus is on tied smallholders or independent SHs. For tied smallholders, the responsibility for certification is borne by the company to which they are tied, through the formation of farmer groups of varying sizes and the support of cooperative systems. This often includes the support of the company and/or a third-party NGO, such as Solidaridad.

Independent smallholders must organize themselves around a certification group and it therefore seems absolutely necessary that they receive external support. This support can be provided either by an NGO or possibly a company, such as Wilmar recently (Hidayat *et al.*, 2015).

Available research shows that smallholder certification can have diverse effects:

1. it triggers changes in practices through improvement in training, which can have positive effects on yields, although this is not guaranteed. In addition, it has an impact on the reduction of inputs and thus enables savings on production costs, as well as an impact on the adoption of "best practices" in terms of water and soil conservation, and in terms of the production of fruits, which can be of better quality and therefore generate a higher income (Hidayat et al., 2015, p. 36-37);

2. it however increases SH dependence on external actors for the management of certification and access to associated benefits (credit, training, etc.). While it helps independent SHs to access the market, it has little effect on tied SHs because they are contractually linked to the company that processes their FFBs.

3. the fact of being certified does not, however, solve the issue of asymmetries of power for SHs vis-à-vis their buyers, and the fact that generally speaking they are in a subordinated position in the sector;

4. finally, we currently don't know anything about the effect of certification on the potential propensity of SHs to establish new plantations in forests. Admittedly, according to the results of Lee *et al.* (2014) the impact of SHs is not as great as that of large industries, but it does exist. It is therefore important to see how certification can take this into account. However, the relaxation of PCIs for SHs leaves little scope to limit their expansion into forests.

One of the frequently asked questions about SHs concerns the factors limiting their enrolment in certification (e.g.Brandi *et al.*, 2015). Many factors are often put forward:

1. the organizational cost that this represents (it is necessary form groups and to pay a group manager),

2. the lack of knowledge and training, and

3. The fact that several RSPO requirements represent significant challenges in this context: obtaining a proper land title; the low quality of the plant material used is a problem in relation to national regulations and therefore to the RSPO (since it requires compliance with laws and regulations); poor control of pesticides and fertilizers is also a problem; the most important challenge is the virtually inability of SHs to provide documentation on their practices as required by the RSPO.

Nevertheless, this type of analysis makes the a priori assumption that certification is positive for SHs and sustainability, which, in view of the above, is not obvious. While the system seems at least partially to favour the SHs who manage to access certification, it does not give them a clear comparative advantage over other production systems, nor does it push them towards limiting their potential impact on deforestation. The challenge of certification for SHs therefore seems to be open to debate. As Hidayat and colleagues (2016) said, as long as it does not strengthen their negotiating skills with their buyers, its impact is likely to remain limited.

4.1.2.3. Generally poorly functioning auditing and conflict management systems

At the operational level, the effectiveness of a certification standard is based on two ideas:

(i) that the third party audit makes it possible to objectively assess the practices of an operator with regard to the PCIs;

(ii) that the sanctions incurred in the case of non-compliance with the criteria and indicators are sufficiently dissuasive to encourage operators to rapidly establish corrective action.

The first aspect refers to the functioning of the audit itself. The second refers partly to the modalities of the management of the results of the audit (and therefore to the relationship between the RSPO and the operator when the RSPO receives the results of the audit), and partly to the management of potential conflicts between a third actor who is the victim of the non-compliance of a PCI and the operator concerned.

The audit

The modalities of the audit are similar for each standard: a company must undergo a pre-audit and then a full audit. If it successfully passes the audit, it is certified for 5 years. Each standard entrusts the delivery of auditing authorizations

to certifying bodies (CBs). In the case of the RSPO, the latter has managed the issuing of these authorizations itself until 2012. Since that date, it has outsourced this function to ASI, Accreditation Services International, in particular to guarantee more independence and transparency. The ISCC still manages the different CBs who can audit for it: any organization that follows a 3 days training programme organized 6-7 times a year by the management association of the standard and that meet general requirements and qualifications, can become an ISCC auditor.

In all cases, it is the company that bears the burden of the audit, by paying the auditing company for the cost of the audit. Conflicts of interest associated with certification are well known. In the case of the RSPO, an EIA (2015) report strongly questions the ability of the audit to effectively play its role. This report is all the more worrying given that at the present there is very little data on the modalities of realizing the audit, and the auditors themselves are not easily approachable (it was impossible to obtain an interview for this study). The situations reported by EIA include complacency audits, auditing companies that are dependent on the market and therefore unable to issue a critical report, etc.

This aspect appears to be particularly problematic in the case of the RSPO, where few safeguards are implemented. Conversely, the ISCC has set up an independent audit system which is superimposed on the audit carried out by the company. For that, the ISCC works together with three independent integrity auditors who carry out about 70 independent audits per year in situations considered problematic.

The literature review shows a major lack of data at this stage. The available data are not very encouraging and tend to cast doubt on one of the foundations of certification, namely that the so-called "independent" third party audit is a guarantee of compliance with PCIs for a certified company.

This situation is further confirmed by the high number of conflicts that reach the RSPO's "grievance mechanism". Each of these conflicts results from a situation in which a third party actor considers to have been adversely affected by the non-respect by an operator of one or more RSPO PCIs. And the modalities of managing these conflicts appear at least problematic.

Conflict resolution: the example of the RSPO's "grievance mechanism"

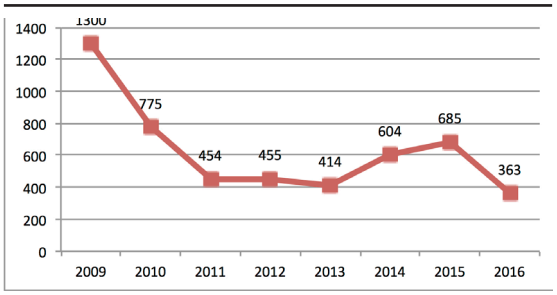
The most serious risk for a company involved in a dispute is that its RSPO membership is suspended. While this sanction may appear weak, it raises the reputational issue that was well illustrated in the "case" of the IOI company in 2016 (see Thoumi & Levicharova, 2016). However, the strength of the penalty is likely to change according to the level of the reputational "risk" that a company takes by "exiting" the RSPO (or being excluded).

Prior to suspension, which is only a last resort, accusations are brought before a grievance mechanism set up within the RSPO. Any actor can file a complaint within this relatively complex mechanism, the burden of proof falling on the complainant. The complaint may concern not only a breach in PCI compliance, but also any other structuring text of the RSPO. The complaint is then considered by a "complaint panel", which is usually composed of 5 members (1 grower, 1 environmental NGO, 1 social NGO, 1 supply chain member and 1 affiliated member), which rules on the validity of the complaint. The actor can then direct the complaint towards a "Dispute Settlement Facility", a dispute resolution body where the challenge is to find a solution through discussion that suits everyone. The discussion may involve several rounds of debate, appraisals and counter-appraisals, before a conclusion is reached.

In fact, the number of successful complaints is relatively low: 72 since the mechanism was established, 26 of which are active today. Almost half of the complaints received concern land problems, confirming the importance of the problem and the difficulty for the RSPO to provide a totally satisfactory solution.

Operationally, the processing time for complaints is very long: more than one year and up to almost two years, and even close to four years for the initial complaints filed when the mechanism was launched! (See Figure 13).

Figure 13. Average processing time of a complaint filed with the grievance mechanism (in days)



Source: RSPO website

More generally, a recent report highlights the shortcomings of the mechanism (McDonald & Balaton-Chrimes, 2016), with particular emphasis on 6 aspects:

(i) The weak capacity of the RSPO to provide solutions to complaints filed with the mechanism, with only a minority of complaints having been

concluded either by a sanction or agreement;

(ii) A very long processing time, even if this discussion time could in some specific cases enable advances to be made regarding difficulties in the field;

(iii) A rather small learning effect, particularly due to the fact that the same companies have been the subject of complaints several times without any real progress being made. This can be illustrated by the case of Wilmar. The company has been accused on numerous occasions either via the RSPO or in front of the office of the Ombudsman of the International Finance Corporation between 2007 and 2013, and has again been challenged by the recent Amnesty report denouncing the poor working conditions on its plantations or those of its suppliers.

(iv) Difficulties of the mechanism to conduct independent and robust analyses and to enable affected communities (or those claiming to be affected) to gain competence in order to remain part of the relevant mechanisms;

(v) There are few sanctions, and even these are poorly applied;

(vi) Finally, there is a lack of transparency which has exacerbated all the limitations mentioned above.

4.1.3. Links between private standards and national standards and impact on transformational potential

The emergence of national standards (discussed in part 3 of the report) raises several questions about the potential effectiveness or the future of private standards. Concerning the level of incentive represented by the different standards, national and private standards are not at the same level. Being certified ISPO or MSPO now offers no advantage for accessing Western markets. On the other hand, we do know nothing about the Chinese, Indian, Indonesian or Malaysian markets in terms of consumer demands for certified sustainable products. The national standards may be largely sufficient in these markets, and may even be preferred in future, thus eliminating the incentive for national/regional companies to be RSPO/ISCC/etc. certified.

The ISPO and RSPO have also demonstrated a willingness to work together through UNDP mediation in the framework of the SPOI project (see Suharto *et al.*, 2015). The follow up to this preliminary comparison between the two standards, although officially announced, is still unclear.

The emergence of national standards, their affiliation to a Council of Palm Oil-Producing Countries (the CPOPC, created in November 2015), and the fact that similar initiatives have emerged for other commodities, illustrates well the willingness of producing countries to regain control over how sustainability should be defined. The existence of regional markets for a certified product with a lower degree of requirement suggests that these tactics can be a winning strategy for producer states.

As a corporate-state led standard, it is however often feared that little room will be left for social/human rights NGOs, and the ability of such standards to promote the development of village plantations/smallholders must be challenged (Wijaya & Glasbergen, 2016, p. 22).

4.2. Individual commitments of companies

Many organizations and projects support companies in the definition and implementation of their commitments. Some organizations are directly involved with companies, such as the Tropical Forest Trust (TFT) or the Sustainable Trade Initiative (IDH). Others play the role of a collaborative platform, such as the Consumer Goods Forum (CGF) or the Tropical Forest Alliance 2020 (TFA2020), a global public-private partnership that brings together 8 states, 27 companies and 33 NGOs and research organizations. Lastly, others "follow" the commitments made by the actors and promote their visibility through various tools. This is the case for the Global Canopy Program (GCP) with its "Forest 500" project, and the Carbon Disclosure Project (CDP), an international NGO based in Germany voluntarily collecting data on emissions from large companies.

4.2.1. A promising theory of change

Despite the diversity of approaches developed by these organizations, all are based on a similar modus operandi, which involve four steps:

- Encouraging a company to make clear commitments towards ensuring a more responsible supply with respect to three issues, namely deforestation, working conditions and land tenure;
- Operationalizing these commitments through one or more specific company policies, focusing in particular on purchasing policy, knowledge/traceability of the supply chain and certain aspects of the internal organization (remuneration of purchasing managers in particular);
- The company subsequently strives to communicate in a transparent manner on the progress it is making, the results it achieves and the obstacles it encounters in the implementation of this policy;
- It constantly adjusts its ambitions, its corporate policy and the modalities of its implementation

based on feedback from its stakeholders on the basis of its external communication.

As in the case of certification, this modus operandi is backed by a theory of change that distinguishes three operational levels: the organization of the company, the role of the company in the sector, the relationship between traceability/transparency and compliance with commitments.

At the first level, that of the company, this theory of change makes two assumptions:

(i) The first assumption is that the company is an economic actor but also a political/moral one: if the company is committed to the greater sustainability of its supplies, it is both because it sees economic value in this (being sustainable is a good way to be more profitable), but also because it wants to contribute to the common good (or at least not to contribute to causing damage);

(ii) The second considers that a commitment made at the highest political level of a company is effectively and practically (and rapidly) reflected in the operational functioning of the company, through company policy, remuneration methods, relationships with suppliers…

At a second level, that of the organization of the sector, the theory of change based on private commitments again makes two kinds of assumptions:

(i) A first hypothesis deals with the relationship between the company and its competitors in the same segment: when a company with a significant market share and/or high esteem/reputation makes a commitment, it influences its direct competitors to make similar commitments. This influence grows as the market share of committed companies increases, until eventually causing a "threshold" effect from which all companies are likely to follow (this threshold, if one exists, would obviously be specific to each sector and to each segment of the sector).

(ii) A second hypothesis deals with the relationship between the company that makes commitments and its suppliers. In a context where the ultimate goal of all these approaches is to change practices at the plantation level (industrial or smallholder), the passage through the commitment of purchasing companies (industrial producer of final consumer goods, refiner/traders) is ultimately based on the assumption that they are in a position to negotiate with their suppliers to lead them to implement practices consistent with their commitments (voir aussi Christmann & Taylor, 2001).

Finally, at the last level of the relationship between the objective of transparency and the respect of commitments, we can distinguish two assumptions.

(i) The first considers that if the company makes a commitment, then it is able to be totally transparent about the origin of its supplies, enabling its stakeholders to identify possible discrepancies between the commitments taken and what happens in the field (both socially and environmentally);

(ii) The second assumption is that in the event of a discrepancy, these stakeholders have sufficient means to push the company to take "corrective" measures.

Such a theory of change is based on the development and mobilization of two types of tools:

a- *Landscape analysis* tools, which allow prioritization of development zones, conservation zones and areas reserved for local populations. Such tools rely heavily on the HCS and HCV methodologies;

b- *Verification* and *transparency* tools to enable the continual monitoring of the inclusion of environmental issues (mainly deforestation with tools such as Starling) and social issues (through the mobilization of local, national and international social movements).

More recently, several organizations involved in supporting companies in implementing their commitments have started to develop integrative tools at the territorial/landscape scale. The objective is to integrate the issues of the palm oil sector into a wider reflection involving local governments in land use planning. Since this last aspect has taken on particular importance and covers multiple facets, it is the subject of the last part of this report and is not directly addressed here (see section 3).

As before, this theory of change is put to the test of the practical modalities of the deployment of private commitments in the palm sector and its consequences so far. Given the relatively recent nature of most of these commitments and the fact that the analysis presented is based largely on written sources, the conclusions will necessarily be qualified. It will show, however, that while this approach by private commitments appears in many respects promising, its operationalization is particularly ambiguous.

4.2.2. Assessing the effect of the individual commitments of companies: a promising theory of change, the deployment of which faces two main obstacles

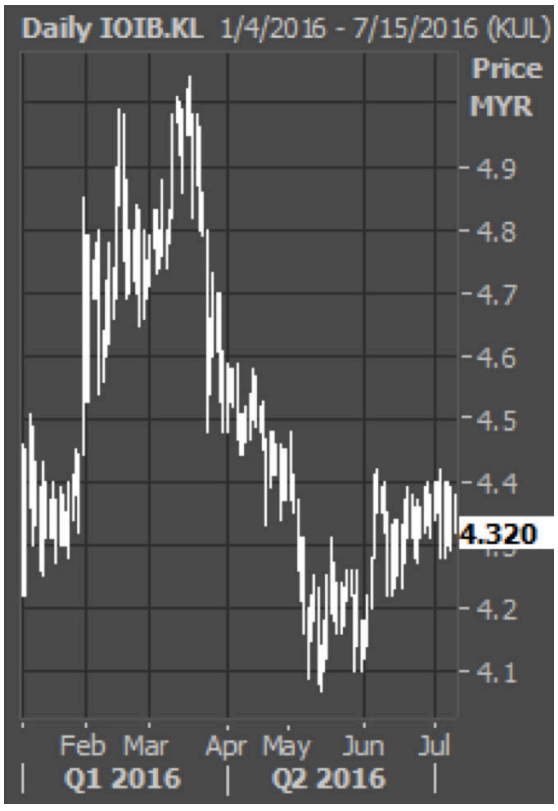
4.2.2.1. The company, a political actor whose decisions are translated into operational terms: yes, but…

Commitments driven by intertwining moral convictions and economic interests

The engagement of companies in all segments of the palm sector is often accompanied by vibrant advocacy for forest conservation and/or protection

of the rural population, thus seemingly confirming the highly political and moral dimension of their commitment. Nevertheless, economic pressure is never far away in the same discourse, and the two dimensions appear inseparably linked: the company is all the more inclined to adopt moral behaviours as the market rewards it for doing so, or penalizes it if it does not. The case of IOI, whose share price fell sharply after it tried to sue the RSPO in protest against its suspension, that in the first instance was deemed unfounded, is a good example of this (Thoumi & Levicharova, 2016) (see Figure 14). Symmetrically, the fact that small companies with little or no reputational risk have not so far made any commitments, although they are fully aware of their contribution to certain aspects that are otherwise considered "negative", argues against an excessively exclusive political/moral view of corporate decisions (see Padfield *et al.*, 2016). More in-depth interviews with the CEOs and managers of these companies would help to clarify this aspect.

Figure 14. Changes in the share price of IOI in the first half of 2016



Source: Thoumi & Levicharova (2016)

A poorly informed translation of the commitments into operational terms

Regarding the second assumption according to which the commitments taken at the highest level are practically translated in the company's practices, the voluntary commitments approach has drawbacks related to its advantages when compared to certification. Where certification provides the company with an implementation mode, in the form of a list of items to be audited by the third party auditors, the voluntary commitment approach leaves the company the freedom of choice. This method has the advantage of flexibility but leaves it to companies to make their own decisions about how they want to address the issues considered. The major downstream industrial companies and most traders and refiners have in the last three to four years published their corporate policies announcing ambitious commitments. Few of them, however, have precisely explained how they intend to set in motion such commitments in their internal organization, and so far there have been almost no reports or studies to document the implementation of such commitments. This requires further consideration if we are to truly understand the changes—if any—that may eventually be induced.

While the company is a political actor, the state is nevertheless an economic actor

A final aspect seems important to emphasize at this first level. While the voluntary commitments approach considers that companies are indeed political actors, it may tend to ignore the fact that states are also, in many cases, economic actors. This is particularly true of developmentalist states such as Indonesia or Malaysia. On the one hand, they are major shareholders of many upstream companies; on the other, they are likely to successfully oppose some corporate policies that would go against their own objectives, as the dissolution of the Indonesian Palm Oil Pledge last July illustrates fairly well (see Part 3 of this study). Even if officially all companies that were initial IPOP signatories have indicated that the evolution of the context no longer justifies maintaining this structure, tensions with the Indonesian officials have not been totally unrelated to this dissolution.

4.2.2.2. The interdependencies of the sector, the levers of change that are fragile upstream

Two types of sectoral interdependence are taken into account in the voluntary commitments approach: interdependencies that can be called horizontal, linking companies to their direct competitors; and vertical interdependencies, which link a company to its suppliers and customers.

Competitive dynamics that tend to elevate companies

Regarding horizontal interdependencies, the dynamics of the palm oil sector have been rather virtuous. While in many cases competition between certification systems tends to lead the whole of a sector towards the lowest common denominator, as is the case for coffee, for example, competition between private companies in the same segment of the palm oil sector clearly seems to have encouraged higher ambitions. The example of refiners/traders is a good illustration. For example, Wilmar's announcement of its NDPE policy on 5 December 2013 in some ways obliged all of its main competitors to position themselves along similar lines within the following 12 months. The following table shows the dates of publication of the company policies of all the main traders in the sector between 2011 and 2014. Concerning the downstream companies, a similar dynamic has probably been at work although a more systematic review has yet to be carried out to demonstrate it properly. The announcement of Nestlé's Guidelines for Responsible Sourcing in May 2010 has had a triggering effect for most major downstream palm oil buyers. However, the link between these commitments and the more upstream changes is more ambiguous, as explained in the next section.

More ambiguous downstream-upstream links

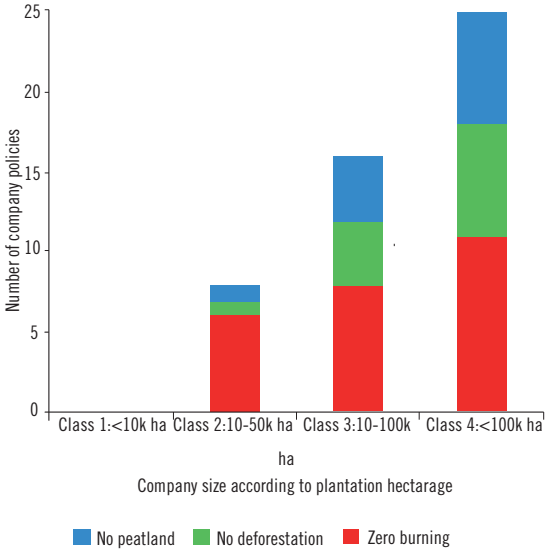
The nature of the vertical interdependencies within the palm sector is variable. On the one hand, the commitments made by the leading brands producing final consumer goods have clearly had a strong leverage on the commitments of the main traders, such as GAR and Wilmar, the first traders to make commitments. The pressure exerted by IOI's main clients in 2016 after the company had announced its intention to suspend the RSPO is also a good example (see Thoumi & Levicharova, 2016).

On the other hand, the links between intermediary buyers such as traders and upstream producers are much less clear, as exemplified by three indicators. The first is provided by the Chain Reaction Research group, which focuses on possible chain reactions within the sector. By comparing two reports produced at an interval of 18 months, comparing the practices of the top ten Indonesian palm oil growers with the requirements of their main buyers, it is clear that downstream pressure was not sufficient to significantly change upstream policies. Despite their ranking as "at risk" vis-à-vis buyers, and investor expectations in June 2015 (ten Kate *et al.*, 2015), these policies changed little in the following year, and last December only two companies had moved according to the Chain Reaction classification from "High Risk" to "Medium Risk" (ten Kate *et al.*, 2016).

A second indicator of a similar nature is provided by a recent paper by Padfield *et al.* (2016). The authors show that among the major plantation companies in Indonesia, Malaysia and Singapore, only the largest ones have made concrete NDPE commitments. This observation, shown in Figure 15, tends to show that reputational risk, even for upstream companies, has a much greater impact than market pressure. This behaviour is made possible by the development of markets that are not influenced, or are only slightly influenced, by NDPE-type commitments (such as the Indonesian and Malaysian domestic markets, particularly for biofuels, and the Chinese and Indian markets).

The third and final indicator refers to the reaction of the two main growers' unions in Indonesia (GAPKI) and in the Sarawak region of Malaysia (SOPPOA). Indeed these unions have largely criticized the commitments made by the downstream companies and the new consequent requirements through different channels (press releases and press conferences). They have made explicit the fact that their members do not intend to adhere to such requirements if not strongly coerced.

Figure 15. No deforestation, no burning, no peatlands commitments made according to company size as based on estimated planted areas



Source: Padfield *et al.* (2016)

Note: The figure is based on RSPO 2014 data for all RSPO member companies from Indonesia (46 companies), Malaysia (25 companies) and Singapore (6 companies). Figure 2. Policy pledges to « zero burning », « no deforestation » and « no planting on peatland » by palm oil growers according to the size of plantation (Class 1:<10 k ha, Class 2: 10-50 k ha, Class 3: 50-100 k ha, Class 4:>100 k ha) from Malaysia (25 grower companies), Indonesia 46 grower companies) and Singapore (6 grower companies) with RSPO-approved membership. The figure is based on all RSPO palm oil grower members from the three named countries as reported in December 2014. Source: RSPO (2014) and palm oil company websites.

An explanation for the apparent "resistance" of upstream operators refers to the forms of clientelism that characterize the palm sector in Indonesia and Malaysia for many authors (see Varkkey, 2012). In other words, upstream actors can disregard injunctions that come from the downstream, mainly because of the state protection they receive, which, for example, guarantees them national market access, on which the same requirements do not apply. This is another illustration of the centrality of public authorities, which the private commitment approach has tended to downplay, particularly because it is unable to influence it. These three points illustrate quite well the fact that the upstream-downstream relations are not free from tension and that, like all social relations, they are *power* relations. If an organization like TFT invites the various actors in the sector to "seek value creation" when they commit with their suppliers (TFT, 2017), the ability of an actor to obtain from its supplier the guarantee that the palm oil bought is produced according to a defined specification depends ultimately on the resources it has at its disposal to *impose* this specification. However, to our knowledge, there have been no studies so far that have examined the buyer/supplier negotiation conditions. In particular, we know nothing about the compensation offered to suppliers by buyers in exchange for their alignment with increasingly stringent requirements. While the CDP urges downstream brands to *audit* their suppliers to ensure their compliance with imposed specifications (e.g. CDP, 2016, page 7), it is not certain that suppliers have the means to do so within the existing negotiation framework.

4.2.2.3. Transparency and traceability, levers with highly contextual effectiveness

Companies that make commitments could have much more transparent practices…

Behind this assumption are two distinct issues: the *technical* feasibility of transparency and traceability; and the *political* will to communicate about the subject. The technical feasibility of traceability seems virtually assured, particularly due to the fact that many consulting firms have seized the issue as well as due to the huge work that the TFT has accomplished with its members. Tools to *communicate* about this transparency have also emerged, such as the TFT sustainability dashboard.

The issue of political will is more ambiguous. On the one hand, among companies that communicate on the subject, not all do so with the level of precision provided by dashboard-type tools—far from it in fact. Musim Mas and Sime Darby, for example, only distribute information in dribs and drabs, via their website and without recourse to more developed tools. On the other hand, the proportion of companies that communicate is not 100%, including among those who have made commitments. The results of the survey carried out each year by the CDP are, from this perspective, a good, even if imperfect, indicator. The non-responders to the survey include the producer/refiner and trader IOI, Astra Agro Lestari, and even the "major" French retailers Casino and Les Mousquetaires, not to mention Wal-Mart. A more thorough analysis of the transparency policies of companies that have made firm commitments should be conducted to explore this issue further, but there is every reason to believe that the level of transparency remains rather low.

As a result, it is difficult for the stakeholders of these companies, particularly civil society, to "continuously" monitor, as proposed by the TFT, the impacts of their actions on the ground. And when this is possible—for example Wilmar that communicates about its entire supply chain—there is no guarantee that civil society or investors will be able to make use of the information it successfully obtains. In addition, the verification tools are still lacking. From the environmental perspective, the development of tools such as Starling or GRAS must enable in the short to medium term the detection of any change in land use contrary to commitments made by a company, including in very remote areas, providing something to grip onto for the stakeholders. On the social level, however, things are much more complicated. Significant fieldwork is required to reveal the impacts of upstream business practices on land or working conditions and no remote monitoring is possible. The proposal of the TFT to develop a specific fund to finance this monitoring work by local NGOs (Kumacaya) could offer interesting perspectives from this point of view.

The main challenge remains that, from both the environmental and social perspective, it is sometimes difficult for the actors in possession of the necessary information to change the practices of a company. It is therefore necessary to distinguish between two types of actors seeking to hold companies accountable for their actions: actors of civil society and investors. The question of the role of investors has so far been little explored and will therefore remain outside the scope of this meta-analysis. Only NGOs will be considered in the next paragraph.

A balance of power that is rarely favourable to NGOs

There are often tensions, sometimes very serious ones, between NGOs and companies where situations of gaps between commitments and practices

have been observed or revealed. In many cases, a public campaign is the last resort for an NGO confronted by companies that do not want to change their practices. The media impact of such a campaign will be decisive to convince, or not, the company to take into account the requirements formulated by the NGO(s). From this point of view, although Greenpeace's successive campaigns targeting various companies in the palm oil sector have had considerable impacts (particularly cooking the climate in 2007 and the Kit Kat short film in 2010), the social stakes have rarely had similar impacts until the recent Amnesty International campaign (2016).

The Wilmar example is relatively interesting from this point of view. The company, which was the main target of Amnesty International's report, had received numerous complaints either logged with the RSPO or with the Ombudsman's office for compliance with the IFC and MIGA rules, none of which had really led to anything according to the NGO Corporate Accountability Research (Balaton-Chrimes & McDonald, 2016).

From this perspective, the discussion echoes the previous one on the effectiveness of the RSPO's conflict management mechanism. In the context of voluntary commitments and when, structurally, the public authority is rather unfavourable to the commitments made, social actors that make criticisms/challenges have little manoeuvre room to make their demands apart from by undermining the reputation of the company.

Since data and publications relating to the conflicts between NGOs and companies on this basis are rare, this paper will limit itself to these few observations. These observations lead globally to consider with great caution the assumption according to which increased transparency may be sufficient to lead the sector towards a structural transformation of the whole.

4.2.3. In summary: an approach whose implementation faces two main obstacles

The above analysis shows two main variables that limit the implementation of the private commitments approach. The first is due to the existence of asymmetries of power that are insufficiently taken into account by the proponents of the approach, both within the sector (between downstream and upstream actors), and between actors in the sector and external NGOs. While one understands the important of minimizing these power asymmetries by inviting the actors to create value that would benefit all of them, they largely condition a successful implementation of the approach.

The second variable is the determining weight of states in the functioning of the palm oil sector in the context of developmentalist states such as Indonesia or Malaysia. Until recently, state actors were far from occupying a central position in these approaches. It can even be said that these approaches had developed to partly overcome a rather unfavourable public policy framework. These same state actors have nevertheless reminded the advocates of private commitment approaches of their existence, who have gradually "put them back into the landscape". One of the main tools to do this has been the development of landscape approaches, to which the last part of this article is devoted.

4.3. Landscape approaches

It should be remembered that "landscape approaches" are projects in which groups of actors come together to intervene in land use planning, in particular through the framework of territorial governance. The objective is to promote the integration of uses to meet several sustainable development objectives, in particular: conservation (biodiversity, regulation of water regimes and climate change), agricultural development and the fight against poverty. However, this very broad definition encompasses a wide range of initiatives. In this section, a review of their theory of change enables the appreciation of this diversity before a reality test is proposed, which is necessarily limited because of the relatively recent nature of this type of project.

4.3.1. Different approaches and different theories of change according to the actors who are primarily targeted or mobilized

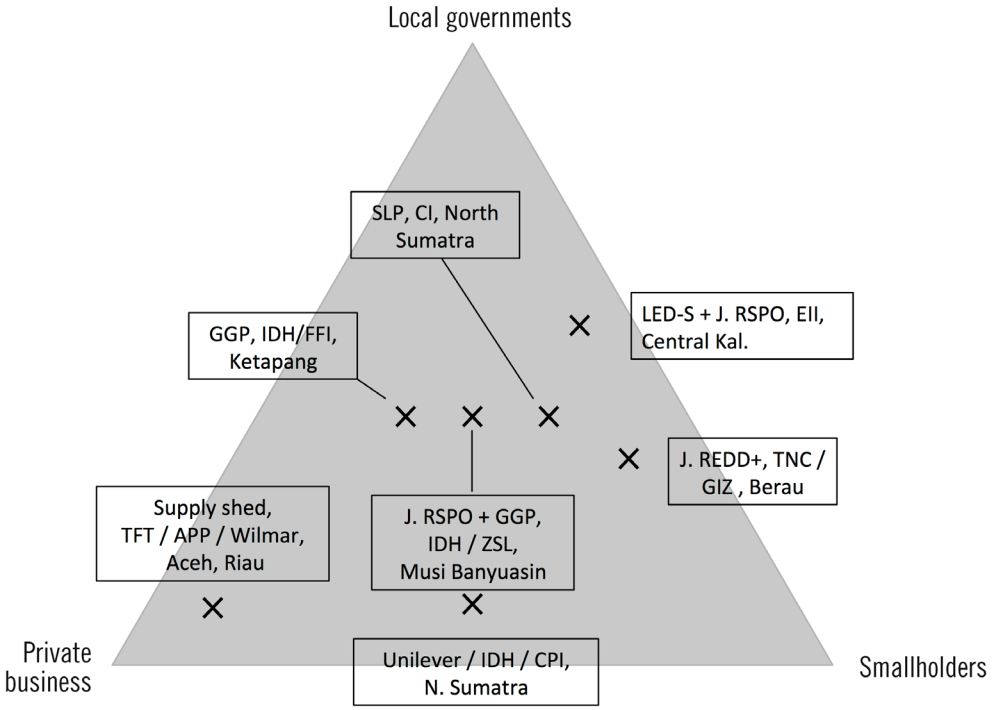
Among the 10 projects reviewed, we identified three main "implementation poles": government, private sector, smallholders. Each pole corresponds to one or more assumptions regarding the way in which the project should be implemented. A given project usually specifically combines different implementation poles to construct a theory of change of its own. The following chart shows these projects according to the importance they assign to these three implementation poles.

The involvement of local governments in landscape approaches is based on two structural assumptions.

(i) The first is that if land use decisions that are adopted by the actors of the territory are formally translated into a territorial development plan or a land use plan validated by the local government, they are much more likely to be realized;

(ii) The second considers that if there is a possibility of remunerating the performance of a territory in terms of a recognized metric, local

Figure 16. Schematic positioning of the main landscape approaches deployed in Indonesia according to the targeted actors



Source: author, based on project data

SLP: Sustainable Landscape Partnership, developed by Conservation International in North Sumatra LED-S + J. RSPO: Low Emission Development Strategy + jurisdictional RSPO, supported by the Earth Innovation Institute in Central Kalimantan J. REDD+ : Jurisdictional REDD+, supported by (among others) TNC in the District of Berau J. RSPO + GGP: Jurisdictional RSPO + Green Growth Plan, supported by IDH-the sustainable trade and the Zoological Society of London GGP: Green Growth Plan, supported by IDH and Fauna and Flora International in Ketapang

governments can be strong drivers of landscape approaches. This second assumption itself contains a number of presumptions about the possibility of defining a metric and a monitoring system to evaluate this performance.

The involvement of companies, both upstream and downstream, in landscape approaches, refers to two other assumptions.

(i) A first assumption considers that the downstream companies could be the driving force in the development of landscape approaches by developing "jurisdictional" sourcing strategies. Such strategies are characterized by a preferential sourcing of territories that have made clear commitments in the fight against deforestation, by paying a premium to the suppliers and/or territories concerned (e.g. CGF, 2015).

(ii) A second assumption relates more specifically to upstream companies. It refers to the fact that a good knowledge of the supply shed of one or more refineries of highly engaged groups makes it possible to identify producers with the most impactful practices to accompany them in a process of progress (see in particular TFT, 2016, p. 3).

The desire to involve small producers in the implementation of landscape approaches is based ultimately on two assumptions:

(i) Strengthening the organizational capacities of small producers is essential for them to become drivers in land-use planning and, in particular, to highlight their stakes in relation to industrial plantations;

(ii) Improving their income is essential to limit incentives to expand their crops to the detriment of forests. In particular, this is achieved by strengthening their bargaining power vis-à-vis their direct buyers, namely the middle man, on whom they are entirely dependent for the purchase of their production as well as price setting (INOBU, 2016, p. 23-24); and by improving their level of education and access to credit (IFC, 2013 ; INOBU, 2016).

Given the recent nature of the landscape approach projects, it is not possible to subject these assumptions to the same reality check as in the previous sections. However, the following section questions their ability to address the sustainability issues identified in Part 1 of this report in light of the data already available today.

4.3.2. Interesting assumptions, but with a questionable scope

4.3.2.1. Difficulty to involve local governments and remunerate territories

The governors of six Indonesian provinces (West Kalimantan, Central Kalimantan, East Kalimantan, Papua, West Papua and Aceh) are signatories to the Rio Branco declaration, through which they commit in particular to "reduce deforestation, develop partnerships with private sector initiatives that leverage the opportunities available through jurisdictional programmes, and rapidly and effectively channel performance-based funds for the promotion of forest based and forest friendly economic development for producers, farmers, ranchers, indigenous peoples, local communities, and other forest stakeholders" (Governors' Climate & Forests Task Force, 2014, p. 2). If we include the Governor of South Sumatra, who was also strongly involved with IDH in developing and launching a landscape approach, seven of the most important provinces in the fight against deforestation were mobilized. The potential consequences, both in terms of forest protection and land rights, and in terms of supporting smallholder development appear significant. Nevertheless, in assessing these declarations at their fair value, it is necessary to consider three aspects.

Firstly, the implementation of the commitments made in the framework of the Rio Branco Declaration is clearly conditioned by the support that the signatory local governments will receive from both public and private donors:

> *"Our efforts to build jurisdictional strategies and programmes for low emissions development cannot be sustained without additional support. We call upon the international community to partner with us as we continue to build robust jurisdictional programmes that will enable large-scale integrated transitions to sustainable development."*

However, few—if any—support mechanisms or financial resources have today reached local governments in the frame of such landscape projects, and there is little prospect for change in the near future.

Secondly, the release of additional funds to support these initiatives is often conditional on the ability of governments to demonstrate the *effectiveness* of the measures taken in the framework of a performance payment. However, such a performance payment is closely linked to the existence of metrics and tracking systems to continuously document the progress of the territories involved. As in the case of the verification mentioned in the previous section, metrics and tracking systems are still lacking, despite the many proposals that are now on the table (e.g. Buck *et al.*, 2006 ; INOBU & EU REDD Facility, 2016). The necessary means for the continuous collection of the required data, and the difficulty of agreeing on a common monitoring framework, largely explain the absence of such systems.

Thirdly, the fact that seven provincial governors have committed themselves to the development of landscape approaches does not mean that the governors of the other 16 provinces involved in the development of palm oil have a real or potential interest in doing the same (Daemeter, 2016). While provincial governors could perhaps become more involved given the size of the territory they administer, a recent report suggests that it is unlikely that the governors at the district level would make any commitments without significant changes in the current policy framework. The first type of change concerns the legislative framework at the national level, whose objective in terms of sustainable land management remains too far away from the objectives of most jurisdictional approaches. A second type of change is related to the funding that is currently available, which in the view of the authors is too complicated to obtain, too unstable over time, and too low. A third change relates to the electorate and the low "value" it assigns to a governor engaging in the fight against deforestation, this limited value means that the political rewards for such action are low.

4.3.2.2. The ambiguity of private companies

While two major downstream companies, Unilever and Marks & Spencer, announced in 2015 their willingness to bring forward their supply strategies to give them a territorial basis (CGF, 2015), the practical modalities for the implementation of these announcements remain unclear. For two years, Unilever has been involved in a project of this nature in five districts in the province of North Sumatra. However, it was not possible to find any tangible information on this subject in the course of this investigation. One of the key questions refers in particular to the *premium* that can be paid by the buyers to the actors in the territories concerned, whatever the form of the payment: directly to the producer (smallholder or industrial plantation), or targeted towards local governments.

Moreover, it is far from being guaranteed that upstream companies will show an interest in participating in discussions on land use, where one of the objectives is specifically the characterization of forest areas into which they will be asked not to encroach. And because at the same time, not participating in this type of process gives them the opportunity to denounce the results that will emerge in the name of "neo-colonialism" (Wolosin, 2016),

the possibility of establishing a truly inclusive process may in some cases prove to be particularly complicated for companies.

4.3.2.3. Involving local populations and smallholders: political dimensions and practical issues

The desire to support smallholders as central actors in the land use planning process is truly something to be welcomed due to its democratic nature. However, from a practical point of view, such an objective involves considerable resources. In many situations, independent producers and, more broadly, local populations are geographically very distant from the urban centres where participatory workshops can take place, they sometimes have only a very vague idea of the functioning of administrations and, more broadly, of organizations, public or private, with which they are asked to interact, and have only a very rudimentary level of education (see the example of Berau's REDD+ jurisdictional project in Fishbein & Lee, 2015).

Assuming that this capacity building could be carried out, it is also necessary to question the capacity of these local populations to effectively act as a counterweight that is sufficient to balance out the industrial companies who have a large appetite and means for pressure, not to mention their proximity to the established power (Varkkey, 2012).

On a more political level, this will to involve local populations in land-use planning should also not ignore the fact that for over 20 years, social movements, sometimes extremely dynamic, have sought to make their voices heard in land use planning processes in the face of—mainly—unilateral decisions of local administrations or governments (Peluso *et al.*, 2008 ; Di Gregorio, 2012). It is not certain that the mere invocation of a "new" landscape approach manages, as if by magic, to reduce the tensions that have accumulated between these social movements and the same public authorities which, even recently, refused them the right to sit at the negotiating table.

CONCLUSION

Consideration of the sustainability of palm oil production must be based primarily on the fact that three modes of production coexist, which have different impacts on the three dimensions of sustainable development considered here: deforestation, rural poverty and working conditions, and respect for customary land rights. Regarding all three dimensions, the information gathered here suggests that independent smallholder production is the most efficient. It is estimated that this type of production provides better remuneration for producers and is considerably less responsible for deforestation as well as problems of working conditions. It is in particular with this characteristic in mind that one must appreciate the scope of the initiatives that aim at containing the negative effects of this production, which is also of strategic importance for the economies of the producing countries.

The historical analysis of sustainability initiatives showed an initial period marked by the emergence and then the multiplication of certification schemes before they became subject to increasing criticism regarding their ability to transform production systems and to orient development towards more sustainability. As a result, under pressure from NGOs, a number of individual commitments by companies have been made to guarantee their non-involvement in deforestation, peatland destruction and worker exploitation. Given the scale of this movement, Indonesia and Malaysia have set up their own standards, in particular with the aim of offering cheaper and less demanding certifications to small national operators. More recently, different actors have set up territorial projects upstream of the sector; one of the challenges is to be able to contribute to land-use planning and to encourage the reconciliation of sometimes contradictory uses and projects.

This study also goes beyond the analysis of sustainability principles on which these initiatives are based to look at their ability to produce effective change. In this sense, it makes explicit their theory of change and puts it in comparison with the practical modalities of their deployment / implementation.

Available knowledge suggests that most certifications do not appear to be able to generate the necessary changes for four interlinked reasons: (i) the market does not pay enough for certified production and possible additional production costs; (ii) certifications are focused on procedural requirements rather than on practices; (iii) verification and litigation systems do not seem to be good enough, and (iv) above all they do not

sufficiently favour independent producers who have been shown to represent the most sustainable mode of production.

The individual commitments of companies have a more promising theory of change. However, they are confronted with several issues, including: asymmetries of power; the fact that they mainly concern companies subject to the scrutiny of actors from Western consumer countries; a difficulty in documenting the effectiveness of the commitments made; the limitations of approaches that bypass the governments of producing countries; and finally, the difficulty faced by downstream actors in ensuring that their suppliers align themselves with their commitments and that they replicate them.

Finally, although it is still too early to assess the scope of the landscape approaches, we observe that: they are based on financial support from public and private donors, which seems slow to materialize; it seems difficult to measure and to certify the effectiveness of the actions; practices are still vaguely defined, with limited remuneration premiums; and questions remain as to what improvements will be made to help the situation of local populations.

On the basis of these results, this study proposes three recommendations.

Improving the framing of practices in large-scale plantations

There are ways to improve certification in this respect: developing independent audit systems, i.e. in which the commercial link between the audited company and the auditor would disappear; strengthening the dispute resolution procedures, in particular to better take into account the arguments of local populations; ensuring the recognition of forests, particularly HCV and HCS forests, in all existing standards. Measures favouring the demand for certified oil to ensure a better valorization of sustainable production are also conceivable. However, they would only make sense if targeted certifications were first strengthened: there would be no point in improving demand from fragile modes of production.

Better understanding of the negotiation conditions between actors of the sector to reinforce the effectiveness of private commitments

Approaches based on private commitments rely heavily on putting constraints on producers, assuming that the market power of buyers will be sufficient to constrain their suppliers. While the efficiency of the modus operandi is not yet evident, a better understanding of buyer/supplier negotiation conditions, in particular on the counterparties offered by buyers to their suppliers in exchange for their alignment with ever more demanding requirements would make it possible to develop these approaches in a favourable direction.

Strengthening international cooperation to transform agricultural and rural development policies

Until now, certification schemes such as private commitments have been less able to support independent production methods. Taking action in this direction would in fact mean guiding economic and territorial development policies. To this end, the EU, EU companies and its civil society must strengthen the dialogue with governments of producer countries to act in two directions.

(1) To develop a sector policy to structure the supply of independent producers and enable them to capture a greater share of value added, for example through the development of cooperative agricultural models. Development assistance actors with experience in this area could be more widely supported.

(2) To support ongoing discussions in producing countries towards the legal recognition of the conservation status of high value conservation forests and high carbon stocks. Such decisions would also help countries to implement their commitments under the Paris Climate Agreement, which involve broad actions in the land sector through the mobilization of part of the climate funds.

ANNEX 1: LIST OF INTERVIEWED ORGANISATIONS

Organisation	Interview date
AidEnvironment	21/02/17
Conservation International	20/12/16
Global Environmental Change	15/09/16
Greenpeace	15/09/16
IDH Indonésie	13/01/17
IDH Indonésie	06/02/17
GAPKI	06/10/16
ISCC	17/01/17
MPOB	15/12/16
MPOCC	01/12/16
Musim Mas	14/09/16
Rainforest Alliance	28/09/16
RSPO	30/11/16
RSPO	16/10/16
Sime Darby	02/02/17
TFT	06/12/16
TFT	29/11/16
Wilmar Europe	12/09/16

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Implementation and effectiveness of sustainability initiatives in the palm oil sector: a review

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