Smallholders and sustainable palm oil production:

A better understanding between policy arrangements and real-life practices

- **A case study of the Siak smallholders site, Riau province, Sumatra**

Sabrina van der Enden

Wageningen University and Research Centre

March 2013

Smallholders and sustainable palm oil production:

A better understanding between policy arrangements and real-life practices

➢ A case study of the Siak smallholders site, Riau province, Sumatra

Master thesis "International Development Studies,

Environmental Policy Group, ENP 80433

Wageningen University

Supervisors Wageningen University: Peter Oosterveer

- Environmental Policy Group &

Maja Slingerland-

Plant Production Systems

Sabrina van der Enden

8508-1522-4090

Rotterdam, March 2013

*Photo cover page, gathering and weighing Fresh Fruit Bunches, before being transported by truck, Dosan oil palm plantation, made by S. van der Enden

ABSTRACT

To identify how the different domains of environmental governance, arranged within (sustainable) policy arrangements and networks, impact oil palm smallholders in their farm (management) practices, qualitative field research has been carried out in the Siak oil palm smallholders site in Riau, Sumatra, Indonesia. The objective of this study is to critically analyse the relevant playing fields and dynamics concerning the Siak smallholders in an era of political modernisation. By analysing how the different policy arrangements that are currently implemented, impact the Siak oil palm smallholders in their practices, results show that the 'Palm Oil for People' program has empowered the smallholders by heightening the local economy and has opened up pathways for other (sustainable) policy arrangements. However there are still some significant challenges, ranging from price related-, technical-, land registration- , transportation- towards financial issues, that need to be dealt with in the future. The study concludes that policymakers need to be aware of the given context and dynamics within a given site. Within the Siak smallholders site, villages were impacted in diverse ways, leading to a different path for each of the villages and policy arrangements can therefore reshape power relations. Yield intensification methods set out within policy arrangements are commonly adopted by smallholders, but actors need to be motivated for building long term commitments on the path towards a sustainable future.

Keywords: sustainable, policy arrangements, oil palm smallholders, Siak, Indonesia, political modernisation, Palm Oil for People program

ACKNOWLEDGEMENTS

This master research have certainly been one of the highlights of my study career. The whole process from coming up with an idea for the research and actually been able to realize it in the field and in the end writing my thesis has been a mind-blowing process. But it would not have been possible without the guidance and support of my supervisors Peter Oosterveer and Maja Slingerland. I am very grateful for all the support that they have given me during my research. During the whole process of writing my proposal, finding the actual field site, carrying out my research and writing my thesis at the end, they have been very helpful and this thesis would not be as it is now without their guidance. Also they have helped me to come into contact with NGO Perkumpulan Elang and I would foremost like to thank Riko Kurniawan for giving me the opportunity of going to Riau and for arranging me to go to the Siak smallholders site. I would also like to thank him for his enthusiasm; cooperation towards my research and for inviting me to stay with his lovely family. Also I would like to thank all the other staff members at Elang for allowing me to stay at their office and for making me delicious lunches.

Furthermore I would like to thank all the people within the Siak smallholders site that were involved with my research. In particular I would like to thank the Dosan villagers for welcoming me into their village and for all the kindness and hospitality they have given me. And I am particularly grateful to Pak Dahlan and Ibu for letting me stay at their house and providing me with such wonderful meals every day. Also a special thanks to Pak Rudi and Ibu Opi, and their son Wayu for all the nice evenings full of laughter.

The two months trip to Indonesia would not have been such a great success without my translator and dear friend Murissa Aningsih. I am very grateful for all her help and for making Pekanbaru feel like home. I will never forget the fun nights of going to the movies, eating bakso and amazing satay. Furthermore she has learned me a lot about Indonesian lifestyle and the role Islam plays within their everyday lives. Also I owe many thanks to Bibi and her family for all the hospitality during my 1 month stay at her house and for all the amazing food. I will never forget the very entertaining nights of playing PlayStation and teaching English and receiving Indonesian lessons. I find myself a very lucky person for being able to experience the Indonesian lifestyle up close. Furthermore I would like to thank Murissa's mother for welcoming me in her house.

In the Netherlands last but not least I would like to thank my family and friends for supporting me during this research. I would especially like to thank my boyfriend Martin for supporting me on this trip and for doing such a great job of keeping things running at home. Many thanks to Evelien who shared a lot of stories about Indonesia with me and whom I could talk to every time I needed to. Special thanks to my parents, Kees and Ankie and my brother, Alexander and his wife, Michelle who are always there for me. This research has been the experience of a lifetime and brought about a more than satisfactory end to my study career.

TABLE OF CONTENT

LIST OF FIGURES AND TABLES

Figures

Tables

LIST OF ABBREVIATIONS

AD/ART	Angarran Dasar/ Angarran Rumah Tangga
BMP	Better (Best) Management Practices
CPO	Crude Palm oil
CPKO	Crude Palm Kernel Oil
DO	Delivery Order
FFB	Fresh Fruit Bunches
GAPKI	Indonesian Palm Oil Association
GDP	Gross Domestic Product
GHG	Green House Gas
HGU	Hak Guna Usaha
ICS	Internal Control System
IPM	Integrated Pest Management
ISO	International Standardization Organization
ISPO	Indonesia Sustainable Palm Oil
KKPA	Kooperasi Kredit Primer Anggota
LIIB	Low Indirect Impact Biofuels
LSM	Lembaga Swadaya Masyarakat
NES-PIR	Nucleus Estate Smallholder- Perkebunan Inti Rakyat
NESP-OPHIR	Nucleus Estate Smallholder Participation - OPHIR
NGO	Non-Governmental Organization
PTPN	Perseroan Terbatas Perkebunan Nusantara
PT. SPN	Siak Prima Nusalina
RILO	RSPO Indonesian Liason Office
RSPO	Round Table on Sustainable Palm Oil
SOP	Standard Operating Procedures
TSO	Third Sector Organizations
WUR	Wageningen University and Research Centre
WWF	World Wildlife Fund

1. INTRODUCTION

This introductory chapter is intended as the foundation upon which the next chapters will be build. It will begin with a short description about the complexity of the palm oil sector, which will give way to introducing the problem statement in the following sub paragraphs. Furthermore the research objectives and the research questions will be discussed. At the end of the chapter the structure of the thesis will be discussed.

1.1 Problem statement

Nowadays palm oil production, processing and trade have grown into a complex network of flows that stretches out over different parts of the world. Mainly, because of globalization, global-local linkages are created and multiple actors and stakeholders are involved within these palm oil networks, such as farmers (smallholders), industries, governments, RSPO, NGOs and many more leading to forms of multi-level governance (Arts et al. 2006). Indonesia has been the world's largest producer of palm oil since 2008 and has a share of nearly 50% and therefore takes an important place in these palm oil networks (Feintrenie et al. 2010; USDA 2012).

Oil palm is seen as a very lucrative crop and has been adopted by many because of its beneficial characteristics. Oil palm is in fact the highest yielding oil-seed crop, with outputs of about 3-4 tonnes of Crude Palm Oil (CPO) per hectare per year in major palm oil producing countries, such as Indonesia and Malaysia (Wahid et al. 2005). Secondly oil palm end-products (CPO and Crude Palm Kernel Oil (CPKO)) have multiple uses as it can be processed into foodstuffs, cosmetics, plastics, detergents and other industrial and agricultural chemicals (ibid.). Also there is a potential for oil palm as a biofuel crop (Partzsch 2011; Mol 2007). Because of these traits and the expected high financial returns, farmers (smallholders) and companies, are attracted to palm oil production (Sandker et al. 2007; Belcher et al. 2004).

Currently, palm oil production makes up 50,7 million tonnes (USDA 2012) of the 131 million tonnes of vegetable oil produced worldwide (WWF 2011) and is expected to grow significantly over the coming years to 77 million tonnes in 2050 (FAO 2006). Nonetheless this continuous growth has not been without conflict. In recent years oil palm development has been a major topic of discussion. On the one hand palm oil production is seen as a driver of socio-economic development, poverty alleviation and rural development (Feintrenie et al. 2010; Basiron 2007; Zen et al. 2005), on the other hand it raises environmental concerns, in terms of deforestation, pollution and habitat loss (Fairhurst & McLaughlin 2009; Murphy 2007; Koh & Wilcove 2008) and social concerns in terms of human rights, land conflicts and the exploitation of indigenous communities (Colchester 2011; Rietberg 2011). These issues have raised questions about the sustainability of the palm oil sector and have been at the forefront of setting up of governance arrangements (standards) and networks aimed at producing palm oil in a more sustainable way, as for example the Roundtable on Sustainable Palm Oil (RSPO) and Indonesia Sustainable Palm Oil (ISPO). Within these governance arrangements, certification schemes are being set up, which are intended to deal with the issues such as deforestation and land conflicts, which were mentioned above. An important policy standard within these schemes is the adoption of Better (or Best) Management Practices (BMP) which main emphasis is to generate yield intensification within oil palm plots. These BMP's apply to for example pruning methods, fertilizer application, water management and Integrated Pest Management (IPM) (Jelsma

2012; Tan et al. 2009). By applying BMP's, intensification of oil palm plots is strived for instead of expansion of oil palm plots into the still remaining forests.

This thesis therefore focuses on oil palm smallholders (farmers), and specifically on the smallholders in the Siak district, Riau, Sumatra and how the above mentioned policy arrangements and policy standards influence these actors within their daily farm management practices. In what way exactly will be discussed in the next sub paragraphs.

1.1.1 Smallholders share in palm oil production

Smallholders are seen as very important players in the global palm oil industry (Vermeulen & Goad 2006; Jelsma et al. 2009; Obidzinski et al. 2012; McCarthy 2012) . In Indonesia, the largest palm oil producing country in the world, oil palm smallholders[1] alone account for about 45% of the total production (USDA 2012). Therefore smallholders represent a very important, but to this day neglected part of Indonesia's palm oil base (Jelsma et al. 2009). A large number of these smallholders, fall under the category of supported smallholders (Vermeulen & Goad 2006) and are tied to the government or private sector by various schemes, notably nucleus-estate/ plasma (NES-PIR), cooperative credit scheme (Kooperasi Kredit Primer Anggota (KKPA)), joint venture (Pola Patungan) (Ibid.) and only a small number of oil palm smallholders operate independently (Gillespie 2011). These schemes all operate at a different level, wherein the oil palm smallholders have certain rights, obligations and duties with respect to the oil palm they produce[2] (Vermeulen & Goad 2006). The Siak smallholders for that matter are seen as independent smallholders, because they aren't tied to a nucleus plantation[3]. But this Siak smallholder scheme is also seen as an exception because the people got the land via a local government program[4]. More details about how this scheme is arranged will be given in chapter six. It goes beyond this thesis to go into all the details of the several schemes but the fact is that these schemes themselves are a good illustration of the complexity of the network of flows within the global palm oil economy. For example these schemes need to be in line with both national and district legislation but also with customary rights (adat). Different scholars say that legislation mostly favours plantation owners leaving smallholders marginalized within certain socio-legal structures (Gillespie 2011; McCarthy et al. 2012).

In the past few years most academic research has focused on the negative environmental effects of palm oil production (Koh et al. 2008; Teoh 2010; Curran et al. 2004) and in a lesser extent on the social effects, thus the way it affects people's livelihoods in terms of land rights or distribution of wealth (Colchester 2010; Zen et al. 2005; Gillespie 2011). Currently scholars and civil society organisations have been raising questions about the performance of the proposed environmental governance arrangements on issues like: compliance on the local level (McCarthy et al. 2012), the legality of for example the RSPO scheme (Schouten & Glasbergen 2011), and the possibility that they would lead to market segmentation between 'clean' and 'dirty' producers (McCarthy & Zen 2010). Another fact is that within the global palm oil economy, where these arrangements are part of, and

[1] Definition for smallholders by the RSPO (2012) is: "Farmers growing oil palm, sometimes along with subsistence production of other crops, where the family provides the majority of labour and the farm provides the principal source of income, and where the planted area of oil palm is usually below 50 hectares in size". Vermeulen and Goad (2006) add to this definition: "In practice, people in this smallholder category are often also holders of customary rights (or otherwise new settlers) and perhaps also labourers on nearby plantations" (2006: 4).

[2] See Vermeulen & Goad (2006) for a detailed description of the different smallholder schemes.

[3] Interview Riko Kurniawan on 26 september 2012, NGO No.1 see Appendix 1.

[4] Palm Oil for People program from the Siak district.

where regimes' interest, state policies and agribusiness agenda and therefore power-relations are set, stakeholders largely shape outcomes according to their needs which could ultimately lead to marginalization of smallholders (McCarthy et al. 2012). This is where policies and regulatory approaches may fail to meet the needs of the oil palm smallholders (Gillespie 2011). But how do oil palm smallholders deal with the policy arrangements arranged within the different domains of environmental governance? And what effects do these policy arrangements have on farmers in 'real life', in everyday practice. Hatanaka (2010) discusses this situation concerning certified shrimp farming in Indonesia, but this has not been the case for oil palm. Therefore insights in these issues are very important, as smallholders can play a vital role in creating a more sustainable palm oil industry (Vermeulen & Goad 2006; McCarthy 2012; Jones 2012; Streck et al. 2012).

Within this thesis the choice was made to research the practices of the Siak smallholders in the Riau province, Sumatra, Indonesia and hence to gain practical insights into the abovementioned themes. The specific reasons why will be discussed in the next paragraph and the next chapter.

1.1.2 Environmental governance issues

Environmental governance related to palm oil is applied within multiple domains including government policy, market mechanisms and civil society interventions and within these domains different kind of policy arrangements are used. Such as in the case of Indonesia the RSPO, ISPO and International Standardization Organisation (ISO) 14001 (McCarthy & Zen 2010). The Indonesian Palm Oil Association (GAPKI) has always been critical about the market-based RSPO approach, primarily for its bias towards the concerns of environmental NGOs, and decided in October 2011 to leave the RSPO and continue with the ISPO certification scheme (Reuters 2011). Indonesia therefore sets up a path towards a more government based palm oil development policy (Hirawan 2011) and thereby moves away from a private market-based governance approach.

Environmental governance arrangements must be able to implement sustainability principles and criteria also within the complex network of smallholder schemes on a micro level, which means on the level of the smallholders. But this is generally not the case according to different scholars (Teoh 2010; Boons & Mendoza 2010). Smallholders are very much dependent on the large plantation holders (big holders) and national policy is mostly in favour of these big holders and therefore local agency and difference tend to be overlooked, leaving the economic benefits of palm oil development unevenly distributed (McCarthy et al. 2012; Obidzinski et al. 2012). Even though the governance of natural resources, also widely known in the phrase "governing the commons" (Ostrom 1990), is a well discussed topic in the scientific field, today it is still debatable who has the end responsibility of 'these' public goods. But one thing is sure and that is that (independent) oil palm smallholders can be an important contributor and beneficiary in the area of sustainable environmental governance within the palm oil sector (Boons & Mendoza 2010; Jones 2012; McCarthy 2012; McCarthy et al. 2012; Twiggs Den & Bertule 2009) Furthermore McCarthy et al. (2012) state that regulatory approaches, such as the 'market based' RSPO, tend to be methodologically blind to the way these actors shape outcomes on the basis of their own needs.

At the same time these critiques tend to illustrate the 'complexity' of oil palm networks and show furthermore that sustainable oil palm development and the related forms of environmental governance cannot be seen as blueprints. In the ideal form sustainable development itself has to

emerge out of an interactive process of social dialogue and reflection (Jordan 2008: 18). Systems of governance within oil palm networks, such as the RSPO and the ISPO, can then be used to guide and steer this interactive process towards a level of consensus. A useful approach in this case is the Triple Bottom Line approach of sustainability which focuses on the interdependence of three 'dimensions', namely the environmental (ecological), economic and social dimensions (Elkington 1997; Lehtonen 2004; O'Conner 2006). In chapter three these different dimensions in relation to the Siak smallholders will be discussed and in chapter five the different sustainability issues regarding palm oil production in general will be discussed.

1.1.3 Successful smallholder schemes

Generally in successful smallholder schemes as for example the NESP OPHIR project (West-Sumatra), there tend to be little awareness or interest by smallholders to aim for RSPO certification (Jelsma et al. 2009). Even though research concluded that with some minor adjustments the NESP OPHIR project would be eligible for RSPO certification, at that time it was not clear why they weren't making efforts to become members (Ibid.). In the pursuit towards sustainable palm oil it is important to know how smallholder oil palm production systems interact within and with the different domains of environmental governance (McCarthy et al. 2012; Schouten & Glasbergen 2011). In this case the research of real life practices within the Siak Smallholders project, between smallholders and the governance arrangements within the different domains, can give important insights into the specific dynamics and choices smallholders make in this context. There might be a tendency among smallholders to explicitly not choose to enter or comply with certain policy arrangements because of difficulties involving access to capital or other issues[5]. But more importantly for future benefit, existing gaps need to be identified, making it possible to make recommendations for improvements which could possibly lead to adjustments to governance arrangements in the future and making them better fit smallholders needs. In this way for example, the process of including (successful) smallholder schemes such as the NESP OPHIR project and the Siak Smallholders project into RSPO or ISPO certification schemes could be implemented more efficiently. This research doesn't have the intention to identify these gaps specifically for ISPO and RSPO, but hopes to show why the (Siak) smallholders make certain choices in relation to the different policy arrangements they come across and which challenges occur within this process.

1.2 Research objectives

In the pursuit towards more sustainable palm oil production it is very important to 'include' smallholders in sustainability governance arrangements that are set out within the different domains of environmental governance. In Indonesia smallholders account for about 45% of the palm oil base and a better understanding of oil palm smallholders, and their interaction within and with the different domains of environmental governance, can eventually lead to policies that better fit smallholders needs, making integration into the globalized oil palm markets possible. These different domains of environmental governance consist of national- and local government policy, market mechanisms (RSPO, ISPO and ISO) and civil society interventions (NGOs for example Friends of the Earth, Sawit Watch and Perkumpulan Elang). Often policy arrangements have a tendency to 'include' smallholders on paper but this doesn't always mean that they actually bear the fruits of palm oil production schemes. Better insights into these dynamics between oil palm smallholders and the

[5] Such as access to land, other (unsustainable) alternatives, political dynamics, lack of finance and other issues.

different domains of environmental governance can contribute for improving policy arrangements in the future.

This study will therefore focus on the Siak oil palm smallholders who are producing palm oil according to different policy arrangements in the Siak district, Riau province, Sumatra, Indonesia and more importantly how these policy arrangements, that are set within the different domains, influence the smallholders daily farm management practices. This study is hence divided into two research objectives. The first objective is to critically analyse the relevant playing field and dynamics concerning the Siak smallholder in an era of political modernization and the second objective is to examine how these different policy arrangements influence and affect Siak smallholders' livelihoods in economic, ecological and social terms.

1.3 Research questions

The main question of this research is: *In what way do the different domains of environmental governance, arranged within (sustainable) policy arrangements and networks , impact oil palm smallholders in their farm (management) practices?*

The sub questions that will support the main question are:

1. What different domains of environmental governance can be distinguished with respect to the Siak smallholders?
2. a) Which 'international', 'national' and 'district' governance arrangements and networks can be distinguished with respect to the Siak smallholders, Riau Province, Indonesia?
   b) What role do (inter)national sustainability criteria play within the daily practices of smallholders?
   c) What role do land-right issues and price negotiations play within the daily practices of smallholders?
3. a) What economic, social and ecological impacts do policy arrangements have on smallholders?
   b) Do governance arrangements and the different stakeholders within the palm oil supply chain take local dynamics of smallholders into consideration when assessing impacts?
   c) What forms of power can oil palm smallholders exercise to influence the impacts of these governance arrangements?
4. Do smallholders see Better Management Practices (intensification) as a feasible way to increase sustainability?

1.4 Structure of the thesis

In chapter one an introduction of the problem (problem statement) and the research objectives is given and the research questions are specified. Chapter two gives an explanation of the methodology that is used for data collection, data analysis and discusses the limitations of this research. In chapter three the conceptual framework, which was used as a guidance during the research, will be elaborated on. Chapter four is more of a descriptive chapter where background information about the national political context is given and also the role that independent smallholders play within the Indonesian palm oil sector will be discussed. This chapter about the national political and policy context in Indonesia, is meant to give information about the evolution of the level playing field and how this process influenced the current debates and issues around oil palm. In chapter five a linkage

will be made between palm oil production and sustainability. The most prominent issues will be discussed and there will be a discussion about the new forms of governance for sustainable development. Thereby the function and organisation of the RSPO will be discussed. Chapter six consists of a thorough description of the Riau province and Siak district, the area where this research was exercised. Part of this thorough description is the 'Palm Oil for People program' which has been very influential in the development process of the Siak smallholders. Chapters seven and eight present the main empirical findings of the research. In chapter seven the most important challenges that smallholders face after implementation of the Palm Oil for People program will be passed in review. Next to this the role and functioning of the cooperatives will be examined in great detail. In chapter eight the relevant playing field and dynamics with regard to the different policy arrangements that were, or still are implemented within the Siak smallholders site will be elaborated on. There will be a discussion on how these policy arrangements affected the Siak smallholders. Also highlighted within this chapter is the exemplary role that Dosan village plays within the Siak smallholders site on the road to sustainability. In chapter nine the main conclusions are given and in chapter ten a critical examination of the findings will be given.

2. METHODOLOGY

The methods that are used in this research are primarily qualitative. When dealing with real life practices, such as smallholders and their interaction with the different domains of environmental governance, qualitative methods are the most obvious choice. Quantitative research focusses on a deductive view, where the emphasis lies in the testing of theories. (Bryman 2008). Whereas qualitative research puts 'an emphasis on the ways in which individuals interpret their social world and embodies a view of social reality as a constantly shifting emergent property of individuals' creation' (Bryman 2008: 22). Therefore by using qualitative technique people, in this research particularly oil palm smallholders, aren't seen as helpless/voiceless individuals, but individual actors with 'agency' who have a tendency to shape policies (whether or not by forms of resistance) to their needs (Giddens 1984; Arts & van Tatenhove 2004). Reliability and validity is ensured by using several different methods during the research. This method is commonly referred to as triangulation whereby the use of more than one method or source of data in the study of a social phenomenon is used so that findings can be cross-checked (Bryman 2008: 700). An important advantage of this method is that weaknesses of one method can be balanced by strengths of the other research method, which can result in greater confidence in findings. The methods that were put in practice during the research are literature and document study, semi-structured interviews, informal talks, and participant observation which will be discussed in paragraph 2.3. In paragraph 2.4 the sampling techniques will be discussed, followed by the paragraph scope and limitations. But first in paragraph 2.1 the research area and most important stakeholders within this research will be discussed and hence in paragraph 2.2 the given time frame will be discussed.

2.1 Research area and stakeholders

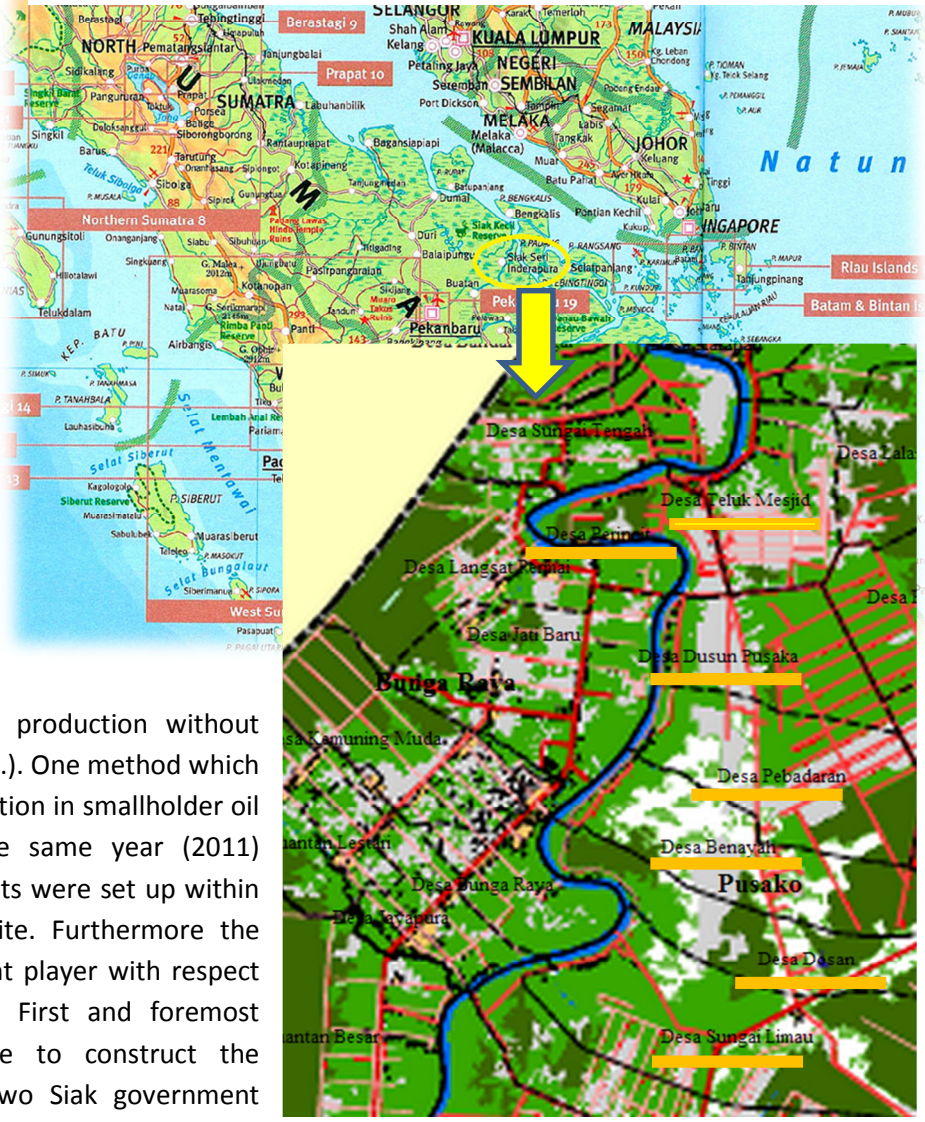
The research area where the Siak smallholder plantation is part of, is located on Sumatra in the Riau province. The Riau province has the largest amount of tropical rainforest of the island and the capital is Pekanbaru[6]. The project site itself is a 3500 hectare smallholder oil palm plantation and is located in Pusako and Sei Apit sub-districts, Siak district (see Figure 1) (Jelsma et al 2011). The oil palm plantation is managed by roughly 1200 smallholders whom are organized under seven village cooperatives (Kooperasi Unit Desa) (Ibid.), which are moreover divided into groups (kelompoks)[7]. The cooperatives from the seven villages differ in size of oil palm and in household numbers (see table 1). These oil palm smallholders are seen as the most important actors and stakeholders within the Siak smallholder project and in this research. The focus of the research was primarily on these oil palm smallholders, the other stakeholders involved and on the area surrounding these seven villages.

[6] The offices of many NGOs such as WWF Indonesia, Jikalahari, Walhi, Greenpeace and Perkumpulan Elang are located in Pekanbaru.

[7] Each cooperative comprises of ten or more kelompoks (groups), who have a clearly defined area. Each kelompok comprises of individual members. The specific number of kelompoks usually depends on the size of the cooperative, and the number of members within a kelompok differs from between 15 and 30 members (Jelsma 2011).

The first reason why this particular area has been chosen for the research is because of the many policy interventions it has underwent the last few years. The most recent activities are that of Perkumpulan Elang, a local NGO, who strives to increase farmer's incomes and for the protection of farmers' natural resources, in collaboration with WWF, who's main objective is making the Siak smallholder plantation eligible for RSPO certification (Jelsma 2011). Since 2011 a WUR team, a collaboration of the Plant Production Systems Chair Group of Wageningen University and Research Centre and Ecofys (consultancy company), have been involved in testing a certification module for Low Indirect Impact Bio-Fuels (LIIB), which is implemented in order to stimulate bio-fuel production without displacing other production (Ibid.). One method which was identified is yield intensification in smallholder oil palm cultivation (Ibid.). In the same year (2011) trainings and demonstration plots were set up within the Siak smallholder project site. Furthermore the Siak government is an important player with respect to the smallholder plantation. First and foremost because it took the initiative to construct the plantation and secondly the two Siak government owned companies, notably PT. Siak Prima Nusalina (SPN) and PT. Persi, still play a role (technical assistance and finance) within some of the smallholder oil palm plantations.

Figure 1: Overview Siak smallholders research area, Riau province, Sumatra. (Source mappery.com & Pemerintah kabupaten Siak 2012)



The second reason is that the oil palm smallholders themselves seem to be highly motivated to participate in sustainable land use to protect their community forest[8]. And in addition to the fact that there are multiple stakeholders involved (each with their own agenda) and the above mentioned reason, the local people are also not only dependent on oil palm cultivation and have other sources of income (such as rubber), which makes this a very interesting case altogether. In fact if the yield intensification method will be implemented successfully in the future (or not), the Siak smallholders case, and which factors led to the successful implementation (or failing), can be an important source of information for other cases in the future.

[8] Nagasakti lake and forest, a protected area of 400 hectare.

Table 1: Villages, name of cooperative, size of plantation and number of participants in Siak smallholder oil palm project. (Source: Rahadian, WWF Indonesia (Jelsma 2011))

No	Village	Cooperative name	House Hold Number	Oil Palm Size
1	Dosan	Bungo Tanjung	242	725 Ha
2	Benayah	Bina Usaha	137	412 Ha
3	Perincit	Karya Benuar Perincit Sepakat	173	520 Ha
4	Teluk Mesjid	Tinera Jaya	223	700 Ha
5	Pebadaran	Tuah Abadi Makmur	177	530 Ha
6	Sungai Limau	Panca Usaha Maju	81	243 Ha
7	Pusako	Bina Usaha Tani Utama	123	370 Ha
	Total		**1156**	**3500 Ha**

2.2 Time frame

After making initial contacts with NGO Perkumpulan Elang and writing the proposal, fieldwork was conducted for six weeks in the period of September to November 2012. After arriving in the Elang office in Pekanbaru arrangements were made to go into the field. From September 11th until September 23rd fieldwork was conducted amongst the smallholders sites in Pusako and Sei Apit sub-districts, Siak district. During this period, accommodation was arranged in Dosan village, which was the base for visiting the surrounding villages of Teluk Mesjid, Perincit, Sungai Limau, Pebadaran, Benayah and Tuah village, Bunga Raya district[9] and where several interviews were conducted. Throughout the stay in the field an employee of Elang, who also functioned as a translator, assisted in collaboration with local Dosan residents with finding respondents. After the two weeks of fieldwork, research was conducted in Pekanbaru by visiting relevant NGOs to conduct interviews and through data collection at the Elang office.

During the length of the fieldwork Dosan village functioned as the central point of the research. First because the host organization Elang has very good contacts with the people of Dosan village and people within the village are therefore very eager to cooperate with the research. Secondly Dosan village has proven to be successful in implementing certain intensification methods (Jelsma 2012 & Greenpeace 2012). The third reason is that Dosan village is currently part of a process for RSPO certification (Rahadian 2011). And fourth the influence of the government owned companies, SPN and PT. Persi seem to be minimal in this village and consequently the possibility to get into contact with participants was much bigger.

2.3 Methods of data collection

As mentioned before, the methods that were used during the research were mainly qualitative of nature. Consequently the focus of this research is on understanding, smallholders and their interaction within and with the different domains of environmental governance, rather than

[9] Also a visit was made to Bunga Raya district situated in the Siak regency but across the Siak river. Within this area rice is the main crop but farmers like to convert to oil palm because it is more profitable.

measuring (Pope & Mays 1995). Furthermore it is important to keep in mind that doing research is not a linear process. It has an iterative nature where a researcher is constantly weaving back and forth between data and theory (Bryman 2008: 12). This means that by being flexible in your approach, new inputs and data could give important insights about where you might need to reformulate certain aspects within the research (Ibid). But in the end, this flexible attitude could result into a better understanding of the case that you are studying (Glaser & Strauss 1967). During the time of fieldwork this became clear from the fact that the participatory observation method seemed less important than the interviews (formal as well as informal). The focus therefore shifted from one method to another during the time of fieldwork and having a flexible attitude helped to implement this shifting focus into the research design.

2.3.1 Literature and document source study

Literature and document source study is an important part of this research. As searching and evaluating literature has been an important activity in the course of formulating the research questions, this has also been an important activity during most part of the research. Palm oil networks are complex and dynamic and therefore have a tendency to change rapidly, so the researcher need to be informed at all times.

2.3.2 Semi-structured interviews

Next to participant observation, 30 semi-structured interviews with relevant oil palm smallholders were conducted. In appendix one a list of the respondents is given. During a semi-structured interview 'the researcher has a list of questions or fairly specific topics to be covered, often referred to as an interview guide, but the interviewee has a great deal of leeway in how to reply' (Bryman 2008: 438). Therefore semi-structured interviewing is flexible, open-ended and open for improvement, 'whereby lines of thought identified by earlier interviewees could be taken up and presented to later interviewees' (Bryman 2008: 439). This flexible, open-ended nature is one of the most important reasons why this particular research method was chosen. Before starting with the interviews, relevant topics were formulated in the interview guide. Consequently during the interview process, after talking to multiple smallholders, the most important topics "with respect to oil palm smallholders dynamics within and with the different domains of environmental governance and policy arrangements" were determined. Throughout this process the interview guide was refined and adapted, creating a focus on the most important topics that were mentioned in earlier interviews. This reformulated interview guide can be found in appendix two. Of course during some interviews certain questions were left out because of relevancy issues or other questions were added. The interview guide was therefore used as a guideline.

At several occasions after the formal interview was over, discussions were held amongst participants and Elang staff about relevant topics, such as land conflicts, conflicts within the cooperative and others. During these discussions important additional data was gathered which is also used as input for the upcoming chapters. Furthermore seven interviews with people from relevant NGOs were conducted using a different interview guide. These interviews were held to get a better picture of the larger macro issues surrounding these smallholders. The topics that were discussed revolved around for example policy issues on a national and local level. The overview of all the topics can be found in the interview guide of the NGOs in appendix two. These semi-structured interviews were written down on a note pad during the interview. It was purposively chosen not to use a voice recorder

during the interview because of various reasons. The two most important reasons were: that there was a lot of noise during the interviews , within the villages curious children and adults joined the interviews, and the lack of electricity; during the day between the hours of 0:15 a.m. until 4 p.m. there was no electricity available and on many occasions there was also a power cut, due to bad weather conditions.

2.3.3 Informal interviews

On several occasions during fieldwork and during stays at the Elang office or another NGOs office, informal interviews ,"unstructured open-ended conversations in everyday life" (Haviland et al. 2011; Bernard 2006), were held with key participants. In the villages informal interviews were only held with employees of Elang because of the language barrier. In the city of Pekanbaru several brief informal interviews were held with members of relevant NGOs. Important data concerning relevant issues such as cooperative regulation and land conflicts were generated out of these informal interviews and this is the main reason why this method was added to the research.

2.3.4 Participant observation

Participant observation has been used in the course of fieldwork. By using this research method I was able to participate within the social setting of the oil palm smallholders to gain trust and to gain more insight into the specific dynamics within the group and with outside actors. This method is used to gain as much information about the oil palm smallholders' livelihoods and their daily interactions with the different stakeholders within the palm oil networks. In this way information is gathered, by making written notes, sketches, photographs, about the effects, that policy arrangements conceptualized within the different environmental domains, have on smallholders daily farm management practices.

2.4 Sampling

The success of the research depends on getting access to participants (smallholders) and on the willingness of smallholders to cooperate. During the research initial contact with the participants was made with help of employees of Elang, whom have very good relations with people in the villages of Dosan and Teluk Mesjid. In the remaining villages the relations are less strong but even then interviews could be arranged with help of the Elang employees. Within some of these villages the influence of government owned companies PT. SPN and PT. Persi was still visible[10]. From previous research there was already up-to-date information available about the amount of smallholders within the seven villages of the Siak smallholder scheme (see table 1). After the first interviews, which were arranged by the Elang employees, the method of purposive sampling was used to ensure that the most valuable participants were interviewed. This form of purposive sampling is "a non-probability form of sampling" and "the goal is to sample participants in a strategic way, so that those sampled are relevant to the research questions that are being posed" (Bryman 2008: 415). This method in combination with the 'snowball sampling technique' ,whereby every interviewee was asked after the interview if he knew any more 'possible' participants (Bernard 2006) proved to be successful because the sample frame grew with each interview. The most valuable participants or key figures within the cooperatives were perceived to be the chief of cooperative, chief of kelompok (group within a cooperative) and members of kelompok. A key member within the cooperative also

[10] This was noticed during some of the interviews because people were hesitant to talk to us and were also not well informed about the daily business within the plantation.

helped getting access to participants[11] and in the end 30 semi-structured interviews (see table 2 for the sampling frame) were held at various places, including participants homes, in the oil palm plantations and in coffee shops.

Table 2: Sampling frame of the respondents

No.	Village	Name Cooperative	Function within the cooperative[12]					Total
			Chief of village	*Chief of cooperative*	*Chief of kelompok*	*Farmer*	*Other*	
Siak smallholders - Pusako and Sei Apit sub-districts								
1.	Dosan	Bungo Tanjung	1	1	6	5	5[13]	
2.	Benayah	Bina Usaha		1				
3.	Perincit	Karya Benuar Perincit Sepakat				1	1[14]	
4.	Teluk Mesjid	Tinera Jaya		1	1		1[15]	
5.	Pebadaran	Tuah Abadi Makmur		1			1[16]	
6.	Sungai Limau	Panca Usaha Maju		1	1			
7.	Pusako[17]	Bina Usaha Tani Utama	x	x	x	x	x	
Bunga Raya district								
8.	Tuah	Surya Mandiri	1				1[18]	
Total								**30**

2.5 Scope and limitations

The scope of this research is that insights in the way that smallholders interact with the different policy arrangements which are formed within the three domains of environmental governance, for example RSPO standards and BMP practices, will ultimately map out the existing playing field and more importantly will give an overview of the different perceptions of the oil palm smallholders in the Siak district, regarding these approaches. Therefore the research anticipates to show why the (Siak) smallholders make certain choices in relation to the different policy arrangements they encounter. These insights will eventually provide important knowledge on how to better suit the

[11] This key figure was Pak Rudi Santoso, Pak Dahlan's son in law.
[12] All respondents are considered members of a kelompok, almost all respondents considered themselves farmers because their household owned an oil palm plot. Some respondents had multiple functions within the organisation, but are placed under the function from which they derived the most income.
[13] In Dosan others are: businessmen, labourer, manager of cooperative, supplier of fertilizer and secretary of cooperative.
[14] In Perincit other is: staff of cooperative.
[15] In Teluk Mesjid other is: field assistant, facilitator for RSPO.
[16] In Pebadaran other is: secretary of cooperative.
[17] In Pusako no interviews were held because of non-cooperation.
[18] In Tuah village (Bunga Raya) other is: trader in palm oil.

different (sustainable) policy arrangements to the wants and needs of oil palm smallholders. Therefore this research has several features of a case-study: "case study research is concerned with the complexity and particular nature in question" (Stake 1995). One have to keep in mind that the direct consequence of using this approach is that it cannot be representative for other cases (Bryman 2008), but it does contribute to getting more insight into the dynamics between oil palm smallholders and the different domains of environmental governance. Moreover the smallholder scheme in the Siak district is slightly different from the typical independent smallholders and supported smallholders schemes. As the local Siak government initiated the program by facilitating the land to the smallholders in the seven villages under the "Palm Oil for People" program (Perkumpulan Elang 2012), it can be concluded that they were in a way tied to the government (see chapter six, paragraph 6.2.1) Nonetheless in several villages, notably Dosan and Teluk Mesjid, the government plays a limited role nowadays and therefore these smallholders are seen as independent smallholders (Greenpeace 2012). Furthermore the province of Riau is like an example case for the rest of Indonesia. The province is rich in natural resources such as oil, tropical forests and four large rivers, and one of them, the Siak river flows through the area. The province still has many natural forests left, but also has to deal with a lot of problems related to the different economic activities in the area. Riau is therefore a miniature example on how to manage Indonesian forests because of issues related to production forests, oil palm production, deforestation and the burning of forests[19].

Nonetheless within this research there were several important limitations. The first one is related to language and interpretation because a translator had to be used when interviewing the smallholders important data could get lost in the process. The second one is related to the fact that no government agencies could be interviewed because of lack of the appropriate visa. The third limitation is the means of transport. The fourth limitation was that at some villages people were unwilling or unable to cooperate. The fifth limitation is the time frame and the sixth and last limitation is that the researcher was hosted and thereby connected to the NGO Elang.

The first limitation is related to the language barrier. Because of the researchers' limited knowledge of the Indonesian language it was required to use a translator in the field. By making use of a translator in the field important data can get lost during the interview because of misunderstandings; limited knowledge of English by the translator; and a wrong interpretation of the questions and/or answers (Temple & Young 2004; Ingvarsdotter et al. 2012). To keep this loss of information at a minimum, notes were made during the interviews when there was a feeling of misinterpretation during the interview and the interviews were discussed with the translator after they were held. The translator also had a double role as an employee of Elang and being translator at the same time, which might have influenced the participants when answering the questions.
Government agencies and government owned companies could not be interviewed due to lack of the appropriate visa. A social cultural visa was arranged for the two months' time frame of the research. This was intentionally chosen because of the topic of the research. To get a hold of a research visa would be a time consuming undertaking because palm oil has not been without controversy the last few years and this has been experienced during fieldwork as well: "The authorities in the region are wary about research into oil palm developments as these are sensitive issues and perceived to be a cause of social conflict" (Jelsma et al. 2009: 2). Since the main focus of this research is on oil palm

[19] Important information that was mentioned during the Interview with Pak Muslim on 25 October 2012, NGO No. 2 see Appendix 1..

smallholders a deliberate choice was made not to enter this time consuming process of getting a research visa, which meant that people from relevant government agencies and companies could not be interviewed during the research.

The third limitation is the means of transport. Dosan village is by car a four hour drive away from the city of Pekanbaru and therefore it was quite lengthy and also expensive to go to the research area in the Siak district. The transport costs had to be financed by the researcher and hence on two occasions the boat from Siak to Pekanbaru, was chosen as a means of transportation because it was less expensive. Within the research area itself a motorbike was used for transport.

The fourth limitation was that some villagers were unable or unwilling to cooperate. Unable because they were out of town or busy working, or unwilling; especially within the villages where the government companies were still active[20]. Which is also relevant to the fifth limitation notably the given time frame. During the research there were a lot of positive processes going on. For example the Bupati (head of the district) visited the area in October 2012 and the minister of Agriculture was planning to visit Dosan village during the time of the research, which might meant an interview with him. But his visit was postponed until later and unfortunately outside the given time frame.

The last limitation relates to the fact that the NGO Elang acted as the host during the research and that the translator was an employee of Elang. In this way the participants connected the researcher to this organization which could mean that they would not be so outspoken or honest about certain issues. Therefore during the introduction phase it was made clear that the research involved independent research for a master thesis. But off course it has to be kept in mind that there was still a chance that they would gave answers that they thought would be satisfying for Elang or the researcher.

[20] As mentioned before people in the villages where the government owned companies were still active, were hesitant to speak to us or were not well-informed about the daily business within the plantation.

3. CONCEPTUAL FRAMEWORK

3.1 Theoretical approach

The theoretical approach central to this research is a combination of the two principal concepts political modernization and policy arrangements (Arts et al. 2006). This framework is set up for understanding environmental policy change (Ibid.) in an era where state, market and civil society are increasingly interwoven with each other:

"As a consequence of increasing interwovenness of state, market and civil society, steering and the pursuit of policy are increasingly taking shape in expanding areas of transition or interference zones between these three subsystems"(Arts et al. 2006: 95).

Accordingly with help of this framework new forms of governance arrangements, for example multilevel governance (RSPO), can be explained within their context. But more importantly it can shed light into more structural and long-term developments in environmental policy itself because of a continual focus on social and political developments within politics and society. The frameworks' ultimate aim revolves around three central points:

"(a) to make a connection between all kinds of everyday policy processes and long-term developments; (b) to do justice to the interaction between actor and structure, meaning the relationship between (the impact of) the strategic action of actors and structural developments; and (c) to do justice to broader social and political developments that are also, but not exclusively, influential in the environmental policy domain" (Arts et al. 2006: 96)

In general little attention is given to these abovementioned points within the study of environmental policy (Ibid.). But in this thesis these central points will particularly play an important role in grasping and contextualizing the oil palm smallholders case which will eventually lead to insights into what influence the different governance arrangements have had on these smallholders daily (farm) management practices.

The aforementioned framework has links with the theory of ecological modernization, where there is much attention for solving environmental problems in the process of social and political modernization (Arts et al. 2006: 97). The strength of the framework comes from the two central concepts of 'political modernization' and 'policy arrangements'. These two concepts can be seen against the background of rising environmental concerns that were emerging on political and societal agendas (Tatenhove & Leroy 2003) in the 1960s and 1970s. Environmental issues became more and more politicized and were an expression of anti-modern critique on 'modern society' (Ibid.). At the present time, boycotts or bans from environmental NGOs against further palm oil expansion, can be seen in this light. Thus changing dynamics and interrelations are at the heart of political modernisation as Van Tatenhove and Leroy state:

"As a result of processes of political modernisation the substance and organization of environmental policy have changed over time, resulting in the plurality and co-existence of traditional and innovative policy arrangements. The innovation of environmental politics resulting in this new policy arrangements is provoked by the emergence of new coalitions between actors, by the launching of

new policy discourses, or by the capacity of actors to mobilise resources and to change and define the rules of the game" (2003: 156).

The awareness of these changing interrelations within environmental politics are especially important in relation to the global palm oil networks. These changing dynamics affect all players (actors) within the game. Therefore oil palm smallholders are very much subjected to the outcomes of these ´games´ and the new power-relationships that are set within these governance arrangements (Arts et al. 2006). Nonetheless the very two-way nature of these power-relationships, means that the very fact of involvement in this relationship, gives him or her a certain amount of power over the other (Giddens 1979).

Moreover one has to keep in mind that governance arrangements also have a tendency to overlap and sometimes contest one and another (Delmas & Young 2009). And this is where certain hybrid arrangements exist and innovative responses from within the different domains come into terms (Ibid.). Delmas & Young state that: "*Hybrid systems in which several forms of governance operate simultaneously, and even with an element of coordination, are not only possible – they are increasingly common in the realm of sustainable development*" (2009: 3). Especially within the complex network of globalizing palm oil, the development and evolution of "hybrid" governance arrangements, play a significant role. This theoretical approach was used to identify the relevant governance arrangements and networks which apply to oil palm smallholders in the Siak district. And more importantly to see which effects these governance arrangements have on power-relationships between stakeholders and the changing or creation of (new) interrelations between them. The abovementioned theoretical framework and related concepts were therefore of key importance to analyse the relevant playing field and dynamics of the oil palm smallholders in the Siak district and was an important guiding principle during the course of the research. In the following sections the abovementioned key concepts will be discussed.

3.2 Concepts

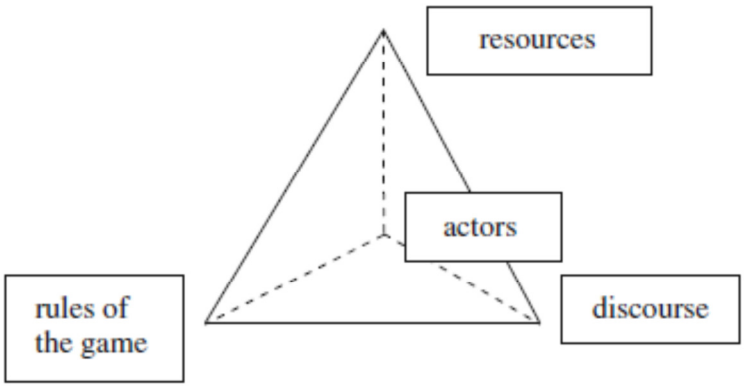
3.2.1 Political modernisation and policy arrangements

The concept of political modernisation "refers to structural processes of social change and their impact on the political domain" (Arts et al. 2006). Consequently new relationships are being formed between state, market and civil society because of social, economic, and political processes, such as globalization and individualisation (Ibid.). As a result new power relationships are set, which each hold different ideas and practices, on steering and policy institutions (Ibid.). Within global palm oil networks this is exactly the case, as new power relationships between the state, market and civil society are set, and old relationships are constantly shifting (McCarthy et al. 2012), the stakeholders are all searching for a way to create some form of legitimacy (Schouten & Glasbergen 2011). Furthermore Arts et al. say that: *"political modernisation, as a structural process, manifest itself in all kinds of day-to-day policy practices, which in turn influence this grand process"* (2006: 97). These day-to-day policy practices should play an important role within the daily management practices of oil palm smallholders, but relevant knowledge about this is quite scarce. However the most important aspect in relation to the research is that political modernisation, except for affecting the political domain, also affects the economic, social and cultural domains (Ibid.). This makes political modernisation an all-encompassing concept, particularly useful when researching the interaction of

oil palm smallholders within complex palm oil networks. Finally Arts et al. (2006) state that within this concept we can describe three phases since the time of the Second World War: early modernisation, anti-modernisation[21] and late modernisation, which is seen as the current state (2006: 101). Late modernisation is according to them: "*characterised by a discourse of governance, interdependence and inevitable cooperation between government, market and society" (*2006: 101). This means that governments cannot only act by themselves and are inherently 'forced'[22] to cooperate with multiple stakeholders whether or not willingly. Political modernisation is hence a very useful concept in relation to global palm oil networks.

The concept of policy arrangements is linked to the above mentioned concept of political modernisation: *"Policy arrangements are defined as the temporary stabilization of the content and organisation of a policy domain. The shaping and structuring of a policy arrangement in terms of content and organisation is in continual flux"* (Arts et al. 2006). Within the context of internationalisation, policy arrangements take on a multi-level character, which makes them more dynamic (Ibid.). These forms of multi-level governance are typical within palm oil networks, where the interconnectedness between stakeholders sets up a path around the globe. Next to this fact Arts et al. (2006) describe four elements within these policy arrangements which are: actors (and their coalitions); resources; rules of the game; and the current policy discourses and programmes (see figure 2). These four elements are important tools in creating an overview on how and by which actors the context of oil palm smallholders is shaped. Particularly relevant to this research is the fourth element that is 'current policy discourses and programmes' as: "*where the concept of discourse refers to the views and narratives of the actors involved –in terms of norms and values, definitions of problems and approaches to solutions- and the concept of programme refers to the specific content of policy documents and measures"* (Arts et al. 2006: 99). By zooming in on this fourth element, with help of the data that was retrieved during the interviews, the current policy discourses and programmes that apply to the Siak smallholders will be discussed.

Figure 2: Four important elements within policy arrangements (Source: Arts et al. 2006)



3.2.2 Power-relations and agency

Power-relations is a commonly used concept in social theory (Foucault 1982; Bourdieu 1989). In the above section it became clear that power relations are an important factor in political modernization and policy arrangements and thus in the way governance arrangements are generally shaped. Dahl defined power "*as a relation between people, and is expressed in a simple symbolic notation*" (1957: 201). In this way the concept of power cannot be defined without taken relationships into the context. The concepts of power and agency also play a key role in Giddens (1984) structuration

[21] According to Art et al. 2006 especially important for the development of environmental policy.
[22] Forced can be interpreted as both figural and literal.

theory. Giddens points out that there is a logical connection between action and power: "*to be an agent is to be able to deploy (chronically, in the flow of daily life) a range of causal powers, including that of influencing those deployed by others* (1984: 14).

With regard to the research, oil palm smallholders can in fact influence governance arrangements, for example by certain forms of resistance or by appropriating these arrangements to their own needs. Furthermore Giddens points out that: " *action depends upon the capability of the individual 'to make a difference' to a pre-existing state of affairs or course of events"* (Ibid.). So by exercising forms of resistance, oil palm smallholders can in fact change the course of events and therefore influence governance arrangements. The related concept of agency is also one of the key concepts in the research and as Giddens states: *"agency refers not to the intentions people have in doing things but to their capability of doing these things in the first place (which is why agency implies power)"* (1984: 14).

3.3 Siak smallholders case

In this section a description will be given on how the above mentioned theories and concepts are operationalized towards the research and in particular to the Siak smallholders case.

3.3.1 Political modernisation and the three dimensions

The Siak smallholders case is particularly interesting because the last few years they have undergone several policy arrangements by different stakeholders (WWF Indonesia, local NGO Elang, WUR-team and local government), which in a way all act within one of the three domains (state, market and civil society). These stakeholders are all creating some form of legitimacy by setting out their own day-to-day policy practices with regard to the Siak smallholders case. Societal steering can therefore take place within the three different domains at the same time. Therefore it was important to gain more insights on how this exactly takes place within the research area and how the different dimensions of sustainability, also known as the Triple Bottom Line; social; economic and ecological dimensions (Elkington 1997) interconnect or relate with each other. By mapping out which elements, actors, and issues are important with regard to the Siak case and how they are (or not) connected, more knowledge was gained about the specific interactive process of the oil palm smallholders in relation to governance arrangements. This particular framework is a useful tool, to gain an understanding of the complex networks where the Siak oil palm smallholders are part of, and is therefore used to see where they stand and interact within the different (sustainability) policy arrangements. Combined with the concept of political modernisation they will play an important role in comprehending how the different policy arrangements influence the daily (farm management) practices of oil palm smallholders in the Siak project and furthermore which challenges they come across. But before this can be done an examination of the evolution of the national political and policy context is given which will open the pathway to understanding the current discourse, which takes place within the era of political modernisation (Arts et al. 2006). Furthermore by analysing how this current discourse, with the respective policy arrangements, influences the Siak smallholders will be of significant importance to answer the sub question on which policy arrangements can be distinguished, and will open the way to a proper discussion of the level playing field. Within these respective policy arrangements, a significant role is played by 'the Palm Oil for People program. This program will receive most attention, as a thorough analysis will help to unravel the challenges the oil palm smallholders still face. But more importantly it will distinguish the role this program has played in

opening up the way for the other policy arrangements, RSPO implementation and yield intensification by implementing BMP. These two policy arrangements will also be analysed, as they have been very influential in the Siak smallholders site in the last few years. During this analysis a critical view will be set on how these different sustainable practices are effectively (or not) implemented within the Siak smallholders site.

3.3.2 Policy arrangements, power relations and agency

The Siak smallholders are constantly forming new relationships within the given policy arrangement and sustainability initiatives. During the research there was a constant focus on how these (sustainability) policy arrangements were shaped. The four elements described by Arts et al. 2006: actors (and their coalitions); power and resources; rules of the game; and the current policy discourses and programmes, are used as an instrument for getting to know the relevant playing field within these particular policy arrangements. Insights into the ways that these actors (oil palm smallholders, local Siak government, NGOs like WWF Indonesia and Elang) cooperate or form coalitions together are of major influence for the given dynamics . During the thesis there will be a constant focus on these coalitions as these dynamics tend to unravel the adoption (or rejection) of certain policy arrangements. Next to this by gaining up-to-date knowledge (through the conducted research), about the specific discourse where oil palm smallholders are currently in, insights will be gained in whether or not new policy arrangements will be adopted in the future. This up-to-date knowledge could be particularly important in gaining insights about the effectiveness' of the different policy arrangements (interventions) which are currently implemented within the Siak oil palm smallholder project. But more importantly through the concept of policy arrangements, the research explicitly looks at the way oil palm smallholders influence power relationships and deploy their agency. So in what way do the Siak smallholders use certain kinds of power to influence and steer the different sustainability initiatives. These forms of power can take on multiple forms and can therefore be seen in a wide-ranging scope, for example in the form of active or passive resistance (Scott 1985). And also how they assemble their resources in this steering of sustainability, for example by ways of money, social networks, political influence and so forth. In the Siak smallholder project, agency can also be seen in the light of the willingness (or reluctance) of oil palm smallholders to cooperate in the different policy activities, and can have a large influence on the implementation of these activities. Studying how oil palm smallholders see and influence power relations and therefore deploy agency was also an important aspect of the research.

4. NATIONAL POLITICAL AND POLICY CONTEXT

This chapter will begin with a short overview on the evolution of the political context in Indonesia and how it was shaped into the context as we see it today. Most attention will be given to the Reformasi phase and how the process of decentralization, in which government authority shifted to authority on the district level, had a large amount of influence on the political context in Indonesia. Furthermore this chapter will give an overview of policy and legislation regarding oil palm schemes. The different types will be described shortly and the way in which these oil palm schemes gave a boost to the oil palm sector in Indonesia and what role oil palm smallholders played in these developments.

4.1 Evolution of political context in post-Suharto Indonesia

Indonesia has seen a swift evolution of agrarian policy and practice in a short amount of time. It is commonly divided in three phases: the New Order regime under Suharto (the years 1966-1998), the transitional (KKPA) from 1995-1998, and the post-Suharto (from 1998) 'Reformasi' phase (McCarthy 2010). The New Order regime of Suharto (from 1966 until 1998) was characterised by state led development, in which a highly authorative and centralized mode of dealings was applied (Zen et al. 2005; Gillespie 2011; McCarthy 2010). The estate transmigration schemes, also known as PIR-Trans scheme, a type of contract farming was implemented so that palm oil development could expand rapidly (McCarthy 2010). During this period in the 1970s the Nucleus Estate and Smallholder (NES) system (Perkebunan Inti Rakyat (PIR)) was adopted (Okamoto 2000). Briefly described, under this system the state-run or private-run company became the nucleus estate (inti) and each smallholder farmer (plasma, or participating household in the NES schemes) in the vicinity was allocated 2 hectares per household for oil palm cultivation and 1 hectare for housing and subsistence gardening (Okamoto 2000). From the 1990s the transitional phase was set in, as the government changed its policies into a more private sector approach (McCarthy 2010). The introduction of the Primary Cooperative Credit for Members (Kooperasi Kredit Primer Anggota (KKPA)) (Vermeulen & Goad 2006) from 1995-1998 is one of the most noteworthy features as it involved a more direct private community 'partnership' model (Ibid.). After president Suharto had fallen (from the year 1998) a process of Reformasi began. In the 1990s state-society relationships were already shifting gravely but after 1998: " there was a transition from a developmentalist to a more neo-liberal, market driven model" (McCarthy 2010: 839) and the process of decentralization had begun.

4.2 Decentralization and its implications

With the coming of the new president of Indonesia, Habibie in 1998, the decentralization or 'regional autonomy' phase started and in 1999, two general laws, notably Law No. 22 and No. 25, were applied to ensure that decentralization would be realized in a 'decent' manner (Gillespie 2011; Casson & Obidzinski 2002; Rietberg 2011). Law No. 22/1999 on Regional Government was developed to regulate a shift from government authority to authority on district level and Law No. 25/1999 was developed to deal with the Balance of Funds (Gillespie 2011; Casson 2001; Pradjna Resosudarmo 2004). These laws would come into effect on the 1th of January 2001 and:

"The passage of these decentralization laws marked the beginning of a fundamental political and administrative transformation of Indonesia, as they legislate the devolution of a wide range of public service functions, the strengthening of elected local legislative assemblies, and the financial and economic empowerment of the regions" (Pradjna Resosudarmo 2004: 111).

As Law No. 22 prescribed an administrative shift to regional authority, Law No. 25 prescribed that the Balance of Funds and therefore the financial authority would remain with the central state. Furthermore these laws have been supported by a variety of implementing regulations and sector-specific decentralization laws, which makes it even more puzzling. One of them is Law No. 41/1999 which is a revised version of the Basic Forestry Law[23] and which outlines the division of administrative authority in the forestry sector under regional autonomy (Casson 2001). But this law doesn't mention the transfer of forest authority to the regions, implying that it stays a matter of central authority (Ministry of Forestry) (Pradjna Resosudarmo 2004). To make matters even more complicated in June 2002, the government produced its implementing regulation, which states clearly that authority for forests is a matter of the centralized government (Ibid.). Major drive for putting this regulation into order is the dissatisfaction of the government about district governments issuing large logging concessions and whereby the central government is losing authority over Indonesia's forests. These types of confusion over the hierarchy of laws and regulations has accentuated the conflict between the central government and local authorities (Ibid.) on most levels.

These decentralization laws were primarily implemented to increase civil liberties and to increase the authority of local leaders, but this doesn't mean that this decentralization process generally implies increased democratization, good governance and a strengthening of civil society at the regional level (Schulte Nordholt 2003 in Rietberg 2011). Schulte Nordholt states that:

> *"Instead, we witness a decentralization of corruption, collusion, and political violence that once belonged to the centralized regime of the New Order but is now moulded in existing patrimonial patterns at the regional level (2003: 572)"*

Schulte Nordholt (2003) notes that the district administrator, called 'Bupati' plays a very important role in this political system. The Bupati receives most of the funds from the centre and therefore controls the channels through which money is distributed (Ibid.). The Bupati has to work together with the legislative assembly, or district Dewam Perwakilan Rakyat (DPRD) (Pradjna Resosudarmo 2004). In the past their major functions were 'endorsing legislation', but nowadays it has shifted to producing legislation together with regional governments; and providing the checks and balances to control and monitor regional governments (Ibid.). In theory, real power must remain with the citizens through the representatives that they choose. But in practice it all comes down on who has the best position and knowledge of local affairs and politics (Ibid.).

The Palm Oil for People program which will be discussed in the next chapter has been initiated by the Siak government, and the Bupati has been very influential in developing and initializing this program. This program is set up to promote rural and economic development in the seven villages in the Siak district. (Elang 2011)

4.3 State policies and legislation associated to oil palm schemes

Since the beginning of the New Order (1966) regime, palm oil production has been heavily promoted and until 1997 it has been one of the fastest growing sub-sectors of the Indonesian economy (Casson 1999; Susanti & Burgers 2012) Moreover it has been used by the government as a major vehicle to

[23] The government adopted the Basic Forestry Law in 1967, which placed all of Indonesia's forests under central government authority (Pradjna Resosudarmo 2004).

improve socio-economic development in the rural areas of Indonesia (Zen et al. 2005; McCarthy & Cramb 2009). Primarily by promoting smallholding oil palm through nucleus estates (NES-PIR) and by assisting individual farmers (Zen et al. 2005). In the mid-1970s oil palm therefore emerged as one of the most important cash crops and until now it has only seen a further rise as global demand is still increasing (Susanti & Burgers 2012). In 2010, the total area that was used to produce oil palm was 8,4 million hectare and the Indonesian government sets up an ambitious plan to expand palm oil production to cover 20 million hectare more by 2020, mainly on the islands of Sumatra, Kalimantan, Sulawesi and West-Papua (Colchester et al. 2006). Several different policies and regulation have been implemented by the Indonesian government to accelerate this oil palm boom. The policies and regulations that apply to smallholders will be discussed in the next sub paragraph.

4.3.1 Accelerating the oil palm boom in Indonesia

As was discussed earlier the evolution of agrarian policy and practice in Indonesia can be clearly distinguished in three different phases: the New Order regime, transitional period and the Reformasi period. Each period came with their own sets of policy and regulations. But the common factor is that the Indonesian government had set their mind on oil palm development because of its economic importance to the Indonesian economy and facilitated this development through various schemes (Casson 1999). These schemes can be divided in three different categories of palm oil estates: state-owned estates, smallholders estates and privately owned estates (Ibid.). State owned estates were considered a heritage from the former Dutch colonial government, and were established between the years 1870 until 1930. After independence in 1945 the plantation system collapsed but started up again after the Dutch-owned plantations were nationalized and until 1990 state owned estates had in fact the largest area of oil palm plantations in Indonesia (Ibid.) Though the way in which the Indonesian government promoted smallholder involvement will be discussed below.

From 1978 onwards, smallholder estates expanded through the PIR/NES (Perkebunan Inti Rakyat or Nucleus Estate and Smallholders Scheme) supported grower schemes for which the Indonesian government provided policy support and the World Bank financial support (Casson 1999; Vermeulen & Goad 2006; Zen et al. 2005). Within such schemes the plantation company develops oil palm plots for smallholders in a 'plasma' area around their own plantation 'nucleus'. The management of the plasma plots, usually 2 hectare of palm oil and 1 hectare for housing and subsistence crops, would be transferred to individual smallholders after three to four years and the nucleus company was then required to purchase the Fresh Fruit Bunches (FFB) from the 'plasma' smallholders through a government formula (Vermeulen & Goad 2006; Casson 1999) But these guaranteed sales weren't always as fair and efficient and the policy was revised in 1997 (Vermeulen & Goad 2006; Zen et al. 2005) . In the best case scenario the nucleus estate provided a package to these smallholders which included: "*management, technology including high yielding trees, and services entailing the opening and planting of lands, to supply inputs and processing"* (Zen et al. 2005). These investments that were made on the 'plasma' lands had to be repaid eventually by the smallholders to the oil palm company via a repayment scheme (Zen et al. 2005; Rietberg 2011). Furthermore these nucleus plasma schemes were also part of the government resettlement (transmigrasi) program, where people from populated islands such as Java and Sumatra were transferred to less populated islands, such as Kalimantan. Therefore many, but not all, of the plasma smallholders have been new settlers. Approximately 900.000 hectare of oil palm smallholdings were allocated under five different

variations, with their own sets and features, (see table 3) of this PIR-model (Vermeulen & Goad 2006; Zen et al. 2005; Casson 1999; McCarthy 2010).

The central government allocated land for these schemes from a land category called conversion forest (Vermeulen & Goad 2006). Much of this land within this category was under the management and traditional ownership (adat) of local communities, which were consensually or not, contributing to these PIR schemes. Policies generally required a mix of 20-80 between nucleus and plasma (McCarthy 2010; Vermeulen & Goad 2006), but in real life this tended to be 40-60 (Vermeulen & Goad 2006).

Table 3: Types of nucleus plasma schemes in Indonesia (Source Zen et al. 2005)

Type	Main features	Performance
A. PIR *Lokal*, from 1978	On government plantations only. Each smallholder allocated 2 ha oil palm so long as member of scheme.	Not good. Major problems will failed subsistence crops and food security. Few income sources in 4 yrs of immaturity then limited incomes from 2 ha, especially as govt stipulated low price for FFB + 30% deduction. Many abandoned schemes.
B. Assisted PIR, from 1984	On government and private plantations, partly funded by WB and ADB. Priority to (1) locals and (2) transmigrants (some from failed schemes, thereby releasing land). Each smallholder allocated 2 ha oil palm and 1 ha food crops. Schools, health centres, markets, roads etc also provided.	Reasonable. Problems again with food and incomes. But improvements following govt's upward revision of prices in 1987. Rules relaxed in 1997 to allow farmers to plant food crops, leading to better food security and higher yields from 9-10 yr old mature palms. Diversification of income activities and many smallholders able to pay off loans.
C. Special PIR, from 1984	On government and private plantations, funded by govt. Priority to (1) transmigrants and (2) locals. Similar to B except additional 35 m^3 for housing.	
D. Accelerated PIR, from 1984	On government and private plantations, funded by govt. For transmigrants only. Conditions as in C.	
E. PIR *Trans* and KKPA, from 1986, replacing B, C & D	On government and private plantations, funded by govt. For both transmigrants and locals. KKPA loan repayments with limited subsidy, repayable at 16%.	

Today the nucleus plasma schemes still continue, although government sponsorship of expansion stopped in 2001, in the wake of Indonesia's decentralization politics and a renewed support for traditional individually owned smallholdings (Vermeulen & Goad 2006). Nevertheless the allocation

of traditional land to these nucleus plasma schemes by the central government has had a large influence on conflicts over land which are still continuing today (McCarthy & Cramb 2009).

From 1990 onwards the government changed the course of its policies from state-led development to a more direct social private partnership model (McCarthy 2010), this happened under the influence of the World Bank which had criticised state support for smallholders and had stated to leave oil palm development to the market (Ibid.) From 1995 until 1998 a new kind of scheme entered the stage: the KKPA (Kooperasi Kredit Primer Anggota or Members' Primary Credit Co-operative). The Indonesian government introduced this as a general rural microfinance programme, through which formalised local cooperatives could borrow money, at a partially subsidised repayment rate of 16%, for small business development (Vermeulen & Goad 2006). Within the KKPA scheme "the plantation firm is being responsible for nearly all of the project, working directly with participating farmers to resolve land problems, providing training and extension services for plasma cooperatives, and establishing infrastructure without direct state engagement" (McCarthy 2010: 830-831). The government thereby moved into an 'oversight' or 'steering mode' (Ibid.) and cooperatives under KKPA experienced more autonomy than under earlier nucleus plasma models (Vermeulen & Goad 2010). This KKPA scheme also focused on integrating local farmers, such as on the island of Sumatra, where the majority of indigenous Melayu had not participated in the previous scheme (McCarthy 2010).

4.3.2 Brief downfall in oil palm expansion after decentralization reforms

During the period after 1998 (Reformasi), when president Suharto resigned, the state was no longer the sole authority of political power and authority (McCarthy 2010) and a great deal of social unrest in and around palm oil estates occurred (Casson 1999). The state's role shifted to a more enabling role where it had to establish a regulatory framework and provide the institutional context (McCarthy 2010): *"This shift in the ways that were used to achieve policy objectives, and to address complex policy problems, accompanied a renewed advocacy for strong individual property rights, the rule of law, and freely operating markets and trade"* (McCarthy 2010: 839). This shift to decentralization and a focus on public-private partnerships between market actors and communities has affected Indonesian policy. This 'reform' era, which took place at the same time of the Asian crisis, gave way to suppressed grievances between plantations and surrounding landowners against further oil palm expansion (Casson 1999) and erupted in the form of widespread demonstrations, theft of FFB, and land occupations (McCarthy & Cramb 2009). According to McCarthy & Cramb (2009) two sets of problems (both related to distributional justice) that occurred during the New Order era were the main reason for widespread protests under local landowners. These are: expropriation of lands; the inadequate compensation for these lands; and being subjected to governance arrangements that created resentment because of mismanagement and manipulation (Ibid.; Zen et al. 2005). During this time from the year 1998 until 1999 investors in the palm oil sector withdrew, which lead to an overall crisis and to an end of the period of large expansions of oil palm plantations for a short time period (McCarthy & Cramb 2009). The government had to conform with the decentralization reforms and in accordance to the governance paradigm, the central state was to operate more as a facilitator and a coordinator, and therefore largely withdrawing from direct involvement (Ibid.). Therefore in 1999, the Ministry of Agriculture acts as a facilitator and sets out a new policy for different 'partnership models' (pola kemitraan). Basic concepts underlying the nucleus

estate model remain intact in most of these models (Ibid.). But without significant credit from the government, plantation companies do not succeed in making the partnership model a success (Ibid.).

Furthermore from 2004 the state announces a set of policies that culminated in the 'Plantation Revitalization Program'. This program set out to the development of a further 1,5 million hectare of oil palm areas (Ibid.). This policy implies once again state facilitation of a 'partnership' between smallholders and nucleus estates along the lines of earlier nucleus estate models (Ibid.). From 2006 onwards, plantations used these policies and a broad notion of 'partnership' in the search for suitable areas to expand their plantations. Customary landowners were persuaded to go into partnership agreements with plantations (Ibid.):

> *"However, in the absence of clear legal frameworks for negotiating the agreements and effective oversight from district governments, and with problems of accountability and transparency, landowners were often entering into ad hoc, informal agreements" (McCarthy 2010: 117).*

These partnership agreements favoured the plantation owners with 80:20 over the heads of participating smallholders (McCarthy et al. 2012). Consequently plantations could therefore control much larger areas of production, and could maximize their profits of high quality FFBs to their mills (Ibid.). This together with a rise in global demand for palm oil, as a source of food products and biofuels, gave yet again another boost to the oil palm sector.

However despite the rapid oil palm expansion by large plantations, different types of local Indonesian production networks are becoming more and more common everyday (McCarthy et al. 2012). The Siak smallholders case which is central in this research is seen as one of these 'innovative' localized Indonesian production networks (Ibid.).

4.4 Independent smallholders in Indonesia

In this paragraph a brief description of independent smallholders will be given. The schemes that were described above were all considered supported smallholders. Independent smallholders however are oil palm growers who are not tied to any government or company and therefore don't get any assistance from these parties (Vermeulen & Goad 2006). These independent smallholders sell their FFB's either to mills directly or through local buyers (Ibid.). This particular aspect can be seen as either a strong point or a weak point, as independent smallholders can choose to sell to the mill that offers the highest price for their FFB's, but this can also mean that in times of dwindling demands, mills can choose to only purchase from their plasma growers, leaving independent growers with no choice to sell their FFB's below market value (Cramb 2012; Vermeulen & Goad 2006; Belcher et al. 2004). In Vermeulen & Goad this is discussed as coping with market risk: "*Independent smallholders are particularly at risk from crop price fluctuations….. Monopsony purchases by mills and lack of bargaining power among smallholders exacerbates the problem" (2006:6).*

Nevertheless ever since the late 1980s independent smallholders seem to be on the rise. Especially on the island of Sumatra and Kalimantan independent smallholders seem to grow significantly to meet the rising demand for palm oil (Papenfus 2002). Primarily because independently owned oil palm smallholdings are considered to be highly profitable (Feintreinie et al. 2010) and which seems to be the main driver for farmers to choose for oil palm cultivation (Ibid.). Other features which are

considered positive are: the technical characteristics of the crop, including less labour and the high return on investment (Ibid.). Nonetheless beside the benefits, the independent smallholders still need to deal with some major disadvantages such as limited access to high-yielding trees, which means less output; (Zen et al. 2005; McCarthy 2010; Boer et al. 2012) limited financial resources (Twiggs Degn & Bertule 2009; Papenfus 2002); lack of technical knowledge (McCarthy et al. 2012; Feintreinie et al. 2010) and the high level of inputs, such as fertilization (Feintreinie et al. 2010).

Scientific studies about independent oil palm smallholders in Indonesia are quite scarce (Papenfus 2002). Primarily because independent smallholders are scattered across the country and because they are not specifically tied to any government or company there are no exact numbers available. A rough estimation sets independent smallholders up and around 5 million households (Sawit Centre 2013). In the Riau province, on the island of Sumatra, where the Siak smallholders are also situated, there are around 10.000 independent smallholders (Fitriyardi 2012). In the future independent smallholders are likely to become a much larger group (Sawit Centre 2013; Papenfus 2002), mostly depending upon the amount of available land. But more importantly this group also bear the greatest opportunity to increase yields (Boer et al. 2012), for example by improving soil health or by replacing low yielding- with high yielding trees (Ibid.; Zen et al. 2005). Overall investment in yield intensification for independent oil palm smallholders could therefore have large sustainability benefits for the future, most of all related to counteract further oil palm expansion into existing forests (Brandi et al. 2012). To bring back deforestation, and it's related environmental and social effects, is also one of the main aims of the RSPO (Ibid.), which will be discussed in the next chapter.

4.5 Conclusion

The political context in Indonesia has seen some rapid changes since independence in 1945. From state led development under president Suharto to a more decentralized mode of dealings from 1998 onwards during the Reformasi period. From that moment district governments, regulated by Law 22. and Law 25., gained a large amount of authority and the Bupati and legislative assembly have played an important role in producing and endorsing legislation. These shifts in the political system also had a large influence on agrarian policy and practice, and oil palm developments for that matter. Since the Suharto era until now the NES-PIR smallholder model has played an important role in accelerating oil palm developments in Indonesia. Schemes like the Cooperative model 'KKPA' and the partnership model 'Pola Kemitraan' have followed but were not merely as 'successful' and implemented on a large scale as the NES-PIR model. After a brief downfall during the Asian crisis of 1998-1999, oil palm expansion boosted again under the partnership model but also gave way to more localized Indonesian production networks, of which the 'independent' innovative Siak smallholders are but one example.

5. PALM OIL PRODUCTION AND SUSTAINABILITY

The rapid expansion of oil palm plantations in Indonesia and in other parts of the world, has not been without severe consequences for the environment, and the local communities who depend on these environments. In this chapter the concept of sustainability will be briefly discussed, which will be followed by a discussion of the key sustainability issues regarding palm oil. Eventually an introduction will be made into new forms of governance arrangements, such as the RSPO, which are appearing within the palm oil scene the last few years and which are set up to deal with the main sustainability issues.

5.1 The concept of sustainability

The literature on sustainable development is vast (Redclift 2005) and the debate on what is meant by the concept of sustainability is never ending (Lele 1991; Kates et al. 2005; Meadowcroft 2000; McCarthy 2012; Boons & Mendoza 2010). In the 1970s the concept of sustainability entered the stage because of a rising concern about the influence of human activities on the earth's natural resources, namely after the report of Limits to Growth by the Club of Rome (Meadows & Meadows 1972) The most well-known definition of sustainable development is conceptualized by Brundtland: *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED:1987).* This definition has been applauded, for putting sustainable development high on the political agendas at that time, (Baker 2005; Meadowcroft & Lafferty 2000) and criticized because it left sustainability being about everything and therefore potentially about nothing (Lele 1991; Jordan 2008). But nowadays the debate has changed it course from searching for a precise definition or blueprint, to that the concept of sustainable development "will have to emerge out of an interactive process of social dialogue and reflection" (Jordan 2008: 18). Precisely the fact that this multidimensional bridging concept (Meadowcroft 2000), which links economic-, environmental- and social dimensions (the so called Triple Bottom Line) (Elkington 1997) together, is open for interpretation and contextualization, makes it a strong advocate for a sustainable future.

5.2 Key sustainability issues in the Indonesian palm oil sector

The oil palm (Elais Guineensis) itself is a highly lucrative crop and has already many inherent advantages, such as high productivity and efficient carbon assimilation (Basiron 2007). Furthermore it has a high oil yield per hectare and its end-products CPO and CPKO can serve multiple purposes, from food to cosmetics and even biofuel (Ibid; Wahid et al. 2005). However because a lot of players are attracted to palm oil production (Sandker et al. 2007; Belcher et al. 2004) the scale and complexity of the palm oil sector grows even bigger, leading to severe environmental, social and economic consequences (Boons & Mendoza 2010). Palm oil development worldwide thus leads to certain trade-offs. Advocates of palm oil development applaud its advantageous characteristics as it lifts people out of poverty and is seen as a major driver for rural development and socio-economic development (Feintrenie et al. 2010; Basiron 2007; Zen et al. 2005), as seen in the case of the Siak smallholders. Though on the other hand it marginalizes (indigenous) people even more as claims are made by large oil palm companies to their ancestral lands, leaving them helpless without the forests or lands they have depended on for all their lives (Potter 2008; Okamoto 2000; McCarthy 2010). In the next few sub-paragraphs the key environmental, social and economic sustainability issues within the palm oil sector will be briefly discussed. Thereafter new forms of governance for sustainable

development will be discussed as these new 'forms' are set up to combat these environmental, social and economic issues within the palm oil sector.

5.2.1 Environmental issues

Deforestation and thereby related biodiversity loss are one of the key issues related to oil palm development (Boons & Mendoza 2010; Koh & Ghazoul 2008). Especially in Indonesia, where lowland rainforests contain high levels of biodiversity and where peat lands have significant carbon reserves (Obidzinski et al. 2012). In Indonesia species such as the Orang-utan and the Sumatran tiger are losing their habitat because of oil palm expansion (Tan et al. 2009; Obidzinski et al. 2012). Furthermore these land use changes can have negative environmental effects on water resources and increase Green House Gas (GHG) emissions (Ibid.; Boons & Mendoza 2010; Koh & Ghazoul 2008). Another trend in Indonesia which raises environmental concerns is that large areas of forests seem to be cleared for oil palm but are not planted (Obidzinski et al. 2012). The areas were either cleared for the timber as an end to itself, or the companies ceased oil palm operations because of conflicts with the local communities or the areas were just badly managed (Ibid.) Either way a lot of these areas are just left as barren lands.

5.2.2 Social issues

As oil palm development can lead to economic prosperity for some (for example migrant smallholders) it can also have detrimental effects on local livelihoods (Obidzinski et al. 2012). Research has shown that oil palm development in Central Kalimantan has affected the shifting cultivation practices of the local indigenous Dayak communities, leading to food insecurity (Orth 2007). Also within the Riau province, and where this research has taken place, Susanti & Burgers argue that the food security issue is of rising concern as food cropping areas are increasingly being converted into (small-scale) oil palm plantations. They state that:

"Converting rice fields into oil palm plantations is a worrying development for the local government, as securing enough rice at affordable prices is critical to national security, given that huge amounts of people live in the cities" (2012: 27).

In the Siak smallholder area there weren't that many rice fields, but the neighbouring district of Bunga Raya is a very important supplier for the province's rice stock. The government designated this area to rice production[24], but currently farmers in this area were also more and more interested in growing oil palms because of its beneficial characteristics[25] In the future this could lead to food insecurity within the region. Furthermore a lot of farmers will not be able to acquire the necessary resources to access oil palm and it can actually rework social relations and land ownership in the rural areas, which may ultimately work against the well-being of the poor (McCarthy 2010; Obidzinski et al 2012; Rist et al. 2010). Also there have been a lot of cases of human rights abuses, such as land grabs, forms of slavery, sexual harassment and so on by plantation companies (Obidzinski et al. 2012: Marti 2008; Wakker 2004; Colchester 2010; Seymour 2008).

[24] Interview Nurbiddin on 14 September 2012, smallholder No. 9 see Appendix 1.
[25] Interviews smallholders 9 & 10.

5.2.3 Economic issues

As oil palm cultivation provides new income opportunities for many farmers, and can be economically advantageous on the short term, the longer term implications remain uncertain (Rist et al. 2010). The adoption of oil palm may lead to the abandonment of agroforestry and swidden cultivation systems, which may expose farmers even more to future price fluctuations (Ibid.). When oil palms reach their maturity replanting is necessary (Potter & Lee 1998), which represents a large financial burden for farmers (Rist et al. 2010). Also land shortages might become a big problem in the future, marginalizing the local population even further (Ibid.; Potter 2008). However besides longer term implications smallholders can also face significant economic challenges on the short term. For example market risks due to fluctuation of prices for FFB or their dependency upon the palm oil mill in times of dwindling demands (Cramb 2012; Belcher et al. 2004), which was discussed in paragraph 4.4.

But maybe even more significant is the fact that productivity amongst 'independent' smallholders is very low compared to 'scheme smallholders' and 'companies' (McCarthy 2010; Vermeulen & Goad 2009) in Indonesia, mostly because many smallholders don't exactly know how to manage the plantation with respect to seedlings, fertilizers, maintenance and pest control [26].

5.3 New forms of governance for sustainable development

"*Governance treated as a social function centered on efforts to steer or guide societies toward collectively beneficial outcomes and away from outcomes that are collectively harmful, is one of the great issues of every era" (Young 2009: 12)*

Governance for sustainable development has become more important as ever, as large industries, such as the palm oil industry are growing bigger and more complex every day. In previous paragraphs the most important social, environmental and economic issues around palm oil production were briefly described, but this description doesn't even grasp the complexity and the related issues of this given sector. Whereas the scale and complexity of the sector rises, and also its problems, the interdependency between state, private sector and civil society grows too. This have given rise to hybrid systems within environmental governance, in which "*diverse actors seek to form coalitions that cut across different approaches to governance in the interests of meeting the growing demand for governance for sustainable development" (Delmas & Young 2009: 8).* These hybrid systems fit perfectly in an era of political modernisation where structural processes of change have increasingly more impact on the political domain (Arts et al. 2006). One such example of a hybrid system, is 'the Palm Oil for People program' (which will be discussed in greater detail in the next chapter), where the Siak district government specifically choose to allocate funds to pro-poor policies and where they decided to work together with local NGO Perkumpulan Elang, in a public-social partnership (Delmas & Young 2009). This particular 'partnership' policy arrangement was, and in fact still is, a successful attempt to connect oil palm smallholders to globalized oil palm markets (McCarthy et al. 2012). In fact these developments and the relative success drew the attention of several other parties such as the WUR-team, for the oil palm intensification project, and WWF together with Elang, for the RSPO certification, which are in fact also fine examples of new forms of governance for sustainable development.

[26] Ibid.

Within these new forms of governance for sustainable developments, a new role seemed to be reserved for governments. In the past people assumed that governments or public agencies will inherently take steps to meet the growing demand for governance (Young 2009). But it has shown that governments generally respond slowly to these emerging demands for governance (Ibid.), giving way to a new challenge of governance for sustainable development. As Delmas & Young state that this particular challenge:

"…is giving rise to a variety of innovative responses on the part of those who understand that the conventional response of relying on government is unlikely to serve us well in meeting the challenges of governance arising from human-environment interactions in an era of human-dominated ecosystems"(2009: 9)

One of such innovative responses is the RSPO, a non-profit, industry led trade organization, where a 'multi-stakeholder approach' is professed to deal with unsustainable practices in the palm oil industry (Laurance et al.2010). But scholars argue that this organization is mainly dominated by industry (Laurance et al. 2010; McCarthy 2012), leaving the smallholders marginalized in decision making (McCarthy 2012). In the next subparagraph, the RSPO and its effects on smallholders will be briefly discussed.

5.4 RSPO and sustainability

The Round Table on Sustainable Palm Oil (RSPO) was formally established in 2004. It was formed as a response towards an urgent need for sustainable produced palm oil (McCarthy 2012). The objective of the RSPO is: "promoting the growth and use of sustainable palm oil products through credible global standards and engagement of stakeholders" (RSPO 2012). The RSPO is set up to include a range of stakeholders within the palm oil sector, but critics of the RSPO argue that it is mostly dominated by industry (McCarthy 2012). Nevertheless the mission of the RSPO is: "to advance the production, procurement and use of sustainable palm oil products through: the development, implementation and verification of credible global standards; and the engagement of stakeholders along the supply chain" (RSPO 2012). The RSPO therefore deals with a number of different stakeholders which are all in a continuous discussion over what 'sustainable palm oil' entangles. Defining what sustainable palm oil ought to be is one of the essential tasks which the RSPO has set itself, and one of the core activities is developing and implementing a certification system for 'sustainable palm oil' (Rietberg 2011). The principles and criteria are the base for this certification system (see table 4). Nevertheless as the principles and criteria look good on paper (McCarthy 2012) for many smallholders it seems very difficult to meet the rigid RSPO standards. Foremost independent smallholders do not fall under one single management, and therefore it is almost impossible for them to get their FFB's certified (McCarthy et al.

Table 4: RSPO principles on sustainable palm oil (Source RSPO 2012)

1. Commitment to transparency
2. Compliance with applicable laws and regulations
3. Commitment to long-term economic and financial viability
4. Use of appropriate best practices by growers and millers
5. Environmental responsibility and conservation of natural resources and biodiversity
6. Responsible consideration of employees and of individuals and communities affected by growers and mills
7. Responsible development of new plantings
8. Commitment to continuous improvement in key areas of activity

2010). The management issue is just one such example but there are many more related issues such as: proper land rights (proper land certificates are often absent), and the lack of sufficient financial capacity to implement BMP (McCarthy 2012). Because of these issues and more it can therefore be very difficult to link the RSPO principles to independent farmers responsibilities. The intention of the smallholders might be good but in practice the RSPO standards are too rigid for a smooth implementation (Mahmud et al. 2010) and smallholders often have no knowledge about sustainable criteria for oil palm production in the international market (Boons & Mendoza 2010).

5.5 Conclusion

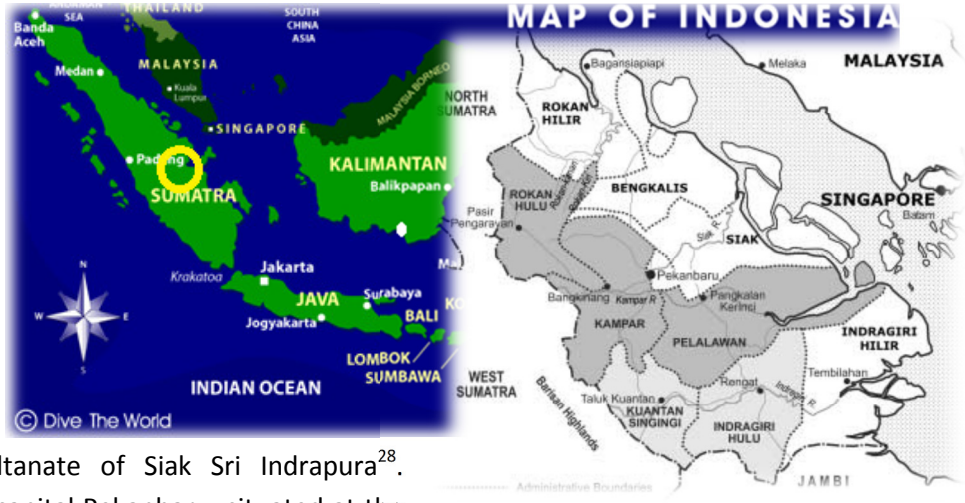
Governance for sustainable development will play a significant role in combating the key sustainability issues in the oil palm sector. An important role is destined to be fulfilled by innovative (hybrid) forms of governance, such as the 'palm oil for people program' on a micro scale and the 'RSPO' on a much bigger 'macro' scale. These new forms of governance tend to rework relationships between government, the private sector and civil society organizations in a positive 'effective' manner. Nevertheless there are also still some significant challenges that need to be dealt with, which mainly have to do with implementation and effectiveness of these forms, on relatively small scale and independent oil palm smallholdings. Smallholders seem to have trouble to meet the rigid standards and principles of the RSPO, which makes it very difficult if almost impossible to link the RSPO principles to farmers responsibilities. These challenges need to be dealt with and at the same time the rigid standards of the RSPO need to be revised and at last communications in general need to be improved to create a much wider support amongst independent smallholders.

6. STUDY AREA

6.1 Riau province, Sumatra

The Riau province is one of the eight biggest provinces on the island of Sumatra (see figure 3). The island of Sumatra itself, is the second largest island in Indonesia and is also considered to be one of the most densely populated and fertile islands of the Indonesian archipelago (Suyanto et al. 2004). The Riau province is located in the middle of the island and covers an area of 8,9 million hectare (Susanti & Burgers 2012) and is also strategically located to Peninsular Malaysia and Singapore (Potter & Badcock 2001). Riau is considered as one of Indonesia's most resource rich provinces and has large supplies of oil, natural gas and gold, as well as huge forest reserves (timber), wildlife and fish (Potter & Badcock 2001; Susanti & Burgers 2012). Much of the mainland is low-lying and consists of peat swamps[27], making it suitable for agriculture. Hills only appear towards the western and southern boarders (Potter & Badcock 2001), which is entirely different from for example West-Sumatra and Atjeh, which both have a wide range of mountainous areas. Four big rivers, namely Siak, Rokan, Kampar and Indragira-Kuantan, flow through the Riau province, making the land fertile but also creating important trade routes throughout the area (Ibid.).

Figure 3: Map and location Riau province, Sumatra (Source dive the world.com & Potter & Badcock 2001)

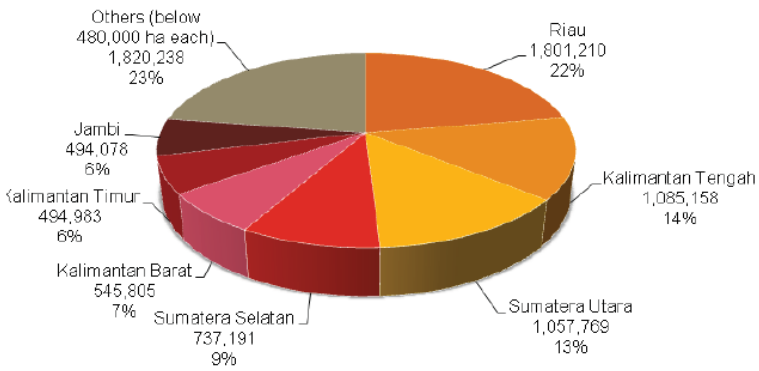


In earlier days the trade in coffee, gold, rice and rattan gave rise to powerful sultanates, such as the sultanate of Siak Sri Indrapura[28]. Nowadays the Riau province capital Pekanbaru, situated at the Siak river, is seen as an important industrial centre and thrives on industries such as *oil, palm oil and* pulp and paper and since the Siak river can accommodate large ocean-going ships (Ibid.), cheap accessible transportation can easily be provided for these industries.

The Riau province is inhabited by approximately 4,7 million people with a population density of about 50 persons per km2. The province populates a large variety of ethnic groups, mainly because its industries and available land continue to attract immigrants (Potter & Badcock 2001). The largest are indigenous Melayu with almost 38% of the population. Furthermore approximately 25% is Javanese, followed by the Minangkabau (11%) from West-Sumatra and some smaller groups such as the Batak (7%) from North Sumatra, Banjarese (4%) from South Kalimantan and ethnic Chinese (4%) (Ibid.). The majority of Riau's population is Muslim (88%).

[27] To be precise forty six per cent of the 9,4 million hectares consists of peat swamps in the Riau province.
[28] The Sultanate of Siak reigned from 1725-1946 (Daryanto 2006).

Figure 4: Location of oil palm plantations in Indonesia in 2010 (Estimation) (Source PWC 2012)



Agriculture is one of the biggest industries in Riau as around 49,3% of its inhabitants works in the agricultural sector. This sector includes cash crop cultivation, estate crops, livestock production, fisheries and forestry, divided into large scale- and small scale enterprises (Susanti & Burgers 2012). Palm oil production takes up a large share in Riau's agricultural sector. Riau is considered to be the most important oil palm producing province in Indonesia (Ibid.). Oil palm production in Riau started a long time ago and is considered to be an important drive for economic development (Ibid.).Oil palm production in Riau takes up a share of 24% from the total national production and takes up about 1,9 million hectares of land (21% of the total area) in the process (See figure 4)(Dinas Perkebunan Provinsi Riau, 2010). Smallholder plantations take up the largest area together and involve around 380.000 families, producing around 5,9 million ton of Fresh Fruit Bunches (FFB) annually on around 1 million hectare of land (Dinas Perkebunan Provinsi Riau, 2010). From 2004 until 2009, the oil palm area in Riau increased by 21%, most likely the reason lies in the increasing growth of smallholder plantations (Directorate General Estate Crop 2010).

6.2 Siak district/ regency

The Siak district is located in the middle of the Riau province (see figure 5). It covers an area of roughly 8,566 km2 and is divided into 14 administrative sub-districts (kecamatan)(see figure 5) and consists of 113 villages (desa). Approximately 377.232 people live in the Siak district (Daryanto 2006). The district capital is Siak Sri Indrapura , which in earlier days was the capital of the biggest Islamic Malay kingdom (16th to the 20th centuries) called 'Kerajaan Siak' (Ibid.). Siak Sri Indrapura is about 100 kilometres from Pekanbaru, which is around three hours travel by road. (Ibid.) The Siak river is the major lifeline which crosses the entire district. A lot of industries (oil,palm oil, pulp and paper) are located in proximity to the river as the Siak river is the deepest river In Indonesia and is used as a main waterway transportation in the Riau province[29] (Devita & Tarumun 2012). For a long time the local (indigenous) people in the Siak district depended on traditional activities in agriculture, fishery, forestry and other natural-resource jobs (Ibid.). As the industries alongside the Siak river started to develop, the role of fishery started to decline, notably due to pollution of the river (Ibid.). It gave way to massive industries in the sectors of pulp and paper, palm oil, and oil. Transportation by road has overtaken waterway transportations but the Siak river still plays an important economic-, social and cultural role (Ibid.). The district is rich in fertile soil and consist mostly of lowland areas. These geographical conditions make the

Figure 5: Siak district and sub-districts (Source: Pemerintah Kabupaten Siak 2013)

[29] Researchers own experiences as seen on the boat route Siak Sri Indrapura–Pekanbaru.

district highly suitable for agriculture, including a number of estate plantation crops such as oil palm (Daryanto 2006). Siak district has around 483 million hectare of forests, of which only 1,6 % falls under the category of protected forests and another 14,4% is natural conservation forests, both of which cannot be disturbed. Furthermore 37,9 % is production forest and another 44,5% is limited production forest, and the rest is of other type of forest (Ibid). The share of the agricultural sector in Siak of around 32% to the Gross Domestic Product (GDP), is considered relatively high.

Palm oil has been in Siak for quite some time and oil palm plantations can play an important role in empowering the people in the rural areas of the Siak district (Daryanto 2006). Oil palm plantations in the Siak district are run by private companies as well as smallholders, and it covers more than 125 thousand hectares, with a CPO production of more than 420 thousands ton (Ibid.). This CPO production outcome tends to increase, and this will continue if only the appropriate available areas would be used to produce oil palm in a sustainable manner (Ibid.). One way of producing more sustainable palm oil is by yield intensification (Jelsma 2011).

In Riau province there are about 173 processing facilities (oil palm mills) (Perkumpulan Elang 2013) of which there are about 15 oil palm mills in the Siak district in 2012. Six of these 15 mills are independent (see appendix three) (Syazha 2011; Perkumpulan Elang 2013), which means that they do not have their own plantation and that they aren't tied to any plasma growers in a scheme. A rough sketch of where these oil palm mills are situated can be found in appendix three as well, but unfortunately exact numbers and whereabouts of the oil palm mills is often hard to get by. Since 1995, when government regulation 13/1995 was formed and which allowed investors to establish oil palm mills without managing an oil palm plantation, triggered the increase in the number of independent smallholders (Susanti & Burgers 2012). It is important for smallholders to have their oil palm plantations in proximity to a processing facility, because the FFB's need to be processed 24- to 48 hours after harvesting (Papenfus 2002; Feintreinie et al. 2010; McCarthy 2010). If not the FFB will be spoiled and of inferior quality, which will have its effects on the price. Also the negative feedback mechanism, which was discussed in chapter four and whereby in times of dwindling demands mills can choose to only purchase from their plasma growers (Cramb 2012) cause harm to the independent smallholders. This is also the case for the Siak smallholders, who are considered independent smallholders[30], but have some features of a supported smallholders scheme (McCarthy et al. 2012; Jelsma 2011). During the research it showed that they had trouble with getting a good price for their FFB's[31]. Riko Kurniawan, director of NGO Elang, states that it is all about the fact that big companies have the most power in Indonesia :

"With respect to the independent smallholder, all farmers depend on the price from the mill …….Most times companies own the mill and when there are a lot of FFB's available, the company only buys their own FFB and consequently gives a low price to the independent smallholders"[32]

This aspect will be further discussed in chapter seven. Furthermore the Delivery Order (DO) system can also have its effects on independent smallholders. This DO system is the purchasing system for FFB's used by the oil palm mills (Susanti & Burgers 2012). Within this system a contract is made

[30] Interview Riko Kurniawan, on 26 september 2012, NGOs No. 1 see Appendix 1.
[31] At several interviews during the research, the aspect of the low price for FFB's was mentioned.
[32] Interview Riko Kurniawan 26 september 2012, NGOs No.1 see Appendix 1.

between the mill and the FFB supplier, which states how many FFB's will be supplied in a year (Ibid.). DO holders are mostly middlemen who have enough money to pay the deposits to the mill. The middlemen thus buy FFB's from the independent smallholders, and they are therefore depending upon these middlemen to buy their FFB's (Ibid.)

During the interviews some smallholders mentioned to which mills they sell, some of them mentioned that they sell to mills in places such as Lubuk Dalam, Dayun and Gasib[33] (see figure nine in appendix three). But they all considered these places very far from the oil palm plantations, and which interferes with the prices the Siak smallholders can get for their FFB. Inherently to this fact there was an on-going process about building an oil palm mill in the Siak-Dayun area[34] in the course of fieldwork in October 2012. During that time the seven cooperatives had send a letter to the Bupati of Siak that there was a high priority for PT. SPN to build a mill close to the Sungai Limau village. The Bupati considered the situation as a high priority and gave three reasons for this: low price of the FFB; condition and maintenance of the road; and capacity building for the farmer by creating more employment within the area[35]. Additionally the cooperatives want to have a share in the mill. It depends upon the cooperatives and the political will of the district, if this shareholder model for the mill will eventually become a reality[36]: "*Before actually realizing the mill, PT SPN will need extra money from the government*" says Riko Kurniawan[37].

6.2.1 Siak local government: Palm Oil for People program

The implementation of decentralization Laws No. 22 and No. 25 has opened up the possibilities for local governments to increase their role in fostering economic developments and directing them towards more consideration on the aspiration and welfare of the people (Daryanto 2006). Siak is a resource rich region and through fiscal decentralization Siak obtains a lot of financial resources compared to other regions. These resources are allocated in funds and the Siak district government has a good will to use a part of this budget to directly empower the local economy through development of oil palm plantations for the people (Ibid.), of which the 'Palm Oil for People program is one example.

In 2003 the Siak government started the 'Palm Oil for People' program in Pusako, a sub-district in the Siak district, Riau province. This program was set up as a reaction to the situation of the marginalized indigenous ethnic Melayu, which resided in impoverished enclaves squeezed between oil palm and timber plantations (McCarthy et al. 2012). During routine village development meetings, in the coastal district of Siak, landowners requested assistance for smallholders (Ibid.). The Siak administration reacted with an oil palm scheme, which gave form to the 'Palm Oil for People' program. Zen et al. state that:

> *"The scheme developed a land inventory and set out to verify land ownership through village meetings. To avoid corruption of the list of those entitled to oil palm smallholdings, after repeated verification in the village, the list was given legal status with the proclamation of a District Head's decision." (2008: 4)*

[33] Interviews among others smallholders No. 3, 4 (Dosan) and 5 (Teluk Mesjid) see Appendix 1.
[34] Interview Riko Kurniawan 22 October 2012, NGO No. 1 see Appendix 1.
[35] Ibid.
[36] Ibid.
[37] Ibid.

Unfortunately within this process some areas of land that were under traditional (community) ownership (adat) fell under the directive of 'empty' state land because the administrators lacked accurate maps and land tenure data (Zen et al. 2008). Because a lot of land was already allocated to plantation licenses (HGU), meant that the scheme had to use large amounts of village cultivated lands (Ibid.). But nonetheless the district was unable to obtain sufficient land for the scheme. This meant that some villages were left out of the scheme and that also the amount of land to be divided among the participating villages turned out less then was planned in the beginning (Ibid). But despite these land issues within this scheme, plantation development was used as a strategy of the Siak local government to generate foreign exchange earnings, create employment opportunities, and to expand and improve the welfare of the people (Surosa & Ramadhan 2012). This program was therefore an attempt to rebalance earlier schemes that left Melayu farmers indebted, and the local government at this point subsidized smallholder loans from the district budget, with participants only paying half the commercial interest rate (Zen et al. 2008). The palm oil plantations are set up by the local government at people's land that is located within seven villages of the Pusako sub-district. The total plantation size is 3500 hectare, which is divided over 1156 households, in which each household holds three hectares (see table 1) (Perkumpulan Elang 2012; Jelsma 2011). The NGO Perkumpulan Elang was appointed to monitor the program and to raise community awareness for (sustainable) oil palm production (Perkumpulan Elang 2011).

The Palm oil for People Program was created as a 'partnership plus' scheme under which plantation land was made available by the government and where PTPN V acted as the plantation developer (Daryanto 2006). Once the plantation was developed the three hectares were given to each farmer household. The farmers work in groups (kelompoks), and the groups of farmers form a cooperative (see table 1). First plantings were in 2003 (Jelsma 2011), and conversion of oil palm normally happens after four years or when the oil palm is already productive (Daryanto 2006). In 2008 the first harvest took place and this was also the year in which the plantation was handed over by PTPN V to the Siak government, and whom then handed over the plantation to the Siak smallholders and provided assistance to them through PT. SPN and PT. Persi (Jelsma 2011). The smallholders have to pay back the loans to the Siak government in a repayment scheme, of which 30% of the oil palm revenue are loan credit payment and 70% will be distributed to the people[38]

6.2.2 Implementation of the 'Palm Oil for People' program in the villages

Officially the Palm Oil for People program started in the year 2003, but a year before in 2002, the district government came into the seven villages for socialisation, mainly to create awareness and support for the program[39]. At first 30% of the people in the village of Dosan didn't want the program in Dosan. Pak Dahlan, who is chief in community, mentioned that the main reason for this was:

"In the era of Suharto there were too many programs from the government but these programs were not really for the benefit of the people and people were traumatized by this"[40]

Eventually Pak Dahlan persuades these villagers in Dosan to support the program and in 2004 the villagers agreed about the oil palm program coming to Dosan[41]. As described above in 2008 the

[38] Interview Riko Kurniawan on 26 September 2012, NGO No. 1 see Appendix 1.
[39] Interview Pak Dahlan on 22 september 2012, smallholder No. 30 see Appendix 1.
[40] Interview Pak Dahlan on 22 september 2012, smallholder No. 30 see Appendix 1.

plantation was ready for its first harvest and this was also the year that the plantation was handed over to the community (Jelsma 2011). This process of hesitation towards participation can be explained from the fact that state led development schemes has dominated Indonesian policy for many years as was previously discussed in chapter four. Therefore in the beginning the villagers of Dosan used their power to deploy agency by showing their reluctance to participate in the program. But an important actor (Pak Dahlan) eventually persuaded the villagers to comply to this (renewing) policy program, which led to the relative success of this policy arrangement. However not in all villages the implementation of the program went as smoothly as in Dosan. In the village of Sungai Limau for example people didn't want anything to do with the oil palm program in the beginning and that's why they only received 90 hectares[42] and the remaining hectares went to Dosan[43]. During the time of field research there was an on-going conflict about the 223 hectares of land between Dosan and Sungai Limau. At that time there was also a process of conflict resolution between the two villages. But despite these and other downfalls there were a few important factors that led to the relative success of this pro-poor policy scheme of the Siak local government. First, a charismatic and committed Bupati (district head) together with an autonomous Siak district regime, demonstrated that it was possible to develop pro-poor policies alongside the structures, and the administrative apparatus required to implement and to supervise a smallholder scheme (McCarthy et al. 2012). Second Siak's fiscal capacity allowed for example to recruit the best professional, technical and managerial expertise available (Ibid.). And as McCarthy et al. state:

> *"Taken together these factors led to a combination of regime interest and state capacity, leading to a reversion to conditions of state development where the state could embark on a project connecting smallholders to globalized oil palm markets while strengthening their competencies and overcoming the barriers to effective inclusion in the oil palm economy (2012: 562)"*

This district program therefore showed that it was possible to include marginalized farmers into the globalized oil palm markets, in which these type of policy arrangements take on a multilevel character, which makes them more dynamic and successful. But despite the positive effects this smallholder scheme also faces significant challenges, which have to be dealt with in the future. The most important challenges are: land shortages, limited number of people the program could assist; civil engagement and weak community based organizations; legal operational procedures remain absent; no inclusion of more encompassing land reform policies and this type of scheme requires large subsidies, which makes it unsuitable for resource poor districts (McCarthy et al. 2012; Zen et al. 2008). Correspondingly Pak Dahlan mentioned the fact that the smallholders didn't get any registration or certificate for the oil palm plot. The location of the plot is just assumed inside the kelompok[44]. This uncertainty around which particular plot is who's could also lead to future struggles over land which Zen et al. also underlines:

> *"In Siak, there has been little attempt to systematically write into law the operational procedures under which the scheme operates. This weakness lays open the danger that the excellent aspects of the Siak government initiative may not be sustained after a change of District Head or after Siak's oil revenues are exhausted" (2008: 4).*

[41] Ibid.
[42] Informal talk Riko Kurniawan on 24 september 2012 in the Elang office.
[43] Interview Riko Kurniawan on 26 september 2012, NGOs NO. 1 in Appendix 1
[44] Interview Pak Dahlan on 22 september 2012, smallholder No. 30 see Appendix 1.

7. PERSPECTIVES OF OIL PALM SMALLHOLDERS: TRIAL AND ERROR

This chapter will examine the most prominent problems that oil palm smallholders, within the Palm Oil for People program, are facing. Despite the relative success of the 'Palm Oil for People' program it still faces significant challenges in multiple areas, such as price-, technical- but also management related problems within the cooperative. The focus of this chapter will be mainly on the smallholders perspectives and how they experience these difficulties within their daily activities. They themselves, as agents in this program, have the best understanding of which problems need to be tackled for future success. Moreover the views of the employees of NGOs, such as Elang, which are working closely with the Siak smallholders will also be taken into consideration within this chapter. Whereas this examination of problems will be linked to the concepts of political modernisation and policy arrangements. Furthermore there will be a discussion on how the smallholders use their power and agency to influence and change the current system. The successful implementation of the Palm Oil for People program seemed to have opened up the path for other initiatives such as the introduction of the RSPO by NGOs Elang and WWF and the intensification project of the WUR team. With this chapter a pathway will be opened to the next chapter wherein a critical analysis of the different policy arrangements and the related actors and their effects on the Siak smallholders will be presented.

7.1 Relative success of the Palm Oil for People program

On the overall the Palm Oil for People program, which was introduced by the Siak district government has been proven successful in its objective as a pro-poor development policy (McCarthy et al. 2012). In the beginning of the program there were already high (positive) expectations that the program would in fact be able to reduce poverty in the Siak area because of its: subsidized credit; the use of high quality planting material; and the fact that the farmers derive additional income from rubber cultivation (Zen et al. 2008). The program has introduced oil palm development in an area where these developments were mostly dominated by large scale plantations and has been proven effective in its contribution towards regional development (Ibid.). It has been indicated that with these kinds of smallholder engagement and their contribution to regional development, there is a potential role in the future for smallholders to play in providing sustainable palm oil (Jelsma 2009). This can be endorsed by the increasing interest in the Siak smallholder site by several parties like for example the WWF in relation to RSPO certification and the yield intensification project of the WUR team, but more about this particular subject in chapter eight. Moreover the smallholders themselves were in fact also very positive about local government policy. Pak Dahlan who functions as the community chief and manager of the cooperative in the village of Dosan mentioned the following about local government policy:

"*Very good and very proud with the local government about the oil palm plantation. The plantation for the people can help the economy in the community. Before the program Dosan was working more individually, but now we are more like a family and we are working together*"[45]

So in fact the program improved social cohesion. Additionally the NGOs which are familiar with the Siak smallholder site are also very positive about the policies that were set out within the 'Palm Oil for People' program. Reasons that were mentioned are: that within this local policy program it is not

[45] Interview Pak Dahlan on 22 september 2012, smallholder No. 30 in Appendix 1.

just about converting land for oil palms by creating more smallholders; but it is about the smallholders eventually getting the land from the Bupati[46]. Furthermore this has been stipulated as the best way to reform agriculture in Indonesia because of the fact that the community eventually owns the land[47]. Though this fact is still debatable at some point because there are still no exact legal operational procedures, and formal registration of land remains absent until this day[48] (McCarthy et al 2012). So as Zen et al. 2008 state that:

"However, the outcome of the scheme will also be affected by the functioning of the farmer's cooperative, the international price of oil palm, and the production levels achieved"
(Zen et al 2008: 5).

Nonetheless the relative good intentions and power from the Bupati, derived during the decentralization politics, gave way to a relative new and innovative policy arrangement which favours small (marginalized) farmers and can also be seen as an advocate for good practices[49]

Hence despite the overall positive view by several stakeholders about the Palm Oil for People program and the positive effects it has on the local Siak community there were also some prominent challenges that were mentioned by the villagers and other stakeholders, and which have to be dealt with in the future. In the next paragraphs the most important challenges will be discussed. The paragraph thereafter will be related to the cooperative and the difficulties the villagers face regarding this relatively new economic organisation.

7.2 Challenges

During the research some very significant challenges regarding the Siak smallholder site came to the surface. These challenges are related to issues in different areas, such as price; technical issues; land registration and conflict area; transportation and infrastructure and finance and recognizing these issues can be very important with regard to the future success of the Siak smallholders site. Foremost because a thorough analysis can be of significant importance for combating these issues and thereby making this particular policy arrangement 'a better fit' for independent smallholders in the future. Hereby the Siak local government can be one step closer towards developing this particular model for other areas in the Siak regency[50].

7.2.1 Price related issues

Price related issues are seen as one of the most important challenges for the Siak smallholders. In general the price in the local market can be quite competitive because of the amount of (independent) smallholders which offer their FFB's (Susanti & Burgers 2012). The first real policy interference related to prices was in the year 1997 when a series of ministerial decrees set out a formula for calculating oil palm FFB prices (McCarthy 2010). These decrees were set up to work against the plantation monopsony agreement (Ibid.). Nevertheless independent smallholders market access is not assured, and if mills are scattered, which is the case regarding the Siak smallholders site, there may not be enough of a diverse buyer base (Mahmud et al. 2010).

[46] Interview Muslim on 25 October 2012, NGO No.
[47] Ibid.
[48] Interview Pak Dahlan on 22 september 2012, smallholder No. 30 see Appendix 1.
[49] Interview Riko Kurniawan on 26 September 2012, NGO No. 1
[50] Interview Riko Kurniawan on 22 October 2012, NGO No. 1 see Appendix 1.

During the research the majority of the smallholders mentioned some form of price related issues as a prominent challenge within their daily activities[51]. In general the smallholders agreed on the fact that the oil palm plantation had heightened their incomes compared with before the oil palm development[52]. Nonetheless there was a common notion amongst the smallholders that incomes from these activities could be much higher if certain price related problems could be resolved. These problems are mostly related to marketing problems; serious price fluctuations regarding FFB's; the distance to the mill; capacity of the mill; quality of the FFB and the instability in yields[53]. In some cases smallholders answered that there weren't any problems or difficulties regarding the price, as for example one respondent in the village of Perincit[54] and one respondent in the village of Benaya[55] did. The respondent in Perincit didn't know a lot about plantation business because another respondent, which was working as a staff member in the cooperative, mentioned that there were in fact quite a few problems with the selling of the FFB[56]. The respondent in Benaya, which functioned as the chief of cooperative, wasn't actually telling the truth, as the next day the news became known that the chief had to resign because the people in the village of Benaya were unhappy about his performance[57]. It is therefore safe to say that price related issues are in fact the most prominent challenge in the six villages of the Siak smallholders site[58].

In the Riau province prices seem to be influenced heavily during the course of events for example the Riau games[59] or religious happenings, such as the celebration pray Muslim (end of the Ramadan period). Several smallholders mentioned the fact that the price at that moment was heavily influenced by the Riau games for some other reason. Pak Firdaus, chief of Dosan village stated that the selling of the FFB is not difficult but:

"….at this moment we experience some difficulties with the fluctuation of prices. There is a constant fall in price because of the Riau games"[60]

Why this fluctuation in price, and therefore this negative price mechanism, occurred during the course of big events nobody exactly knew, but it seems to have something to do with an overabundance of FFB's. As Pak Dahlan mentioned the fact that:

"After celebration pray Muslim there was a lot of FFB and therefore the mill didn't want the FFB anymore. All the farmers were confused and not one mill wanted to buy from Dosan in August"[61]

In this kind of situation the smallholders are totally depending upon the willingness of the mill to buy their FFB. They cannot use their agency or power to influence the mill to buy their FFB at a

[51] Interview smallholders during field research see Appendix 1.
[52] Ibid.
[53] Interview smallholders No. 1, 3, 4, 5, 7, 8, 9, 12, 13, 15, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29 & 30, see smallholder Appendix 1.
[54] Interview Pak Erlin on 15 september 2012, smallholders No. 11 see Appendix 1.
[55] Interview Pak Zainal on 21 september 2012, smallholders No. 22 see Appendix 1
[56] Interview Pak Mirza Saputra on 15 September 2012, smallholders No. 12 see Appendix 1.
[57] Informal talk with Murissa Aningsih, employee of Perkumpiulan Elang.
[58] There are in fact seven villages within the Siak smallholders site but there are no data available for the village of Pusako.
[59] National Indonesian sports games, Pekan Olahraga Nasional (PON) that were held in the city of Pekanbaru during September 2012.
[60] Interview Pak Firdaus on 12 september 2012, smallholders No. 4 see Appendix 1.
[61] Interview Pak Dahlan on 22 september 2012, smallholder No. 30 see Appendix 1.

reasonable price, which places them in a vulnerable position. Nonetheless for preventing these kind of situations from happening in the future, the cooperatives of the seven villages have taken up 'action', towards the district government and SPN for building a mill in the Siak-Dayun area[62] (see paragraph 6.2). In this case the smallholders can derive power and agency, and strengthen it by taking up organised action against the current policy discourse and change the rules of the game. In this particular case we can speak of 'collective action'[63] which can bring numerous advantages for smallholder marketing (Markelova et al. 2009).

In the case of the Siak smallholders they are acting collectively to put pressure towards the district government for building a mill. And by building a mill in the vicinity of the Siak smallholders site, the price related issues relating to distance to the mill and capacity of the mill which were mentioned above could also be resolved. But more importantly collective action between the seven villages, concerning the selling of FFB's could bring about significant advantages, for example fill in coordination gaps and will make operating on a much larger scale possible. Furthermore some of the smallholders hope that the government will set up some kind of policy intervention which will protect the smallholders against any significant price fluctuation because at this moment they think that the mills are devising too much power over the FFB prices[64]. Pak Aswar, field assistant in the village of Teluk Mesjid, brought up the price issue in the interview:

"Price issue, how can the farmer sell the FFB for a good price? The farmers hope that the government will implement a policy on how to protect the price and thereby protecting the smallholders. At this moment there is a low price and the government is not monitoring the price in the mill. The smallholders (farmers) are thereby not protected"[65]

As of this day, policy interventions related to price still remain absent in the Siak district. Vermeulen & Goad say about coping with market risk: *"Innovations have included national or internationally-indexed pricing standards and emergence of smaller-scale independent mills, but formal insurance for palm oil smallholders remains elusive" (2006: 6)*. On the other hand doubts can be placed with certain policy interventions. These kind of interventions could give an unfair advantage to the Siak smallholders and thereby causing a distortion to the market. Moreover Siak smallholders could try to pursue income diversification which could make them less volatile to the price fluctuations in the oil palm market (Koczberski et al. 2001). Some of them are already pursuing different activities, for example some have rubber plantations and others own a small toko (shop) in the village[66]

The last important price related issues are the quality of the FFB's (sometimes the FFB had been in the truck for too long and were therefore degrading[67]) and the instability in yields[68]. These factors

[62] Interview Riko Kurniawan 22 October 2012, NGO No. 1 see Appendix 1.
[63] "Acting collectively for market access can help correct some of the market imperfections, such as high transaction costs, and missing credit markets and fill in coordination gaps … obtain necessary information, reach quality standards and operate on a larger scale … , enabling them to sell to new domestic or international markets, which are otherwise out of reach for smallholder producers." (Markelova et al. 2009:
[64] Interview Pak Nurbiddin on 14 September 2012, smallholders No. 9, see Appendix 1.
[65] Interview Pak Aswar on 13 September 2012, smallholders No. 7 see Appendix 1.
[66] Almost all smallholders also had other sources of income ranging from security in the oil palm plantation; from rubber; from a toko or other types of businesses.
[67] Interview Pak Hiro Yanto on 13 September 2012, smallholders No. 8 see Appendix 1.
[68] Interview Pak Kasno on 22 September 2012, smallholders No. 26 see Appendix 1.

were specifically brought up by some of the smallholders during the research. These issues are linked to the maintenance of the plantation and BMP which will be discussed in the next paragraph about technical difficulties; and also with the transportation issue which will be discussed in paragraph 7.2.4. Nevertheless for some reason certain FFB's from the village of Dosan were seen as inferior: *"The FFB's in the other villages get the best prices, but the price for the FFB from Dosan is very low. We don't know the reason of why the other village get better prices, normally it is almost the same"*[69]. Also the issue of the constant fluctuation in yields was raising questions amongst some of the smallholders: *"Fluctuation of the production (yield) of FFB and members don't really believe that this fluctuation in yields is real"*[70] In Dosan this situation could be related to the fact that some of the oil palm plots were situated within the conflict area. These plots within the kelompoks Hoa Hoa, Jasa Sawit and Dosan Makmur were poorly maintained and BMP's weren't applied[71]. The case of the conflict area will be discussed in paragraph 7.2.3. But also in the village of Pebadaran the quality of FFB was questioned: "*The FFB is not of standard quality and the mill doesn't want to buy the FFB. It is small and has a lot of leaves and furthermore the fruit bunch is not normal and breaks easily"*[72]. This will probably have something to do with poor maintenance as well[73].

7.2.2 Technical difficulties

During the research certain technical-related problems were mentioned by smallholders in connection to low yielding trees and inferior quality FFB's. Hence many scholars argue that the lack of knowledge in technical issues is an important constraint which inhibits (independent) smallholders from successfully adopting oil palm (Papenfus 2002; McCarthy & Zen 2010; Cramb 2012). This lack of technical knowledge severely influences the productivity and therefore profitability of oil palm. Papenfus mentions four production-related reasons causing this low productivity:

> *"(1) the use of uncertified seed which produces unproductive trees; (2) planting at the wrong planting distance which results in excessively dense stands which results in good tree growth but poor yields; (3) incorrect management such as pruning, insufficient weed control, and problems with pest management; (4) insufficient use of the proper fertilizers due to lack of knowledge or financial capital" (2002: 5).*

With respect to the Siak smallholders site high quality planting material was in fact used and they also gained subsidized credit from the government (Zen et al. 2008), so fortunately the smallholders were blessed with a decent start. But as time continued the smallholders did come across some technical difficulties within the plantation. The most significant problems were related to the actual maintenance (pruning, weeding and pest management); water management and the input of fertilizers. The most prominent technical problem was about the input and costs of the fertilizers[74], which will be discussed later on.

[69] Interview Pak Junaidi on 22 September 2012, smallholders No. 24 see Appendix 1.
[70] Interview Pak Kasno on 22 September 2012, smallholders No. 26 see Appendix 1.
[71] Interview Riko Kurniawan on 26 September 2012, NGO No. 1 see Appendix 1.
[72] Interview Pak Ranjas on 21 September 2012, smallholders No. 20 see Appendix 1.
[73] Data about this situation in Pebadaran is unavailable within this research. Future research might give more knowledge about the different reasons for the low quality of FFB.
[74] Interviews smallholders 1,2,5,8,9,13,15,16,19,20,21,23,24,26,27,28,29 & 30, see Appendix 1.

First the water management issue will be discussed, which is the second most significant problem. During the first visit of the WUR team in the year 2011, the researcher mentioned that it was:

> *"Unclear who maintains the drainage system, whether anyone is responsible for it really or whether people know how and why to regulate water levels" (Jelsma 2011: 14)*

Therefore it seemed that during that time water management was lacking and there was an urgent need for training about these issues. In July 2011 the yield intensification training was given by the WUR-team. Throughout this training the issue of water management was discussed amongst others. This training and the actors that were involved will be discussed more thoroughly in the next chapter. But before the training water levels were either too low or too high, leading to all kinds of problems regarding the growth of the oil palms (Jelsma et al. 2011). During the training, participants of the training constructed check dams for maintaining water levels (Ibid.). At that time agreements were made to install more check dams within the plantations. In January 2012 a return visit was made to the site and the researchers conclusion was that not many dams were built, either because of costs or because it will lead to inconvenience during the rainy season when the drainage system is used for boat transport (Jelsma 2012). In the course of this research (September/ October 2012) some smallholders mentioned the fact that they still had troubles with drought in the dry season because of inadequate water management within the plantation. Solutions for now are building small dams (the check dams) within the plantation, but even then there can be times during the dry season that there is no water left around the dams[75], so longer term solutions might be, as Pak Firdaus, chief of Dosan village mentioned: *"Utilize the Siak river water to prevent drought. So by using the tides of the Siak river for water management"*[76]. But during the rainy season it is rather a different story and then there is a desperate need for proper drainage Pak Rahman mentions: "*Water management and making a proper drainage system for the plantation. When it's raining very hard there is not enough capacity to drain the water and there is a change that the peat soil will break"*[77]*.* Also the costs for building a dam seemed to be one of the reasons why smallholders were lacking proper water management as Pak Rudi Santoso is stressing:

> *"Water management and building a dam. It costs a lot of money to clean the water because water can often be dirty. The kelompok has to hire a shovel, which costs 600.000 IDR for 1 hour, and for a day 8.000.000 IDR*[78]*, but cleaning the water is sometimes even more important than the fertilizer"*[79]

Inefficient water management can in fact lead to polluted waters, which can have severe environmental impacts. Furthermore the research revealed that the three kelompoks[80] that are involved with the land conflict, were deficient in applying the proper maintenance and water management. There was a feeling of insecurity[81] which negatively influenced the motivation to make the best of the oil palm plantations[82].

[75] Interview Pak Junaidi on 22 September 2012, smallholders No. 24 see Appendix 1.
[76] Interview Pak Firdaus on 12 september 2012, smallholders No. 4 see Appendix 1.
[77] Interview Pak Rahman on 20 September 2012, smallholders No. 17 see Appendix 1.
[78] In a 'good' kelompok the salary of a smallholder is around 3.000.000 IDR a month. Interview Hiro Yanto on 13 September 2012, smallholder No. 8 see Appendix 1.
[79] Interview Pak Rudi Santoso on 12 September, smallholders No. 1, see Appendix 1.
[80] Kelompoks Hoa Hoa, Dosan Makmur and Jasa Sawit.
[81] A feeling of losing the plots, when the plots are signed to the village of Sungai Limau.
[82] [82] Interviews smallholders 14,16, 18, 24, 25, 26, 27, 28.

The maintenance issue also differed considerably within the different kelompoks. Within the conflict areas, the maintenance was considered to be poor. The chief of kelompok Jase Sawit states:

"And if they would get the registration they want to implement BMP in the plot. Now they are not the owners of the area……. Just working together and the uncertainty about ownership of the plot is not very good for maintenance. Plantation in the back is not good, it doesn't get the best maintenance"[83].

But within some of the kelompoks[84] management practices, such as pruning, weeding and pest management, appeared to be properly applied. The most important factor for this implementation of correct practices is that the communication and motivation within the kelompok was fairly good. The chief of kelompok has good communications with its members and had transferred the knowledge about the BMP within the plantation[85]. Another very important reason is that these kelompoks are not situated within the conflict area. In the next chapter the issue of maintenance concerning the BMP's with regard to the yield intensification training will be further discussed.

The last significant technical difficulty has to do with the application of fertilizers. During the interviews a considerable group of smallholders brought up that they were having trouble with the input of fertilizers[86]. Foremost because a lot of smallholders couldn't carry the costs for the fertilizers, which included the required labour for the application of fertilizers; and also to be able to get their hands on the proper fertilizer[87] was quite a challenge. The 'real' costs of input for the fertilizer were therefore determined by the costs of the fertilizers itself and the cost of the necessary labour for applying the fertilizers. In the overall most members of different kelompoks think that the cost of the fertilizers are too high and are therefore outweighing its benefits. Members of kelompoks therefore choose not to apply fertilizers according to schedule because they think this will save money. For example Pak Junaidi, chief of kelompok Jasa Sawit states:

"We want to give the fertilizer for the oil palm but we cannot buy it because of the reason that the members will then get a low salary. Members are already unsatisfied with the amount of salary they get. At this moment we give the fertilizer as well but we do not give the full amount. Just one kind of fertilizer to give KCL (Kalium Chloride). It is better to give another fertilizer[88] *but we do not have enough money for buying the proper fertilizers because at this moment the price of the FFB is low".*

The cost of necessary labour for applying the fertilizer and doing the maintenance within the plantation can be assumed as the same kind of issue. Pak Burhan, member of kelompok Maya Jaya mentions that:

"We must know about the labour, if we cannot give the labourer a normal salary. The labourer doesn't want to work here again. Problem with getting and paying the labourer, costs are very high for labour" (maintenance of the plantation)[89].

[83] Interview Pak Junaidi on 22 September 2012, smallholders No. 24 see Appendix 1.
[84] For example kelompok Harapan Bersama, which is considered to be the best kelompok and kelompok Tunas Harapan.
[85] Ibid.
[86] Interviews smallholders 1,2,5,8,9,13,15,16,19,20,21,23,24,26,27,28,29 & 30, see Appendix 1.
[87] The proper fertilizer was considered to be the combination of urea, rock phosphate, KCl and CuSO4 fertilizers which came recommended by Thomas Fairhurst and Ken Giller during the intensification training in 2011 (Jelsma et al. 2011).
[88] Interviewee meant the combination of the four fertilizers: urea, rock phosphate, KCl and CuSO4.
[89] Interview Pak Burhan on 22 September 2012, smallholders No. 23, see Appendix 1.

There is a kind of negative feedback mechanism in place, whereas the members presume that they are saving money by not giving the 'correct' amount of fertilizer. But by not applying the correct amount of fertilizers the amount and quality of the FFBs will also be considerably less. Yield intensification by applying BMP, which also includes timely application of standard fertilizer rates, is in fact a low cost strategy that provides enormous financial return, with little investment (Fairhurst & McLaughlin 2009). And in the process of applying BMP, the abovementioned technical difficulties can also be countered, which could lead to more sustainable smallholder practices of growing oil palms. But as McCarthy & Zen state there need to be a wide support from all stakeholders to make it work:

Solving these deep-rooted problems would require technical and financial incentives from policy organizations, buyers, factories, and NGOs that aim at increasing smallholder incomes and providing incentives for cleaner production, and introducing appropriate technology at the farm level, as well as organizing smallholders (McCarthy & Zen. 2010: 172)

7.2.3 Land registration and conflict area

Oil palm development has been linked to conflicts over land use by many scholars (McCarthy et al. 2012; Laurance et al. 2010; McCarthy & Zen 2010). The widespread oil palm schemes, that are characteristic for Indonesian agriculture, have been quite successful in setting up large scale production but on the other hand have been detrimental for 'fair' land distribution (Colchester 2010; Obidzinski et al. 2012; Zen et al. 2008). Policy arrangements and schemes such as the 'Palm Oil for People' program can help to secure the rights, resources and livelihoods of the rural poor as long as distributional justice is taken into account:

"Distributional justice involves the fair allocation of resources. The design and implementation of schemes affects patterns of benefit distribution by shaping access to the resources required to benefit from agriculture, access to market, and tenural security— the opportunity for land ownership and land use" (Zen et al. 2008).

In the case of the Siak smallholders Zen et al. (2008) mention that large scale land conflicts were largely avoided because of the way policy was implemented and designed. But despite this proper set up, smallholders[90] and Elang mentioned that there was an on-going internal conflict over land between the three villages of Dosan, Sungai Limau and Benaya[91]. In the beginning of the program in the process of appointing the plantation, the villages of Benaya and Sungai Limau rejected the plantation and the remaining hectares were appointed to Dosan[92]. In total Dosan was appointed 500 hectares, but after rejection by the two villages, the village of Dosan got an additional area of approximately 223 hectare. During the research, the villages were in a process of creating a resolution for this conflict. Throughout the process of the resolution the kelompoks of Dosan Makmur, Hoa Hoa and Jasa Sawit, which are situated within the conflict area, are still producing FFB's. But as has been mentioned previously the plantations within these kelompoks don't get the best maintenance because of uncertainties regarding their plots. Pak Julianto, chief of kelompok Hoa Hoa states:

[90] Interviews smallholders 14,16, 18, 24, 25, 26, 27, 28.
[91] Interview Riko Kurniawan on 26 September 2012, NGO No. 1 see Appendix 1.
[92] Ibid.

"For the 1st time the policy of the local government can help the local economy but now the policy arrangement makes a new problem for this village, notably the conflict area and the rules of the plot in the plantation. Government (pomerintah) helped but farmers in the conflict areas don't know about the position of the conflict area and are confused about the problem…… In the future we might want to implement the yield intensification methods but first I want to know more about the status of the conflict area……."[93].

Next to the fact that the plots aren't getting the best maintenance the 223 hectare was also not included into the promotion of RSPO certification[94]. During the time of the research there was a proposal for a resolution, which proposed to give 100 hectare to the village of Sungai Limau and 123 hectare to Dosan[95]. The majority of the villagers in Dosan agreed, including the chief of the village and cooperative, but the minority didn't agree with this resolution. This minority self-evidently consisted of the members of the three kelompoks that are situated within the conflict area[96]. The members of these kelompoks are very eager for proper land registration as Pak Junaidi, chief of kelompok Jasa Sawit stresses:

"I want a strategy for the kelompok, about the rule of the plot and to obtain the registration. And if we get the registration we want to implement BMP in the plot. Now we are not the owners of the area. Usually one family gets three hectare and if they get three hectare than they know how to protect the area"[97].

Resolving this land conflict and therefore arranging the proper documentation is a crucial issue. The application of BMP within these three kelompoks is very limited because of future uncertainty for the plots. This doesn't mean that there is no motivation for applying BMP within these plots but at this moment they don't have the capacity or proper incentives to make this work. Until this day there are still no exact legal operational procedures and formal registration of land remains absent (McCarthy et al. 2012). For future success it is fairly important that the district government makes a decision about this conflict area, as this could lead the way to more sustainable practices within the village of Dosan.

7.2.4 Infrastructure and transportation

As was discussed in the previous chapter, the Riau province has been in a phase of rapid industrial development in a short amount of time. The Siak river has been a major lifeline for transport throughout these years, but since the 1980s road development in the Riau province, has taken off a major flight:

"Road infrastructure was considered to be very poor in the 1980s, but in the past three decades more and more roads have been established, to support the transport of bulky and heavy goods, including logs and oil palm fresh fruit bunches. This ever-intensifying road network has connected many remote areas and triggered the development of new agricultural lands and spontaneous settlement along the roads" (Susanti &Burgers 2012).

[93] Interview Julianto on 22 September 2012, smallholders No. 29 see Appendix 1.
[94] Interview Riko Kurniawan on 26 September 2012, NGO No. 1 see Appendix 1.
[95] Interview Riko Kurniawan on 22 October 2012, NGO No. 1 see Appendix 1.
[96] Ibid.
[97] Interview Pak Junaidi on 22 September 2012, smallholders No. 24 see Appendix 1.

The above quote confirms that the road network has leapfrogged in the province of Riau due to the ever growing industries, of which the oil palm industry is one. Nonetheless the villagers in the Siak area still consider transportation as a grave challenge. As Colchester states: "*the crop can be dispersed over a large area and fresh fruit bunches trucked in over long distances but this increases both the costs of transport and roads, and the risks that crops will spoil before they reach the mill" (Colchester 2010: 3).* The roads in the vicinity of the villages and plantations mainly consist of dirt roads, which are hard to get by during the rainy season. Additionally the feeder roads within the plantations become very muddy during the rainy season, making it very difficult for the smallholders to actually transport their FFB's of the plantation (Jelsma 2011).

Beside the infrastructural problems, the actual transport of the FFB's is also an issue within certain villages. As previously discussed, the distance to the mill is quite lengthy and the transport cost take on a large part from the total costs of producing FFB's[98]. Even within the Teluk Mesjid cooperative, where the organization of transportation is slightly different from other cooperatives and where the cooperative bought three trucks for the transportation of FFB's (Ibid.). Therefore they don't have to outsource the transportation, in which they save costs but still transportation takes on a large part of the cost. Even more so in the other cooperatives where the trucks and its crew are hired from local entrepreneurs (Ibid.). In the Bungo Tanjung cooperative the trucks are hired from a local businessmen who owns seven trucks[99], but the people aren't too happy with the transport arrangement as one smallholder states:

"It is also about the transportation. The members have to pay a very high price for the transportation and some people are thereby just filling their pockets"[100]

The transportation issue is a very delicate issue within the Dosan cooperative, more on this subject in relation to the performance of the cooperative will be discussed in paragraph 7.3.1.

7.2.5 Finance

As Jelsma discussed in his report during his initial visit to the Siak smallholders, the lack of funds is generally mentioned as an argument for '*ill practices and non-improvement of conditions' (2011: 20).* The government companies PT. SPN and PT. Persi play a role in pre financing inputs, but it is not exactly clear if smallholders really use their services for borrowing money (Ibid.). Off course the district government was the initial financer of the plantation, and created the subsidized smallholder loans, with smallholders only paying half of the commercial interest rate (Zen et al. 2008). Nonetheless smallholders mentioned that there was a need for credit within the cooperatives[101]. Moreover there was a certain plea, from the manager of the cooperative of Dosan, to get into relations with a bank:

" ……get a relation with a bank. Bank can give the finances for all the members in the cooperative. Credit for the farmer, then farmer can buy the fertilizer for the plantation. If the plantation can get enough fertilizer, it is good for the production and it can help the local community"

[98] Interview smallholders 3,5,7,8,12, 15 & 29
[99] Interview Riko Kurniawan on 22 October 2012, NGO No. 1 see Appendix 1.
[100] Anonymous interview
[101] Interviews smallholders 13, 15, 16, 17, 18 & 30.

The finance issue has a strong correlation to the fertilizer- and maintenance issues. Fertilizers and labour are perceived as very costly and the smallholders are in desperate need for a financier for these. As Pak Abdul Hasan, chief of kelompok Asana Jaya states: "*..in the team of the kelompok they must have a lot of finances because for the BMP the fertilizers costs are too high. If the costs are too high the labourer cannot get a salary. Problem is how to get the fertilizer and the salary. We want to get a financier for the credit of the fertilizer"*[102]. In actually receiving the credit there is an important role to play for the cooperative management. At this moment some smallholders think that the cooperative isn't doing enough to stimulate the best possible outcome as will be discussed in the next paragraphs.

7.3 Newly formed institutions: cooperative

With the coming of the Palm Oil for People program and when the Siak government handed over the plantation to the smallholders of the seven villages, they had to form a cooperative (Jelsma 2011). For the villages this was considered to be a relatively new economic organisation and until this day there are quite a few problems with management[103], which will be discussed later on. During the initial phase of handing over the plantation, the cooperatives (with support of SPN) were responsible for all activities within the plantation (Ibid.). Jelsma (2011) mentions that in Pusako and Perincit the cooperative management still holds a fair amount of power and they seem to still decide what is happening in the whole plantation[104]. In the villages of Dosan and Teluk Mesjid the cooperatives moved from the cooperative system to a kelompok system, in which more responsibilities are handed over to the kelompok (Ibid.).

In Indonesia cooperatives are considered self-reliant organisations, Lembaga Swadaya Masyarakat (LSM) and fall under the wing of Third Sector Organisations (TSO) (Nindita Radyati 2008). The Article of Association, in bahasa Indonesia called Angarran Dasar and Angarran Rumah Tangga (AD/ART) regulation (Ibid.) is considered to be one of the most important regulation In Indonesia for a cooperative[105]. The AD/ART are considered to be the general rules on how to manage a cooperative and everyone within the cooperative has to comply to the AD/ART[106]. The AD/ART is regulated by the Indonesian Cooperative Council. Whenever the cooperative makes the Standard Operating Procedures (SOP), which is more linked to the operational level within the plantation, the cooperative members follows both the AD/ART and the SOP[107].

7.3.1 Cooperatives in the Siak smallholders site

In each of the seven villages there is an active cooperative, which is set up in the same way more or less. But in practice the cooperative management is arranged differently in the seven villages. In most cases the cooperative is meant to have the most power, but in for example Dosan and Teluk Mesjid they switched to a kelompok (group) system, and within this system the kelompok has more power than the cooperative[108] (Jelsma 2011). The reason behind this is that smallholders wanted more responsibilities because they didn't find the cooperative management suitable of managing all

[102] Interview Abdul Hasan on 20 September 2012, NGO No. 15 see Appendix 1.
[103] Informal talk with Riko Kurniawan on 25 September 2012.
[104] During the research interviews were held in Perincit and from what was seen this still the case until this day. The cooperative in Pusako didn't want any outsiders asking questions about cooperative business.
[105] Informal talk with Jai, employee of NGO Perkumpulan Elang on 13 september 2012.
[106] Ibid.
[107] Ibid.
[108] Interview Riko Kurniawan on 26 September 2012, NGO No.1 see Appendix 1.

activities in the field up to the appropriate standards (Ibid.). In this case the members of the cooperatives in Dosan and Teluk Mesjid exercised quite some power by taking matters into their own hands and were able "to mobilise their resources and change the rules of the game". Evidently there still seems to be a difference between the cooperative management within the two villages. The structure in Dosan can be defined as very democratic, which is quite the opposite as the situation in the village of Teluk Mesjid where there is more of an authoritarian structure[109] This difference appears to come from the fact that in Dosan a lot of members of the cooperative also work as labourers in the plantation, and are therefore more involved with business in the plantation[110] (Jelsma 2011). But as Riko Kurniwan mentioned in the interview this has its influence on policymaking:

"In Dosan they pay the democracy price because everybody wants to be involved"[111].

In the Teluk Mesjid cooperative the situation is quite the opposite, but it is perceived as a good cooperative with regard to the delegation and management of the cooperative. Riko Kurniawan states:

"The Teluk Mesjid cooperative has the power to manage the plantation, it is very regularly and in good condition"[112].

In Teluk Mesjid most members don't work in the plantation and they prefer to hire labourers from outside the area (Java or Nias)[113] (Jelsma 2011). These contract labourers consequently have to follow the SOP that were set up by the members of the cooperative[114]. Hence when implementing better management practices (BMP) or implementing RSPO principles and standards, the policy maker needs to be aware that they are targeting the individuals that are actually responsible for the maintenance in the field (Jelsma 2011). In chapter eight this specific subject will be discussed more thoroughly. But first the specific problems within the Dosan cooperative of Bungo Tanjung will be discussed.

7.3.2 Challenges for cooperative Bungo Tanjung

In 2009 the cooperative Bungo Tanjung was formed in Dosan village. For Dosan village this meant the introduction of a novel economic organisation and during the research it was indicated that the smallholders still encountered quite a few problems with regard to the cooperative management. The most important issue was related to the fact that there was a mutual sense of discomfort within the village about the performance of the cooperative[115]:

"Cooperative need to help with getting standard price from the mill, the cooperative doesn't have regulation for that right now. That's also the reason why the farmers aren't interested to sell the FFB

[109] Interview Riko Kurniwan on 22 October 2012, NGO No. 1 see Appendix 1.
[110] Interview Riko Kurniawan on 26 September 2012, NGO No.1 see Appendix 1.
[111] Ibid.
[112] Interview Riko Kurniwan on 22 October 2012, NGO No. 1 see Appendix 1.
[113] Ibid.
[114] Ibid.
[115] During the interviews 13 of 18 respondents within the village of Dosan mentioned that they were not satisfied with the way the cooperative management was performing, smallholders No. 8, 15, 16, 17 18, 19, 23, 24,25 26, 28, 29, 30 see Appendix 1.

to the cooperative right now. Therefore the farmers are selling the FFB to the mill directly. Normally the cooperative have to help to sell the FFB, but the cooperative is not doing that"[116].

This sense of discomfort was chiefly about the way, the marketing of the FFBs was organized by the cooperative (quote above). This is related to the price issue which was discussed in paragraph 7.2.1. The members are concerned about the low price, they are getting for the FFBs and they think that the cooperative management aren't putting in enough effort to promote their FFB in the mill[117]. Moreover there is a debate on how the transport of the FFBs is arranged. The transport (trucks) seem to be in the hands of a local businessmen, which offers his services at a price that is considered to be very high according to some of the members[118] and this affects the smallholders monthly income[119]:

"Policy intervention, cooperative management is not good because they do not buy truck for transportation…….Transparency for the members, some problem in the cooperative, afraid the FFB not a very high price, because of the transport cost……..but too much money is spend for transportation (price is too high). Because of this the members (farmers) don't get the full amount of money"[120].

Also some members don't agree with the fertilizers that were being bought by the cooperative to use in the plantation. For one the price is considered too high and some smallholders also mentioned that this was another kind of fertilizer than the one, a combination of urea, rock phosphate, KCl and CuSO4, that Ken Giller and Thomas Fairhurst (WUR team) advocated in last year's training (Jelsma et al. 2011). Some kelompoks therefore bought the fertilizer by themselves, which left the cooperative with a large amount of fertilizer that wasn't being used. These issues together made the smallholders very dissatisfied about the functioning of the head of cooperative and they wanted to change the head of cooperative[121]. There were some rumours that they wanted to make an intervention within the cooperative and change the head of cooperative during the members meeting in December 2012[122]. But Riko Kurniawan mentioned that these problems mostly relate to the fact that the situation within the cooperative is new to them. Correspondingly it also has to do with the 'characteristic of Malay culture' because if people think a person is wrong they don't confront them in person. This aspect of not to lose face is therefore an important contributor for the on-going internal conflict within the cooperative[123].

For future success, communication and participation within the cooperative is in desperate need of improvement. The members- and the cooperative meeting are a key factor to make this work. At this moment members are not well informed about the SOP and the Internal Control System (ICS). The main goal for the cooperative must therefore be to bind the members to make the commitment and

[116] Anonymus interview.
[117] Ibid.
[118] Anonymus interview.
[119] Interview Riko Kurniawan on 22 October 2012, NGO No. 1 see Appendix 1.
[120] Anonymous interview.
[121] Anonymous interviews with smallholders.
[122] This became known during some of the interviews and during informal talks with members of the cooperative and with the staff of Elang. There was no intervention in December but during the time of writing (25 February 2013) there was an election going on for the new Chief of Cooperative within the Bungo Tanjung cooperative. (Message from Riko Kurniawan)
[123] Interview Riko Kurniawan on 26 September 2012, NGO No. 1 see Appendix 1.

best practices in the plantation[124]. Riko Kurniawan thinks that if the cooperative makes it more about the 'sustainability issue', people will yet again support and join the cooperative in their activities[125]. During the research some kelompoks, out of discomfort with the current cooperative management, made new coalitions together to unite against the cooperative. Hereby new power-relationships were set and the rules of the game were changed, for example with the case of the fertilizers. In the end they made the cooperative feel that they have lost grip over some of the kelompoks[126]. These dynamics show that oil palm smallholders can actually exercise a considerable amount of power within the current state of affairs. But this doesn't always mean that these actions will also be sustainable in longer terms. For policy arrangements to work on the long run there is a need for a stable environment (McCarthy & Cramb 2009). As long as the cooperative is still haunted by an internal strife, policy arrangements will not be able to be implemented effectively in the future .

7.4 Conclusion

The Palm Oil for People program has been very successful as a pro poor development policy. On the overall it has been of great influence for heightening the economy within the seven villages of the Siak smallholders site. So the relative good intentions and power from the Bupati gave way to a relative new and innovative policy arrangement which in fact favours small (marginalized) farmers and can therefore be seen as an advocate for good practices. Nevertheless every good intent also has its flaws, also within the Siak smallholders site. For the Siak smallholders site to be successful on the long run some significant challenges need to be combated. These challenges are related to issues such as price, technical issues, land registration and conflict area; transportation and infrastructure and finance. Another grave challenge for the Siak smallholders is dealing with a newly formed institution such as the cooperative. In every village the cooperative management seems to be arranged differently. Some cooperatives function better than others but in Dosan village, the members are very much against the cooperative management as it is now and are showing their discomfort by means of non-cooperation. Henceforth recognizing and combating these issues are very important with regard to the implementation of the different (sustainable) policy arrangements and more importantly for the future success of the Siak smallholders.

[124] Ibid.
[125] Ibid.
[126] Interview Pak Komi on 20 September 2012, Smallholders No. 19 see Appendix 1.

8.PLAYING FIELD AND DYNAMICS: THE SHAPING OF POLICY ARRANGEMENTS

Within this chapter there is an important role to play for the 'sustainability' concept. All policy arrangements are more or less striving for a sustainable future for the Siak smallholders. With help of this concept the playing field and dynamics of the Siak smallholders will be discussed. The village of Dosan takes on a key role within the Siak smallholders site, as it is seen by many as an exemplary case where policy arrangements in general are met with enthusiasm. Most data for the research is derived from people within this village or from actors that were involved with this village and therefore Dosan village plays an important role within this chapter. Furthermore the different policy arrangements and more importantly the different actors that are involved with the Siak smallholders site will be discussed. It is of significance to evaluate how these actors' own vision influences the Siak smallholders. This particular framing by actors can in fact lead to surprising outcomes, which in fact shapes the village and people in question. In the end some key factors that are of influence for the success or failure of the different policy arrangements from a smallholders- and NGOs perspective will be discussed.

8.1. The village of Dosan in the wake of the Palm Oil for People program

Desa (village) Dosan is one of the seven villages that are included in the 'Palm Oil for People' program. They have the largest area (723 hectares) of oil palms within the plantation program (Jelsma 2011). The land that was allocated for the oil palm plantation was mainly secondary forest and as Pak Dahlan mentioned it didn't get used a lot for economic activities[127]. Before the program the people of Dosan mainly depended on fishery, and forest resources such as rubber, rattan and fruit. Also coffee was produced inside as well as outside Dosan[128]. The income from fishery declined as the Siak river became more polluted. Also the men had to work far away from the village because there wasn't enough employment in the village[129]. Furthermore the seven villages, including Dosan village became surrounded by large timber and oil palm plantations (McCarthy et al. 2012). Dosan has been very collaborative towards the local Siak government policy program and the people of Dosan village have been committed to protecting its remaining forests and are moving towards (sustainable) environmental management practices (Greenpeace 2012). Therefore a lot of (inter)national actors for example NGOs like Perkumpulan Elang, WWF and Greenpeace are involved with this village and are making it an exemplary case for sustainable practices for other smallholders in Indonesia. Furthermore it has been part of different activities such as the intensification project, implemented by the WUR team. Part of this project was creating a demonstration oil palm plot where Better Management Practices (BMP) were applied and knowledge about these practices can be shared with interested parties in the future (Jelsma et al. 2011). Suitable locations were found in Dosan village and the village of Teluk Mesjid (Ibid.). Furthermore Dosan village is also in the run of being eligible for RSPO certification in the future. The NGO Elang and WWF together are trying to improve smallholder management practices and preparing them for certification[130]. These different policy arrangements and the actors that are involved will be discussed in paragraph 8.3. and 8.4.

[127] Interview Pak Dahlan on 22 september 2012, smallholder No. 30 in Appendix 1.
[128] Ibid.
[129] Interview smallholders 25, 26 & 28.
[130] Interview Riko Kurniawan on 26 September, NGO No. 1 see Appendix 1.

8.2 Sustainable dynamics within the Siak smallholders case

As was previously discussed in chapter five the concept of sustainability is becoming more and more important on the political agenda every day. It has been a topic of discussion within governments, (inter)national (environmental) organizations and within civil society. But what does it mean in practice, for oil palm smallholders. Does this concept play an important role within their daily operations or are they unaware of its existence?. Are they even aware of the large international debates regarding palm oil production. So in fact what is their linkage with the sustainability concept on the micro level. This paragraph will revolve around this topic and will discuss smallholders' opinions about sustainability. In the next paragraph the key actors within these policy arrangements and their particular sustainability vision towards the Siak smallholders will be discussed .

During the interviews a number of smallholders were asked if they were familiar with the concept of sustainability[131]. A limited number of smallholders answered that they knew nothing about it and these smallholders were located within the villages where at that moment NGO Elang wasn't very actively involved (Perincit & Sungai Limau). Furthermore the smallholders of which their plantations were situated in the conflict area, were also not really familiar with the concept. Additionally there were a number of smallholders that answered in a positive manner and they gave multiple answers, but one answer stood out and got close to the commonly known concept of sustainability by Brundtland. Pak Firdaus the village chief of Dosan answered:

"Yes, synergy for life and the living between humans and oil palm. It is a concept related to sustainability and part of life as sustainable"[132]

Especially within the two villages of Dosan and Teluk Mesjid, smallholders replied in a positive fashion, which is quite logical as these are the two villages that are in the process of implementing RSPO certification, within the Siak smallholders site. It is therefore not strange that the amount of awareness around the sustainability concept was the strongest within these two villages. In these villages Better Management Practices (BMP) were also mentioned several times in connection to the concept of sustainability. Overall more than half of the smallholders were familiar with the concept, either the concept in itself, or the concept sustainability related to the RSPO. Awareness amongst the Siak smallholders about the concept is therefore considerably high and considered an exception, as most times the relatively unawareness of sustainable oil palm and practices amongst small scale plantation companies and smallholders is considered as an important challenge (Ardiansjah 2006).

Dosan village is in fact an exemplary case, as nine kelompoks committed to sustainability and sustainable practices within their plantation by means of the Standard Operating Procedure (SOP)[133]. Furthermore Dosan is also a very well-known and successful case both nationwide and internationally, as was shown once more at the beginning of January 2013 when the Indonesian Minister of Agriculture Suswono visited Dosan village and when he gave support to- and also declared the independent smallholder model in Dosan as 'the model for sustainable palm oil' in Indonesia (Scoopmedia 2013).

[131] These views all came from the 30 interviews that were held during the time of fieldwork.
[132] Interview Pak Firdaus on 12 september 2012, Smallholder No. 4 in Appendix 1.
[133] Interview Riko Kurniawan on 22 Oktober 2012, NGO No. 1 Appendix 1.

8.3 Important actors within the policy arrangements

As was previously mentioned there are a lot of actors involved within the Siak smallholders site. Within this paragraph the most important actors who are involved within the different policy arrangements such as: RSPO certification (WWF & Elang); yield intensification method (WUR-team) and awareness raising (Greenpeace & Elang) will be discussed. All these actors have their own particular vision for a sustainable future and use diverse practices and means to reach this particular goal. Nevertheless this doesn't mean that the actors weren't cooperating because during the research it showed that there was a high degree of cooperation between Elang, Greenpeace and WWF. Also the WUR team picked up on this as they cooperated with several actors (Elang and WWF) during the intensification project. In the following sub-paragraphs the most important actors of the different policy arrangements within the Siak smallholders site will be discussed. Specific attention will be given to the way these actors are framing the Siak smallholders. The Palm Oil for People program will not be discussed here because it has already been discussed in great detail in previous chapters.

8.3.1 NGO Perkumpulan Elang

Perkumpulan Elang is a small NGO, which was set up in April 2001 and which operates under the umbrella NGO of Jikalahari. Jikalahari started in February 2002 and is set up as a forest rescue network and has 23 member organizations[134], of which Elang is one. The vision of Jikalahari is: *"The existence of fair forest management for now and upcoming generations based on local wisdom and to give attention for biodiversity, biology corridor and protection zone" (Jikalahari 2013).* The ultimate aim for Jikalahari is to save the remaining forest in Riau[135]. The NGO itself doesn't focus particularly on oil palm smallholders, but two if its members notably Perkumpulan Elang and Kaliptra Sumatra, specifically do. Fadil Nandila, vice coordinator with Jikalahari, stresses that these NGOs are actively engaged in giving advocacy to the oil palm community and promote intensification to stop the smallholders from further expanding into the forests[136]. The biggest problem according to Fadil Nandila is that a lot of people are drawn to the economic benefits of oil palm. They think it is 'the' way to get rich, but in the process they don't have the money to apply fertilizers or to apply proper maintenance (BMP). According to him there are better options such as pineapple, ginger and rice and people therefore need to change their focus[137].

Perkumpulan Elang initial focus was on water-resource management in the Riau province. But because of their relative success, its focus has expanded further to awareness raising involving matters of environmental protection and to make inputs to the policy making process in local and national level on for example issues like oil palm smallholders development (Elang 2012). Elang's vision is: *"to implement sustainable and fair natural resource management concerning the community as a part of the ecosystem"[138] (Ibid.).* In the Siak smallholders site Elang has been very successful in collaborating with the local communities, especially within the villages of Dosan and

[134] The network consists of 15 NGOs, 7 environmental defender students groups and 1 study group association. (Jikalahari 2013).
[135] Interview Fadil Nandila on 25 October 2012, NGO No. 4 see Appendix 1.
[136] Ibid.
[137] Ibid.
[138] Furthermore Elang has several missions, protecting the ecosystem and waters from environmental conversion and pollution, creating community strength and awareness towards sustainable forest and water management, supporting the policies which takes sides on people who live in the natural resources conservation area, and also fulfilling human basic needs by ensuring the community's access to sustainable natural resources (Elang 2012).

Teluk Mesjid[139]. Their continuous efforts of being involved and empowering local communities have been very effective as can be concluded from the numerous positive attitudes from the smallholders within the two villages towards Elangs activities. After originally (and still) playing an important part in the process of monitoring the Palm Oil for People program, in the smallholders opinion Elang also brought about important publicity and were a crucial factor in bringing the different policy arrangements such as the implementation of RSPO and the intensification project of the WUR-team to the villages[140]. Elang has thus proven itself to be successful in collaborative activities. The success seems to derive from the fact that they have good contacts with both the smallholders on the micro-level, as well as with public partners, such as the Siak district government and social partners, such as WWF and Greenpeace. In this way they are able to fulfil a bridging function in which they bring several parties together which could help to reach the overarching goal of creating a sustainable future for the Siak smallholders. Furthermore Elang itself is aiming for a higher goal as they are envisaging the 'sustainability village concept' and where director Riko Kurniawan explains: *'that within this concept every activity, like for example fishing, rubber and other activities within the village will become sustainable' in the future*[141].

The village of Dosan plays an important part within the activities of NGO Elang. As was discussed in paragraph 8.1 it is a successful case that gets a lot of (inter)national attention. Elang and other actors, such as Greenpeace (see paragraph 8.3.4), frame the village of Dosan as an exemplary case of 'sustainable' oil palm smallholders (farmers). On the website of Elang[142] a lot of attention is given to the 'sustainable' practices of the Dosan villagers. Also in a folder of Elang, with the title of 'Moving forward to be a sustainable farmer' the Siak smallholders site and particularly Dosan village is mentioned several times (Elang 2012). Furthermore within this folder a workshop is mentioned, which Elang together with Greenpeace, organized for independent oil palm smallholders. The goal of this workshop was to encourage farmers, from four sub districts in the Riau province[143], to apply sustainable practices as a solution for deforestation[144]. Part of the workshop was a short video about 'sustainable farmer group practices in Dosan village'[145]. The folder explicitly states that:

"This footage revealed that the farmers in the area had stopped land-clearing for farm expansion in the area but chosen to improve farm productivity instead. This video documentation has shown that these sustainable farmers can protect the forest"[146]

A short version of this video of Dosan village (see below) have ever since been a powerful advocate tool for sustainable oil palm farmers practices. The video was made in collaboration with Greenpeace. The language that is spoken in the video is bahasa Indonesia and it is sub-titled in English. Therefore it can be used for a broad public, both on the farmers level itself as on the international level in creating awareness about smallholders' practices and their related issues within the palm oil industry. In the video the situation in the village of Dosan is more or less framed as idyllic, as there are 'no more poor people' within the village. But as we have seen from the previous

[139] These are the two villages within the Siak smallholders site were Elang is mostly active.
[140] Smallholders No. 1, 4, 8, 9 15 and 30
[141] Interview Riko Kurniawan on 26 september 2012, NGO No. 1 see Appendix 1.
[142] www.elang.or.id
[143] The sub-districts of Rokan Hilir, Siak, Indragiri Hulu and Palawan.
[144] Elang folder 2012.
[145] The longer version can be found on http://www.youtube.com/watch?v=Fvc4w8xh1Ks
[146] Ibid.

chapter even the Siak smallholders and the village of Dosan still face significant challenges that have to be overcome in achieving the goal of a sustainable future.

Figure 6: Video Dosan village[147] (Source: Greenpeace 2012)

Dosan community leader Pak Dhalan talks about how this new way of farming can help protect the forest.

8.3.2 WWF Indonesia

The vision of WWF Indonesia is protecting biodiversity for present and future generations. WWF Indonesia has four focus areas which are: conservation management (in Riau protecting Sumatran tiger and Sumatran elephant); sector reform (promote BMP and minimalize conflict between humans and elephants); intervention and sustainable land use (road map Sumatra); and sustainable finance[148]. According to Mr Suhandri the key issue around oil palm smallholders is that there is a massive and incontrollable expansion of independent smallholders. These independent smallholders are entering and converting the conservation areas into oil palm plantations[149]. This is the main reason why WWF joined Elang in 2007 and started with a trial to make the Siak smallholders, in the villages of Teluk Mesjid and Dosan, eligible for RSPO certification[150]. This was the first time that WWF specifically focused on independent oil palm smallholders and RSPO certification and implementing BMP. In the process towards RSPO certification WWF worked together with RILO (RSPO Indonesian Liason Office), the Indonesian RSPO officer, for gaining knowledge about promoting and attaining the RSPO certification. At this moment the uncertainty around the status of the Siak smallholders (independent or scheme) is interfering with the process of pushing RSPO certification (see below). WWF therefore decided to focus more on BMP than on certification[151]. But WWF still has a commitment towards independent oil palm smallholders and Mr Suhandri states that:

[147] http://www.greenpeace.org/international/Global/international/code/2012/Forest_Solutions_2/goodoil.html
[148] Interview Suhandri on 24 oktober 2012, NGO No. 2 Appendix 1
[149] Ibid.
[150] Ibid.
[151] Ibid.

"The goal is to have one independent smallholder to get RSPO certification and then use them as an example for good practices"

To achieve this goal WWF Indonesia has been focusing, since 2010/2011, on another independent oil palm smallholder site in the Pelalawan district, which is also situated within the Riau province. If this smallholder site gets certified it can be used to fulfil an exemplary role for sustainable practices. The focus therefore is to enhance and advance smallholder oil palm plantations in the right place. This means an area far from conservation areas such as the Tesso Nilo forest area[152]. For WWF, community engagement and participation, is not an end goal to itself but a way to protect biodiversity for present and future generations. In paragraph 8.4 there will be a discussion about the RSPO implementation within the villages of Dosan and Teluk Mesjid.

8.3.3 WUR-team

Since 2011 the WUR team, a collaboration of the Plant Production Systems Chair Group at Wageningen University and Ecofys[153], have been involved in testing a certification module for Low Indirect Impact Bio-Fuels (LIIB), which is implemented in order to stimulate bio-fuel production without displacing other production (Jelsma 2011). One method which was identified is yield intensification in smallholder oil palm cultivation and the Siak smallholders site was selected for testing this particular methodology (Ibid.). Other partners within the LIIB project were WWF Indonesia and WWF International. They arranged the initial contacts for the researchers. Hence this was the first time WUR researchers were involved with this particular smallholders site. During the first visit in March and April 2011 introductions were made with NGO Elang, which was identified as the organisation with the best established contacts within the Siak smallholders site (Ibid.). The main goal of the first trip was to get a better understanding of the common practices amongst the Siak smallholders (Ibid.). During and after this first trip a plan was made for the second trip which took place in July 2011 and where a training of trainers about yield intensification methods was held. Within this second field trip the focus was on establishing a detailed identification of agronomic issues, and knowledge transfer at the Siak smallholders site. The WUR-team, together with Elang and WWF Indonesia, conducted practical trainings providing local actors with knowledge and skills on how yield intensification within the plantation can be achieved (Jelsma et al. 2011) During the trip two demonstration plots were set up within the villages of Dosan and Teluk Mesjid, where the yield intensification methods for maintaining the plantation were showed, such as correct water management (installation of check dams); application of fertilizers; pruning methods and circle weeding (Ibid.). Afterwards certain agreements were made with the smallholders, for example to share the obtained knowledge about yield intensification with members of the kelompok; and to maintain the demonstration plots according to BMP. Elang was appointed to monitor the changes in the demonstration plots (Ibid.). In January 2012 there was a follow up visit to assess what changes have been achieved and what further steps can be taken to intensify production within the two villages (Jelsma 2012). During the trip partners, such as Elang and WWF Indonesia, and a few of the farmers stated that the farmers were enthusiastic about the intensification method, but according to the researcher the field evidence didn't support this because the demonstration plots didn't appear to be as well maintained as they could have been (Ibid.). In paragraph 8.4 this issue will be discussed from the smallholders point of view. The researcher concluded that there are still some crucial issues

[152] Ibid.

[153] Environmental consultancy agency, specialized in energy related issues see http://www.ecofys.com/en/home/

that need to be improved for example cooperation between the smallholders need to be improved; and convincing other members about the benefits of intensification and that the required inputs and investment will ultimately pay back itself (Ibid.). The Siak smallholders site has good prospective, but the partners and the smallholders themselves need to be committed on a much longer term. This seems to be a vital issue, for example WWF Indonesia does not have any funds to continue with the Siak smallholders. Nonetheless Elang is still closely involved with the Siak smallholders but they also seem to have issues with getting funding for the longer term[154]. So at this moment the success of the policy arrangement seems to depend on the partners and their willingness to invest in longer term commitment with the Siak smallholders.

Nevertheless this particular intensification project is a fine example of a public-private-social partnership. The strengths of each partner (Wageningen University; Ecofys; and NGOs WWF Indonesia and Elang) are combined within one policy arrangement and the process and its outcome can only lead to positive developments for the Siak smallholders in terms of knowledge about BMP and future economic benefits from oil palm cultivation.

8.3.4 Greenpeace

In the forest campaigns of Greenpeace, Dosan village is also used as an exemplary case. Mr Rusmadya, who works as a forest campaigner for Greenpeace, states that Greenpeace through campaigning, wants to ensure that the earth is and stays a safe place for people to live in[155]. In the Riau province, Greenpeace focuses on the current forest, natural forest and peat land forest. Greenpeace collaborates with Elang (see paragraph 8.3.1) and its position is foremost to give support to the Siak smallholders. Greenpeace strongly agrees with Elangs vision and together they want to help the local community with awareness raising[156]. In paragraph 8.3.1 the video about Dosan village was shown and discussed. This video is part of the forest solutions campaign[157] where Dosan village is used as an example or to be precise 'a solution to destructive industrial scale oil palm plantations' in Indonesia and is referred to as producing 'good oil' (Greenpeace 2012). Greenpeace uses powerful tools such as video, photos and illustrations (see figure 7), to tell the story of Dosan village. By personalizing the story and by relating it to large international environmental debates such as deforestation and the destruction of peat land, with its related problem of massive carbon dioxide emissions, Greenpeace creates a powerful advocate for raising awareness about the issue. At the end of the 'story' Greenpeace talks about the 'future of the forests' and that they are calling for: an end to deforestation; restoration of critical peat land areas; expansion of the independent small-holder improved management scheme (like that of Dosan); and support for local communities (Ibid.). The specific strategy of Greenpeace in Riau is to build the best possible communication with the local community and subsequently getting the community involved in the preservation of natural forest. Together with Elang they want to educate the farmers about the BMP and intensification so that they don't have to expand any further into the natural forests

[154] Informal talk Riko Kurniawan on 1 November 2012.
[155] Interview Rusmadya on 31 October 2012, NGO No. 5 see Appendix 1.
[156] Ibid.
[157] http://www.greenpeace.org/international/Global/international/code/2012/Forest_Solutions_2/goodoil.html

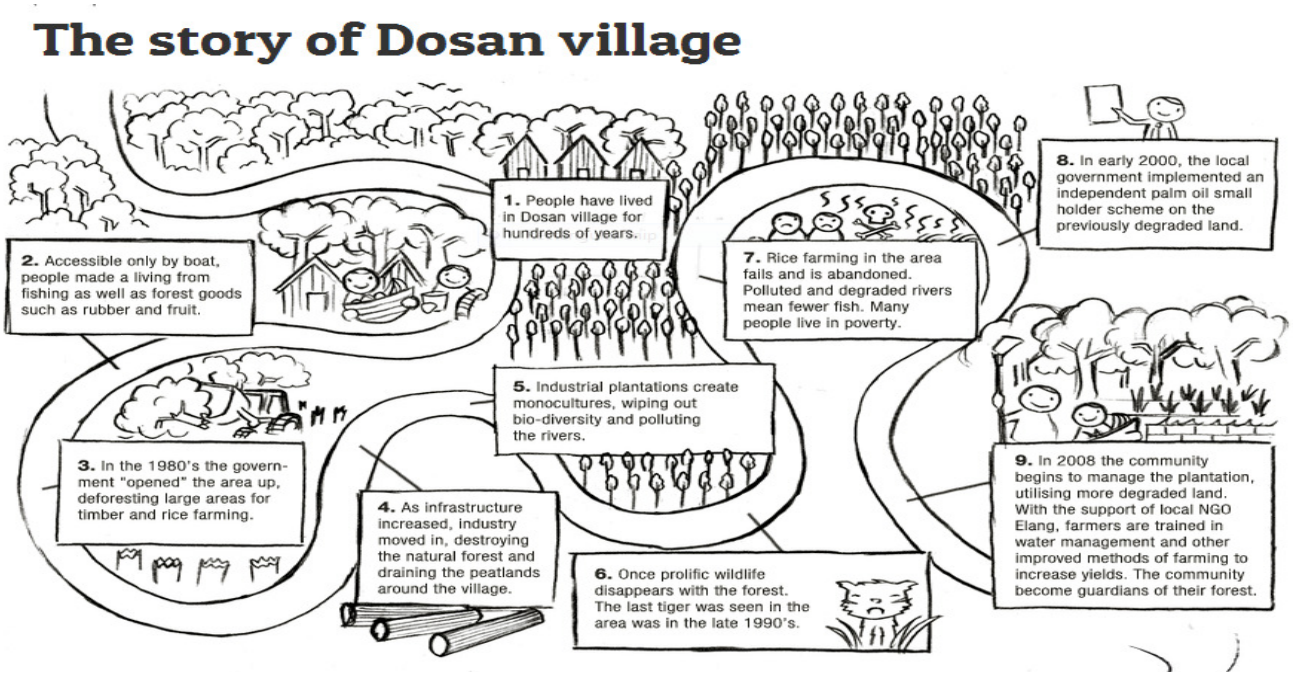


Figure 7: Framing of Dosan village by Greenpeace (Source: Greenpeace 2012)

In figure seven an illustration of Greenpeace is presented, where the history of Dosan village is outlined. It is almost set out as a 'textbook' example of how local communities are marginalized by large industrial plantations. Therefore a further analysis of this storyline might lead to the discovery of some irregularities. The illustration seems to suggest that before the government opened up the area it was almost as Dosan was a pristine area, closed off from the outside because it supposed to be only accessible by boat. This 'suggestion' can be questioned as people in Dosan weren't only subsistence farmers and had to get their most important staple food 'rice', from elsewhere. During the research a lot of data is gathered about the history of Dosan village. As was previously discussed in paragraph 8.1 the people of Dosan mainly depended on fishery, and forest resources such as rubber, rattan and fruit. Furthermore coffee was produced inside as well as outside Dosan[158]. Also a lot of men had to work outside the village because there wasn't enough employment within the village[159]. Not one single time farmers mentioned anything about rice farming (see point three and seven in figure 7) in the area. The neighbouring district of Bunga Raya, which is situated across the Siak river, is an important area for rice farming, but within the Siak district there were no clues that rice farming ever existed. Some question marks can therefore be placed at these suggestions. Also the storyline seems to suggest a happy ending, whereas everybody in the village is satisfied and all the problems within Dosan village are solved because of this independent smallholder improved management scheme. Previously in chapter seven it showed that the Siak smallholders, including Dosan village still face significant challenges within their daily activities. Nevertheless the Palm Oil for People program has been successful as a pro-poor policy, as it has heightened the economy of a fair amount of people within the Siak smallholders site as was previously discussed in chapter six and seven. But on the other hand this illustration seems to be moulded into a 'perfect' textbook example of how to deal with the situation of marginalized farmers and of them becoming 'guardians of the forest'. It is questionable if this can be relevant in other situations regarding independent smallholders and if analysed further the illustration can therefore be seen as a bit illusive.

[158] Interview Pak Dahlan on 22 september 2012, smallholder No. 30 in Appendix 1.
[159] Interview smallholders No. 25, 26 & 28, see Appendix 1.

Greenpeace hasn't implemented a specific 'technical' policy arrangement themselves, such as for example the RSPO certification and the yield intensification project. Nonetheless next to raising awareness for the independent smallholder improved management scheme, they also seem to be an important partner of Elang in dealing and communicating with the local Siak government. Support from the local government is significantly important for the specific vision of Greenpeace in Riau, which is to implement the intensification method, as currently in Dosan, also in other areas in Riau and thereby preventing people from expanding into peat land areas and natural forests[160].

8.4 Arrangements and its effect on the Siak smallholders

During the research it became clear that the villages within the Siak smallholders site were impacted in diverse ways, leading towards a different path for each of the seven villages. It seems that the government has left an opening for the implementation of the different policy arrangements and as the villages of Dosan and Teluk Mesjid responded positively towards them, they have been the main recipients. This has led to some grievance between the villages and hence reshaped the power relations and dynamics. Therefore within this paragraph a brief impression will be given on the different perspectives of the smallholders (villages of Dosan and Teluk Mesjid) and the NGOs regarding the two policy arrangements of RSPO certification and the yield intensification project. The key factors that will lead to future success or failure of the two policy arrangements will also be discussed.

8.4.1 RSPO implementation in the villages of Dosan and Teluk Mesjid

In the village of Dosan 500 hectare of oil palm plantation is eligible for RSPO certification[161].The rest of the approximately 200 hectare is not up for RSPO certification because there is still an on-going conflict over this piece of land with neighbouring villages Sungai Limau and Benaya[162]. At this point the two villages of Dosan and Teluk Mesjid are in a process towards an internal audit for RSPO certification but during the time of the fieldwork there weren't enough members yet to join the RSPO. Also according to Riko Kurniawan the RSPO standards are good in theory but:

"… in practice it is very difficult to implement schemes like RSPO for smallholders. Before palm oil the farmers in Siak all had rubber plantations. Rubber plantations do not need a lot of input, but with palm oil the farmer does. If the farmer is motivated then it is possible to get certification and implement best practices."[163]

This process (of inviting an internal audit) has been quite lengthy as was also mentioned in the report of the WUR team, about the progress of the intensification project, in January 2012[164] (Jelsma 2012). This process has been taking so long mainly because several issues prevent smallholders from becoming members of RSPO such as: lack of the proper documentation, lack of proper maintenance, management issues within the plantation and participation is low because kelompok members are not well informed about SOP and Internal Control System (ICS)[165]. Riko Kurniawan mentions:

[160] Interview Rusmadya on 31 October 2012, NGO No. 5 see Appendix 1.
[161] Interview Riko Kurniawan on 26 september 2012, NGO No. 1 Appendix 1.
[162] Ibid.
[163] Interview Riko Kurniawan on 26 september 2012, NGO No. 1 Appendix 1.
[164] Eight/ nine months has passed between the visit of the WUR-team and fieldwork for this thesis. During this time there seems to be no noteworthy progress in process of RSPO certification.
[165] Within the ICS the practices to improve the yields within the plantation are kept on record. Interview Riko Kurniawan on 26 september 2012, NGO No. 1 Appendix 1.

"The RSPO and ISPO implementation is not so much different from regular implementation. The RSPO still allows fertilizers to be used. How to do the maintenance of oil palm from the peatland, like water management, is not so different from the previous activities. But many people don't exactly know how to do the maintenance. The farmers have the land but often do not work in the oil palm plantation themselves. They employ the labourers for the maintenance and many labourers do not work according to the RSPO standards"[166]

So in fact when the rules of the game, such as RSPO criteria, within policy arrangements might be described as clear-cut, an outside agent, such as in this case the labourer, can still influence the outcome of the arrangement. Proper communication about maintenance and standards is then a crucial factor regarding the success of the different policy arrangements. Also Mr Suhandri from WWF states that there is no real progress because there are still some uncertainties on what type of smallholders, independent or scheme, the Siak smallholders are[167]. Therefore they cannot really push RSPO certification further and they are now focusing foremost on implementing the BMP[168], in which they also worked together with the WUR team (See next paragraph). WWF is still involved in this process in the background but Elang mostly works within the field.

As was mentioned above there are still quite some problems around RSPO certification that need to be dealt with in the future. At this moment a lot of people within Dosan and Teluk Mesjid still need to be convinced and trained about RSPO before there can be a real application. The most important thing is that people need to be convinced about the sustainability benefits that derive from working with RSPO certification[169]. Hence that in the long run RSPO certification can be socially, economically and environmentally beneficial for the villages, if BMP practices are applied consistently. Some smallholders already have knowledge about these so called sustainability benefits:

"We are familiar with WWF activities for RSPO training, and think that it is a good thing. For a clean environment and it is also good for the environment in general, for example to cut the grass by manual weeding and not cut it by using pesticides"[170]

But at the same time smallholders think that RSPO certification will bring about a premium price[171] (Jelsma 2011), so motivation is currently foremost about the price[172].

"The training for the best price; to get good environment and social benefits of working together for economic growth"[173]

This is a well-known thought amongst small-scale oil palm producers but it is not correct. However yield intensification by applying BMP can in fact lead to higher incomes because of bunch yields being higher due to more and heavier bunches (Donough et al. 2010). Nevertheless yield

[166] Ibid.
[167] Interview Suhandri on 24 oktober 2012, NGO No. 2 see Appendix 1.
[168] Ibid.
[169] Interview Riko Kurniawan on 26 september 2012, NGO No. 1 see Appendix 1.
[170] Interview Pak Rudi Santoso on 12 September, smallholders No. 1, see Appendix 1
[171] Interview Jufri on 22 September 2012, smallholder No. 28 see Appendix 1 and Interview Rudi Santoso on 12 September 2012, smallholder No. 1 see Appendix 1.
[172] Ibid.
[173] Interview Pak Rudi Santoso on 12 September, smallholders No. 1, see Appendix 1.

intensification can also be achieved without smallholders having to be RSPO certified. The BMP method concept is in fact applicable across a wide range of conditions and as Donough et al. state:

"The high FFB yield maxima achieved to date across sites with such wide-ranging conditions shows the immense potential for increased yields in existing plantations in Indonesia" (2010: 7).

Therefore most importantly communications within the cooperative and kelompoks, about the benefits and implementation of the BMP and therefore RSPO certification need to be improved to create a much wider support amongst the Siak smallholders. But more about the implementation of BMP in the next paragraph. Within the village of Dosan there are in fact some smallholders who are very much aware of the RSPO sustainability benefits as Pak Firdaus, chief of Dosan village states:

"WWF and RSPO are for the environment. How to make the oil palm plantation good for the environment and hereby protecting the forest and the lake against future harm, and saving the animals in the process"[174]

Key figures within the villages such as within Dosan village, Pak Dahlan, as manager of the cooperative and Pak Firdaus, as chief of the village can play a significant role in the future by creating awareness about the sustainability benefits of RSPO certification and the implementation of BMP.

8.4.2 Yield intensification method[175]

In general the villagers of Dosan were very positive about the yield intensification program, which was implemented by the WUR-team. The villagers particularly prized the practical trainings, which were held within the demonstration plots. Pak Dahlan manager of the cooperative states that: "*A lot of interest was generated after the training and practicing the BMP in the field"*[176]. They declared that they have never been involved with such a particular training before[177] Pak Jufri, secretary within the Dosan cooperative, stresses:

"The practical training was much different compared to all the other workshops that were held before. Now we got to know more about implementing BMP and because of this specific knowledge we also got to know more about the oil palm plantation in general."[178]

Even more noteworthy is that a few smallholders, that are working within different kelompoks, mentioned that BMP was already implemented within some of their plots[179] and that it overall had very positive effects, which can be derived from the quote below:

"During the Intensification project with Ken Giller I gained new knowledge about oil palm maintenance, for example pruning, circle weeding, applying fertilizers and more. A lot of knowledge

[174] Interview Pak Firdaus on 12 september 2012, smallholders No. 4 see Appendix 1.
[175] Most data will derive from the smallholders within Dosan village.
[176] [176]Interview Pak Dahlan on 22 september 2012, smallholder No. 30 in Appendix 1.
[177] By which they indicated that in the past most trainings only consisted of classroom trainings within gaining any practical knowledge.
[178] Interview Jufri 22 September 2012, smallholder No. 28 see Appendix 1.
[179] For example smallholder No. 4,8, 16 and 23.

from professor Ken, before the practical training just 2 ton FFB a month for 65 hectare, after the workshop 26 ton FFB per month"[180]

Off course these observations were just here say from the interviews as there weren't any field visits where this was confirmed[181]. Also the administrative apparatus within the kelompoks differs gravely so there aren't a lot of up-to-date data available about this particular subject. Pak Rudi Santaso, member of kelompok Maju Jaya, states that:

"In 60% from a total of 66 hectares in the kelompok there have been an implementation of Better Management Practices. The FFB is now bigger, usually the bunch was 5 kilo, now it can be 8 kilo".[182]

But this in fact is a very positive trend and says a lot about the way the smallholders have embraced these practices. Nonetheless there is still the 'discouraging' issue about the 'high' costs of input that come with applying maintenance according to BMP. In chapter seven there has already been a thorough discussion about the costs of applying 'correct' maintenance and fertilizers, and therefore there will only be a brief discussion about the maintenance issue within the demonstration plot in Dosan. During the return visit in January 2012, field observations indicated that the demonstration plots were not as well maintained as they could have been (Jelsma 2012). During this research (September 2012) it came known that the demonstration plot was certainly an important starting point for the implementation of yield intensification methods such as water management, pruning methods, weeding and fertilizer application, for the smallholders but it was also considered as a large financial burden.

"*Very positive about the BMP. But at this moment not a lot of maintenance in the demonstration. plot. The problem is getting the money for the maintenance. Implementation for pruning and the associated labour costs are too high. Normally 1000 IDR per tree, with the demonstration plot 5000 IDR for one tree because it is more intensive to cut"*[183]

The smallholders mentioned that they rather invested the money for the BMP within their own plots then to invest it within the demonstration plot. Also the fact whether or not the yield intensification methods were applied in total, depended upon the willingness of the chief of kelompok to share the knowledge about these practices (gained during the training), with his members. If the knowledge wasn't shared, which was particularly common within the three kelompoks that are situated within the conflict area, the motivation to apply BMP was very low or even absent. This specific issue about the conflict area is therefore a very important factor, which influences the outcomes of both this particular policy arrangement as well as the previously discussed policy arrangement of RSPO implementation and will possibly also influence future policy arrangements if the issue isn't resolved. As Pak Zamri mentions in the interview:

[180] Within kelompok Tunas Harapan, Dosan village. Interview Hiro Yanto on 13 September 2012, smallholders No. 8 see Appendix 1.
[181] Of importance within future research because if the statements are through, a lot of kelompoks are already implementing BMP by themselves.
[182] Interview Rudi Santoso on 12 September 2012, smallholder No. 1 see Appendix 1.
[183] Interview Hiro Yanto on 13 September 2012, smallholders No. 8 see Appendix 1.

"So BMP is good, but it costs too much money to implement. I don't particularly know if the conflict area will still be mine in the future. So I don't want to invest too much"[184]

Furthermore if a particular kelompok uses a lot of hired labour within the plantation, the knowledge about the intensification methods also need to be shared with the labourer. So for example within this particular yield intensification training it is also very important to include some of the frequently hired labourers within the training, or to train the trainers to specifically target the labourers, who are actually undertaking the maintenance.

As was also discussed in the previous paragraph around RSPO implementation, communication within the cooperative and kelompoks about the benefits of the yield intensification methods needs to be improved. But then again on the overall there is already widespread support within the Dosan plantation for the implementation of yield intensification methods such as Pak Komi, chief of cooperative of Dosan village states:

"Better Management Practices and intensification can help the farmer to get better production in the long run"[185]

However key factors such as the associated high price for the maintenance (fertilizers, labour and so forth) and the issues around the conflict areas are influencing its success. Furthermore the absence of a reliable administrative apparatus around the implementation of BMP isn't particularly helpful for apprehending the broader picture.

8.5 Conclusion

The Siak smallholders site has been the focus of many different actors. It seems that the relative success of the Palm Oil for People program has opened up the way for other diverse policy arrangements. From awareness raising and empowerment (Greenpeace and Elang) towards the more technical policy arrangements of implementing RSPO certification (WWF/ Elang) and the intensification project (WUR team/WWF and Elang). The actors all seem to act from a different viewpoint and vision, whereas WWF and Greenpeace seem to be motivated from a conservation and biodiversity viewpoint of protecting its remaining forests. On the other hand Elang focuses more on the communities in question and is striving for fair natural resource management. The WUR team seems to fill in the missing link with the yield intensification project as the technical knowledge can help to heighten the economy of the community and at the same time prevent forests from being converted into oil palm plantations. But the villages within the Siak smallholders site were impacted in diverse ways, leading towards a different path for each of the seven villages. The villages of Dosan and Teluk Mesjid seem to be the main recipients of the policy arrangements. In the process reshaping power relations and dynamics between the seven villages. Despite these factors, the success of the different policy arrangements depends on the actors and their motivation of building longer term commitments with the Siak smallholders. In this way the Siak smallholders can be supported on their path towards a sustainable future.

[184] Interview Zamri on 20 September 2012, smallholder No. 16 see Appendix 1.
[185] Interview Pak Komi Sahar on 20 september 2012, smallholder No. 19 see Appendix 1.

9. CONCLUSION

9.1 The 'effect' of environmental governance and policy arrangements

The Siak smallholders site has been the target of many different actors which all operate within one of the three domains (state, market and civil society) of environmental governance. First and foremost the decentralization politics that operated within the domain of the state have been of key significance for the evolution of the Siak smallholders site. Particularly because of the implementation of decentralization laws No. 22 and No. 25, the rules of the game changed, and local governments gained much more power than before. Hence possibilities opened up towards economic developments for the welfare of the people. In terms of economic developments the Siak district obtains a lot of financial resources from for example crude oil revenues. So given this fact together with the good intentions of the district head (Bupati), a share of these resources were used to empower the local economy through development of oil palm plantations for the people. And they succeeded in their approach, as the 'Palm Oil for People program' that was set up as a public-social partnership with local NGO Elang, showed that it was possible to include marginalized farmers into the globalized oil palm markets. Moreover the relative success of the Palm Oil for People program has opened up the path for (environmental) policy arrangements to be implemented within the Siak smallholders site. The first significant policy arrangement is making the Siak smallholders within the two villages of Dosan and Teluk Mesjid eligible for RSPO certification, which is a cooperation between Elang and WWF, and which operates within the (inter)national civil society and market domain and where RSPO certification is used as a mechanism to include the Siak smallholders within the globalized sustainable palm oil market. NGO Greenpeace, another civil society actor, has also been active within the Siak smallholders site by advocating Dosan village as an exemplary case because of their improved management scheme. In this way the Siak smallholders site plays a significant role in Greenpeace' international awareness raising campaign about producing 'good oil'. Furthermore the WUR-team, a public-private partnership, between the Plant Production Sciences Group of Wageningen University and environmental management consultancy firm Ecofys, played a significant role within the Siak smallholders site by initializing the yield intensification project, where the main goal was to train the Siak smallholders about Better Management Practices (BMP) within their oil palm plots. The Siak smallholders site has been very much affected by above mentioned environmental governance initiatives and networks, that are set up within policy arrangements and implemented by diverse inter(national) and local players. In an era of political modernization these players are increasingly interconnected with each other leading to 'new' forms- or innovative (hybrid) forms of governance such as the Palm Oil for People program. Within the Siak smallholders site one actor plays a particularly influential role and that is NGO Perkumpulan Elang. Their close contacts with all actors (players), which include the district government; other NGOs such as WWF; the WUR team and most importantly the oil palm smallholders themselves, have made Elang the most important bridging partner. All their efforts have had a large influence on the Siak smallholders as they have brought knowledge; technical and practical training; and have been very influential in making the Siak smallholders case known, both on local, national and on the international level. Nonetheless future success' of these policy arrangements depends upon the motivation of actors to build longer term commitments with the Siak smallholders on their path towards a sustainable future.

9.2 Economic, social and ecological impacts and the role of power

The policy arrangements have impacted the Siak smallholders site in several ways. First and foremost the Palm Oil for People program have been proven successful in its objective as a pro-poor development policy. Next to opening up the way for implementing policy arrangements, such as RSPO certification and the yield intensification project, it has overall heightened the local economy and created local employment for the seven villages within the Siak smallholders site. This meant that villagers didn't have to work outside of the village anymore and moreover working together within the oil palm plots improved social cohesion. Furthermore an ecological stance was that in the aftermath of the program villagers became more aware of protecting their remaining forests. The program has therefore proven to be successful in its contribution towards regional development and has positively impacted the Siak smallholders on economic, social and ecological terms. But despite these positive impacts there were also some very significant challenges that have to be dealt with in the future. These challenges range from price related issues; technical issues; land registration and conflict area issues; transportation and infrastructure issues; towards financial issues. But also issues regarding newly formed institutions, such as the cooperative. Comprehending the scale of these challenges can be of significant importance for combating these issues in the future. Independent smallholders such as the Siak smallholders seem to be very sensitive towards price related issues. This has to do with the relative power of the oil palm mills, in influencing or even determining the price. Independent smallholders are very much affected by these processes because in the end they have to sell their FFB's to these oil palm mills. But on the other hand the Siak smallholders case also shows that smallholders use their agency and power in combating these challenges. As is the case with them taking up organised action against the current state and to put pressure towards the district government for building a mill in the area. This can be of major significance in combating the price related issues. Smallholders can therefore use their power and agency to influence the current state, which is also happening in the case of Dosan village, where certain members of the cooperative are not cooperating because they are not satisfied with the functioning of the cooperative leader. Furthermore technical issues such as inefficient water management need to be tackled in the future to reduce to impact on the environment.

The Palm Oil for People program opened up the way for other policy arrangements such as RSPO certification and yield intensification project and it seemed that the government had supposedly left an opening for the implementation of these arrangements. But this process of implementation has differed per village and as the villages of Dosan and Teluk Mesjid have responded positively towards these particular policy arrangements, they have been the main recipients. Hereby villages were impacted in diverse economic, social and ecological ways, leading to a different path for each of the seven villages, which has led to some grievance between the villages and hence reshaped the power relations and dynamics within the Siak smallholders site. Nonetheless the hands of approach of the Siak local government have made the Siak smallholders, at least in two of the seven villages, very aware of the responsibilities regarding oil palm and sustainability and thereby protecting their environments, as well as the dynamic path that lies in front of them in the future.

9.3 The role of sustainability criteria and Better Management Practices

In general small-scale producers and independent smallholders face a lot of difficulties when complying to (inter)national sustainability criteria such as for example RSPO criteria. The RSPO principles and criteria look good on paper, but for independent smallholders it is almost

unmanageable to meet the rigid standards. Issues such as falling under one single management; proper land rights; and sufficient financial capacity to implement Better Management Practices make it very difficult to link RSPO principles to independent farmers responsibilities and local dynamics tend to be overlooked. Within the villages of Dosan and Teluk Mesjid the route towards implementing RSPO certification has been a very lengthy process. NGO WWF has already been focusing on another project as they stipulate that it is almost impossible to get them certified because of the uncertainty around their status. Furthermore the awareness amongst the Siak smallholders about the RSPO principles and criteria seems to be very limited. Several smallholders indicated that RSPO certification would involve a higher price for their FFB, which is certainly no guarantee. It remains unclear which direction the Siak smallholders will follow regarding RSPO certification, and also the exact status of the process remains vague. Nonetheless it is rather clear that awareness raising about RSPO certification need to be improved. Within the two villages smallholders need to be convinced and trained about RSPO and its sustainability benefits before there can be a real application. In the meantime the Siak smallholders should focus on implementing the yield intensification methods within their plot by applying Better Management Practices (BMP), such as water management, pruning, manual- and circle weeding and fertilizer application, which can generally lead to higher incomes due to higher bunch yields and due to more and heavier bunches. The research showed that some kelompoks within Dosan village are implementing yield intensification methods (BMP) step-by-step within their oil palm plots. They noticed the positive features (higher yields) from implementing these BMPs and decided to directly apply it to their plots. However factors such as the associated high price for the maintenance and the issues around the conflict area, within the three kelompoks of Dosan village, are influencing its success. Furthermore the absence of a reliable administrative apparatus around the implementation of BMP isn't particularly helpful for apprehending the broader picture.

10. DISCUSSION

10.1 Generalizability and true replication

The mere fact that the Siak smallholder site is an interesting case doesn't mean that it can be replicable at all times for other oil palm smallholder sites. Because of the use of qualitative methods, such as unstructured interviews and informal interviews," it is almost impossible to conduct a true replication" (Bryman 2008: 391). Foremost because the researcher itself is the main instrument of data collection; therefore what issues is focused upon in the field and how they are interpreted is determined by the researcher, but is also affected by the participants view (personality, age, gender and so on) of the researcher (Ibid.) and in the end all these factors influence the outcome of the research. Also being able to make a true replication of the research, was not the goal of this qualitative research to begin with. The Siak smallholders site has its own unique characteristics, that were shaped in the process of implementing the Palm Oil for People program, and these characteristics make it impossible to transfer it in an instant to other cases. The goal is to get an idea on how these (independent) smallholders deal with the different policy arrangements they have encountered. The results of the study are therefore an important source of information for policy advocates in the future and can make a contribution for making policy arrangements a better fit for oil palm smallholders needs.

10.2 Government agencies and agronomic practices

During the research relevant government agencies were not interviewed due to lack of the appropriate visa. This was a very significant limitation as exact data on how much influence the government companies have in five of the seven villages remain unknown. During the research it became known that the influence of the government companies PT. SPN and PT. Persi within the villages of Dosan and Teluk Mesjid were negligible, but within the five remaining villages the influence still seems to be there. This was witnessed during the interviews because people were hesitant to talk to us especially within the villages of Perincit and Pebaderan and we were also not welcome within the village of Pusako. This fact also seems to influence the willingness of the five villages to get involved with the different policy arrangements. All the seven villages were in fact invited to join the yield intensification training, but only Dosan and Teluk Mesjid were eager to cooperate as the other five villages (Pebadaran, Sungai Limau, Perincit, Benaya and Pusako) didn't make any effort to participate. As was concluded during the course of the research, the Palm Oil for People program opened up the pathway for the two policy arrangements of RSPO implementation and yield intensification methods within the villages of Dosan and Teluk Mesjid. But which processes exactly lead to the non-cooperation of the five remaining villages? Future research into the dynamics and processes within these villages should give more relevant information about these issues.

Furthermore the research showed that the oil palm smallholders within the villages of Dosan and Teluk Mesjid, were very enthusiastic overall about the yield intensification project and the associated Better Management Practices (BMP). During the interviews it showed that some of the kelompoks within Dosan had already applied BMP within specific parts of their oil palm plots. Nevertheless these findings are just hear say from the interviews and as the researcher is not familiar with agronomic research, correct agronomic data remains absent. Future agronomic research within the Siak smallholders site should confirm whether or not BMP are in fact applied on a regular scale.

10.3 Research framework

The theoretical framework and its concepts were very useful during the research. With help of this theoretical approach, the combination of the two principal concepts of political modernisation and policy arrangements, the level playing field and dynamics, and its related power relations within the Siak smallholders site have been revealed. Nonetheless during the research it showed that the concept of 'collective action', a form of organised action, can also have significant meaning when analysing (independent) oil palm smallholders such as the Siak smallholders. Because during the research on the Siak smallholders case it became known that smallholders use their agency and power in combating particular challenges. As is the case with them taking up organised action against the current state and to put pressure towards the district government for building a mill in the area. For future research on independent oil palm smallholders, the concept of collective action should be added in this particular research framework, as it is seen and used as a powerful instrument to create/ enforce changes within a given case.

LITERATURE

Ardiansjah, F. (2006) *Realising sustainable oil palm development in Indonesia- Challenges and opportunities* Paper presented at the international Oil Palm Conference 2006, WWF, Bali.

Arts, B., P. Leroy & J. van Tatenhove (2006) "Political modernisation and policy arrangements: A framework for understanding environmental policy change" *Public Organization review* 6(2): 93-106.

Baker, S. (2005) *Sustainable Development* Routledge, London.

Basiron, Y (2007) "Palm oil production through sustainable plantations" *European Journal of lipid science and technology* 109 (4): 289-295.

Belcher, B., Rujehan, N. Imang & R. Achdiawan (2004) "Rattan, rubber, or oil palm: Cultural and financial considerations for farmers in Kalimantan" *Economic Botany* 58: S77-S87.

Bernard, H.R. (2006) *Research methods in anthropology: Qualitative and quantitative approaches* Alta Mira Press, Oxford.

Boer, R., D.R. Nurrochmat, M. Ardiansyah, Hariyadi, H. Purwawangsa & G. Ginting (2012) *Reducing agricultural expansion into forests in Central Kalimantan Indonesia: Analysis of implementation and financing gaps* Centre for Climate Risk and Opportunity Management, Bogor Agricultural University, Bogor.

Boons, F. & A. Mendoza (2010) "Constructing sustainable palm oil: How actors define sustainability" *Journal of cleaner production* 18: 1686-1695.

Bourdieu, P. (1989) "Social space and symbolic power" *Sociological Theory* 7(1): 14-25.

Brandi, C., T. Cabani, C. Hosang, S. Schirmbeck, L. Westermann & H. Wiese (2012) *Sustainability standards and certification- Towards sustainable palm oil in Indonesia* Briefing paper September 2012, Deutches Institut fur Entwicklungspolitik, Bonn.

Bryman, A. (2008) *Social research methods,* Oxford University Press, Oxford.

Casson, A. (1999) *The hesitant boom: Indonesia'a oil palm sub sector in an era of economic crisis and political change* Center for International Forestry Research, Bogor.

Casson, A. (2000) *Decentralisation of policies affecting forests and estate crops in Kutai Barat district, East Kalimantan* Center for International Forestry Research, Bogor.

Casson, A. & K. Obidzinski (2002) "From New Order to regional autonomy: Shifting dynamics of illegal logging in Kalimantan, Indonesia" *World Development* 30(12): 2133-2151.

Colchester, M. (2010), *Land acquisition, human rights violations and indigenous peoples on the palm oil frontier*. Report prepared by Forest Peoples Program with funding from the International Land Coalition.

Colchester, M., N. Jiwan, Andiko, M. Sirait, A, Y. Firdaus, A. Surambo & H. Pane (2006) *Promised Land: Palm Oil and Land Acquisition in Indonesia – Implications for Local Communities and Indigenous Peoples* Forest Peoples Programme, Sawit Watch, HuMA and ICRAF, Bogor.

Cramb, R.A. (2012) "Palmed off: Incentive problems with joint-venture schemes for oil palm development on customary land" *World Development* In press, http://dx.doi.org/10.1016/j.worlddev.2012.10.015

Curran, L.M., S.N. Trigg, A.K. McDonald, D. Astiani, Y.M. Hardiono, P. Siregar, I. Caniago & E. Kasischke (2004) "Lowland forest loss in protected areas in Indonesian Borneo" *Science* 303: 1000-1003.

Dahl, R.A. (1957) "The concept of power" *Behavioral Science* 2(3): 201-215.

Daryanto,A. (2006) "Empowering farmers economic welfare through development of oil palm

industry in the regional autonomy era: Lessons learnt from Siak district" *Jurnal Manajemen dan Agribisnis* 3(2): 113-125.

Delmas, M.A & O.R. Young (2009) "Introduction: new perspectives on governance for sustainable development" in M.A. Delmas & O.R. Young (eds.) *Governance for the Environment: New perspectives,* Cambridge University Press, Cambridge, pp 3-11.

Devita, F. & S. Tarumun (2012) "The impact of environmental degradation on the socio-economic aspects of community in the Siak river watershed, Riau province Indonesia" *Jurnal Ilmu Lingkungan* 6(1): 15-24.

Dinas Perkebunan Provinsi Riau (2010) 'Statistik Perkebunan Provinsi Riau 2009'. Pekanbaru: Dinas Perkebunan, Provinsi Riau.

Directorate General Estate Crop (2010) 'Agricultural Statistics Database'. Jakarta: Ministry of Agriculture.

Donough, C.R., C. Witt & T.H. Fairhurst (2010) *Yield intensification in oil palm using BMP as a management tool* International Plant Nutrition Institute (IPNI), Penang.

Elkington, J. (1997) *Cannibal with forks: The triple bottom line of 21st century business* Capstone Publishing Limited, Oxford.

Fairhurst,, T & D. McLaughlin (2009), *Sustainable oil palm development on degraded ' land in Kalimantan*, Tropical Crop consultancy, UK and WWF, USA

FAO (2006) *World agriculture towards 2030/2050: Prospects for food, nutrition, agriculture and major commodity groups,* Interim report, Global Perspective Studies Unit FAO of the United Nations, Rome.

Feintrenie, L., W. K. Chong & P. Levang (2010) "Why do farmers prefer oil palm? Lessons learnt from Bungo district, Indonesia? Bogor, Centre for International Forestry Research.

Fitriyardi, T. (2012) *Diagnostic study on oil palm smallholders in Indonesia*, presentation 30 December International Finance Corporation, Singapore.

Foucault, M. (1982) "The subject and power" *Critical Inquiry* 8(4): 777-795.

Giddens, A. (1979) *Central Problems in Social Theory. Action, Structure and Contradiction Analysis* University of California Press, Berkeley and Los Angeles.

Giddens, A. (1984) *The Constitution of Society: Outline of the theory of Structuration* Policy Press, Cambridge.

Gillespie, P. (2011) "How does legislation affect oil palm smallholders in the Sanggau district of Kalimantan. Indonesia?" *Australasian journal of natural resources law and policy* 14 (1): 1-37.

Glaser, B.G. & A.L. Strauss (1967) *The discovery of grounded theory: strategies for qualitative research* Aldine Publishing Company, Chicago.

Greenpeace (2012) *Forest solutions*, viewed on 7th December 2012, http://www.greenpeace.org/international/Global/international/code/2012/Forest_Solutions_2/goodoil.html

Hatanaka, M. (2009) "Certification, partnership, and morality in an organic Shrimp network: rethinking transnational alternative agrifood networks" World Development 38(5): 706-716.

Haviland, W.A., H.E.L. Prins, B. McBride & D. Walrath (2011) *Cultural Anthropology: The human challenge* Wadsworth, Belmont.

Hirawan, F.B. (2011) "*The impact of palm oil plantations on Indonesia's rural economy",* viewed on 18th april 2012, http://www.eria.org/pdf/Book/Agriculture/CHAPTER%205%20INDONESIA.pdf

Ingvarsdotter, K., S. Johnsdotter & M. Ostman (2012) "Lost in interpretation: The use of interpreters in research on mental ill health" *International Journal of Social Psychiatry* 58(1): 34-40.

Jelsma, I. (2011*) Common practices of Siak Smallholders: Report on Siak Fieldtrip, 11th March till 10th of April 2011* CIIB project, Wageningen University, Wageningen. 27.

Jelsma, I. (2012) *Certification of Indirect Impact of Biofuels: Report on progress in demonstration plots six months after training* CIIB project, Wageningen University, Wageningen.

Jelsma, I., K. Giller, T. Fairhurst (2009), *Smallholder oil palm production systems in Indonesia: lessons from the NESP Ophir project,* Wageningen Univeristy, Plant Production Systems, Wageningen.

Jelsma, I., T. Fairhurst & K. Giller (2011) *Certification of Indirect Impact of Bio-fuels: Report on Training of Trainers for Yield Intensification of Oil Palm Smallholders, 20th to 27th of July 2011* Wageningen, WUR & TCCL**.**

Jikalahari (2013) *Jikalahari profile,* viewed on 14 february 2013, http://jikalahari.or.id/index.php?option=com_content&view=category&layout=blog&id=44&Itemid=141&lang=en

Jones, P. (2012) "The sustainable route to a vibrant palm oil industry" *Partners in research for Development* Spring 2012, Australian Centre for International Agricultural Research, Canberra.

Jordan, A. (2008) "The governance of sustainable development: tacking stock and looking forwards" *Environment and Planning C: Government and policy* 26(1): 17-33.

Kates, R., T. Parris & A. Leisorowitz (2005) "What is sustainable development?" *Environment* 47: 8-21.

Koczberski, G., G. Curry & K. Gibson (2001) *Improving productivity of the smallholder oil palm sector in Papua New Guinea: A socioeconomic study of the Hoskins and Popondetta schemes* The Australian National University, Canberra.

Koh, L.P. & J. Ghazoul (2008) "Biofuels, biodiversity and people: Understanding the conflicts and finding opportunities" *Biological Conservation* 141: 2450-2460.

Koh, L.P. & D.S. Wilcove (2008) "Is oil palm agriculture really destroying tropical biodiversity?" *Conservation letters* 1: 60-64.

Laurance, W.F., L.P. Koh, R. Butler, N.S. Sodhi, C.J.A. Bradshaw, J.D. Neidel, H. Consunji & J.M. Vega (2010) "Improving the performance of the Roundtable on Sustainable Palm Oil for nature conservation" *Conservation Biology* 24(2): 377-381.

Lehtonen, M. (2004) "The environmental-social interface of sustainable development: capabilities, social capital, institutions" *Ecological Economics* 49: 199-214.

Lele, S. (1991) "Sustainable development: a critical review" *World Development* 19: 607- 621.

Mahmud, A., M. Rehrig & G. Hills (2010) *Improving the livelihoods of smallholder palm oil: The role of the private sector,* FSG social impact advisors, commissioned by the World Bank, Washington.

Markelova, H., R. Meinzen-Dick, J. Hellin & S. Dohrn (2009) "Collective action for smallholder market access" *Food Policy* 34: 1-7.

Marti, S. (2008) *Losing ground: the human rights impacts of oil palm plantation expansion in Indonesia* Friends of the Earth, Life Mosaic and Sawit Watch, London.

McCarthy, J.F. (2010) "Processes of inclusion and adverse incorporation: oil palm and agrarian change in Sumatra, Indonesia" *Journal of Peasant Studies* 37(4): 821-850.

McCarthy, J.F. (2012) "Certifying in contested spaces: private regulation in Indonesian forestry and palm oil" *Third World Quarterly* 33 (10): 1871-1888.

McCarthy, J.F. & R.A. Cramb (2009) "Policy narratives, landholder engagement, and oil palm

expansion on the Malaysian and Indonesian frontiers" *The Geographical Journal* 175(2): 112-123.

McCarthy, J.F., P.Gillespie & Z. Zen (2012) "Swimming upstream: Local Indonesian production networks on globalized palm oil production" *World Development* 40(3): 555-569.

McCarthy, J.F. & Z. Zen (2010) "Regulating the oil palm boom: Assessing the effectiveness of environmental governance approaches to agro-industrial pollution in Indonesia" *Law & policy* 32 (1): 153-179.

Meadows, D.L. & H.D. Meadows (1972) *The limits to growth. A report for the Club of Rome's project on the predicament of mankind* Earth Island Limited, London.

Meadowcroft, J. (2000) "Sustainable development: a new(ish) idea for a new century?" *Political Studies* 48 370-387.

Meadowcroft, J. & W. Lafferty (Eds) (2000*) Implementing Sustainable Development* (Oxford University Press, Oxford.

Mol, A. P. J. (2007) " Boundless Biofuels? Between Environmental Sustainability and Vulnerability". *Sociologia Ruralis*, 47(4): 297-315.

Murphy, D.J. (2007) "Future prospects for oil palm in the 21st century: Biological and related challenges" *European Journal of lipid science and technology* 109(4): 296-306.

Nindita Radyati, M.R. (2008) "Third sector organisation governance in Indonesia: Regulations, initiatives and models" in Hasan & Onyx (eds.) *Comparative third sector governance in Asia* Springer, New York.

Obidzinski, K., R. Andriani, H. Komarudin & A. Andrianto (2012) "Environmental and social impacts of oil palm plantations and their implications for biofuel production in Indonesia" *Ecology and Society* 17(1): 25.

O'Conner, M. (2006) "The 'Four Spheres' framework for sustainability" *Ecological Complexity* 3(4): 285-292.

Okamoto, S. (2000) *The growth of oil palm plantations and forest destruction in Indonesia, A Step toward Forest Conservation Strategy* (2): Interim Report 1999-IGES Forest Conservation Project : 361-380.

Orth, M. (2007) *Subsistence foods to export goods: the impact of an oil palm plantation on local food sovereignty North Barito, Central Kalimantan, Indonesia* Sawit Watch, Bogor.

Ostrom, E. (1990) *Governing the commons: The evolution of institutions for collective action* Cambridge University Press, New York.

Papenfus, M.M. (2002) *Investing in oil palm: An analysis of independent smallholder oil palm adoption in Sumatra, Indonesia* Southeast Asia Policy Research Working Paper No. 15 ICRAF, Bogor.

Partzsch, L. (2011) "The legitimacy of biofuel certification" *Agricultural Human Values* 28: 413-425.

Perkumpulan Elang (2013) *Pabrik kelapa sawit di kabupaten/kota se provinsi Riau tahun 2009*, excel file.

Perkumpulan Elang (2012) *Flyer Palm oil for people program*, NGO Elang, Pekanbaru.

Pemerintah kabupaten Siak (2013) *Peta Tutupan Lahan Kabupaten Siak,* http://dc130.4shared.com/doc/0CtcBzGl/preview.html

Pemerintah Kabupaten Siak (2013) *Peta distrik Siak*, http://siakkab.go.id/index.php?categoryid=3&p17_sectionid=1&p17_imageid=8

Pope, C. & N. Mays (1995) "Reaching the parts other methods cannot reach: An introduction

to qualitative methods in health and health services research" *British Medical Journal* 311-6996: 42-45.

Potter, L. (2008) *Dayak resistance to oil palm plantations in West-Kalimantan*, Indonesia Occasional Paper.

Potter, L. & J. Lee (1998) *Tree planting in Indonesia: trends, impacts and directions* Occasional paper *no. 18* Centre for International Forestry Research, Bogor.

Potter, L. & S. Badcock (2001) *The effects of Indonesia's decentralisation on forests and estate crops in Riau province: Case studies of the original districts of Kampar and Indragiri Hulu* Center for International Forestry Research, Bogor.

Pradjna Resosudarmo, I.A. (2004) "Closer to people and trees: Will decentralisation work for the people and the forests of Indonesia *The European Journal of Development Research* 16(1): ` 110-132.

PWC (2012) *Palm oil plantation: Industry landscape, regulatory and financial overview* Price Waterhouse Coopers, Jakarta.

USDA (2012) *Oilseeds and products annual 2012,* Global Agricultural Information Network (GAIN) report, Washington.

Vermeulen, S. & N. Goad (2006) *Towards better practice in smallholder palm oil production*, Natural resources issues series No. 5, International institute for environment and development, London.

Wahid, M.B, S.N.A. Abdullah & I.E. Henson (2005) "Oil palm: Achievements and potential" *Plant Production Science* 8: 288-297.

WWF (2011) *Palm oil buyer's scorecard: Measuring the progress of palm oil buyers* World Wildlife Fund for nature, Switzerland.

Rahadian, D. (2011) *Make Oil Palm Independent Smallholder in Siak District Sustainable & RSPO Certified,* WWF Indonesia**,** Pekanbaru.

Redclift, M. (2005) *Sustainability: Critical Concepts in the Social Sciences four volumes* Routledge, London.

Reuters (2011) "*Update 1: Indonesian Palm Oil Association quits RSPO membership"* viewed on 24th of April 2012, http://www.reuters.com/article/2011/10/03/indonesia-rspo-palmoil-idUSL3E7L31E820111003

Rietberg, P. (2011) *Clearing land, obscuring rights: seeking benefits and claiming property in a process of oil palm plantation expansion in West-Kalimantan*, Indonesia. MSc-thesis, (PAP and ENP), Wageningen University.

Rist, L., L. Feintrenie & P. Levang (2010) 'The livelihood impacts of oil palm: smallholders in Indonesia' *Biodiversity Conservation* 19: 1009-1024.

Round Table on Sustainable Palm Oil (2012) *RSPO Principles and Criteria for Sustainable Palm Oil 2007*, http://www.rspo.org/files/resource_centre/RSPO%20Principles%20&%20Criteria%20Document.pdf

Sandker, M., A. Suwarno & B.M. Campbell (2007) "Will forest remain in the face of oil palm expansion? Simulating change in Malinau, Indonesia" *Ecology and society* 12(2): 37.

Sawit Centre (2012) *Early 2013, 12 companies bagging certificate ISPO,* viewed on 30 January 2013, http://www.sawitcentre.com/index.php?option=com_content&view=article&id=115%3Aawal-2013-12-perusahaan-mengantongi-sertifikat-ispo&catid=25%3Aberita&Itemid=27

Schouten, G. & P. Glasbergen (2011) "Creating legitimacy in global private governance: The

case of the Roundtable of Sustainable Palm Oil" *Ecological Economics* 70: 1891-1899.
Schulte Nordholt, H. (2003) "Renegotiating boundaries; Access, agency and identity in post-Soeharto, Indonesia" *Bijdragen tot de taal-, land- en volkenkunde* 159(4): 550-589.
Scoopmedia (2013) *Sustainable palm oil development a model for big industry,* released by Greenpeace International, http://www.scoop.co.nz/stories/WO1301/S00094/sustainable-palm-oil-development-a-model-for-big-industry.htm
Scott, J.C. (1985) *Weapons of the weak: Everyday forms of peasant resistance* Yale University Press, New Haven.
Seymour, F. (2008) *Forests, climate change and human rights: managing risks and trade-offs* Center for International Forestry Research, Bogor.
Stake, R.E. (1995) *The art of case study research* Sage, Thousand Oaks, California.
Streck, C., D. Burns & L. Guimareas (2012) *Incentives and benefits for climate change mitigation for smallholder farmers* CCFAS report no. 7, CGIAR Research program on climate change, agriculture and food security (CCAFS), Copenhagen, Denmark.
Suyanto, S., G. Applegate, R.P. Permana, N. Khususiyah & I. Kurniawan (2004) "The role of fire in changing land use and livelihoods in Riau-Sumatra" *Ecology & Society* 9(1): 15.
Suroso, A.I. & A. Ramadhan (2012) "Web-based decision support system for agribusiness development in palm oil plantations at Siak local government using policy analysis matrix" *International Journal of Computer Science Issues* 9(2)(3): 92-98.
Susanti, A. & P. Burgers (2012) *Oil palm expansion in Riau province, Indonesia: Serving people, planet, profit?* European report on development, Overseas Development Institute, Deutches Institut fur Entwicklungspolitik & European Centre for Development Policy Management.
Syahza, A. (2011) *Potensi pengembangan industri kelapa sawit*, Universitas Riau, Pekanbaru.
Tan, K.T., K.T. Lee, A.R. Mohamed & S. Bhatia (2009) "Palm oil: addressing issues and towards sustainable development" *Renewable and sustainable energy reviews* 13: 420-427.
Tatenhove, J.P.M van & P. Leroy (2003) "Environment and participation in a context of political modernisation" *Environmental Values* 12: 155-174.
Temple, B. & A. Young (2004) "Qualitative research and translation dilemma's" *Qualitative research* 4 (2): 161-178.
Teoh, C.H. (2010) *Key sustainability issues in the palm oil sector: A discussion paper for multi-stakeholders consultations* International Finance Corporation, World Bank Group, Washington, USA.
Twiggs Den, L. & M. Bertule (2009) *Sustainability of smallholder palm oil production in Indonesia,* 6th semester project, International Development Studies, Roskilde University
Wakker, E. (2005) *Greasy Palms: The social and ecological impacts of large-scale oil palm plantation development in Southeast Asia* Friends of the earth, England.
Young, O.R. (2009) "Governance for sustainable development in a world of rising interdependencies" in M.A. Delmas & O.R. Young (eds.) *Governance for the Environment: New perspectives* Cambridge University Press, Cambridge, pp 12-39.
Zen, Z., C. Barlow & R. Gondowarsito (2005) *"Oil palm in Indonesian socio-economic improvement: A review of options*" Working papers in trade and development research school, Australian National University, Canberra, Australia.
Zen, Z., J.F. McCarthy & P. Gillespie (2008) *Linking pro poor policy and oil palm cultivation* , Policy brief 5, Crawford School of Economics and Government at the Australian National University, Canberra.

APPENDIX 1. OVERVIEW OF RESPONDENTS

Smallholders

No.	Name	Age	Profession	Location	Date
1.	Rudi Santoso	28	Farmer	Dosan	12 sept. 2012
2.	Sis Wandi	26	Labourer	Dosan	12 sept. 2012
3.	Zahryl	51	Businessmen	Dosan	12 sept. 2012
4.	Firdaus	33	Chief of village	Dosan	12 sept. 2012
5.	Suhalis	42	Chief of cooperative	Teluk Mesjid	13 sept. 2012
6.	Suryono	36	Chief of kelompok Mayu Jaya	Teluk Mesjid	13 sept. 2012
7.	Aswar	40	Field assistant, facilitator for RSPO in the Riau province	Teluk Mesjid	13 sept. 2012
8.	Hiro Yanto	51	Chief of kelompok Tunas Harapan	Dosan	13 sept. 2012
9.	Nurbiddin	43	Chief of village	Tuah, Bunga Raya district	14 sept. 2012
10.	Anton Budi Hartono	43	Farmer and trader	Tuah, Bunga Raya district	14 sept. 2012
11.	Erlin	45	Farmer	Perincit	15 sept. 2012
12.	Mirza Saputra	22	Assistant secretary of cooperative	Perincit	15 sept. 2012
13.	Herman	37	Chief of cooperative	Sungai Limau	15 sept. 2012
14.	Abdul Malik	56	Chief of kelompok Tani Sukayaya	Sungai Limau	15 sept. 2012
15.	Abdul Hassan	44	Chief of kelompok Amanah Jaya	Dosan	20 sept. 2012
16.	Zamri	35	Supplier of fertilizer & farmer	Dosan	20 sept. 2012
17.	Rahman	42	Chief of kelompok Harapan Bersama	Dosan	20 sept. 2012
18.	Wahidin	37	Chief of kelompok Berkat Bersama	Dosan	20 sept. 2012
19.	Komi Sahar	52	Chief of cooperative Bungo Tanjung	Dosan	20 sept. 2012
20.	Ranjas	45	Secretary of cooperative Tua Abadi Mak Mur & Farmer	Pebadaran	21 sept. 2012
21.	Uamin	48	Chief of cooperative	Pebadaran	21 sept. 2012
22.	Zainal	63	Chief of cooperative & Farmer & businessmen	Benaya	21 sept. 2012
23.	Burhan	52	Farmer	Dosan	22 sept. 2012
24.	Junaidi	33	Chief of kelompok Jasa Sawit	Dosan	22 sept. 2012
25.	Nordin	45	Farmer	Dosan	22 sept. 2012
26.	Kasno	30	Farmer	Dosan	22 sept. 2012
27.	Sukri	41	Farmer & member of kelompok Maju Bersama	Dosan	22 sept. 2012
28.	Jufri Zal	28	Farmer & secretary of cooperative	Dosan	22 sept. 2012
29.	Julianto	35	Chief of kelompok Hoo Hoo	Dosan	22 sept. 2012
30.	Dahlan	50	Manager of cooperative, farmer & chief in community	Dosan	22 sept. 2012

NGOs

No.	Name	Age	Profession	Location	Date
1.	Riko Kurniawan	36	Director Elang	Elang office, Pekanbaru	26 sept 2012 22 okt. 2012 1 nov. 2012
2.	Suhandri	46	Program manager WWF	WWF office, Pekanbaru	24 okt. 2012
3	Muslim	39	Coordinator Jikalahari	Jikalahari office, Pekanbaru	25 okt. 2012
4.	Fadil Nandila	41	Vice coordinator Jikalahari	Jikalahari office, Pekanbaru	25 okt. 2012
5.	Rusmadya	41	Forest campaign Greenpeace	Jikalahari office, Pekanbaru	31 okt. 2012

APPENDIX 2. INTERVIEW GUIDES

Interview Siak district – Smallholders
Date: Time: Location:

Introduction
Introduce myself, who I am, where I am from and what my research is about.
Explain why it is important to know about their situation and ask permission to write down the interview.

General information

1. *Name (Nama):*
2. *Age (Usia):*
3. *Location (Lokasi):*
4. *Place of birth:*
5. *How long have you been living here:*
6. *Household composition:*
7. *Ethnic background:*
8. *Religion:*
9. *Highest level of completed education (Pendidikan Terkahir):*
10. *Profession:*
11. *Formal position in community (governmental, religious etc.):*

Forms of livelihood

12. *What are you doing for a living? (agriculture, fishing etc.):*
13. *What activities generate the most income?:*
14. *Are there any problems that you face while performing these activities? (drought, pollution, lack of inputs, problems in marketing etc.):*
15. *Are there any other activities that you want to perform in the future?:*

Palm oil arrangement

16. *Do you have any formal relation regarding growing of oil palm with a mill, company or government? What does this relation consist of?:*
17. *Where did you obtain the knowledge on how to produce oil palm? (Informal networks, cooperative, government, mill):*
18. *Do you use wage labour? If yes, how many people work on your land? In what periods of the year? In what way do you use family labour?:*
19. *How does your kelompok arranges the transport of the FFB?:*
20. *Which cooperative are you a member of? What is your position within the cooperative?:*
21. *How is the cooperative performing? Are you happy with the joined activities?:*
22. *In what way does the cooperative influence your activities? (positive, negative) Could you give me more details on what issues and how?:*
23. *Could you tell me more about the Internal Control System?: To whom do you sell your FFB? How is the price set? Who determines the price? Can you freely choose to whom you sell? What determines to whom you sell?:*
24. *Do you have any idea who are the final consumers of your product? Do you want to know?:*
25. *What difficulties are you facing with oil palm production?:*
26. *Can you describe the most important stakeholders (people who are directly involved) (example government owned companies Elang etc.) within the oil palm production in ….(village)?*

Stakeholders and policy activities

27. *Does the central government of Indonesia play an important role for the smallholders in general? Can you explain more and why do they play this role?*
28. *And what about local government policy?*

29. *What role does Perkumpulan Elang play in the Palm Oil for People program?:*
30. *How are they performing in your opinion? What influence did they have on the palm oil production in your area?*

31. *Are you familiar with the concept of sustainability? And what do you mean by it? Do you think other stakeholders mean the same?:*
32. *Do you know what the RSPO is? If not what do you think it is?:*
33. *Are you familiar with the activities of WWF Indonesia to make the Siak smallholder plantation eligible for RSPO certification?:*
34. *If yes, What did you think of these activities? Do you think it is important for the Siak smallholders to get RSPO certified? Do you think this will generate less or more income? What do you think the pros and cons are from RSPO certification? Where the activities clear to the smallholders in general?:*
35. *Are there still activities planned for RSPO certification in the future which you know of?:*

36. *Did you hear or were you involved with the intensification project of last year? If involved what part did you play within this activity? Did you visit the demonstration plots in Dosan village or Teluk Mesjid? What was your impression?:*
37. *Do you think that these Better Management Practices (pruning, applying fertilizers) can help to improve yields?:*
38. *Was there enough information provided (workshops, flyers etc.)?:*
39. *Are you interested in applying Better Management Practices to your own plot? What steps have to be taken to apply these BMP?:*

Future

40. *Do you have any particular strategy for the future? For example do you want to grow more oil palms? Or do you want to intensify the yields on your existing plot?:*
41. *And a strategy for the local community as a whole with respect to expanding the area; protecting the forest; organising the production system; replanting oil palm in existing areas?*
42. *Is there anything important that I have forgotten to ask?:*

Closing off

Thank the farmer for his/ her time and ask if I might contact the respondent later if I have any additional questions in the future.

Interview Siak district – NGOs – Perkumpulan Elang
Date: Time: Location:

Introduction
Introduce myself, who I am, where I am from and what my research is about.
Explain why it is important to know about their situation and ask permission to record the interview.

General information
1. Name (Nama):
2. Age (Usia):
3. Profession (….):
4. How long have you been working for …… (Name NGO)?:
5. What was your previous profession?

Palm oil production
6. How long have you been working with issues around oil palm?:
7. What are in your opinion the major issues (social, environmental, economic) around palm oil production in Indonesia?:
8. What is your opinion about central government policy in general?:
    a. And about local government policy?:
9. Could you give me some more information about the palm oil policy in Indonesia in general?:
10. Are you familiar with RSPO and ISPO certification? What is your opinion about these kind of certification schemes?:
11. Are they suitable for the daily practices of oil palm smallholders?:

Siak Smallholders
12. How long have you been involved with the Siak smallholder site?:
13. What makes this site different from other smallholder schemes?:
14. What are the main objectives for this particular site?:
15. I understood that Elang is currently focusing on two specific villages Dosan & Teluk Mesjid
    a. What are currently the most important problems within Dosan?:
    b. And what are currently the most important problems within Teluk Mesjid?:
16. In what way is this affecting the implementation of certain policy activities such as RSPO and the BMP practices?:

17. How is the local government performing in your opinion?
18. Did you encountered any difficulties with the local government while carrying out your business in the 7 villages?

In general
19. In general do stakeholders take local conditions of smallholders in consideration? Are you satisfied with the different activities?:
20. Or are there any important points for improvement which you can think of?:
21. Are you aware of the global debates around palm oil? What is your opinion about these debates?:
22. Were there any other important policy activities within the Siak smallholders site the last few years?:

Interview Siak district – NGOs - WWF
Date: Time: Location:

Introduction
Introduce myself, who I am, where I am from and what my research is about.

General information
1. Name (Nama):
2. Age (Usia):
3. Profession:
4. How long have you been working for …… (Name NGO)?:
5. What was your previous profession?

General
6. What is the main focus of the organisation you are working for?:
7. How long have you been working with issues around oil palm? And in particular with palm oil smallholders?:
8. What are in your opinion the major issues (social, environmental, economic) around palm oil production in Indonesia?:
9. What is your opinion about central government policy in general?:
    a. And about local/ district government policy?:
10. What is your opinion about certification schemes such as RSPO and ISPO?:
11. Are they suitable for the daily practices of oil palm smallholders?:
12. What are the most important problems which you come across in your daily activities with palm oil smallholders?:

Siak Smallholders
13. How long have/ had you been involved with the Siak smallholder site? (RSPO certification):
14. What makes this site different from other smallholder schemes?:
15. What were the main objectives for this particular site?:
16. What other stakeholders did you work with within this particular site?:
17. What were the most important problems which you come across in this particular site?:
18. And did you had any problems with the local government while carrying out your business in Siak (7 villages)?:
19. Does WWF have any intention to work with the Siak smallholders again in the future?:

Tesso Nilo smallholders
20. I understand that WWF is now focusing on the Tesso Nilo smallholders:
    When did you start working there? And what are your objectives there?:
21. Why did you choose this particular site?:
22. What kind of problems do you come across?:
23. Who are the other stakeholders within this project? And are there any problems with the local government or these other stakeholders?:

In general
24. In general do stakeholders and/ or certification schemes like RSPO and ISPO take local conditions of smallholders in consideration?:
25. Or are there any important points for improvement which you can think of?:
26. What is your opinion about the global debates revolving around palm oil? (For example US not wanting to buy palm oil from Indonesia):
27. Is there anything important I forgot to ask or that you would like to add to this interview?:

Interview Siak district – NGOs – Jikalahari & Greenpeace
Date: Time: Location:

General information

1. *Name (Nama):*
2. *Age (Usia):*
3. *How long have you worked for?:*
4. *Function within the organisation?:*

5. *What is the main focus of the organisation you are working for?:*
6. *How long have you been working with issues around palm oil? And in particular with palm oil smallholders?:*
7. *What are in your opinion the major issues (social, environmental, economic) around palm oil production in Indonesia?:*
    a. *And in the case of the Riau province what are the most important issues?:*
8. *What is your opinion about central government policy in general?:*
    a. *And about local/ district government policy?:*
9. *What is your opinion about certification schemes such as RSPO and ISPO? And in what way do they influence your activities?:*
    a. *Are they suitable for the daily practices of oil palm smallholders?:*
10. *What are the most important problems which you come across in your daily activities regarding oil palm production? And in particular problems around oil palm smallholders?:*

Activities

11. *What is your strategy around raising public awareness for your case/ objectives?:*
12. *Do you come across difficulties with the local government while carrying out your activities? Or other stakeholders for that matter?:*
13. *Does your organisation has a particular vision in mind for the future? And specifically for palm oil production in RIau?:*

Closing

14. *What is your opinion about the global debates revolving around palm oil production in Indonesia? (For example certain countries banning palm oil from Indonesia because of the rapid forest conversion):*
15. *What role do you think the RSPO can play within these debates?:*
16. *Is there anything important that I forgot to ask or that you would like to add to this interview?:*

APPENDIX 3: PALM OIL MILLS IN THE SIAK AREA

VIII		Siak District	Subdistrict	Capacity	Additional information
		A. PKS dan memiliki kebun			
134	1	PTPN V Sei Buatan	Dayun	60,00	
135	2	PTPN V Lubuk Dalam	Lubuk Dalam	60,00	
136	3	PT Ivomas Tunggal Ujung Tanjung	Kandis	60,00	
137	4	PT Ivomas Tunggal Libo	Kandis	60,00	
138	5	PT Ivomas Tunggal Sam-Sam	Kandis	60,00	
139	6	PT Murini Sam-Sam	Kandis	30,00	
140	7	PT Aneka Inti Persada	Tualang Perawang	30,00	
141	8	PT Kimia Tirta Utama	Kuala Gasib	30,00	
142	9	PT Meridan Sejati Surya	Tualang Perawang	45,00	
		Jumlah A		**435,00**	
		PKS dan tidak memiliki kebun (independent)			
143	10	PT Swasti Sidi Amagra (SSA)	Kandis	20,00	not have own plantation
144	11	PT Mulya Unggul Lestari	Kandis	45,00	not have own plantation
145	12	PT Siak Sinar Sakti	Gasib	60,00	not have own plantation
146	13	PT Era Sawit Indah	Tualang Perawang	40,00	not have own plantation
147	14	PT Feti Mina Jaya	Minas	30,00	not have own plantation
148	15	Aek Nitio Group	Minas	30,00	not have own plantation
		Jumlah B		**225,00**	not have own plantation

Figure 8: palm oil mills in the Siak area (Source Perkumpulan Elang 2012)

Figure 9: Location of palm oil mills on the Siak district map (Source: Pemerintah kabupaten Siak 2013)