Exploring inclusive palm oil production
This edition of ETFRN News has been produced on behalf of the European Tropical Forest Research Network by Tropenbos International. We thank the authors for their contributions, and the editorial team for compiling these into such a stimulating volume. Special thanks to Maja Slingerland (Wageningen University and Research) and Carina van der Laan (Research Associate, Tropenbos International, the Netherlands). Also, Herman Savenije and Juanita Franco (Tropenbos International), Nian Sadiq and Patricia Halladay for support at various stages.

This publication was produced with the financial assistance of the Ministry of Foreign Affairs and the Ministry of Agriculture, Nature and Food Quality (LNV) of the Government of the Netherlands.

The articles and interviews presented in this edition were written between September and December 2018 and reviewed in early 2019. They reflect the positions of authors at that time. The views expressed herein are the sole responsibility of the authors and can in no way be taken to reflect the views of ETFRN, Tropenbos International or other participating organizations.

This edition of ETFRN News is dedicated to the memory of Micresse Kamto. Sadly, she left in January 2019, and she will be dearly missed by family, friends and colleagues.

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Citation: Jezeer, Rosalien and Nick Pasiecznik (eds.). (2019). Exploring inclusive palm oil production. Tropenbos International: Wageningen, the Netherlands. xx + 166 pp

Editors: Rosalien Jezeer and Nick Pasiecznik
Final editing: Patricia Halladay Graphic Design
Layout: Juanita Franco (Tropenbos International)
ISSN: 1876-5866
Cover photo: Noraziza, a smallholder farmer in Kinabatangan, Sabah, collecting fallen palm fruits. Photo: Jonathan Perugia, RSPO.

Available from: ETFRN
C/o Tropenbos International
P.O. Box 232, 6700 AE Wageningen, the Netherlands
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www.etfrn.org
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Preface

Global demand for commodities, including soy, cacao, coffee, beef, timber and pulp — and palm oil — has increased rapidly over the last few decades, and is expected to continue to grow in the years to come. Among these commodities palm oil has attracted significant attention. An efficient and versatile crop, oil palm has been satisfying a considerable part of the increased global demand for vegetable oils. This is not without consequences. Land that is suitable for the production of oil palm in the humid tropics is also valuable in terms of biodiversity, ecosystem services, and for ensuring the food and fuel security of local communities. Although smallholders produce a major proportion of global production, they often do not receive an equitable share of the economic benefits of palm oil and their needs and interests aren’t adequately addressed in decision making.

Much has been written over the past decades about palm oil as the potential means to improve benefits to smallholder farmers while minimizing the negative impacts of monoculture production. But coming to any consensus has been challenging. Proponents explain how growing oil palm provides a new and direct income to many millions of smallholders around the world and their communities and contributes to local infrastructure development. Other people highlight how the expansion of oil palm plantations is replacing natural forests, peatlands and other fragile ecosystems, with a negative impact on biodiversity and climate change. In addition, the industry contributes to resource rights violations and causes other social implications for smallholders and their communities. There is growing recognition that it is not so much the crop itself, but rather the way it is being produced, that contributes to these negative impacts.

This issue of ETFRN News provides a collection of approaches, dialogues and innovative tools and methods that are clearly and concretely enhancing smallholder inclusiveness in sustainable palm oil production. Articles in this issue also show that the topic is not as polarized as is often perceived, and that there are many middle ways. Certification has made a significant contribution to including smallholders in the global supply chain. So have cooperations and associations. Expanding these approaches can offer more potential for smallholders into the future, as can new practices such as intercropping and agroforestry.

Although this issue does not provide crystal clear answers and firm conclusions, it does add understanding to the debate, and offers opinions and a range of possibly pathways from a wide variety of perspectives. These voices show that there is a way to enhance smallholder inclusiveness — which is an essential component in working toward more sustainable supply chains. These articles can also serve as examples for similar efforts with other commodities, the production of which also threatens tropical forests. And if proposed solutions can be adapted and adopted in other situations and with other crops, these experiences will add significantly to global efforts to achieve the Sustainable Development Goals and climate agreements.

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Director, Tropenbos International
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Improving smallholder inclusiveness in palm oil production — a global review

Rosalien Jezeer, Maja Slingerland, Carina van der Laan and Nick Pasiecznik

Introduction

Palm oil is produced in the humid and sub-humid tropics. It is a commodity that causes controversy due to its impacts on smallholder livelihoods, local communities, biodiversity, land productivity and climate change. Given these issues, the focus, size and depth of the debates surrounding palm oil production are growing. Addressing the inclusiveness of smallholders who make up a substantial part of the value chain, this ETFRN News presents the experiences, perceptions and perspectives of individuals, companies, institutions and NGOs, on what has been done and is being done on the ground to increase the involvement of, and benefits to, smallholder oil palm growers. How do these actions and their impacts differ between different smallholder types and organizations? How do they differ between countries, regions and corporate contexts? What are the effects of various enabling policy environments? And what do the authors in this edition mean by ‘inclusiveness’?

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This edition brings together 19 articles and five interviews from around the world that reflect on these questions and look at means of improving smallholder inclusiveness in palm oil production. These rich experiences are discussed and compared in this review; see the list of the nine key lessons (Box 1).

**Box 1. Key lessons learned**

1. **“Inclusiveness” is interpreted in different ways and a common definition is needed.**
   This range of interpretations leads to different approaches and measures of success, and to difficulties in how to compare them.

2. **Empowering smallholders is an essential prerequisite for increased inclusiveness.**
   This is achieved through cooperatives, training, and external support from extension services, NGOs and companies, as well as support from governments that promotes enabling conditions.

3. **Increased uptake of certification schemes is correlated with improved smallholder inclusiveness.**
   Challenges remain, however, in upscaling certification (RSPO and organic), especially for independent producers.

4. **Smallholders benefit when they can take on more roles in the supply chain (e.g., co-owning mills).**
   In doing so they gain decision-making power and increase their share in the benefits generated in the value chain.

5. **Diversifying livelihood options through intercropping or other means is important for smallholders.**
   The benefits of intercropping are supported by research, but more evidence is needed to identify appropriate crops, systems and markets.

6. **Companies must consider smallholder producers more as partners and co-investors.**
   This requires truly transparent, reciprocal and participatory processes and regular consultation, not just a nominal “seat at the table” or one-off meetings.

7. **Build trusting relationships with smallholders is crucial, and patience is paramount.**
   For effective partnerships, smallholders must be involved from the outset and through every step of the process. Engagement must be long term.

8. **Inclusive palm oil production requires innovative technological and business models.**
   However, current models rarely address both, and further integration is required.

9. **Policies at all levels have key roles in creating enabling conditions to stimulate inclusive businesses.**
   Local, national and international policymakers all have important contributions to make.
Oil palm expansion

Palm oil production has grown rapidly in Southeast Asia in recent decades, and more recently in West Africa and Latin America, with further growth expected (Rival and Levang 2014). In fact, in only a single year from 2017 to 2018, global production increased by about 7%, from 65 to about 70 million tonnes, with more than 20 million hectares of new oil palm plantations developed across the world. Indonesia and Malaysia are the largest producers (ca. 40 and 20 million tonnes, respectively), followed by Thailand and Colombia (with 3 and 2 million tonnes) (USDA-FAS 2018). On a regional level, Southeast Asia represents 89% of total global production, while Latin America produces 6% and Africa 5% (Pacheco et al. 2017). Palm oil is imported by all regions, with the largest consumers being Asia, followed by Europe (COWI A/S 2018).

The underlying reason for the rapid growth in oil palm cultivation is the increasing demand for vegetable oil for food, cosmetics, feed and fuel, linked to growing populations and a rising living standard. Oil palm also has superior yields compared to other oil crops, leading to greater financial benefits for all those involved (Rival and Levang 2014; Pacheco et al. 2017). Oil palm can thus provide a substantially greater income to smallholders and labourers compared to what they used to earn from farming; for this reason, it is lifting many millions of people out of poverty (Sheil et al. 2009), and contributing to local employment and infrastructure development.

But oil palm cultivation is also correlated with the destruction of rainforests and peatlands and a consequent loss of carbon stocks and animal and plant species, particularly in Indonesia and Malaysia. Palm oil production has also led to the pollution of water, soil and air, due to agrochemical run-off and discharges of mill effluent. Plantations are also associated with displacement of communities, reduction in food production, and loss of community access to land and resources, leading to land conflicts. In addition, benefits may be available only to those smallholders with investment capital; in many cases, immigrants have benefited more than indigenous people. Furthermore, certain companies are accused of unfair treatment of workers.

Given these concerns, various standards and policies have been developed, such as the global Roundtable on Sustainable Palm oil (RSPO), the national Indonesian Sustainable Palm Oil (ISPO) standard, and the Malaysian Sustainable Palm Oil (MSPO) scheme. Relevant policies include European Union Renewable Energy Directives 1 & 2 (EU-RED), the No Deforestation, No Peat, No Exploitation (NDPE) policies, the recently extended moratorium in Indonesia (Presidential Instructions 10/2011; 6/2013; 8/2015; 6/2017; 8/2018), and various zero-deforestation commitments (Pasiecznik and Savenije 2017).

Although certification has an important role when it comes to working towards a more sustainable and inclusive palm oil supply chain, there is also increased evidence that it is not a stand-alone instrument, emphasizing the need to look beyond it and explore landscape approaches, diversification of livelihoods, and binding regulations to achieve the scales and impacts needed. Additionally, many efforts that work toward a more sustainable palm oil supply chain focus on environmental aspects, social aspects related to land rights of local communities such as free, prior and informed consent, and on best management practices to increase smallholder productivity and sustainability. Do such efforts also make palm oil production more inclusive for smallholders?
Smallholders in palm oil production

A large proportion of all new oil palm plantations is established by large enterprises, though 40% of the global area is managed by smallholders, who produce 30% of the world’s palm oil (Saadun et al. 2018). It is estimated that some three million smallholders are involved in palm oil production worldwide (Rival and Levang 2014), and their numbers are increasing. However, the way that smallholders contribute differs significantly between regions.

In Southeast Asia, oil palm was originally a government- or privately-owned monoculture plantation crop that used hired labour. Smallholders were included only much later, when they were part of resettlement schemes strongly tied to mills such as in nucleus estate plasma schemes in Indonesia, and through the Federal Land Development Authority in Malaysia. Several funding mechanisms have since encouraged these companies to also source from smallholders, leading to different forms of contract farming. And when the Indonesian government allowed independent mills to be established, smallholders started to plant oil palm themselves, and plasma smallholders became free to deliver to any mill after they paid back their loans.

In Africa, where oil palm is a native tree, it has always been a smallholder crop, self-planted, self-processed and rarely grown as a monoculture. More recently, international companies have introduced monoculture plantations, in part driven by the promotion of oil palm plantations for agrofuels (Carrere 2013). In Latin America, only a few companies and smallholder farmers were involved in biofuels, which mainly supplied the domestic market. Although expansion there has been modest compared to Southeast Asia, the boom in biofuels has led to a doubling of production in Latin America since 2001 (Furumo and Aide 2017). Colombia now has the largest plantation area on the continent,
driven by large-scale actors; 70% of exports stay within the region, with Mexico importing about half (Furumo and Aide 2017).

There are various definitions for “smallholder” and “small-scale grower” as related to palm oil production and to other crops and commodities, but there is some consistency. For example, a smallholder cultivates up to 2 hectares, while small-scale growers manage up to 40 to 50 hectares. However, such area-related definitions are dependent on continents or regions; a farmer with 40 hectares in Colombia would be considered as a small grower, but in Sierra Leone would be considered a large-scale producer. Furthermore, independent of farm size, smallholders can differ greatly in many other aspects, such as whether they are organized or not, contracted by companies or not, their available assets, geography, capacities, family or hired labour, etc. There is real need to consider this diversity when discussing the impacts of policies and market instruments on smallholder producers.

Defining inclusiveness

Specifically related to oil palm, “many actors, scientists and development workers define smallholder inclusion as engagement of smallholders in palm oil supply chains, thereby gaining access to national and international markets and to technologies to increase yields and income per hectare and per unit of labour” [5.2]. From the corporate sector, Löhr [Interview iv] states for instance that “smallholder inclusiveness refers to providing smallholders with market access, and hence not excluding them from our supply chain.” Different definitions will of course have an impact on how inclusiveness is put into practice. For example, examples from the corporate sector presented farmer training as their way of being more inclusive [e.g., Interview iv], where others are more ambitious and comprehensive, observing that “supply chains are intended to involve participation from all players for mutual benefits to increase efficiency, comparative advantage and profit” [1.5].

The success of an inclusive approach can be measured through four components: ownership, reward, voice and risk [3.1]. This is supported by a plea to listen to the voice of farmers asking to fulfil their livelihood needs as part of inclusion [3.1; 5.2]. Inclusiveness can also embrace situations where smallholders obtain direct or indirect access to the profits (i.e., ownership and rewards) from processing [2.2]. Another article defines inclusiveness as “the act of bringing smallholder producers together with other stakeholders along the palm oil supply chain to share an equal participation platform and voice in envisioning equal opportunity through shared vision” [Interview i]. Although definitions were sometimes framed by an individual or company, it was emphasized that ultimately it is how things are implemented on the ground that will eventually determine their contribution to sustainable development [e.g., 4.2].

Thus, although to some people, smallholder inclusiveness in supply chains means increasing their market access and higher incomes, for others, inclusiveness may have additional meanings such as ownership, voice and fair share of risks and benefits. There is no universally accepted definition (see Box 2).

Most definitions specified or focused on social actions and benefits. But several complementary and parallel definitions also include environmental actions and benefits. This publication does not, and cannot, propose a composite definition based on the varied views, but leaves readers to make their own value judgement based on the content. However, the lack of a clear definition does create a need to agree on a definition at the global level.
Box 2. Some definitions of inclusiveness

**Inclusiveness**

“The quality of including many different types of people and treating them all fairly and equally.”
([https://dictionary.cambridge.org/dictionary/english/inclusiveness](https://dictionary.cambridge.org/dictionary/english/inclusiveness))

“The practice or policy of including people who might otherwise be excluded or marginalized, such as those who have physical or mental disabilities and members of minority groups.”
([https://en.oxforddictionaries.com/definition/inclusiveness](https://en.oxforddictionaries.com/definition/inclusiveness))

“Social inclusion is critical to ensure that the needs of disadvantaged social groups such as indigenous peoples, persons with disabilities, older persons, youth and women, are considered so that no one is left behind.”

Smallholder inclusion is defined as a sourcing strategy in which smallholders produce commodities for high value-adding supply chains with a business perspective (Sjauw-Koen-Fa, Blok and Omta 2016)

**Inclusive business**

Inclusive businesses are companies that develop innovative ways to do commercially viable business with people living at the base of the pyramid and to expand access to basic products and services (World Bank 2019).

Inclusive business are those that generate high development impact by (i) improving access to goods and services for the base-of-the-pyramid population (i.e., low-income people); and/or (ii) providing income and/or employment opportunities to low-income people as producers, suppliers, distributors, employers, and/or employees. An inclusive business must be commercially viable and must meet non-sovereign operation standards of viability (ADB 2019).

In the inclusive business model, low-income populations can provide markets and a workforce, and small-scale producers can strengthen the supply chain for businesses (UNDP 2010), so engaging the poor as producers, distributors, suppliers, or consumers, triggering the realization of socio-economic value and livelihood opportunities for communities in commercially viable ways (Inclusive Business Accelerator 2016).

Inclusive business integrates smallholders into markets with mutual benefits for the poor and the business community, while enabling the poor to move out of poverty. Such inclusion is achievable in partnership with producers, the public sector, buyers and NGOs (FAO 2015).

A business is inclusive if it is innovative, effective, credible, adaptable, makes healthy and affordable products and services for the poor, creates employment and has long-term financial and ecological sustainability. This definition of inclusive business calls for inclusive innovation and the creation of opportunities by removing economic, social, ecological, and geographical barriers; this enhances the social and economic well-being of the disenfranchised base-of-the-pyramid (BoP) and maintains the local ecosystems by promoting sustainable value creation (Likoko and Kini 2017).
Certification and smallholder farmers

According to the articles in Chapter 1, there is a supply-and-demand imbalance regarding RSPO certified palm oil between producer and consumer countries. There has been much support for producers and smallholders to adopt more sustainable practices as enshrined in RSPO standards and criteria, and production of certified palm oil worldwide has been increasing steadily over the years. However, demand has not increased at the same pace, and currently, only 50% of all certified palm oil can be sold as such [1.5]. But that aside, many papers in this issue highlight the fact that the RSPO organization plays an important role in coordinating regional and international efforts toward a shared global vision of market transformation to more sustainably produced palm oil [e.g., 1.1; 1.2]. Smallholders have always been important for RSPO and remain at the forefront of its mission to establish a wholly inclusive sustainable palm oil supply chain. This is supported by the recent development of its smallholder strategy that emphasizes livelihoods rather than certification per se [1.1]. What becomes clear from this issue is that certification such as that of RSPO and the International Federation of Organic Agriculture Movements (IFOAM) can make important contributions by engaging smallholders to adopt more sustainable practices, and by promoting more equitable benefit sharing and a stronger position in decision making [1.2].

Nonetheless, it was clear from many articles that smallholders face numerous challenges, which limits their ability to comply with standards and to qualify for certification. This creates an imbalance between achieving the goals of certification and increasing smallholder inclusiveness. For example, many smallholders find it difficult to adequately document the level to which they adopt sustainable practices; this excludes them from certification [1.5]. Adopting smallholder-specific certification standards that are less demanding [1.1], or using technology to improve monitoring and support to smallholders [2.1], are examples of how to overcome this barrier. Another challenge is the fact that the systems through which fresh fruit bunches are sold can be complicated, often involving intermediate traders (middlemen), and this can affect compliance with certification [3.1]. The example of a private company (NPBOL) in Papua New Guinea, where there are no intermediaries, offers insights as to how this can be overcome [4.1].

RSPO notes the fine balance between increasing independent smallholder compliance through a stepwise approach and ensuring that sustainability remains at a desired level [1.1]. For example, compliance with RSPO spraying regulations may create new demands for the organization of labour that may cause a failure to lead to lower environmental impact [2.5]. Also, if this transition requires partnering with companies with a questionable track record, such as those involved in large-scale deforestation, then the sustainability credentials of this approach are easily blurred [2.2]. In Colombia, another issue was that organically certified producers had lower yields and employed fewer workers per hectare, but received a price premium that was the primary motivation for becoming certified. Some of this premium was passed on, since producers also paid higher prices to their workers per tonne of fruit harvested [1.2]. Whereas lower yields can be offset by price premiums, such offsetting is not always guaranteed, however, and the possibility of diminishing premiums must be addressed in order to enhance smallholder contribution in the global value chain [1.2]. In fact, according to articles in Chapter 1, RSPO is not generally associated with lower yields, since applying the good agricultural practices required for certification often leads to higher yields per hectare and to more efficient use of inputs; this tends to increase profits, independent of any premium paid.
The RSPO and IFOAM certification systems were both positively linked to increased smallholder inclusiveness [1.2; 1.5], but the long-term outcomes of improved practices on enhanced ecosystem conservation and livelihoods remain uncertain [1.2]. For certification to be more successful and inclusive, several recommendations can be made. First, it is essential to build trust through transparent mechanisms and dynamic cooperation between various actors, and to replicate successful approaches across different regions. The experience of Solidaridad in Honduras, for example, shows that it was possible to build an inclusive and sustainable palm oil programme [1.4]. But for such an inclusive and sustainable palm oil programme to occur, a second recommendation is to take the large diversity of oil palm smallholders into account, especially in terms of land ownership, skills, knowledge and interests, along with ensuring the commitment of other players in the long supply chain [1.5]. Third, the importance of patience should not be underestimated.

Working towards more inclusive and sustainable practices requires behavioural changes in the mindset and habits of smallholder farmers. Initially it was thought that this would be easy, but there are clear challenges, such as the need for record keeping and documentation [1.2; 1.4]. However, once a few farmers have adopted better practices, neighbours do tend to get curious. To support increasing the scale and impact of certification, it is important that enabling government policies are in place that focus on improving links between smallholders and industry [1.2]. Furthermore, it is necessary to rethink certification models as they evolve over time. This requires more emphasis on: (1) looking at landscape-level initiatives and standards, rather than single commodities [1.4]; (2) building genuine stakeholder partnerships, and (3) recognizing the need to help smallholders address their livelihood challenges [1.3]. In order to achieve this, better information networks and more creative efforts are needed [1.2].

Alternative technical and business models

Examples of alternative models are presented in the articles in Chapter 2. Some models focus on technological innovation, including best-management practices, while others focus on innovative business practices, including various institutional structures and financing schemes. Good agricultural practices and best management practices are the most common umbrella terms for packages of technological innovation to improve productivity and smallholder inclusiveness. For implementation, it is important to organize adequate and continuous smallholder support [2.5] to overcome the risks of planting lower-yielding seedlings and of poor agricultural practices [3.1].

It was emphasized that smallholders tend to have only two options: either fully converting to oil palm monoculture, or being excluded altogether [5.2]. However, a technological approach mentioned in several articles as being important for smallholder inclusiveness is intercropping, which moves away from the traditional monoculture production model. Integrating oil palm into diversified land use is considered a key way to improve the livelihoods of family farmers, rather than seeing farmers solely as palm oil producers [e.g., 2.6; 5.2]. Intercropping provides smallholders with an increased diversity of options to choose from. Nonetheless, perfect intercropping solutions do not yet exist, and trade-offs are likely [5.2]. Also, it is often difficult for smallholders to adopt intercropping. Many of them are unsatisfied with the lack of government incentives that would allow for investment in other crops; this leads to oil palm cultivation being one of few options for livelihood improvement [2.6].
Several interesting innovative business models are presented, such as village business units in Indonesia [2.4]. These are established through a village general assembly and managed by professionals, independent of village officials, yet most of the capital is village owned. Promoting smallholder participation in the industrial processing of crude palm oil through smallholder co-ownership of mills — not common in the palm oil value chain — is another simple and straightforward way to increase inclusiveness and smallholder profits [1.4; 2.2]. In Solomon Islands, some land-owners have become shareholders of the processing company [4.1]. In Papua New Guinea, intermediaries have been eliminated, and the private company NBPOL applies a price-determining formula with a guarantee to buy all produce from smallholders, irrespective of quality [4.1]. The company may need to buy all produce to guarantee a sufficient supply for their mill or to keep all smallholders interested; processing poor-quality fruit tends to lead to higher costs per tonne of oil produced and potentially lead to more waste burdening the environment.

Several critical factors for the success of innovative business schemes are identified. The first is that smallholders must have access to financing; this means that they require collateral as a guarantee for repayments. Second, delayed initial repayment must be allowed, since the first palm oil yields are not expected until four years after planting. So, external financial support to smallholders is crucial in the first years of the production cycle, either from donors or long-term financing [2.1; 2.2].

However, it was shown that financial support from the government can be challenging where stigmatization of oil palm has complicated the relationships between producer organizations and the government, and has thus limited smallholder access to financial credit [2.2]. It is essential that smallholders have long-term delivery contracts, and/or have achieved certification for current plantations; each of these factors can provide an assurance that smallholders will have the financial capacity to repay loans, even if not until production begins. Credit availability was also made possible by some public authorities that support oil palm initiatives [2.6], although half of all smallholders were not aware of the details and conditions of their contracts. Agreements between smallholders and the companies must also be clearly documented to guarantee equitable and long-term relationships [1.5].

Producer organizations play a key role in improving equity and inclusiveness in value chains (Pasiecznik and Savenije 2015). They help to facilitate smallholder access to external inputs such as fertilizers at a fair price and provide independent advice on what how and when to apply them [2.5]. Implementing more frequent harvesting schedules can increase profitability, but this works only when farmers and other actors (transporters, traders and mills) are aligned [2.5]. Also, cooperative structures used by producer organizations have allowed co-ownership of mills, a crucial factor for increasing profits and poverty alleviation [2.2]. However, smallholders will still need to improve their collective actions to be able to have any influence in the global supply chain [1.5].

Collaboration is another prerequisite for success. When mills, cooperatives and traders align activities to commonly agreed arrangements, there is a greater inclusion of smallholders in the supply chain [2.5]. Furthermore, profound crises related to production or product price can be overcome through coordinated long-term actions by private and public partners [2.1]. Some articles address both business models and technical innovation [e.g., 2.1; 2.3], and one article concludes that for more inclusive and sustainable palm oil production, both approaches are required [2.3]. Without technical innovation, production on degraded land cannot be both profitable and also ensure the restoration of biodiversity and ecosystem functioning. Without innovative financing and business models, farmers
will struggle to engage in ways that allow them to participate in the value chain and improve their livelihoods. However, current approaches to engaging smallholders are rarely characterized by such dual innovation, and agro-industrial production models still dominate. Importantly, the development of appropriate schemes for smallholders requires their direct participation in the design phase (see also Chapter 4 for examples).

**Oil palm is about more than just palm oil**

Articles in Chapter 3 mention improved socio-economic benefits for smallholders, such as increased farmer income, market access and profit-sharing, but also highlight a number of other issues that were considered to be largely overlooked in the current discourse.

Oil palm cultivation offers a constant cash income from regular harvests and a steady demand, allowing thousands of smallholders to invest in improving their farms, improving environmental conditions and providing education for their families [2.1]. Oil palm also provides opportunities, especially for smallholders preparing for retirement, by guaranteeing a regular income where before there was none [3.2]; in some countries, smallholders can expect to receive more than 50% of the profits from milling [4.1]. In the Democratic Republic of Congo (DRC), smallholders are the main suppliers of domestic produce and their views must be taken into account in the development of all relevant agricultural policies [3.2]. But what is seen is that some smallholders are being excluded or left behind, as certain business models tend to intensify social differentiation between farmers, with risks of impoverishing a number of smallholders [2.6]. In addition, differential treatments, unequal profit margin distribution and the lack of transparency further exposes smallholders who lack bargaining power [5.1].

Palm oil production must consider the multiple needs of sustainably diversifying income, ensuring food security, and protecting cultural values. In DRC oil palm is an indigenous crop and has been a part of daily life since pre-history, so people see it differently than in places where it has been introduced in Asia and the Americas [3.2]. In DRC, oil palm is a component of a broader farming and cultural system that relies on communal decision making. As such, for oil palm cultivation to be inclusive for smallholders, it must include the farming livelihood decisions of local people and build on their ideas [3.1]. It is important to take a community perspective and look beyond the oil palm monoculture paradigm for smallholder development, taking into account that no country wants to convert all its agricultural lands to oil palm [3.1]. In Indonesia, community-based rotational intercropping creates various livelihood opportunities for farming communities, particularly in areas where not all community members have formal or customary land ownership rights [3.1]. And as seen elsewhere [e.g., 5.2], many smallholders try to merge oil palm with other crops for a more diversified livelihood, and communities decide whether to engage in oil palm cultivation, on what land, and under which terms of inclusion [5.3].

To achieve inclusiveness and sustainable livelihoods for smallholders, empowerment and equality is essential. Smallholders show that they are using their creativity and experience to develop viable livelihood options themselves; for example, the landless farmers intercropping on the plantations of others in Indonesia [3.1]. In other cases, it is acknowledged that inclusive palm oil production can deliver benefits for smallholders, but for this to occur, collaboration between artisanal and industrial exploitation is imperative [3.2], as is realized by some private companies through local inclusion and certified sustainable practices [4.1]. But smallholder development should not be seen in such simple terms, and
more experience “from the ground” will allow a better understanding of the true desires of producers and their families [3.1], reflecting their realities, needs and ambitions.

**Corporate experiences and strategies**

Articles from private companies in Chapter 4 emphasize that for them, smallholder inclusion is a valuable part of their respective business models. For example, local inclusion through participatory community meetings, along with the promotion of certified sustainable practices, are an integral part of doing business [4.1; 4.3]. Examples from Papua New Guinea exemplify this; there, intense participatory processes are used to determine high conservation value and high carbon stock areas, while also ensuring that enough land is set aside (0.5 ha per person) for community use so that people have enough land for subsistence and commercial farming [4.1].

When engaging with smallholders to build trusting relationships, patience is paramount, as land acquisition for plantation development is a complex and fragmented process involving many actors and activities dispersed over place and time [5.3]. In Papua New Guinea, it takes at least three years, from receiving an unsolicited expression of interest to signing a development agreement [4.1]. Achieving sustainable and equitable palm oil production requires more structural approaches than simple adherence to the principles of free, prior and informed consent to protect rural livelihoods, and must be based on respect for pre-existing ways of using and understanding land, prior to any land acquisition activities [5.3]. It is crucial to understand the many and various livelihood constraints of smallholder communities, and to perceive that livelihood support is important to ensure successful stakeholder engagement in food insecure areas [4.3]. Additionally, it is essential to create solid farmer and community outreach structures and use innovative and bottom-up approaches to reach all the
stakeholders involved; committees need to be established early in the process, instead of relying on existing representatives of stakeholder groups [4.3]. Raising awareness and dialogue through multi-stakeholder platforms is key in building and maintaining good relationships with local stakeholders and authorities, promoting transparency and allowing issues and disagreements to be discussed and resolved in a fair and open manner [4.3]. Local CSOs can also take important progressive steps forward by guiding community engagement and sensitization processes [4.3].

Elaborating a corporate sustainability strategy does not guarantee that a company will succeed in bringing about sustainable and inclusive development [4.2]. To ensure that this is translated from paper to reality requires that sustainability becomes anchored in the organizational culture and becomes mainstreamed in the company’s shared values and beliefs and behavioural norms [4.2]. But ultimately, it is how things evolve on the ground that will eventually determine a company’s contribution to smallholder inclusiveness and sustainable development [4.2]. One example is logistics, which are a major factor in business decisions by private-sector producers. In Ghana, the long distances to mills and the poor state of roads prolong pick-up time and affect fruit quality, so it was decided to stop sourcing from the hardest-to-reach areas [4.2]. In Papua New Guinea, local contractors take on significant shares of both road maintenance and transport, also showing that logistics are a major constraint [4.1].

Using tools to enhance smallholder inclusiveness

A number of tools can help to develop strategies that lead to more inclusive and sustainable solutions (Chapter 5). For example, role-playing games allow decision makers to better understand the needs, constraints and aspirations of all stakeholders in the supply chain, and to pay greater attention to feedback and to the variables that affect social, economic and ecological processes [5.1]. This understanding was achieved by creating conditions for integrative dialogue, allowing stakeholders with different and sometimes opposed objectives to better understand each other, and to negotiate joint strategies.

At the community scale, village-level planning and mapping has proved valuable in providing leverage when negotiating with companies and the government in Indonesia [5.3], and village assemblies are a tool that has given communities a new voice [2.4]. But it is important that such processes are genuinely participatory and inclusive, and that they involve both women and men, and representatives from various social classes and ethnicities [5.3]. There are examples where a company eventually cancelled its plantation project after community protests [e.g. 5.3].

On a technical level, crop growth simulation models are also useful tools. They allow the assessment of the long-term effects of different intercropping systems, leading to more accurate information to support smallholder decision making [5.2]. In Indonesia, drones were used to make high-resolution photographic maps [5.3] that facilitated village-level planning and mapping. Another example comes from Colombia, where technological innovations were explored to enhance monitoring and support to smallholders [2.1], such as a mobile app that producers can use as digital self-assessment tool to assess the sustainability level of their farm.
Ways forward

Based on the articles and on other literature and experiences, the following possible next steps can increase smallholder inclusiveness in palm oil production. To increase smallholder inclusiveness, empowering farmers to take more control in the value chain is seen as an important factor [1.5; 2.2; 5.3]; for example, by co-owning mills as shown in Honduras [1.4] and Peru [2.2]. But for farmers to do so requires the institutionalization of structures that give them a voice and strengthen their level of organization and their internal functioning, not just give them a nominal “seat at the table.” Various examples are presented [e.g., 4.1; 5.3] of different participatory and transparent processes that have been proven to work, and which could be replicated and scaled up. The same transparency must also hold true downstream in the value chain; i.e., farmers must be able to hold cooperatives accountable, and cooperatives must be able to hold mills and companies accountable.

Intercropping oil palm with other crops appears to be a viable model with myriad benefits. According to several articles, there was wide interest in diversification in the different farmer typologies analyzed. Key motivations included potentially greater resilience to market risks and price fluctuations [3.1; 5.2], optimizing the use of scarce labour [3.1], enhancing food security from integrating food crops, and improving soil through green manure [2.3]. Increased agrobiodiversity and contributing to more heterogeneous landscapes could be additional motives (Azhar et al. 2017). However, it is important to note that so far, intercropping is practiced predominantly in the 3- to 4-year juvenile stage before oil palms started fruiting. For permanent intercropping throughout the 25-year production cycle, new planting configurations are needed and various crop combinations require further investigation [5.2]. Potential barriers include higher costs, the need for a second supply chain and market infrastructure, and the knowledge-intensive nature of intercropping in comparison to standard monoculture.

Companies currently place a strong emphasis on training, especially for implementing best management practices, although according to articles in this issue, some companies appear to equate training with increased inclusiveness; this is not necessarily the case. And often there is still no engagement with communities before concessions are awarded, leading to some communities treating oil palm development as a threat. Crucial for a more inclusive palm oil sector is the strengthening of village economies, community autonomy and producer organizations, so they can decide themselves whether to engage in oil palm cultivation, and if so, on what land, and under what terms [5.3]. For companies, there is a need to strengthen their corporate strategies and to include innovative and inclusive finance models (see, e.g., Savenije et al. 2017).

Governments too should play a larger role, especially in developing and implementing more effective enabling policies to support increased inclusiveness in oil palm, as well as with other deforestation-risk commodities. These policies should build on existing commitments made in the New Your Declaration on Forest and the Amsterdam Declaration, among other initiatives (Pasiecznik et al. 2017). Key points could include support for agreeing on clear definitions and standards, promoting more national and local government involvement, increasing corporate transparency and accountability, and more jurisdictional actions.

An issue for all actors in the supply chain is the scope and impact of certification. Although numerous articles show a clear role for certification, there is also a perceived need to look beyond this. For example, are voluntary commitments enough? What additional measures are needed to make certification as an instrument effective? The weak points are that certification is dependent on well-functioning
cooperatives or associations, and on good record keeping, which is a challenge for smallholders, and that investments lead to higher costs and lower incomes in the early years. The question therefore remains: how can successful pilots be scaled up, given the efforts needed by NGOs and companies to get a few farmers certified? This issue of ETFRN News presents several cases where one or more of these barriers have been overcome.

Summing up, this issue of ETFRN News presents many cases where real progress towards more smallholder inclusiveness has been made, with benefits for all, through a range of initiatives, such as intercropping, landscape approaches, strengthened communities and producer organizations, innovative business models, and new technology. This publication provides a diverse array of ways forward to make palm oil production more inclusive.

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Certification and smallholders
Photo, previous page: Transport of oil palm fruit in Tumaco, Nariño. Photo: Solidaridad
Introduction

Palm oil is in many of the products we use every day, from foods such as margarine and chocolate, to soaps, cosmetics and even biofuel for cars. The negative environmental impacts of oil palm cultivation, such as deforestation and social issues, are well documented, and are a cause of concern for many consumers.

To combat these challenges, the Roundtable on Sustainable Palm Oil (RSPO) was established in 2004 to promote the sustainable production of palm oil. RSPO-certified oil palm growers are audited by an independent, accredited certification body that verifies that production processes adhere to RSPO Principles and Criteria (P&C); this is a set of social and environmental guidelines that they must follow. Once certified, palm oil produced under this label is considered to be produced sustainably. As a non-profit, international
membership organization, RSPO unites stakeholders from all sectors of the palm oil industry: producers, processors, traders, consumer goods manufacturers, retailers, banks, investors, and environmental and social non-governmental organizations and civil society organizations.

By bringing stakeholders together to seek solutions to the challenges of the palm oil sector, RSPO has created a platform to transform how palm oil is produced, traded and sold. RSPO membership has more than doubled in the last five years; today, approximately 19% of all palm oil produced globally is certified to RSPO standards.

As more stakeholders join RSPO and the network becomes broader, RSPO’s role is to coordinate regional efforts and direct them toward the shared global vision of market transformation. Inherent in its structure and purpose is the need for a participatory and inclusive approach for all stakeholders. For real transformation to take place, the global market needs to become more inclusive, as well as more competitive, innovative, transparent and resilient. To drive these changes, RSPO and its stakeholders proactively respond to emerging challenges as the business landscape continues to evolve.

Including smallholders in the RSPO system

In Malaysia and Indonesia, smallholder production represents approximately 40% of the total oil palm plantation area. For sustainable palm oil to become the norm, RSPO-led solutions must be workable and profitable at every point and every level of the supply chain. In Asia, around 4.5 million smallholders rely on oil palm cultivation for a significant part of their incomes, but they tend to suffer from low yields and other challenges. RSPO-certified smallholders benefit from increased yields and greater access to international markets. This highlights why supporting these farmers to make the transition to sustainable production is a top priority for RSPO. Additionally, when RSPO certification and the implementation of responsible practices are made accessible and workable for smallholders, they have the potential to significantly reduce the negative impacts of oil palm cultivation on the environment.

Currently, RSPO certifies 105,441 scheme smallholders: farmers who are structurally bound by contract, a credit agreement or planning to a particular mill; and self-organized, self-managed and self-financed independent smallholders who cultivate 365,051 hectares (ha) of oil palm (RSPO Market Data, August 2018). RSPO is working to include more smallholders globally, enabling them to sustainably produce more palm oil and reduce the risk of land conversion that threatens forests and biodiversity. The total area currently cultivated by independent smallholders under group certification is 21,237 ha, a significant increase of 83% since the last reporting period (RSPO 2018).

Palm oil expansion in Latin America

Latin America represents a new frontier of palm oil that is counting on certification to help it use sustainability to gain a competitive advantage. Latin America has its challenges, but ambitions are high and developments happen at a fast pace. This article presents reflections on lessons learned by RSPO regarding smallholder inclusiveness, drawing on multiple case studies throughout Latin America. In a promising sign of independent smallholder certification in the region, Latin America’s first group of independent smallholders (ASOCOFOR) achieved certification in Ecuador in July 2017. They supply fresh fruit bunches to Organic Supply, which sells cooking oil nationwide and was the first company in the region to use the RSPO trademark on palm oil products.
The cultivation of the oil palm is still relatively new in the region. The first commercial plantations were established only fifty years ago. It has become a very attractive and lucrative alternative for farmers, as well as an increasingly viable option for brands, retailers and commodity buyers. With the fastest growth in the world in terms of newly certified hectares, it is an exciting time for Latin American RSPO members. Latin America is approaching the milestone of producing one million tonnes of certified sustainable palm oil products; the volume of certified palm oil has tripled over the last three years. Additionally, the number of RSPO-certified mills and supply chain facilities continues to increase, showing the growing interest among regional producers in adopting RSPO’s sustainability standards.

Remaining challenges

Today, 12 Latin American countries have commercial plantations. Together they contribute around 6% of global production every year, making Latin America the second most important palm oil-producing region in the world. The region’s rapid growth and approach to building a sustainable, resilient and more responsible palm oil sector is exciting for RSPO. In 2014, the total volume of certified sustainable palm oil was 250,000 tonnes from five certified mills. By 2018, there was a 260% increase, with the volume reaching almost 900,000 tonnes from more than thirty certified mills in Colombia, Brazil, Costa Rica, Ecuador, Guatemala and Honduras. Certified mills produce approximately 20% of the total palm oil output from Latin America, the highest level of certification of any region in the world.

A focus on sourcing from certified plantations has taken hold for several reasons. First, there is more market pressure to source certified sustainable palm oil products, not only from companies in the
United States and Europe, but also from Latin American buyers. In the region 113 companies have become RSPO members; 64 are directly involved in oil palm cultivation. The legal framework to which the palm oil sector must adhere across Latin American countries is very strict and is stringently enforced by governments. Therefore, companies involved in the palm oil sector in Latin American countries see RSPO certification as a good way to comply with national laws and minimize social and environmental conflicts as well as reputational risks.

Further, Latin America is currently hampered by low prices for palm oil and relatively high production costs, and struggles to compete in price with more established producers in Southeast Asia. Therefore, production of a sustainable and certified product offers them an opportunity to gain a competitive edge. By working to include smallholders, producers, retailers and governments across the region in its standard, RSPO is helping to build a dynamic and resilient industry that will continue to meet the needs of buyers now and into the future.

Although this growth is encouraging, there are concerns. For example, if the U.S. market decided to start purchasing all of its certified palm oil from Latin America, the region would struggle to satisfy the demand. This highlights the need for more to be done to scale up RSPO certification across the region and to overcome the remaining challenges. For example, in Colombia, Ecuador, Honduras and Guatemala, there are concerns about improving social practices, especially where there is ongoing conflict over land distribution. In addition, helping smallholder farmers to become certified remains a challenge. In Honduras, 95% of palm oil is produced by smallholders, and reaching out to them is proving difficult. RSPO continues to address this challenge through developing local capacity by training local technicians in RSPO standards and engaging smallholders in concepts such as High Conservation Value (HCV) and Free, Prior and Informed Consent (FPIC).

Besides concerns on social issues, it is also hard to mention Latin American agriculture without considering the potential negative impact of deforestation, with the region being home to half of the

In March 2017, the Ecuadorian national government and RSPO signed a memorandum of understanding (MoU) committing to the process of RSPO Jurisdictional Certification, making the country a pioneer in Latin America.

Photo: Angel Cordova
world’s remaining tropical forests. The region has advanced significantly in identifying and establishing reserve zones and protected areas, but the capacity for managing these reserves on behalf of local and national governments is still limited.

As the next frontier in palm oil sourcing, and despite the multiple challenges to be overcome, the region has accepted the challenge of sustainable production, building on lessons learned from other crops. Governments are also now more willing to enforce legal frameworks, and the mindset of industry players big and small continues to shift in the face of environmental, social and economic pressures. In Ecuador, for example, the government, civil society and palm oil producers have signed a commitment to RSPO Jurisdictional Certification, the first in Latin America. This decision has the potential to inspire other countries to adopt and implement RSPO’s Principles and Criteria (P&C) at the national level, ensuring the inclusion of all stakeholders in the production chain from smallholders to large producers to achieve the goal of sustainable palm oil production.

A perspective from Colombian smallholders

Colombia, where the first RSPO NEXT certification was issued, is the largest palm oil producer in Latin America and continues to lead RSPO certification. RSPO NEXT is a voluntary effort that engages with RSPO member companies that have met the current requirements and guidance of the RSPO P&C and, through their voluntary policies and actions, have exceeded them. The first NEXT certification was issued to the Colombian DAABON Group; the number of RSPO-certified smallholders in Colombia tripled in the first eight months of 2017 as a result. Another example of a company in Colombia with a progressive and participatory vision is Grupo Oleoflores. This is Colombia’s largest palm oil company, with more than 50,000 ha and an impressive smallholder programme that covers 35,000 ha.

Smallholders are a vital part of this successful palm oil industry. Smallholders often lack access to expertise, capacity building and infrastructure for sustainable cultivation. But in recent years, working with groups such as those within the Oleoflores smallholder programme, RSPO has begun to overcome this barrier through increased awareness, training and education, voluntary dedication, funding provisions, and systemic vigilance.

Experiences from a model farmer

One of these smallholders, Teresa Isabel Peña, described how RSPO certification has enabled her to increase her yields and income, and reduce the negative environmental impacts of oil palm in her home region of Tibú, Colombia. Before cultivating oil palm, she raised livestock, but never made much money. Teresa’s husband first planted 7.5 ha of oil palm, after which she decided to plant 10 ha of her own, alongside 19.5 ha of mixed crops and livestock farming. Teresa wanted to be a part of the Oleoflores smallholder programme and become RSPO certified because it would develop her business acumen. “It pushed me to start my company, realise that oil palm is economically viable, understand workers’ rights and safety and the concept of environmentally sustainability.”

RSPO certification also provided Teresa with important learning opportunities for tasks such as best management practices and soil fertility management. Before gaining these skills, Teresa used to harvest 19 tonnes of fresh fruit bunches per hectare per year; this has now increased to 35 tonnes per hectare per year. “And we have become well organized... with zero deforestation, zero burning, zero logging, and the conservation of species.” Teresa identified 4 ha of high conservation value land that she leaves...
alone and which has since attracted monkeys, deer, parrots and porcupines, which Teresa says has come to “represent the life of our farm.” Teresa and other Oleoflores smallholders are now known nationwide as model farmers. The adoption of improved techniques has helped to support an impressive transformation in the productivity and economic developments of RSPO-certified smallholders compared to non-certified ones.

Teresa explained how the impact of certification goes well beyond her farm: “The RSPO perspective not only benefits us, but also our surrounding community. It has been a blessing and has changed our way of thinking about the environment and workers, as well as seeing that our crop is profitable. It has really changed our perception [and] it has taught me about administrative processes in my farm, but also in understanding the social aspects of oil palm and how to have better relationships within my community.” For Teresa, certification is a symbol of credibility, a proof of sustainable practice in her farming operations and how she sees herself as a smallholder. “I used to be a farmer, now I’m a businesswoman.”

To continue this success and scale up the production of certified sustainable palm oil, “more training from RSPO is needed,” says Teresa. “I would love to see RSPO support more smallholders with certification in terms of protecting the environment and our workers. It also demonstrates that we women are leading by example—we are doing things right.”

To continue the support and development of women smallholders like Teresa, new gender-specific indicators in the revised RSPO P&C, adopted at the 15th General Assembly in November 2018, address the remaining gaps. These include ensuring that gender groups are consulted during the FPIC process, with the need for evidence to show that equal opportunities are provided to both men and women to hold land titles. In independent smallholder schemes, there must be evidence that all parties, including women, are involved in decision-making processes and understand the contracts; that women are included in consultation processes; and that there is a gender committee to raise awareness, identify and address issues of concern, and new opportunities for women’s empowerment.

The RSPO Smallholder Strategy

In 2018, a pivotal year, RSPO members and stakeholders reviewed and adopted an enhanced version of the RSPO P&C to improve the organization’s ability to fulfill its mission to include more smallholders in the fold of RSPO membership and certification. To date, work with smallholders has focused on facilitating certification through the development of the Guidance for Group Certification of Fresh Fruit Bunch Production, and through the provision of tools and resources designed to support smallholder
farmers throughout the process. These efforts have been valuable, but have yet to catalyze the large-scale inclusion of smallholders in the supply chain that is needed to drive significant global change.

As already highlighted, certification is still a significant challenge for smallholders, who often have limited access to expertise, training and infrastructure. In 2014, to improve current practices and its approach to increase smallholder inclusion in the RSPO system, the RSPO Smallholder Support Fund (RSSF) was established. This provides grants for smallholder capacity-building projects, shifting the distribution of funds toward implementation of RSPO’s Smallholder Strategy.

The RSPO Smallholder Strategy was developed to shift efforts in the farmers’ favour, prompted by the passing of Resolution 6f at the RSPO 12th General Assembly in November 2015. Following a comprehensive stakeholder engagement process, the final Smallholder Strategy was endorsed in June 2017. Underpinned by a broad philosophy of smallholder inclusivity, the overall goal of the strategy is to secure measurable impacts by ensuring that smallholders are able to achieve a sustainable livelihood through their inclusion in the sustainable palm oil supply chain. And in a significant shift, RSPO has chosen to focus on livelihoods over certification. This will be achieved by working towards three core objectives: support to smallholders in improving their livelihoods; simplifying the certification approach; and widening smallholder access to the global market.

In November 2017 RSPO launched the dedicated RSPO Smallholder Engagement Platform (RSEP), which connects smallholders with potential project partners, and provides additional resources and support to smallholders. Smallholder groups seeking investment or other support are helped to upload details of their project to the platform, and facilitators, investors and market players are encouraged to directly connect and assist them with their project.

Into the future with a new Smallholder Standard

For RSPO, the most significant recent progress is through the Smallholder Interim Group (SHIG). This group is working on the development of a new smallholder standard that applies exclusively to independent smallholders, in response to RSPO’s Smallholder Strategy. Objectives include the need to increase the number of smallholders certified by RSPO through simplification of the certification process (Objective 2), and to develop appropriate market mechanisms to support smallholder certification (Objective 3).

To promote smallholder inclusion, the RSPO Smallholder Standard presents a lower burden for entry into the RSPO system, and a simpler and phased-in process for reaching and verifying compliance. The process used to guide the development of the RSPO Smallholder Standard also strived to strike a balance between promoting greater smallholder inclusion and ensuring that core sustainability requirements are upheld.

Smallholders remain at the forefront of RSPO’s mission to establish a wholly inclusive sustainable palm oil supply chain, and ultimately, to achieve the vision of transforming markets to make sustainable palm oil the norm.

References

Introduction

The development of the palm oil industry in Latin America, in particular Colombia, has followed a different trajectory than in Southeast Asia. The most striking difference is in land-use changes during plantation expansion. In Malaysia and Indonesia this is commonly related to forest clearance, but plantations in Latin America are mostly established on previously cleared land such as cattle pasture (Furumo and Aide 2017). This dynamic is evident in northern Colombia, and it illustrates the advantages when trying to mitigate plantation expansion into high conservation value areas. However, it also means that many neotropical oil palm landscapes in Latin America already had little remaining forest cover, and limited capacity to support biodiversity and ecosystem services. Another important difference is that most palm oil produced in Latin America stays in the region, with much of it exported to Mexico (Furumo and Aide 2017).
The Colombian palm oil industry was established in the 1960s and 1970s to reduce reliance on foreign vegetable oil imports. Today the country is the largest palm oil producer in Latin America and the fourth largest in the world. A total of about 0.5 million hectares of plantations (Figure 1) each have their own unique ecosystems and socio-economic conditions. Colombia is unusual among palm oil producing countries in that more than 80% of production is used nationally in food, biodiesel and other industries (Fedepalma 2017). Recently, expansion has outpaced local demand; this has led to oversupply and saturated domestic markets and forced producers to look for new opportunities. With increased exports, more companies have begun pursuing certification to gain access to new markets and remain competitive, particularly in the northern production zone of the Caribbean coast, where proximity to ports (Cartagena, Barranquilla, Santa Marta) provides easy export.

**RSPO and organic certification in Magdalena, Colombia**

Certification standards such as RSPO’s have the potential to improve smallholder livelihoods if they deliver on sustainability goals. Currently, there is no evidence of the effectiveness of certification in transforming practices at the farm-level. This article reports recent findings on improved management practices among certified smallholders in northern Colombia (Furumo et al. 2018, in press). That study focused on farms near the Zona Bananera (see Figure 1), an area that has been dominated by commodity crop production since the banana plantations of the United Fruit Company a century ago.

Field surveys of 43 certified and non-certified farms in Magdalena, Colombia and a case-controlled study design allowed for a robust comparison of conventional and certified practices. The certified farms complied with both RSPO and International Federation of Organic Agriculture Movement (IFOAM) standards.

**The business model**

Smallholders themselves do not usually seek certification in the Colombian oil palm sector; usually it is initiated by anchor companies that own a mill and drive certification upstream in the supply chain. The certified company in this study owned the certificate and implemented a contract farming business model with smallholder cooperatives, called production alliances, that were established in 2002 through government policy (Proyecto apoyo alianzas productivas, Decree 231/2002).
The aims of the policy were to promote associations between smallholders and agroindustry and increase smallholder access to loans and other financing for establishing or improving farms. In Colombia, this model proved successful in securing supply and increasing output from mills. Today, at least 4,200 smallholder oil palm farmers are involved in 124 production alliances across the country (Fedepalma n.d.).

The typical farm size in the study area was five to six hectares. Many oil palm producers inherited their land or acquired it decades ago, and had prior experiences with other commodities such as cattle, cotton and cacao. They planted oil palm with favourable loans from the anchor company. The company attained organic certification in the early 1990s, RSPO certification in 2015 and RSPO Next in 2017. Most of the palm oil produced is destined for export in value-added products. As a result, the smallholders surveyed were both RSPO and organic certified, most having practiced organic farming since planting oil palm. During the RSPO certification process, the company covered the costs of field studies (HCV assessment, environmental and social impact assessments) that were conducted at the landscape level. Under arrangements between producers and mill owners, farmers take full responsibility for the on-farm improvements required by the standards, such as infrastructure or installations such as bathrooms for workers, storage rooms for agrochemicals, etc. Third-party audits for compliance are conducted on a random basis on some smallholders; a successful audit results in certification for all smallholders in the supply base.

After receiving financial support from the company during the certification process, smallholders entered into contracts to sell fruit exclusively to the company mill. These contracts were typically for 20 to 25 years, which is the time when oil palm needs to be replanted. There is no fixed purchase price,
but guarantees are included for premiums paid for certified production; other benefits (e.g., transportation credits) are negotiated separately. Under this arrangement, credit is also made available to farmers for fertilizers and equipment. This can be repaid through deductions from monthly fruit sales. The company also provides free periodic technical assistance through extension officers, who visit smallholders once or twice a month. Free technical assistance and credit-for-fruit exchanges were also common practices in the study area, even among non-certified producers.

**Evidence of certification effectiveness**

Certified producers reported significantly lower agrochemical use, more on-farm conservation areas, reduced hunting, and better worker pay, but no differences in water and waste management or record keeping. The most notable difference between certified and non-certified groups was the use of agrochemicals: 19% of certified producers used fertilizers and and 9% used pesticides, compared to 98% and 65% of non-certified producers. This can be attributed to organic practices implemented on certified farms. RSPO, on the other hand, is vague about agrochemicals, recommending only that their use be “minimized” to maintain soil fertility. Certified producers applied similar quantities of organic fertilizers (about 3 kg per tree annually); both groups applied less than half of the recommended amount needed to attain maximum yields. Fertilizers represent the single largest cost for oil palm producers — some 25–40% of their total costs — and many smallholders do not have the resources to maintain effective fertilization programmes.

Certified producers had significantly lower yields and fewer workers per hectare, reflecting the increased yield gap when inorganic fertilizers are not applied. Certified farmers produced an annual median of 18 tonnes of fresh fruit bunches per hectare, compared to 22 tonnes by non-certified farmers. Both amounts were well below the average yield of 27–30 tonnes in the North Zone of Colombia.
Certified farmers paid their workers US$3.55 per tonne of fruit harvested: 50% more than non-certified farmers paid (US$2.37). They received a 12–18% price premium on sales. Since certified smallholders were compliant with both RSPO and organic standards, with criteria that overlapped but were but in part complementary, the effects of the two certifications could not be separated. These statistics do, however, provide an example of the maximum potential for improving smallholder practices through certification.

Enhancing certification effectiveness

For improving farm-level management practices, particularly those that address environmental criteria, certification seems to be working. But the outcomes of these improved practices for ecosystem conservation and livelihoods are still uncertain. The study was unable to link environmental benefits with detectable improvements in livelihoods, since land holdings, household education and other assets considered key for well-being do not seem to vary much across farms. They study found encouraging outcomes in terms of better environmental practices and socio-economic benefits for farmers and workers, but certification still needs to improve on-the-ground performance. There are three important areas that require attention: ensuring continued financial incentives for smallholders (i.e., price premiums); improving forest cover and biodiversity conservation through habitat restoration; and overcoming smallholder lack of professionalism through better engagement and oversight by anchor companies.

Price premiums

Half of certified producers reported that the premium was their primary motivation for becoming certified, and 67% stated this was the primary benefit. Certified producers are essentially able to offset lower yields with higher prices, but the price premium may not always be guaranteed. As more producers become certified, the global supply of certified palm oil increases, and certified production becomes the new norm, the price premium could decline.

It is assumed that the current oversupply of certified palm oil is unlikely to change until consumers begin demanding certified palm oil in important countries such as China, India and Pakistan. Several palm oil mills in Colombia have already reported lower price premiums for RSPO-certified palm oil, and many expect these incentives to disappear altogether in the near future. Organic-certified palm oil may, however, continue to enjoy high price premiums since the global supply is a fraction of that of RSPO-certified palm oil. Premiums reported by the company varied widely: up to US$100 per tonne for organic-certified palm oil, but only US$15–20 for RSPO-certified palm oil. Given the importance of price premiums to smallholders, the issue of diminishing premiums must be addressed to enhance smallholder contribution in the global value chain.

Habitat restoration

In the highly degraded oil palm landscapes of northern Colombia, where little natural vegetation remains, avoiding deforestation is insufficient to claiming environmentally sustainable palm oil production. In this context, habitat restoration is needed to ensure the recovery of biodiversity and ecosystem services. On certified plantations, the main way to achieve habitat restoration is through conservation set-asides that identify and protect High Conservation Value (HCV) areas. For smallholders, HCV assessments are conducted by the company at the landscape level, i.e., not at each farm.
1.2 Does certification of oil palm work for smallholders?

In Magdalena, significantly more smallholders had maintained conservation areas on their farms, but this still represented only 26% of the sample. These set-asides were typically less than 0.5 hectare, or roughly 10% of the farm. Individually, smallholders contribute relatively little to regional forest cover and at a high cost to farmers, with the opportunity costs of not planting oil palm around US$380 per ha in northern Colombia. For habitat to be suitable for most forest species, much larger set-asides — of at least 200 to 700 ha — are required (Lucey et al. 2014), so it would be more feasible for certification programmes to engage with commercial estates to meet restoration goals.

Both RSPO and IFOAM restrict the planting of oil palm in HCV areas, but only IFOAM requires active restoration of on-farm wildlife refuge habitats where none exist. The only related RSPO provisions require active restoration of natural habitat in riparian areas, and even then, restoration can be delayed by many years. In a separate sample of medium- and large-scale producers in northern Colombia, conservation set-asides on RSPO/organic-certified plantations averaged 8% of total plantation area, but only half of RSPO-certified plantations maintained conservation areas averaging 5% of plantation area, and conservation areas on non-certified plantations were essentially non-existent (less than 1%). The presence of larger conservation areas on certified plantations is encouraging, but set-asides occurred mostly in small patches instead of large reserves, and were typically established opportunistically in areas where oil palm was difficult to plant or harvest. Certification standards should be amended to require the conservation or restoration of a minimum proportion of a plantation, and the establishment or expansion of riparian corridors along waterways should be prioritized in degraded oil palm landscapes to provide connectivity for wildlife.

Smallholder informality

A major theme that emerged from the study was that the informality of smallholder management can impede the adoption and effectiveness of certification schemes. Certified farmers did not outperform conventional farmers when it came to documentation, record keeping, and following safety protocols. Smallholders are typically unaccustomed to documenting day-to-day farm activities, and their habits are not easy to change. Indeed, many farmers view this level of meticulous record keeping as an extra burden with no direct benefit. Another factor may be temporary or inconsistent labour contracts. Many smallholders only oversee farm activities, hiring workers twice a month to harvest fruit and undertake maintenance. While the same workers are often hired each month, turnover results in inconsistent practices. Informality was not an issue on professionally managed medium- and large-scale plantations that showed across-the-board compliance with documentation, record keeping, use of safety equipment among workers, and supervisors ensuring that proper procedures are followed in the field.

The credibility of certification standards relies on transparency and traceability, so record keeping is key to successful implementation. Smallholder who don’t comply with these aspects of farm organization could follow inefficient agronomic practices (e.g., fertilizer applications) that affect profitability. More egregious examples of non-compliance could occur if certification standards are not adequately monitored and enforced. Improved capacity building for the company/mill and smallholders could help overcome these challenges. Although the certified smallholders surveyed had both RSPO and organic certification, most were unable to distinguish between the two. Many of them were certified organic first and thought that the addition of RSPO some years later was part of the original certification. Some were not even aware they were also RSPO-certified. This raises the need for better communication by the company and continued follow-up meetings or training to foster capacity and communicate updates to the standard.
Conclusion

Certification is no guarantee of sustainable palm oil production. Governance intervention and planning must be implemented at various levels of the supply chain and across the public and private sector to create a truly sustainable palm oil industry. Certification is only one piece of this puzzle. In this case study, certification enhanced smallholder inclusion by allowing farmers to acquire credit through production alliances formed with the mill, which also covered the most significant costs associated with becoming certified. This was made possible by a state-sponsored policy to improve links between smallholders and agroindustry, setting a precedent for the important role of local governments in improving the sustainability of supply chains.

State influence could be expanded by providing incentives such as tax breaks to companies that include more smallholders in their supply bases and promote ways for smallholders to capture more value from their production. For instance, a group of 800 smallholders in the Central production zone have organized to build their own mill for producing and marketing palm oil produced by smallholders (Vanguardia 2017).

Certification programmes such as RSPO and IFOAM remain important tools to engage smallholders in adopting sustainable practices. Better information networks and more creative efforts are needed, however, considering that most non-certified producers in the Magdalena study were unaware that such programmes exist. To this end, certification standards could be amended to require a certain target of smallholder representation in certified supply bases (Beall 2011). Large producers manage estates and have an outsized potential to contribute to conservation goals, but existing certification requirements are limited in the highly modified production landscapes of Latin America. The HCV framework can be effective in protecting conservation values in the presence of important habitats, but provides no quarter in their absence. Certification amendments that shift the burden of habitat restoration to commercial estates, as well as adding provisions to increase food security through the production of household staples, could greatly enhance the positive impacts of certification standards for smallholders.

References


Making palm oil sustainable and inclusive: incentives and disincentives in Indonesia

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Introduction

This article investigates the impacts of palm oil on the economic development of smallholder communities and on deforestation in Indonesia, based on a review of academic research and on interviews conducted by the authors in 2016. Increased forest conversion was a result of government efforts to alleviate rural poverty through increased commodity production, and was exacerbated by the designation of palm oil as a priority industry, and a new fund to increase domestic bio-diesel production. Certification was largely unsuccessful in reducing forest loss, and may even have made matters worse (Carlson et al. 2018). Also, government, industry and NGO interviewees said that the rainforest logging ban of 2000 made it difficult for other sectors to compete. Prospects for a “Beyond certification, broader institutional approaches can be adopted to manage resources more sustainably.”

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sustainable palm oil industry will remain limited unless governance is improved and barriers to smallholder participation in sustainability certification are reduced.

Background to palm oil issues in Indonesia

Indonesia is the world’s largest producer of palm oil. Rural production was encouraged in the 1980s and 1990s as part of a transmigration programme that relocated people to less densely populated regions. Initially, this involved direct subsidies to smallholders who were allocated farmland, later involving supply partnerships with companies (Euler et al. 2016). Palm oil experienced a further boom in the 2000s, notably in Sumatra, with smallholder expansion almost double that of private companies (Bissonnette 2016). Subsequently, smallholders have continued to expand outside of concessions and without formal supply contracts, resulting in a sector that exists largely outside any form of governmental control (Euler et al. 2016).

Although palm oil production is still dominated by large-scale industrial enterprises, the smallholder proportion rose from 33% to 42% between 2010 and 2015, when the total area of cultivation expanded from 4.7 to 11.3 million hectares. Smallholder expansion has not come at the expense of existing farmland, however, but through encroachment into forests and peatlands. This is cheaper than replanting (Hutabarat et al. 2018) for local communities who have access to communal forests, but not for those granted land under transmigration programmes (Euler et al. 2016).

A major problem when establishing oil palm in Indonesia is the use of fire for land clearing. It was estimated that the 1997 fires generated up to 2.7 gigatonnes of CO₂ and cost US$2.8 billion, whereas the 2015 fires cost more than US$16 billion (Watts 2018, in press). Intergovernmental environmental
policy instruments such as REDD+ for reducing emissions under the UN Framework Convention of Climate Change are important mechanisms for combating deforestation and conserving biodiversity, but REDD+ initiatives has generally been unable to outcompete palm oil as a land-use option. Combatting deforestation requires more complex policy responses than simply paying farmers to not clear land, as this is unlikely to be effective (Cacho et al. 2014).

There have been two primary initiatives to increase sustainability in Indonesia. The voluntary Roundtable on Sustainable Palm Oil (RSPO) includes industry and NGOs in a multi-stakeholder development process and certification scheme. Uptake by smallholders is low, however, due to high certification costs, and market penetration is low even though the EU and others are committed to purchasing only from certified sources. The scheme’s credibility has also been challenged by accusations that despite being voluntary, very few growers have been expelled for poor practices. In response, the Indonesian government developed Indonesian Sustainable Palm Oil (ISPO) in 2011, its own compulsory scheme tied to state environmental regulations, but it is less multi-stakeholder in approach and has less stringent sustainability criteria, such as not excluding forest conversion (Bissonnette 2016).

The extent to which a national government can intervene in countries such as Indonesia is uncertain, given a perceived lack of political vision and institutional capacity and resource constraints. And for corporate producers there is no imperative to change, given their market dominance, vertical integration, and the lucrative nature of existing arrangements. In this regard, palm oil has similar features to the timber and rubber commodity sectors, and incentives are needed to overcome these barriers (Jelsma et al. 2017).

**Challenges facing smallholders**

Oil palm has been hailed as a potential saviour for impoverished rural communities, but researchers question its economic benefits due to high input costs and lack of technical capacity. In addition, environmental degradation has resulted from using fire for land-clearing and pollution has resulted from mill processing and chemical use. Furthermore, land grabbing by private companies has resulted in the alienation of community land (Bissonnette 2016). Although adoption of oil palm cultivation may not be more lucrative than existing activities, the indirect gains from it still encourage adoption, so expansion is likely.

Some smallholders have certainly benefitted, but the results have been uneven. Palm oil as a main income source can be problematic and can even increase vulnerability to poverty. People without contractual ties are less exposed to market shocks, having more diversified sources of income. The claim that palm oil has alleviated smallholder poverty is not clear cut, since some people benefit from high prices when the market is good, but experience poverty during downturns. This has led to recommendations that contractual arrangements between smallholders and companies be reassessed to ensure that they meet the poverty alleviation agenda that is purported to be the main objective of encouraging palm oil production (Cahyadi and Waibel 2016).

Consumer demand for improved sustainability and social and environmental performance has placed smallholders in a difficult position; they must navigate their way through a range of public and private standards (Jelsma et al. 2017). Independent smallholders find RSPO certification onerous in terms of compliance regarding land tenure, chemical and fertilizer use, and the complexities of the
process itself (Brandi et al. 2015), and certification does not reduce dependence on market conditions or guarantee improved prices.

There is also little evidence that government certification schemes lead to livelihood improvements for smallholders. Although ISPO certification is technically voluntary for smallholders, it is in effect compulsory, since many supply large companies require it. This has led to a patchy pattern of adoption, with 40–60% uptake, depending on numbers of practices adopted. ISPO is also not reaching some smallholders, leading to suggestions for more effort to encourage uptake through awareness-raising (Ernah, Parvathi and Waibel 2016). And as one commentator pointed out, “smallholders do not eat certificates” (Glasbergen 2018).

Industry perspectives

Other macro-economic barriers mitigate against alternatives to palm oil. Interviews in 2016 of 35 governmental, private and NGO actors revealed the existence of subsidies to maintain the price of palm oil, an option that does not exist for forest concessions. The agency for palm oil plantation fund management (Badan Pengelola Dana Perkebunan Sawit) collects payments from companies based on an export price of US$20–50 per tonne. This fund covers a range of activities, with grants provided to smallholders for planting and maintenance of up to 4 ha per household; this can also be aggregated into community areas of up to 300 ha. Producers sell biodiesel to the government oil and gas company (Pertamina), and in 2016, three million kilolitres of crude palm oil were used as biodiesel under the twin justification of maintaining price stability and preventing carbon emissions. The diesel price in world markets is currently around US$0.20 per litre, while crude palm oil is around US$0.56, with the difference subsidized through the fund.
One interviewee explained that some people view the fund as a trigger of forest conversion since it supports oil palm expansion, in spite of measures that companies had in place to prevent this. Another explained how existing arrangements were an incentive for oil palm over forestry, because once a company harvests timber, it must replant, and that requires payment of taxes, but with oil palm, companies take the fruit but don’t have to pay tax. Also, forest companies are obliged to follow the annual and ten-year plans of the Ministry of Environment and Forests, whereas palm oil under the Ministry of Agriculture does not follow such planning cycles. These factors act as incentives for oil palm conversion, and the fact that it was declared a high-priority industry by the government led one NGO to conclude that “this makes oil palm oil number one, with other sectors like natural forests a far distant third.”

Various sectors are in competition regarding forest management, further affecting their ability to compete with oil palm. Natural forest concession holders noted that they were at a disadvantage with timber plantation concessionaires as the latter have more opportunities for collaborative forest management, and plantation companies have more latitude. A certification body representative concurred, noting that there are a lot more burdens on natural forest operations. Local communities also saw natural forests as customary land and expected to be able to garner “windfall profits,” but did not see plantations in the same way. Other interviewees disputed this. However, there was some consensus regarding the unhealthy competition between concessionaires producing plantation roundwood, and palm oil and paper pulp-producing companies.

All logging concessionaires saw the country’s log export ban as having extremely negative impacts on their industry, introduced merely “to appease international consumers,” according to one concession holder. The consequence, however, was that plantation roundwood was also banned “to create equality in the market with natural forest logs” and became a “lose-lose situation” for plantation companies processing roundwood, who said that “only pulp companies benefit.” This interviewee talked of ministerial discussions on a partial lifting of the ban in return for reduced impact logging and good performance, but said that major players had prevented this because “they wanted to control the market and the price.” According to another natural forest concession holder, the logging ban generated a series of macro-economic problems, the consequence being “there is just no investment.” The view that bans did not work was expressed by one government interviewee, who noted that “there are problems with imposing moratoria as a policy approach. In Aceh, for example, logging was stopped, but logs are still coming out. There needs to be consideration for livelihoods of local people, or there will be no change.”

Non-extractive concessionaires noted that they were at a disadvantage with logging concession holders. One explained that “current taxes and fees are working against us,” with the problem being “multiple applications for licence fees.” If a particular ecosystem services market collapsed, such as carbon or REDD+, and they opted for something new, they were obliged to reapply for a new permit for the new activity. They did not understand why they had to pay multiple permit fees, but were also clear that “other people working with REDD+ are dealing with similar problems.”
Conclusions and recommendations

Most agree that oil palm cultivation is a profitable activity and as such is likely to expand, and that it has greater carbon storage potential than annual crops (Sayer et al. 2012). Despite this, negative impacts on biodiversity — combined with a history of encroachment into natural forest and peatland, especially in Indonesia — have resulted in considerable resistance from social and environmental activists. Ongoing expansion of palm oil production by smallholders and corporations raises questions concerning the degree to which current governance and regulatory frameworks address sustainability issues.

Efforts to increase the social and environmental sustainability of palm oil production in Indonesia have resulted in the development of mandatory and voluntary certification systems by state and non-state actors. However, the scale of cultivation, the broad range of actors and limited state capacity has made enforcement of environmental regulations difficult. Investigations by the authors in 2016 indicated that in addition to barriers faced by smallholders, there are structural and fiscal barriers to developing viable alternatives at scale. In addition, the logging ban has also made forest management less attractive, with the perverse consequence of encouraging further oil palm expansion.

Encouraging the implementation of payments for ecosystem services schemes might be thought to encourage behavioural change, but research results are mixed. Creating incentives for farmers by providing financial rewards to maintain traditional agricultural practices has had some success, but assisting farmers to comply with environmental legislation — rather than forcing them — had a greater likelihood of success. In addition, providing employment for local communities in forest, carbon and ecosystem restoration concessions is important, as is, crucially, sharing the benefits that arise from payments for ecosystem services. Rethinking certification models is thus essential, in a way that emphasizes landscape-level initiatives and standards rather than single commodities, and that focuses on genuine stakeholder partnerships and recognizes the need to help smallholders address their livelihood challenges.

Beyond certification, broader institutional approaches can be adopted to manage resources more sustainably. Assessing how smallholder systems are organized and developing good governance arrangements will allow improved smallholder access to supply chains and encourage higher productivity on existing areas, this reducing further encroachment (Jelsma et al. 2017). Institutional design principles are also important, and related work on common pool resources has been helpful (Ostrom 1990). But arrangements need to go beyond purely functional and mechanistic ones, and recognize social issues such as increasing participation and empowering collective action. Good governance can also contribute to reducing conflicts between smallholders and companies that arise from uneven power relations, lack of transparency, absence of free, prior and informed consent, and unequal benefit sharing, which are all aggravated by unclear land tenure.

Beyond these arrangements, broader societal behaviour changes in consumer countries would help to ensure that palm oil production occurs on a more sustainable and equitable basis. Given that palm oil will continue to expand, maximizing benefits while minimizing negative outcomes requires alternative production methods that focus on ecologically and socially sustainable development.
### Acknowledgements

The original research was conducted with funding from ACIAR, Project FST/2012/040, Enhancing smallholder benefits from Reduced Emissions for Deforestation and Forest Degradation in Indonesia.

### References


The beginning: searching for livelihood options

Fausto Martínez was born in the Lenca community of Guajiquiro, Honduras. At a young age, without proper schooling or knowing how to read or write, he was forced to leave home in search of work. At the beginning of the 1970s, the only place where Fausto could find work was on the banana farms more than 300 km to the northeast. There, he began to learn about agriculture, but the working conditions were often harsh, since no one enforced the labour laws that were put in place to support workers’ rights. “But it was a job,” said Fausto.

The most difficult time came at the end of 1974 when hurricane Fifi-Orlene hit northern Honduras and erased entire communities overnight – it was the worst natural disaster Honduras had seen. The country’s entire banana crop was also completely wiped out.
As a result, the economy was severely affected, and the livelihoods of tens of thousands of Hondurans were destroyed. Government agencies began working on plans to revive the shattered economy and provide alternative sources of income. An initial plan costing US$5 million to revamp agricultural businesses was established, and another US$15 million was set aside for two-year loans.

One year later, Honduras passed the Agrarian Reform Act. This followed a 20-year effort by the Honduras farmworker movement, who had protested against the difficult living and working conditions in the banana industry. “We were already grouped together and had the land, but those were very difficult years,” recalls Fausto. “We grew rice, corn and other crops, but that doesn’t lift anyone out of poverty.” The leaders of the farmworker movement pushed for new projects with perennial or plantation crops that would actually improve their quality of life.

As part of the government’s revival plan, alternative crops — including sugarcane and oil palm — were being assessed in the area by the National Agrarian Institute (INA). The institute also provides technical, administrative and financial support to farmers. The National Development Bank (BANADESA) provides farmers with financial support, supervision and project management. After deep debates within the farmworker movement, oil palm was chosen. This decision would have great repercussions on the transformation and development of the whole region, and on the living conditions of the farmers and communities there.

**Betting on oil palm**

“The beginning was very difficult, as there was no confidence, and working collectively is not for everyone,” Fausto said, as he explained the beginnings of a new “social company” that was established in response to low prices and poor self-organization. “Many felt that someone was taking advantage of them, that they were working for someone else, and the first harvests were sold at miserably low prices. It was then that we saw the need to process our own production and thus add value to our fruit. In 1985, with support from the Netherlands, we built a mill with an extraction capacity of 24 tonnes per hour. This is when we began to see some positive change in our lives as our livelihoods improved. We chose the name ‘Hondupalma’ for our organization, which represents 31 associated groups and hundreds of independent partners and producers.” The farmers started as independent producers, but then realized that they had no negotiation power as individual farmers, so they began to form groups and learned how to undertake the various stages of processing. As soon as they mastered one, they went on to another. “Now we also have a refining plant, fractionating plant, churn plant, almond plant, a tank for oil exports, a boiler with a turbine for power generation, and equipment for biodiesel generation. If you didn’t see it, you would never believe how far we’ve come in these 35 years,” confirms Fausto, one of the founders of Hondupalma.

There are approximately 20,000 smallholders in the northern zone of Honduras who, like Fausto, saw oil palm as an opportunity for themselves and their families to prosper. Historically, oil palm in Central America and Mexico does not have the same environmental footprint that characterizes the industry in other parts of the world. An analysis of the history of oil palm expansion between 1989 and 2013 — and the degree to which it was associated with deforestation — reveals that in Southeast Asia, 45% of the oil palm plantations studied were on sites that were forested in 1989. In South America, the corresponding area was 31%, but in Mesoamerica, only 2% of oil palm plantations were established on land that was forested in 1989 (Vijay et al. 2016). “The palm industry has really contributed to our country in the reduction of poverty,” says Nelson Araya, General Manager of
Hondupalma. “But once we passed the survival stage and started to see some profits, we started to think that there were many other factors that we had to take into account. Our production should be responsible and environmentally friendly; we must treat our workers properly, and maintain good relationships with the communities around us. We also realized that we needed to take it one step further to be able to access other markets around the world.”

“Now we are productive, we must find ways to be sustainable”

In 2012, with support from the Government of the Netherlands and the consumer goods company Henkel, the international civil society organization Solidaridad began to promote the Roundtable on Sustainable Palm Oil (RSPO) standard in Honduras, to support the broader inclusion of smallholder palm oil producers, and to ensure sustainable, high-quality production. Initially, Solidaridad and its partners WWF and Proforest found many deficiencies related to good practices, a need to expand technical support to independent producers, and a significant lack of communication among stakeholders in the supply chain. Yet Solidaridad also saw great opportunities.

The first challenge was to work with smallholders to overcome the shortcomings related to agricultural practices. In 2013, Solidaridad and partners held forums in several cities to introduce the RSPO standard. Workshops to train lead auditors were then organized, with the support of Hondupalma. These were the first such courses in the world to be taught in Spanish. In addition, alliances with the government were sought through cooperation agreements with the Honduran Ministry of Agriculture and Livestock, and with the academic sector through the Honduran Foundation for Agricultural Research. The goal was to implement assistance programmes to close the technical gaps that limit smallholder productivity; these programmes have been ongoing.
Omar Palacios, the Solidaridad Country Director, has led the programme in Honduras from the beginning, and has evaluated the processes that have been developed to date. “Changing the mentality of people takes time. But we must not stop. From the case in Honduras, we have learned that the benefits from implementing good practices are many and wide-ranging. And when a producer begins to apply them on his land, it raises curiosity of his neighbours, and more people begin to get involved. In the short term, this generates benefits for the smallholders. In the medium term, it benefits communities and their natural resources. In the long term, it creates changes in policy, decision-making and even change in consumers.”

At the same time, it was imperative to improve communication between the various stakeholders in the supply chain who had been affected by conflicts between private companies and cooperatives. Mediation carried out by Solidaridad brought polarized sectors together at the same table, a key step in restarting dialogue, identifying common interests and challenges within the sector, and agreeing on solutions. This is how the Sustainable Palm Oil Project in Honduras (PASH) emerged in 2014. The project had seven palm oil producer partners in Honduras, and had a great impact by helping to establish the national process by which the RSPO standard was adapted to the Honduran context; this was achieved in less than one year. By December 2015, the national standard was already in place and the first three companies were certified. “It was at this point that the multiple stakeholders of the value chain, despite being competitors in the market, found a common interest and saw the tangible benefits of being organized and cooperating with each other,” recalls Omar Palacios. Today, PASH has more than 50 partners from multiple sectors in Honduras and Nicaragua.
By creating trust mechanisms and a dynamic of cooperation between the various actors in Honduras, and by replicating this approach across the region, Solidaridad was able to build a sustainable palm oil programme: the Mesoamerican Palm Oil Alliance (MAPA). And by expanding to a regional level, MAPA has been able to position Central America and Mexico as a premier global source for sustainable palm oil. Michaelyn Baur, Regional Director for Solidaridad, sees these achievements clearly: “We are looking forward to supporting 100% of the producers in the region to become RSPO-certified, but we also look beyond certification to achieving sustainable landscapes.”

But can we go one step further?

“There are many opportunities disguised as conflicts,” adds Omar Palacios. “The human tendency is to flee from conflict, but Solidaridad identifies opportunities where others see only problems. It has been a challenge to work with such a controversial commodity as palm oil, as the first reaction of many is to avoid the issue. But I see the advances, and those can only be achieved if you work from within. And it is also important that people understand that in a country like Honduras, where the agricultural model is based on smallholder cooperatives, the economic spillover has a great impact on the livelihoods of many people. The key is not to prohibit their products, but to support them to improve the way they produce them.”

In 2017, when working with the oil palm sector in Honduras, Solidaridad found a perfect opportunity to move from a focus on farms and processing plants to a landscape-level approach. This was because of the inclusive nature of the agricultural economy in the sector. To support this new approach, Solidaridad created the Sustainable Landscapes Programme (Paisajes Sostenibles, or PaSos) to continue facilitating dialogue and build consensus between farmers like Fausto, social enterprises like Hondupalma, and private companies. The programme also includes municipal leaders, water councils, tourism boards, environmental associations, cacao producers and many other stakeholders to find solutions at the broader landscape level that benefit everyone. And when the private sector, cooperatives and local government work together effectively, the implementation of better policies is much easier and faster. The oil palm sector in Honduras has become a regional leader, bringing to the table other commodities across the country; eventually it will include the whole region.

PASH and the Sustainable Landscapes Programme appear to be successful models for improving productivity and increasing inclusiveness in the search for sustainability. They can potentially strengthen the position of smallholder palm oil producers elsewhere and consequently improve their livelihoods.
and those of other commodity producers, as well as other marginalized groups such as women, youth and indigenous peoples. They can also clearly be replicated for other commodities.

After 18 months of creating dialogue through a multi-stakeholder platform with the PaSos programme, a meeting took place in June 2018 that a year before would have been unthinkable. Environmental organizations invited palm companies to update everyone on the management plan for Jeanette Kawas National Park, and the oil palm sector accepted the invitation. It was not easy and there were tensions, with many diverse interests, but everybody agreed that the responsibility to do better rests within each of them. Even more importantly, agreements and compromises were reached by all participants.

**Sonia Maribel Ramirez**

Born into a family of oil palm producers, Sonia has been producing palm oil for eight years. She is a member of the Unified Peasant Movement of the Aguan (MUCA), which brings together 612 families working 2,500 ha of oil palm. “The biggest change I’ve seen in a life surrounded by oil palms was in 2017, with the PaSos programme from Solidaridad. It is very difficult to agree with so many people, but we are talking and little by little we are finding things in common. We all agree that for everyone’s sake we must ensure better management of all our shared resources.”

Omar Palacios, Sonia Maribel Ramirez (smallholder and member of the Unified Peasant Movement of the Aguan), Fausto Martinez, Suyapa Diaz and Michaelyn Baur, Regional Director for Solidaridad Central America, Mexico and the Caribbean, during a multi-stakeholder meeting in Honduras, September 2018. Photo: V. Cohn / Solidaridad

**Scaling up to the landscape level**

During a regional experience exchange co-organized by Solidaridad in Costa Rica in early 2018, Ronald McCarthy, the regional IUCN representative, highlighted the importance of understanding landscape restoration through new eyes. “For the countries in this region to advance towards the achievement of their national and international goals, it is essential to understand the restoration of the landscape from a broader approach, and to talk about the restoration of the productive rural landscape, which means to work with non-traditional sectors in this matter.”

“We’ve developed a very realistic change theory, and despite contextual and regional differences, we’ve experienced great acceleration and uptake in innovations,” added Solidaridad’s Regional Director, Michaelyn Baur. “For example, the success of smallholder producers in Honduras is helping us promote an innovative and inclusive smallholder model in Nicaragua. Technology innovations in Guatemala have been shared to support the programme in Honduras, and the Honduran model is very encouraging to Mexican smallholders, who can learn to improve their yields and quality of product without the need to start finding answers from scratch. And that’s why we are developing
the Mesoamerican Landscape Accelerator, because we saw that from a Honduran oil palm consortium, PASH, we could scale it to a Mesoamerican oil palm consortium – MAPA. And now we want to do the same with our multi-sectoral landscape platform led by the palm sector. We want to use all the lessons we’ve learned in Honduras to scale it to the regional level.” She also said, “A producer once told me, to get certified is like reaching the top of a mountain: it’s very hard to get there, and once you arrive there you realize there are a lot of even higher mountains that must be also reached. But they also understand that they are leading the way and that they have the power to make changes.”

Of course, there is still a lot of work to be done. The dialogue between actors needs to mature, and more concrete agreements need to be reached. It is essential that both local and national government become more involved in developing territorial planning strategies and in implementing existing strategies and strengthening the regulations that apply. The identification of High Conservation Value (HCV) areas must include more specific commitments to protect them. There is no doubt that Honduras has taken great strides in proving that socially inclusive, economically profitable and environmentally responsible models can be developed. And it is a fact that without smallholders, sustainability in oil palm cannot be reached, and every step taken to support them is the right step.

Five years ago, after almost 40 years working in agriculture, and with profits from his work as a Hondupalma member, Fausto was able to buy some land of his own. Today, after additional investments, he now has 21 ha with oil palm, banana, plantain and cacao agroforestry. “The most relevant change I’ve seen in all these years is the cultural change. I realize now that most of the time people do things the same way because no one has told them that there’s a better way: a better way to work the land, a better way to use the resources, and a better way to talk to each other. I go to all the PaSos meetings. I’ve met so many people and I’ve heard so many ideas. And though I never learned to read or write, oil palm has allowed me to educate my five children, but maybe learning how to learn will be the most useful teaching for all of us.”

Reference

Introduction

Indonesia is the largest palm oil producer and exporter in the world. In the past, the palm oil industry was dominated by big state and private companies, but since 1984 oil palm smallholdings have increased. In 2002, the total area of smallholdings reached 35% of the country’s total oil palm plantation area; this increased to 42% in 2003, and was 41% in 2018. Accordingly, smallholder producers must play active roles in the global palm oil supply chain.

Inclusive supply chains are intended to include participation by all players for mutual benefits. The success of an inclusive supply chain can be measured through four components: ownership, voice, risk and reward (Huppert 2015; Sjaw-Koen-Fa, Blok and Omta 2018). Unfortunately, surveys in ten Indonesian provinces...
show that palm oil has undoubtedly increased smallholders’ income, but not necessarily their participation (Chalil et al. 2016).

The cases and conceptual analyses presented in this article provide insights on various aspects of smallholder inclusion. One influencing factor is the RSPO sustainability certification, which is widely demanded by global markets. Certification is expected to improve smallholders’ inclusion in the global supply chain.

**Does RSPO certification support smallholder inclusion in the global supply chain?**

There is a long and complex supply chain from oil palm producers to final consumers. Both direct and indirect interactions between participants in the supply chain are further complicated by the different demand and regulations in various countries. The demand for sustainable certified palm oil is increasing, be it local or international, mandatory or voluntary, especially in European countries.

Local mandatory certification programs have been developed in Indonesia (the Indonesian Sustainable Palm Oil, or ISPO) and Malaysia (the Malaysia Sustainable Palm Oil, or MSPO). International voluntary certification is used by the stakeholders of the Roundtable on Sustainable Palm Oil (RSPO). RSPO’s certification initiative was introduced in 2007 and is evaluated every five years. The inclusion of smallholders has been addressed implicitly through the transparency criteria in 2007 and 2013. In 2018, smallholder inclusivity was explicitly stated in criteria 5.1 and 5.2.

In 2018 RSPO certification has 7 principles: 1) behave ethically and transparently; 2) operate legally and respect rights; 3) optimize productivity, efficiency, positive impacts and resilience; 4) respect community and human rights and deliver benefits; 5) support smallholder inclusion; 6) respect workers’ rights and conditions; and 7) protect, conserve and enhance ecosystems and the environment. Although the 2018 certificate has fewer principles, it has more total indicators that need to be fulfilled. To date, however, the 2018 revision has not been implemented.

The use of RSPO certification is growing, showing its increasing acceptance as a means of verifying sustainable management practices in the global supply chain. Physically, certified sustainable palm oil (CSPO) is not significantly different from non-certified palm oil. The certification reflects consumers’ ethical choice to improve the environment and conserve tropical forests.

Similar beliefs appear on the supply side. Significant increases in certified areas reflect efforts from the growers to preserve the environment. In 2007, when RSPO certification was introduced, only 106,384 ha of oil palm plantation area were certified; a decade later this had increased to 2,859,766 ha, a 26-fold increase.

Smallholder areas account for more than 40% of the total oil palm plantation area (RSPO 2018 and 2019a). Included in the total certified area are 325,655 ha of certified smallholding areas. This is a relatively small proportion, partly due to smallholders’ technical and managerial limitations, compared to those of state and large private companies. RSPO accommodated these imitations by developing special criteria for smallholder certification, which are reflected in the 37 and 39 criteria for independent and schemed smallholders, respectively.
However, even though the principles and criteria (P&Cs) are specially tailored to smallholders, most of them still find the P&Cs difficult to deal with (Chalil and Barus 2018). One challenge is the recording and documenting process. Previous studies in North Sumatra, South Sumatra, Riau and Jambi (Chalil and Barus 2012; 2016; 2018) showed that more than 80% of smallholders did not keep any records, even though they had implemented some RSPO criteria. Data from 282 smallholders in North Sumatra show that only 20–40% of those who had implemented RSPO criteria were able to provide documentation and records (Chalil and Barus 2012). Each criteria in the RSPO certificate has indicator(s), and about one-third of these indicators are related to “implementation/practices and knowledge” aspects; the rest of them are related to documents and records.

Another challenge comes from the combination of high certification costs and the lack of clarity about the price premium needed to cover the extra expenditures required to implement the RSPO principles and criteria.

Since 2015, the growth of the certified area in Indonesia has fluctuated. The amount of the price premium depends on negotiations between the seller (grower and exporter) and buyer (consumer, processor or trader). Some of the certified palm oil is even sold as non-certified oil, with no price premium at all. Even so, growers still implement some principles and criteria, especially those related to better cultivation and harvesting techniques. However, RSPO certification also covers social and environmental aspects, and the extra efforts and expenditures needed to fulfill these aspects would not improve growers’ productivity and quality. These aspects need to be factored in when calculating the price premium. Until 2017, only 56% of certified sustainable palm oil was traded with a price premium.
Partnership, certification and inclusivity

Partnerships are widely acknowledged as a way to address smallholders’ weakness and their inclusivity (e.g., Charlemagne et al. 2015; Devaux 2016). Standards and certification systems have introduced a new form of partnership between civil society organizations and businesses, which has shifted the context of sustainable production and consumption in important ways. Companies with good technical and managerial competencies have proved to be valuable partners for smallholders. Moreover, since fresh fruit bunches need to be processed within 24 hours, partner companies also need to own mills. The RSPO smallholder certification is a group certification, so the impact of a partnership between smallholders and companies is also influenced by smallholders’ institutional capacity and management type.

The link between inclusivity and certification was analyzed in four oil palm-producing areas of Indonesia: North Sumatra, South Sumatra, Riau and Jambi. There were four types of partners: government company, local private company, local private companies and NGOs, and foreign companies, and three types of smallholder organizations: cooperatives, associations and joint groups. Data was collected from 194 schemed smallholders and 197 independent smallholders, covering three stages of RSPO certification: socialization (non-certified), preparation for certification, and certification (Chalil and Barus 2018); see Figure 1. Five types of partnerships resulted.

The level of inclusiveness was measured through ownership, voice, reward and risk. Ownership refers to land status, land size and group assets. Reward refers to improvements in productivity, selling price and income. Voice refers to the involvement of smallholder representatives in price meetings, the bargaining power of smallholders with traders and mills, and membership in smallholder organizations.
Risk refers to smallholders dealing with risks related to production and price/market; the more involved they are, the greater their inclusiveness. Production risks relate to the responsibility of smallholders in production, whether it is managed directly by them or indirectly by partner companies. Price/market risks include the trade system, conducted individually or collectively through smallholder groups, and involves bargains with traders or simply using the government price at the mill gate.

**Figure 1. Level of inclusiveness of various types of partnership**

The total scores of these components show the level of inclusivity for each type of partnership. Each component was scored: 0–3 for ownership; 0–3 for reward; 0–3 for voice; and 0–4 for risk. Partner companies in all four types of partnerships are involved in addressing and improving smallholder technical and managerial skills. Companies have their own mills and purchase and process smallholder production directly without involving middlemen, which improves sales and selling prices. Only a few companies dominate the palm oil market; palm oil supply is controlled by a huge number of smallholders and only a few mills. Therefore, the integration of smallholders and companies is considered as shifting price/market risks from smallholders to the companies. Integration could, however, also increase smallholders’ dependency on their partners, and overdependence on any single buyer should be avoided. Independent smallholders (without a partner) have lower scores than the schemed smallholders for the other three components: 1.21, 0.54 and 1.14 for ownership, voice and reward, respectively. The level of inclusiveness for each type of partnership is presented in Figure 1.

Figure 1 shows the five types of partnership between smallholder groups and companies: 1) smallholder association-local private company; 2) cooperative-foreign private company; 3) forum or joint group local private company and NGO; 4) cooperative-local private company; and 5) cooperative-state
company. No partner or independent smallholders were included as the baseline. Data show that certification seems to improve inclusivity; uncertified smallholder cooperatives had lower inclusivity scores than the certified ones. The highest voice score was given to the partnership that involves an NGO as the smallholders’ partner. The NGO has considerable experience and expertise in empowering communities, thus significantly improving smallholders’ ability to participate. In general, company partners focus on technical aspects while also helping with managerial aspects.

If the “to-be-certified” category is excluded, all of the scores indicate a positive impact of certification on smallholder inclusivity. For example, there is an increase in the reward score for smallholders post-certification. Scores differ among cooperatives, associations and forums. Cooperatives are business units, thus likely to focus on income generation, which causes smallholders to have higher reward scores. However, all of the schemed smallholders received a higher selling price.

Similarly, certification also improved the voice of smallholders, but in such a long supply chain this aspect needs to be improved both horizontally and vertically. Horizontal improvement refers to coordination among growers, such as within smallholder organizations, and would help cooperatives meet their goal of one person-one voice. Vertical improvement refers to direct and indirect links between smallholders and other players along the supply chain. This study analyzed direct links through smallholder involvement in local price meetings and their bargaining processes with traders and mills. (Indirect links with other players such as foreign buyers or end consumers were not addressed in the study.) An example of a direct link is evident in the RSPO annual meeting, which provides special smallholder sessions. Since smallholders come from a range of cultures and often lack capacity, they may face difficulties in attending the sessions, from registration to getting involved in discussions. Therefore, this approach is unlikely to be effective in raising the voice of smallholders (Cheyns 2011).
Consumer inclusiveness, commitment and action

Most inclusive projects tend to focus on linking weak players to markets and to the value chain. Inclusiveness has been defined as a way to link small business to the market. In fact, exclusion does not always happen because of circumstances; it sometimes happens by choice. In this case, smallholders were excluded by circumstances: they could not meet the global market demand for certified sustainable palm oil. However, consumers who demand certified sustainable palm oil (CSPO) could also be excluded from the CSPO supply chain if they choose not to pay the premium price. By choosing to treat the CSPO as a non-certified CPO and not paying the appropriate price premium, consumers are excluded from the CSPO supply chain by their own choice. This could be harmful to and risky for the sustainability of the CSPO supply chain.

Smallholder FFB is a derived demand from end-product consumption. The willingness of end consumers to pay a premium determines the price for all products along the supply chain, including smallholder FFB production. Certification does not change the quality of palm oil products, however, and consumers pay a premium only to support their ethical choice for environmental conservation. In fact, not all consumers, processors or traders have the same perceptions; therefore, the willingness of end consumers to pay, known as the buying price, is not always fully transmitted along the supply chain.

Smallholder groups need several years of preparation to meet RSPO principles and criteria. This includes identification and assessment, training and document preparation. Afterwards, the assessor will continue with pre-assessment, corrective actions, first audit and annual costs. The total cost is estimated to be around US$8–51 per ha, which includes initial and annual certification costs. The certificate is valid for five years; therefore, smallholders need to renew the certificate three to four times during the entire oil palm tree cycle (WWF 2012). There is no guarantee that these extra costs will be covered by premium CSPO prices. In 2018 only 53% of all certified palm oil production was absorbed in global markets; i.e., traded with premium prices, which range from US$1 to 6 per tonne (RSPO 2019b). This means that the unabsorbed certified oil and CSPO that are sold without a premium could not cover their extra certification costs.

Improving smallholder inclusiveness

Smallholder inclusiveness could be improved in two ways. It could be improved internally by addressing the limitations of smallholders. It could be improved externally by improving the participation of other stakeholders. Oil palm smallholders range widely in their ownership, skills, knowledge and interest. The main weakness for smallholders is their lack of basic capacity. For example, certification requires records of and documents on all of the principles and criteria. However, most smallholders do not record their activities, so they cannot be certified even if they have implemented sustainable practices. Also, smallholders on average have a small amount of land, which is far below what is economically optimal. Therefore, they need to improve their collective actions, yet most of them are not adequately organized. Smallholders also lack individual knowledge and skills. To address this, they receive considerable assistance from partner companies. This study shows that partnerships can improve smallholders’ efficiency and income, and their inclusivity in the value chain. However, partnerships could also reduce the participation of smallholders and increase their dependency, unless they receive technical and managerial training. To address all of these issues, smallholders must be trained in technical and managerial aspects, networking along the supply chain, and preparing contracts with partners. Oil palm is a long-term business, and good contracts are crucial in improving risk management for smallholders.
References


Alternative models
Smallholder oil palm producers contributing to peace and sustainability in Colombia

David Calderón and Carlos Alberto Pérez

“Monitoring and support are crucial for increased smallholder inclusiveness.”

Oil palm in Tumaco

Tumaco municipality, on the Pacific coast of southwest Colombia, bordering Ecuador, has a seaport and good conditions for agricultural production, but weak state presence over its 5% indigenous and 89% Afro-descendant population of some 210,000 people. Tumaco town suffers high rates of poverty, and low access to basic services, with 53% of rural housing not connected to basic water and sewage infrastructure (CAF 2018). In past decades, due to its coastal location and the presence of lush mangroves and rainforests, it became a hotspot for coca production and processing as well as a hub for cocaine trafficking. This created a vicious cycle of violence that is proving very difficult to end, with armed groups controlling much of the area despite huge efforts by the Colombian army to eradicate illicit coca production and trade.
Before the drug trade boomed in the 1990s, Tumaco was a flourishing area for the production of palm oil and had the highest yields per hectare in the country. Cultivation of oil palm began in the 1960s, and beginning in the 1980s, the involvement of more companies led to the expansion of oil palm to more than 33,300 ha of plantations by 2006, 45% owned by smallholders, with eight mills, and an industry that then employed (directly and indirectly) some 30,000 people.

Tumaco has more than 70,000 ha of land that is considered suitable for oil palm cultivation; see Figure 1 (UPRA 2018). To take advantage of this, local civil society organizations such as Cordeagropaz have identified the need to provide technical support to smallholders. During 2000–2006, they promoted the development of projects that resulted in the planting of 2,700 ha with oil palm, benefiting 450 families.

**Figure 1. Suitability of areas for developing oil palm crops in Nariño Department**

<table>
<thead>
<tr>
<th>Suitability</th>
<th>Area (ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>73.481</td>
<td>2.3</td>
</tr>
<tr>
<td>Medium</td>
<td>61.186</td>
<td>1.9</td>
</tr>
<tr>
<td>Low</td>
<td>102.875</td>
<td>3.3</td>
</tr>
<tr>
<td>Not technically suitable</td>
<td>2,572.218</td>
<td>81.7</td>
</tr>
<tr>
<td>Not legally suitable</td>
<td>339.992</td>
<td>10.8</td>
</tr>
</tbody>
</table>

Source: UPRA 2018

**Responding to challenges**

But disaster struck in 2006, with the arrival of bud rot disease (*Phytophthora palmivora*), which spread rapidly in Tumaco over the following years. The number of infected oil palm trees increased from 441,000 in January 2007 to 3 million in February 2008: from 8% to 58% of the total number of oil palms planted. Almost the entire crop was destroyed. Smallholders were significantly affected, and more than 10,000 jobs disappeared. This created an urgent need for a coordinated intervention to ensure crop renewal and eradication of infected palms (Corredor Rios et al. 2008).

In 2007, the Colombian government, through the Ministry of Agriculture, initiated a support programme for the oil palm sector in Tumaco municipality. Smallholders with less than 50 ha who were unable to obtain commercial credit received subsidies on eradication costs, planting of new crops and the requirements associated with the cultivation of hybrids. To be granted these benefits, growers needed to apply a set of practices of eradication approved by the Colombian Agricultural Institute...
and the Colombian Oil Palm Research Center (Cenipalma). Additional support was provided to smallholders who were unable to pay back loans to fund the eradication of old and infected plantation. Included as part of the subsidies, the Colombian Federation of Oil Palm Growers (Fedepalma) and Cordeagropaz also provided technical advice to accompany their investments to renew affected areas with new and disease-resistant OxG hybrids.

As a result of these efforts to replace infected oil palm plantations and expand production, Tumaco was able to increase its area of mature palms from less than 4,000 ha in 2012 to more than 16,000 in 2017. But despite this impressive comeback, the total area was still only half the area that was under oil palm in 2006, and average yields per hectare had declined to 50% below the national average (Figure 2).

Figure 2. Area of oil palm and annual yields in the southwestern zone of Colombia (2003–17)

In order to restore the full potential of palm oil for the 400 smallholder producers that were receiving technical support from the Cordeagropaz in Tumaco until last year, the goal is to restore more than 2,000 small and medium-sized palm growers, the number that Tumaco had back in 2006 (according to figures provided by Birmarck Preciado, director of Cordeagropaz). National and local authorities have made it a top priority to support the palm oil sector as a driver of regional economic growth and employment. A parallel aim was to develop palm oil production into a solid alternative for growing coca, for processing into cocaine, and to prevent the associated drug trafficking that results.

According to Bismarck Preciado, leader of Cordeagroapaz, “The renewal of oil palm plantations has not been easy. Progress has been made towards adopting best practices, but small growers face financial challenges and require technical and social support to improve their farm management and to adopt the culture of legality” (meaning not growing coca). He considered this support as especially important during the first four years of the oil palm production cycle, before the crop starts bearing fruit. He also pinpointed the need for social projects that help integrate farmers and their families into the 25-year planning cycle for palm oil production.
Within this context, the 2016 peace agreement between the Colombian government and FARC (Revolutionary Armed Forces of Colombia) was a very important moment in Tumaco. FARC was one of the most heavily involved actors linked to coca cultivation, drug trafficking, extortion and kidnapping in this region. But despite the peace agreement, new guerrilla units vie with criminal gangs for control of the drug trafficking routes in the Tumaco area left by FARC after its demobilization. In addition, some FARC dissidents also set up splinter factions, and they are already “taxing” local traffickers and extorting grocery stores and other small businesses.

Investing in the consolidation of a legal and economically viable economy such as that offered by palm oil production and processing is considered to be one of the few options with the potential to instill a lasting and more inclusive peace in the area. But to ensure this, support to smallholders must respond to key issues such as the need to implement good agricultural practices, including adequate sanitary control to reduce the risk of pests and disease outbreaks, and improving productivity per hectare. In addition, because the region is a conflict zone, it is particularly important to pay due care and attention to social aspects. This requires ensuring appropriate and accessible processes for land tenure (especially for victims of the conflict), the promotion of adequate and formalized labour conditions for workers, and support for gender equity across the supply chain.

A bridge too far?

As of 2017 only 14% of the 1.7 million tonnes of palm oil produced each year in Colombia was RSPO-certified. Fedeplama has set a goal to certify up to 50% of national production by 2020, and to achieve 75% RSPO-certified production by 2025. However, interviews with Tumaco smallholders indicated that many consider RSPO criteria as a “bridge too far” — i.e., too complicated and demanding. Major
global industry players have vowed to purchase only RSPO-certified crude palm oil by 2020, which means that smallholders in Tumaco are faced with yet another hurdle to keep their businesses afloat.

But with the help of Solidaridad, Cenipalma and Cordeagropaz, the palm oil sector in Tumaco has identified the challenges for adopting more sustainable practices that are in line with the RSPO standard. This partnership consisted of two phases. The first was funded by the Dutch Ministry of Foreign Affairs. It included training and exchange visits to raise awareness of RSPO criteria and to build capacity among 390 smallholder families in order to meet these criteria. During the second phase, activities involved farmer field schools and training to adopt RSPO practices. Nine demonstration farms were established, and technicians and leader farmers implementing the standard were trained. Smallholders learned how to improve agricultural practices, detect and prevent diseases through methods such as fumigation, and better manage water and waste. Consequently, they started to realize that the RSPO standard they were so afraid of and they thought was unattainable could become a useful tool that helps them improve their performance.

The farming solution app

Monitoring and support are crucial for increased smallholder inclusiveness, and one way to achieve this is through technical innovation. An example of how this can benefit smallholders was the development of new mobile phone apps. Since 2017, the RSPO Smallholders Support Fund (RSSF) has supported the group’s efforts in their journey to RSPO certification. Solidaridad has leveraged funds by engaging the German multinational Henkel, a company that is strongly committed to sustainable supply chains. The company will support Solidaridad and its partner Cenipalma to develop, test and scale up digital tools between 2018 and 2021. These tools will help assess the performance of palm oil producers against RSPO criteria using a continuous improvement model.

In April 2018, Solidaridad began the development of the Farming Solution mobile app. This digital self-assessment tool identifies the sustainability level of a farm according to the answers given by the producer. The questionnaire contains about 180 questions that were developed based on the RSPO Principles and Criteria for Colombia. After all the questions are answered it automatically produces work plans including costs to answer any identified gaps, and establishes the level of risk involved in various farmer decisions. For illiterate farmers, the mobile app has an audio button that reads everything aloud.

Another app that is under development is Extension Solution. It allows technicians from the mills or farmer associations to verify the answers given by farmers in Farming Solution and follow their improvement. The consolidated data collected from farmers is also valuable for mills, processors, traders, buyers and the national federation. This helps to set realistic goals and keep track of performance, and make decisions on farmer needs to develop and implement improvement plans to assist producers in their process to acquire RSPO certification. The project aims to reach all smallholders in the Tumaco area by 2020 (Solidaridad 2017).

Lessons and recommendations

Partners in Tumaco concluded that it is more likely that producers will adopt good practices and grow their business by seeking incremental improvements over time through tailor-made support at each stage of the process. Solidaridad’s digital tools are being developed with and for palm oil sector
stakeholders to support companies and producers with mapping and with implementation of RSPO criteria.

The story of the evolution of the palm oil sector in Tumaco has shown that even profound crises can be overcome through coordinated long-term actions by private and public partners. The palm oil industry used to be the leading agroindustry in the southwestern corner of the country, offering formal labour contracts, health coverage, social security and training for professionals and workers. And after suffering major crop losses following the outbreak of a pest infestation, it has since rebounded. Oil palm offers a constant cash income from regular harvests and a steady demand, allowing thousands of smallholders to invest their income in improving their farms, better environmental conditions and education for their families. Yet much still has to be done to consolidate a truly inclusive palm oil sector over the long term in Colombia, and determine how the new mobile applications can contribute. Key complementary topics that also require further work in the coming years include the administration of effective land tenure and better conditions for workers. Only significant advances in these and other areas will allow the oil palm sector to fulfill its true potential as a viable alternative to the production of illicit crops and thus support the peace process in Colombia.

References


2.2

Exploring inclusivity with the United Nations model in the Peruvian Amazon

Juan Luis Dammert

Introduction

Palm oil is not a large industry in Peru, and the crop is far from being a main driver of deforestation (MINAM 2016). Oil palm occupies some 90,000 hectares, or approximately 0.1% of the Peruvian Amazon. This is the only region in the country that meets the biophysical conditions for oil palm to grow. Approximately 59% of the planted area is under small- and medium-scale forms of production, with 41% under large-scale corporate plantations. Among small- and medium-sized producers is a group that resulted from projects to replace coca and that grow on 30,947 ha (36% of the total area), while other producers and investors have entered without the support of alternative development projects with 19,566 ha (23%) (JUNPALMA 2018). There are two corporate investors, the domestic Grupo Palmas (with 25,672 ha or 30% of the total large-scale area), and the transnational Ochosur with 10,040 ha (11%) who also had previous experience with plantations in Malaysia.

“Our objective was to make the transition from farmers to industrialists, where the real business is.”

Juan Luis Dammert is Project Officer, Oxfam, Lima, Peru.
Alternative development projects were particularly active during the 1990s and 2000s. They gave rise to the United Nations model, named after the close involvement of the United Nations Office on Drugs and Crime (UNODC) in promoting oil palm as an alternative to coca production. Coca farmers who were willing to shift to other crops such as coffee, oil palm or cacao were targeted for support. Although the presence of coca in project areas is a condition for alternative development support, it is important to note that the beneficiaries of these programmes are not all former coca growers. Programmes have been implemented in various areas, involving a range of approaches, priorities, donors, crops, staff and authorities.

These alternative development projects consisted of support for the creation of producer associations and providing funds so associations could build and run processing mills. With oil palm, variations in terms of seed quality, agricultural practices, growth rates, size and technology used in the processing mills result in differing yields and profits.

Over time, the representatives involved in associations become social leaders and experts in looking for new projects and business opportunities. To date, there are five United Nations model-type mills producing palm oil in Ucayali, Loreto and San Martín regions, with processing capacities of up to 30 tonnes of fresh fruit bunches per hour. The national federation of oil palm growers (Junta Nacional de Palma Aceitera del Peru) notes that 3,781 families are working in these associations and mills (JUNPALMA 2016). They are now the visible face of the federation and are responsible — at least nominally — for the political representation of palm oil interests in Peru.

The United Nations model is often seen in Peru as a success, with farmers increasing their share of profits by partnering with processing mills. In general terms these oil palm producers are doing better than growers of other crops in similar conditions (Zegarra and Vargas 2016). There are, however, internal and external tensions for these producers, with disputes over how to share profits between those involved in the agricultural and the industrial aspects of palm oil production, and how to navigate the stigmatization of palm oil production that has been triggered by deforestation scandals involving corporate producers. This article analyzes the inclusiveness of this model and discusses the politics of this sector in the context of the ongoing palm oil boom in Peru.

The model

There are certain historical peculiarities that explain the slow development of oil palm expansion in the Peruvian Amazon. After a few plantations developed in the 1970s, the expansion of oil palm slowed down in the 1980s and 1990s due to the rise of armed internal conflict and narco-trafficking, which coexisted with economic, institutional and political crises. Additionally, in the early 1990s economic adjustment meant a tendency for the state to withdraw from rural areas. In this context, coca cultivation started to soar. The Peruvian state, with support from the international community, intensified its alternative development strategies to recuperate Amazonian valleys where violence and narco-trafficking were gaining ground. With support from UNODC and other funders, such as USAID, the United Nations model is largely responsible for revitalizing the palm oil industry since the 1990s.

The first and most emblematic case started when UNODC partnered with the regional government of Ucayali (GOREU) in 1991 to establish 1,300 hectares of oil palm as an alternative crop. Local farmers who owned their land in the surrounding area of the Federico Basadre highway near Pucallpa were targeted for oil palm development, giving rise to the Central Committee of Oil Palm Growers of Ucayali.
2.2 Exploring inclusivity with the ‘United Nations model’ in the Peruvian Amazon

(COCEPU). The committee received financial and technical assistance from UNODC and GOREU to establish plantations. To complete the project, the Peru-Canada Counter-Value Fund financed the building of a mill for COCEPU in 1996, which started producing in 1998. Oleaginosas Amazonicas (OLAMSA) was created to run the mill. The mill had 256 founding members; it was 54% owned by COCEPU as a collective entity, and 46% owned by individuals, mostly farmers belonging to COCEPU (MINAG 2001; Dammert 2017).

Legally, COCEPU is a non-profit civil association. Farmers receive cash from selling their fresh fruit bunches to OLAMSA. Those farmers — who are also OLAMSA shareholders — receive a share of company profits. However, profits are not divided between members; farmers who are not individual shareholders are paid back in kind, by receiving products or services such as seeds, nurseries, fertilizers, agricultural extension and training. This way of structuring the business is typical of the United Nations model. Table 1 shows the five most important partnerships of associations of farmers and processing mills that stem from alternative development initiatives.

Table 1. Five most important associations of producer organizations and oil palm companies

<table>
<thead>
<tr>
<th>Producer organization</th>
<th>Processing mill</th>
<th>Department</th>
<th>No. of producers</th>
<th>Area (ha)*</th>
<th>FFB produced (t)</th>
<th>Crude palm oil (t)</th>
<th>Yield (t of FFB/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCEPU</td>
<td>OLAMSA</td>
<td>Ucayali</td>
<td>1,040</td>
<td>10,731</td>
<td>130,788</td>
<td>30,993</td>
<td>15</td>
</tr>
<tr>
<td>ASHPASH</td>
<td>OLPASA</td>
<td>Ucayali</td>
<td>570</td>
<td>4,556</td>
<td>35,177</td>
<td>9,089</td>
<td>15</td>
</tr>
<tr>
<td>INDOLMASA</td>
<td>INDOLMASA</td>
<td>Ucayali</td>
<td>55</td>
<td>1,772</td>
<td>20,565</td>
<td>4,866</td>
<td>14</td>
</tr>
<tr>
<td>ACEPAT</td>
<td>OLPESA</td>
<td>San Martin</td>
<td>1,346</td>
<td>6,559</td>
<td>75,252</td>
<td>18,500</td>
<td>14</td>
</tr>
<tr>
<td>JARPAL</td>
<td>INDUPALSA</td>
<td>San Martin/Loreto</td>
<td>427</td>
<td>3,793</td>
<td>30,152</td>
<td>6,797</td>
<td>11</td>
</tr>
</tbody>
</table>

* This includes mature plantations and other areas not yet in production. FFB: fresh fruit bunches. Source: JUNPALMA (2018)

Note: These producer organizations and oil palm companies arise at least in part from alternative development initiatives.

Implementation challenges

Once the loans to build the mills are paid off, the prospects of profits are good, but this is the case mostly for those individuals with shares in the processing mills. This creates tensions between the agricultural (producer) and industrial (processor) components of the business. Farmers often perceive that the services they receive are insufficient and not efficiently delivered, and there have also been cases of corruption in the administration of collective funds. This has led to some farmers with no shares in the processing mills demanding that their profits should also be individualized: in cash, not only in kind.

In areas where these associations function, there are non-member farmers willing to become members of the producer organizations who are not accepted. This is either because they don’t meet the conditions for acceptance, or because the existing members are reluctant to bring in new partners. These non-members serve only as suppliers of fresh fruit bunches, with no rights to profits from the mills or to services from the producer associations. This has led to cases where excluded farmers
organized themselves, often in partnership with members who were not fully satisfied with the administration of the business, and started their own associative mills, as with INDOLMASA in Ucayali. In essence, the full inclusiveness of the model — characterized by direct or indirect access to the profits from processing — is limited to people belonging to the producer organizations.

**Next to the giant**

The political economy of the palm oil industry in Peru has been shaped by the hegemony of the Romero Group, through its companies Grupo Palmas and Alicorp. Grupo Palmas owns the largest planted area of oil palm in the country and has processing and refining capacities in addition to a biodiesel plant. It is the only company with full vertical integration of production. Most of its crude palm oil is refined and transformed into end products, many of which are commercialized in the cities of the Peruvian Amazon. Alicorp, Peruvian’s most important mass-consumption food producer, buys around 85% of the rest of the crude palm oil produced in Peru, as it owns a refinery in Lima. This means that almost all palm oil in the country is commercialized by the Romero Group (Dammert 2017).

Relations between the industry’s main actors have been characterized by a combination of both collaboration and competition. Under the leadership of JUNPALMA, collaboration between actors aims to defend sector interests in crucial matters such as implementation of biofuel regulations or the approval of the national plan to promote palm oil, especially in the face of stigmatization due to deforestation scandals. Although Grupo Palmas is perceived as being monopolistic, it is taking decisive steps to reopen the biodiesel trade for domestic palm oil production, which is something that could benefit the industry as a whole.
2.2 Exploring inclusivity with the ‘United Nations model’ in the Peruvian Amazon

The distinctive component of the United Nations model is that farmers have access to the profits of oil extraction. Photo: Thomas Mueller/SPDA

Competition has historically been based on commercial grounds. The case of OLPESA and its producer organization ACEPAT epitomizes the tensions between industrial mills and smallholders; in this case, between the United Nations model plantations and Grupo Palmas in Tocache, San Martin. OLPESA was established in 2006 in Grupo Palmas’s territory, or “right next to the giant,” as one former manager of the processing mill put it. The objective was to create access to the profits created by processing fresh fruit bunches, at a time when international cooperation funds were declining, since Peru had become a middle-income country. Although there was support through technical assistance and institutional strengthening, there were no funds from international cooperation to build a processing mill.

To obtain the investment required to build the processing mill, ACEPAT obtained a loan from the government. Individual members also obtained credit, external investors were invited, and a food processing company (Industrial Alpamayo S.A.) was brought in as strategic partner. The OLPESA mill was built on the foundations left by a bankrupted former public oil palm company (EMDEPALMA); the state transferred land previously owned by the public company to the personnel as means of compensation. Despite the extensive participation of private investors in OLPESA, ACEPAT still holds 54% of the shares, and the business structure of the company has enhanced its competitiveness. Following OLPESA’s success in Tocache, however, Grupo Palmas established a mill in the area to compete for fresh fruit bunches from local farmers. Competing with the giants is challenging and requires long-term commitment and investment.
Growing pains

Increased consumption of palm oil has allowed more players to have a share of the market, but scaling up successes is not without its challenges. In recent years, processing companies such as OLPESA and OLAMSA and other palm oil traders formed the consortium Sol de Palma to export palm oil. Their ambition is to build their own refinery and to jointly become larger players in the Peruvian palm oil trade, but that would require a significant increase in production.

Another challenge relates to the unprecedented growth in large-scale, corporate oil palm projects, some of which are linked to deforestation in the Peruvian Amazon. For example, the development of the Grupo Palmas's Palmas del Shanusi in 2006, and the development of two projects by Ochosur since 2012, triggered a national environmental controversy. This has included accusations of criminality, media scandals and formal complaints to the state and private organizations such as the RSPO, mostly due to evidence of large-scale deforestation. This has had negative impacts on the industry as a whole, and has also harmed the reputation of the United Nations model, which is struggling to expand in the midst of scandals generated by corporate actors.

Small and medium-sized producers — the visible front of JUNPALMA — appear to be reluctant to condemn documented cases of large-scale deforestation and to distance themselves from Ochosur. The arrival of Ochosur generated high expectations from producer organizations, since they perceived that competition between corporate actors would increase flexibility in the rest of the supply chain, and counterbalance Grupo Romero's monopolistic tendencies. But for unknown reasons, Ochosur has not yet built any mills to process fruits from their 10,000 ha of oil palm, even though the large
volume of produce could be a highly attractive business opportunity for the Sol de Palma consortium to increase production of crude palm oil and achieve their ambitions for refining and exporting.

Engagement in business with Ochosur has affected the social and environmental credentials of the mills managed under the United Model model, and malpractice by Ochosur has recently been exposed by civil society organizations (Convoca 2018), and some corporate buyers have become suspicious about the sustainability credentials of palm oil sourced from these mills and have started to demand certain conditions from sellers. Furthermore, stigmatization of oil palm in the country has complicated producer organization relationships with the government and has affected their access to financial support.

As this is an unprecedented situation, it remains to be seen how these players are going to react to criticism. Moreover, it is yet unclear what their strategies, if any, are going to be now that there is closer scrutiny as they evolve from alternative development project beneficiaries to export-oriented industrialists.

**Conclusions**

The United Nations model shows its potential as a sustainable and inclusive business example for palm oil production. In fact, the model can show credible success in poverty alleviation and replacement of illegal crops such as coca, as the cases of COCEPU-OLAMSA and ACEPAT-OLPESA show. The cooperative structures used by producer organizations regarding ownership of processing mills has been a crucial factor for increasing profits and alleviating poverty. In addition, participating in the industrial processing of crude palm oil from raw fruit — something not common in palm oil value chains — appears to be a simple and straightforward way to increase inclusiveness and smallholder profits. Furthermore, these plantations have largely been established in already deforested areas, although it is possible that the economic success of the model could provide an incentivize for new deforestation to expand existing plantations.

For this type of business model to succeed, initial external support is required. Poor farmers in remote areas do not have the economic strength to establish oil palm plantations without access to credit and technical assistance, and they have even fewer opportunities to build processing mills without external support. The involvement of international cooperation and the Peruvian government was necessary for these projects to succeed. The distinctive element of this model — that farmers could have access to some of the profits from industrial processing — is limited to project beneficiaries, i.e., members of producer organizations. But as those already in the business are reluctant to let others enter under the same conditions, expanding the inclusiveness of the model would require creating new associative companies that would compete with the existing ones.

Economic success calls for increased investments and greater market shares, and models such as this tend to experience challenges when faced with close civil society scrutiny and corporate demands for sustainability credentials. The story of the United Nations model of palm oil production in Peru illustrates the issues associated with the transition from alternative development and poverty alleviation initiatives to successful capitalist growth. If this transition comes as a result of partnerships with questioned producers — such as those involved in large-scale deforestation scandals — the sustainability credentials of this model can easily become compromised.
Acknowledgements

This paper was drawn from PhD research when the author was studying at Clark University, Massachusetts, U.S., with information complemented by work carried out by Oxfam in Peru since 2017. The author also thanks Gregorio Saenz from JUNPALMA for sharing data on palm oil production in Peru and providing comments to a previous version of this article.

References


Introduction

In the myriad national and subnational Latin American contexts, oil palm expansion has led to varied and often controversial outcomes (Castiblanco, Etter and Ramirez 2015; Richard and Aide 2017). Evidence is emerging that oil palm adoption can have positive impacts on smallholder livelihoods (e.g., Feintrenie, Chong and Levang 2010), but impacts depend on the relationships between farmers and processors. Key aspects include types of supply arrangements, such as nucleus estates with smallholder outgrowers versus independent farmers, and technical aspects, e.g., prescribed technological packages, minimum area required, minimum supply volumes and technical assistance. Supply arrangements and technical content must be considered in relation to the

“Determining the requirements for mainstreaming inclusive production is key to meeting environmental, livelihood and wider economic goals.”
livelihoods and assets of farmers, and to their productive and marketing capacity. From an environmental perspective, recent studies highlight the positive roles of smallholder farming practices (poly-culture, alley cropping) and landscape heterogeneity on provision of ecosystem services (e.g., Azhar et al. 2015; 2017).

More inclusive and sustainable palm oil production requires both technological and business-model innovations. Without the former, production on degraded land cannot be both profitable and restorative of biodiversity and ecosystem functioning. Without the latter, farmers will struggle to engage in ways that allow them to participate in the value chain and improve their livelihoods. But approaches to engage smallholders, including certification, are not yet characterized by such dual innovation. Agroindustrial production models that recommend how farmers can be supported to meet specifications and increase technical performance still dominate; lacking the dual approach, they will not overcome barriers to successful smallholder participation. Developing suitable schemes for smallholders requires their direct participation in the design phase.

This article reports on the initial activities of the USAID-supported project “Oil palm diversification: reconciling conservation with livelihoods,” led by the innovation department of Natura, the Brazilian cosmetics and personal care manufacturer (part of the Natura & Co. cosmetics group, together with Aesop and the Body Shop), with Cooperativa Agrícola Mista de Tomé-Açu (CAMTA), the Brazilian Agricultural Research Corporation (Embrapa) and World Agroforestry Centre (ICRAF), an international research centre. The project aims to develop smallholder-inclusive approaches through a shift toward diversified, agroforestry-based production that is supported by inclusive business models. The partnership builds on a groundbreaking 18-ha field experiment initiated by Natura and CAMTA in 2007 in Tomé-Açu municipality, Pará state, in the Brazilian Amazon. The practices yielded highly encouraging results in productivity and environmental co-benefits, including increases in carbon storage capacity (Ramos et al. 2018), soil fertility, nutrient cycling and biodiversity. Another objective was to define a strategy to scale up these pioneering systems to fit smallholders’ socioeconomic realities.

**Challenges to smallholder-inclusive production in Pará State**

By 2014 the area under oil palm more than tripled to some 255,000 ha, following policy incentives including the National Biodiesel Programme (2004) and National Sustainable Palm Oil Production Programme (2010). The National Biodiesel Programme established social safeguards for family farmers. Contracts required approval from farmer organizations, technical assistance from companies, inclusion of food crops in plantations, and “cultural suitability” for production systems, ensured through farmer participation in decision-making (LegisWeb 2009). But expansion of oil palm ceased when political instability and macroeconomic and market conditions created a loss of confidence. Today, outgrowers account for only 20% of the total area in northeast Pará, including some 1,500 family farmers (Brandão, Schoneveld and Pacheco 2018).

Equitable smallholder participation in the value chain remained a challenge, especially for marginalized groups. Constraints included a minimum area requirement (6–10 ha of degraded land), and contractual clauses obliging farmers to implement technological packages prohibiting intercropping and requiring the use of synthetic fertilizers and pesticides. Additionally, credit was sufficient only to plant oil palm, excluding the possibility of introducing other crops. This model was also criticized for absorbing much family labour and land, leading to reduced food security, in addition to farmers’ perspectives of serious environmental impacts (Ferreira et al. 2016).
However, a comprehensive study of smallholder outgrowers in northeast Pará (Brandão, de Castro and Futemma 2018) showed that capacity for hiring labour is a more important determinant of labour allocation in plantation management than the availability of household labour. This questioned the assumption that adopting oil palm would lead to crop specialization and reduced food security, since strategies for including labour and land-constrained smallholders allow for smaller plot sizes and enable diversification through intercropping.

**Oil palm agroforestry — a groundbreaking innovation**

In 2007, Natura Brasil’s innovation department established a partnership with CAMTA and Embrapa to explore oil palm agroforestry (Castellani et al. 2011); this was triggered by Natura’s strong corporate interest in socially and environmentally responsible supply chains. CAMTA is an internationally recognized farmer cooperative that promotes agroforestry practices (Piekielek 2010). Founded by Japanese immigrants in 1949, it soon became Brazil’s leading exporter of black pepper, but by the 1970s plant disease caused it to move away from monocropping. CAMTA is now a vertically-integrated enterprise selling a range of processed products. Their experience is a good example of commercial, diversified agroforestry production and agroecological services, with an important role as a disseminator and advocate of agroforestry-based production.

Field experiments established by Natura and CAMTA tested two agroforestry combinations: simple and complex. The latter prioritized fertilizer companion species; both combinations were subjected to manual or mechanized site preparation (Castellani et al. 2009). Up to 17 associated species per treatment were chosen according to several criteria, including farmer needs, ecological functions (i.e., biomass production and nutrient cycling), and other considerations such as agrobiodiversity conservation, market demand, and soil conditions.
Findings to date are very encouraging. Oil palm yields and environmental services are superior to those from local monocrop systems, and the areas also produce other crops. Carbon storage potential is greater than that of monocrop and conventional agroforestry systems in the region (without oil palm) and comparable to that of secondary forests. Moreover, an evaluation of the ecological services indicated values approximately three times those of oil palm monoculture.

**Scaling innovation by an option-by-context approach**

In 2016, ICRAF joined the Natura-CAMTA-Embrapa alliance through its participation in the “Oil Palm Diversification: reconciling conservation with livelihoods” project to consolidate research on the existing experiments and identify scaling strategies for marginalized farmers. ICRAF is implementing a research-and-development approach based on a co-learning platform that involves multiple stakeholders and employs participatory research methods (Coe, Sinclair and Barrios 2014). This approach integrates two elements: tailoring oil palm agroforestry practices to specific social and biophysical contexts (option design, by engaging farmers in design and implementation); and analyzing the socio-ecological factors that support the successful adoption of the identified options (in terms of profitability for farmers and positive livelihood and environmental outcomes). These results will be used to identify the scaling domains and the variation of enabling factors over the territory (Figure 1). In the context of this project, the term “scaling domain” refers to the main geographical areas where diversified oil palm might potentially be upscaled (Figure 2). The project should take these areas into account in its strategy with regard to variables that might inhibit or promote the adoption of innovations in systems and governance.

**Figure 1. Option-by-context approach used in a research-and-development process**

Based on Coe, Sinclair and Barrios 2014.
Eleven oil palm agroforestry demonstration sites were co-designed and established with representatives of three major types of farmer: independent family farmers; organized family farmers; and medium-sized CAMTA-member farmers. Selection was based on criteria such as representativeness, availability of legally eligible degraded land, a desire to diversify, and interest in facilitating wider dissemination of agroforestry practices. Sites are used to monitor system performance and characterize factors that might influence adoption, implementation and profitability with respect to different social groups.

A socio-environmental appraisal was first conducted on 15 pre-selected farms by applying the tool for planning and evaluation for decision-making in agroforestry systems (PLANTSAFS) under development by ICRAF (Miccolis et al. 2018). PLANTSAFS supports diagnosis and design of agroforestry interventions based on 40 indicators of household livelihood assets, constraints, aspirations, objectives and biophysical-agroecological conditions. Appraisal included consideration of socioeconomic and biophysical constraints to adapting the CAMTA experimental model to smallholder circumstances. Following a co-design workshop with farmers, researchers and technicians, demonstration sites (11 plots, 20 ha in total) were established. Extensionists visit the sites monthly, supplemented by farmer exchanges with the project team. Mean species richness is 14 (range 3–19), with 33 different species over all plots. In addition to oil palm, the plots included a combination of other fruits, hardwoods, green manures, and annual crops, with a wide variation in spatial arrangements.

The study identified and characterized potential farmer groups by assets, constraints and opportunities. The aim was to inform the co-design of options tailored to each group and delineate the main scaling domains for the options. This characterization and analysis of interplay among socioeconomic, market, institutional and biophysical agroclimatic aspects helps provide an understanding
of feasibility, and ultimately of the attractiveness of any given option. During the first year, the study design also included expert consultations and focus group work on livelihood strategies, farming systems, local governance and institutions, and value chains, and building a spatial database including information on settlements, infrastructure, land cover, land use, production systems and legal issues. The study was complemented by an inventory and structural and functional characterization of existing agroforestry practices in Tomé-Açu, with an appraisal of farmers’ perceptions about those systems.

Scaling inclusive oil palm agroforestry

Preliminary findings shed light on farmers’ interest in diversification, identified important barriers and research questions, and helped to determine a way forward. All types of farmers had great interest in diversification. Key motivations included potentially greater resilience to market risks and fluctuations; greater ability to adapt to climate change; optimization of the use of scarce labour and land (particularly when oil palm is in the juvenile, unproductive phase); enhanced food security for all farmer groups through integration of food crops; and soil improvement by fertilizer species.

Potential barriers include high costs and the knowledge-intensive nature of agroforestry in comparison to standard monoculture. Barriers vary by farmer group; more marginalized farmers have less access to labour, knowledge and capital required to establish and manage complex systems, and less access to markets, processing equipment and policy incentives, particularly for credit and extension services. Upscaling will require higher investment in capacity building, extension services and credit to allow farmers to meet establishment costs, with opportunities further limited as only 19% of households belong to an association or cooperative (IBGE 2017).

Three other specific measures for building more inclusive palm oil production are identified.

1. **Inclusion of more food crops**: optimizes labour use, reduces time for return on high initial investment costs, improves food security.

2. **Equitable value chain development for other products**: processing and marketing of cacao, black pepper, açai, cassava and passionfruit, among others, implying investments in processing and strengthening smallholder organizations.

3. **Development of independent, collectively owned, small-scale processing**: to strengthen smallholder livelihoods through capturing a greater share of value addition and enabling autonomy from the prevailing business model, by which they depend on large industry to extract oil from fresh fruit bunches.

Addressing these barriers will certainly contribute to, but not necessarily lead to, massive adoption of biodiverse oil palm agroforestry across different farmer types and local contexts. Widespread adoption among smallholders, particularly in those areas outside Tomé-Açu where CAMTA has not been active in dissemination, will probably also depend on reducing structural barriers that apply to agroforestry systems in general. Successful scaling among smallholders also depends on how the still-dominant large companies might take on diversification as part of their contracts with smallholders. Key companies have already shown interest.

Although organized family farmers and medium-sized farmers have greater access to knowledge, credit, labour and machinery, the agroforestry systems they practise are becoming increasingly
simplified and dependent on external chemical inputs. This is because management decisions are most often based on farmer perceptions of economic and market variables. Nevertheless, increasing concerns about plant diseases and a changing climate, and the potential for a premium market for more sustainably grown products, provide sufficient motivation for farmers to diversify and adopt agroecological practices in oil palm agroforests. To increase adoption and make policymakers aware of what solutions need to be supported in each local context requires further evidence on the costs and benefits of various technological approaches and governance mechanisms, enabling farmers to choose options most suited to their circumstances.

**Ways forward**

Comparisons between conventional and agroforestry-based production are made difficult by information asymmetry. Conventional production is backed up by decades of agronomic research and experience, whereas research on oil palm agroforestry is in its infancy. Regarding ecosystem services, lessons from wider agroforestry experience are probably applicable, whereas factors determining the feasibility for smallholder farmers are still lacking. Continued monitoring and modelling of household livelihood impacts will make an important contribution to understanding these factors.

The demand for diversified, profitable palm oil production that reconciles narrow financial objectives with environmental goals comes from at least four groups of actors. These are various types of farmers, companies committed to a sustainability ethos (such as Natura), palm oil companies (whose motivation may reflect reputational factors rather than deeper-seated commitments), and consumers and the wider community (local, regional, national and global) that value conservation of biodiversity, maintenance of ecosystem services, and social justice. This research focused only on farmers, but can help to determine the requirements for mainstreaming inclusive production to meet environmental and livelihood goals and wider economic objectives. It could also help identify whether the demand for public goods (which in one way or another underlies the motivation of the other three groups) can be met by smallholders without incurring additional costs.

Approaches should seek to construct options that tailor technological and business model elements to smallholder circumstances. This requires investment by government agencies in producer and consumer countries as key to shifting smallholder contexts so that they can benefit from inclusive business arrangements while meeting wider demands. Given the global importance and impact of palm oil, substantial investment in developing and implementing inclusive approaches is crucial. This will allow oil palm to continue to be the world’s most cost-efficient source of vegetable oil while also enhancing the livelihoods of rural people, and preventing the environmental costs that have led to its virtual demonization.

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The role of village assemblies in overcoming barriers to smallholder inclusiveness: examples from Indonesia

Edi Purwanto and Darkono Tjawikrama

Introduction

Indonesia is the largest palm oil producer in the world. Palm oil exports are the country’s largest source of foreign exchange, contributing US$23 billion in 2017 (Winrock International 2017). About 34% of national crude palm oil production is from smallholders, but there are barriers to increasing smallholder inclusion. These include lack of land tenure, poor productivity, vulnerability to price variations, the role of middleman, requirements for compliance with certification (Roundtable on Sustainable Palm oil, or RSPO; national Indonesian Sustainable Palm Oil, or ISPO) and aging plantations that require replanting after 25 years (IRE 2018).

Unlike with some other crops such as coffee, cocoa and rubber, processing of oil palm is dependent on industrial mills, since fresh fruit bunches must be processed within 48 hours of harvesting. This

“The key enabling condition for smallholder inclusion is good village governance.”

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explains why smallholder oil palm development originally took place in nucleus estate-smallholder schemes, where a company had developed oil palm on a land concession. Most palm oil production is managed as nucleus estates, some in partnership with local communities where the company provides inputs, technical assistance and finance, with ownership transferred to smallholders after the cost of establishment is repaid. In the last ten years, after witnessing the economic improvement of their neighbours involved in palm oil production, farmers have also started to develop independent plantations; for example, on their own farmland or by cutting secondary forest.

Unfortunately, despite a government decree (Law No. 39/2014) which states that the purpose of plantation development is to improve community welfare, policies related to oil palm are known to have increased the vulnerability of oil palm farmers on multiple occasions, especially independent smallholders. Policy often favours larger companies, which limits opportunities for local governments to make efforts to support smallholder oil palm farmers. The widespread nucleus-smallholder relations are rarely inclusive; consequently, they are often unfavourable for independent smallholders and community empowerment (IRE 2017). The issuance of a Presidential Instruction (INPRES No. 8/2018) concerning the temporary suspension (moratorium) of land expansion and evaluation of oil palm plantations should enable smallholders to play increasingly bigger roles in the oil palm plantation industry, since smallholders will potentially become the target of plantation area expansion by large growers.

Models of palm oil production in Indonesia

In Indonesia, there are five main models for smallholder oil palm cultivation (Daemeter Consulting 2015). These are (a) small-scale independent farmers linked to the supply chain via local agents; (b) larger-scale independent farmers linked to the supply chain via local traders or mills; (c) farmer groups or farmer-managed cooperatives that trade directly with mills; (d) plots managed by smallholder farmers and linked with company plasma schemes; and (e) company-managed, smallholder-owned plantations on leased community-lands. These five models are present to varying degrees in different areas. They have varied benefits and risks in terms of degrees of inclusivity, productivity, farmer profitability, access to reliable markets and quality inputs such as seedlings and fertilizer (Daemeter Consulting 2015).

This article reports on a comparison of three institutional models for smallholder oil palm plantation in Ketapang District, West Kalimantan, equivalent to models (a) and (d) of Daemeter Consulting (2015), and an assessment of the level of inclusivity and the relative impacts. Findings include the opportunities to overcome barriers due to lack of inclusivity by intensifying the role of village government.

Organization and setting

Until the 1980s, Ketapang was covered with forest, which was then heavily logged to supply global markets with tropical timber. This was followed by isolated plantings of oil palm. In 2004, the local government leader (the regency head or Bupati) began to push for a major expansion of oil palm plantations. Considering the growing development of smallholder plantations with different institutional arrangements at the village level, the role of village governments was strengthened after the issuance of Law No. 6/2014, whereby villages became self-governing communities with authority based on governance rights within their jurisdictional areas.
Three research questions are assessed in this article: (a) What smallholder organizations best enhance inclusivity? (b) How can village governments ensure equitable distribution of benefits in the villages? (c) What role can village business units (BUMDes) play?

In 1989, Muara Jekak and Teluk Bayur villages fell within the plantation area permit or IUP (Ijin Usaha Perkebunan) of the Prakarsa Tani Sejati company, now part of Global Palm Resources Holdings Limited Group and member of RSPO. The organization holds permits for 20,000 ha, and by law 20% of this must be managed in partnership with local communities. About 12,000 ha is designated as nucleus plantation, for which the company received a legal concession permit (HGU) from the National Land Agency, while 3,400 ha is allocated as plasma plantations and is managed by three villages in the surrounding concession: Muara Jekak, Teluk Bayur and Jago Bersatu.

Research was undertaken in two villages in the Pawan watershed (Figure 1) on undulating terrain between hills covered with protected secondary forest, some 300 km from Ketapang City, and dominated by ethnic Malays. Muara Jekak (Sandai Subdistrict) has 783 households and is very accessible, near Sandai town on the Pawan River and the provincial Pontianak-Ketapang road. Teluk Bayur (Sungai Laur Subdistrict) has 800 households, is on the Laur River and is less accessible. Prior to 2001, most villagers grew rubber trees on plots of 5 ha on average, before developing oil palm plantation, although some still retain rubber and traditional fruit-based agroforestry (tembawang).

Figure 1. Research sites in Muara Jekak and Teluk Bayur villages, Ketapang District, West Kalimantan

Primary data was collected using direct observation and semi-structured interviews. Interviewees were selected based on suggestions by village officials, and supported by secondary data from literature reviews. The collected data were analyzed using descriptive and quantitative approaches. Twelve farmers from each village were interviewed, as well as six village elders and three officials.
Table 1 provides an overview of the profiles of the three types of smallholder plantations included in this research and Table 2 summarizes the results of the various analyses per household.

### Table 1. Profile of smallholder plantations in the study area

<table>
<thead>
<tr>
<th>Item</th>
<th>Plasma managed by village (PMV)</th>
<th>Plasma managed by individual farmer</th>
<th>Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantation developer</td>
<td>company</td>
<td>company</td>
<td>farmer</td>
</tr>
<tr>
<td>Source of capital</td>
<td>company</td>
<td>company</td>
<td>village (PMV)</td>
</tr>
<tr>
<td>Development and maintenance during four-year establishment period</td>
<td>company</td>
<td>company</td>
<td>farmer</td>
</tr>
<tr>
<td>Maintenance after establishment</td>
<td>village</td>
<td>farmers</td>
<td>farmer</td>
</tr>
<tr>
<td>Costs of farm inputs</td>
<td>village</td>
<td>loan from company</td>
<td>farmer</td>
</tr>
<tr>
<td>Company cost recovery during establishment period</td>
<td>company takes 30% of each sale</td>
<td>company takes 30% of each sale &gt;US$70</td>
<td>village cut 30% of each sale &gt;US$70</td>
</tr>
<tr>
<td>Land ownership</td>
<td>village</td>
<td>farmer</td>
<td>farmer</td>
</tr>
<tr>
<td>Report of FFB production</td>
<td>village</td>
<td>company</td>
<td>not relevant</td>
</tr>
<tr>
<td>Transparency of production reports</td>
<td>highly transparent</td>
<td>poor</td>
<td>not relevant</td>
</tr>
<tr>
<td>Management inclusiveness</td>
<td>high</td>
<td>poor</td>
<td>not relevant</td>
</tr>
<tr>
<td>Deposit for replanting</td>
<td>available</td>
<td>not available</td>
<td>available</td>
</tr>
<tr>
<td>Benefits to social development</td>
<td>high</td>
<td>low</td>
<td>poor</td>
</tr>
<tr>
<td>Effort toward certification</td>
<td>none</td>
<td>none</td>
<td>none</td>
</tr>
</tbody>
</table>

**Plasma managed by Muara Jekak village**

In 1990, the company informed Muara Jekak villagers that they would establish oil palm in partnership with the local community. After three years of negotiation, the agreement reached was that the village would receive 150 ha of plasma plantations to benefit only 75 of the 783 households. This was further confused because the company conducted land clearing based on the IUP plantation area permit rather than through negotiation with individual land owners. Realizing the problem, villagers met and agreed that their land would be managed collectively by the village government. Administrators would be rotated every two years through village general assemblies, with day-to-day management subcontracted to professionals. This resembles model (d) of Daemeter (2015).

Seeing the clear benefits, management by the village was well organized, allowing rapid repayment of the loan for plasma establishment, followed by annual net profits of IDR3-4 billion (US$210,000–280,000.) The labour needed to manage the plantations was drawn from men and women villagers paid the government minimum wage. Women are generally involved in harvesting, receiving IDR600 (US$0.04) per kg. The village sold all its harvest to the company, which is a RSPO member, but so far, the village itself has not yet applied for certification.

The revenue was equitably used for enhancing community welfare. The village council paid the health insurance of all villagers, and educational fellowships of IDR100,000-500,000 (US$7–35) per
month to students from kindergarten until university. The village general assembly also decided to invest in selected infrastructure development, and part of the profits were deposited in a fund to cover the costs of replanting after 25 years. The remainder of the annual profit was shared equally among all households.

Since 2010, the village assembly has also provided individual loans for developing independent smallholder plantations. These were focused on those who had legally protected productive land but limited resources to establish oil palm plantations. For the sake of equality, loans are limited to 1 ha per household. Knowledge of and experience in good agriculture practices obtained from nucleus plantations had been fully implemented without constraints. This had increased the monthly productivity of fresh fruit bunches to 2 t/ha — nearly equal to that of nucleus plantations. According to village officials, there is scope to raise yields by a further 50% or more.

Plasma managed by Teluk Bayur farmers

Based on an agreement between a company and Teluk Bayur village council in 2000, 490 ha of plasma were established. After four years of maintenance, management of 2 ha each was handed over to 245 farmers. Here, plantations are managed by individual farmers in close cooperation with the company through cooperatives and not collectively by the village. This resembles model (d) of Daemeter (2015). Another common system that involves leased community land resembles model (e) of Deameter (2015). In that model, the company does not hand over land to farmers but controls the management and provides regular reports on the financial situation.
Farmers as individual owners were responsible for maintenance and could choose how to sell their fresh fruit bunches. Since all farm inputs — such as fertilizers, agrochemicals and contracted labour — were supplied by the company, with loan repayments deducted from sales, all farmers continued to sell to the same company. The selling price was defined by the local government, but the company controlled sorting and quality grading and defined total monthly selling weight. On average, each farmer produced from his or her 2 ha some 2.4 tonnes of fresh fruit bunches per month (120–150 bunches, each weighing 20–30 kg) at an average price of IDR1,200 (US$0.08) per kg. The gross income from oil palm per farmer was thus about IDR2.8 million (US$195) per month, or IDR2 million (US$139) net after deduction of maintenance costs.

However, interviews indicated that these farmers had a poor grasp of financial management and that they were not saving any money for future replanting, although their plantations were more than 15 years old. Furthermore, the extra income gained was only able to support their children’s education costs until secondary school, and no further.

**Independent smallholders in Muara Jekak village**

Establishment of independent plantations resembling Daemeter model (a) was funded by loans from the village government that cover the costs of land preparation and seedling procurement. Maintenance costs during establishment varied among farmers, so loan amounts varied from IDR6.5 to IDR18 million (US$45 - US$1,250) per ha. Repayments to the village were made through 30% deductions of total earnings from farmers who received at least IDR1 million (US$70) per month.

In 2016, Muara Jakak village established BUMDes, a business established through a village general assembly, that is managed by professionals and independent of village officials, although most of
the capital is village owned. BUMDes is a social business to manage village assets, enhance economic development and community welfare and leverage additional village revenues. As such, its activities are not allowed to harm existing community businesses, but should strengthen capacity and overcome barriers through facilitation, delivery of services, synergizing efforts and creating added value. Bumdes play a role of intermediary, supplier and distributor. With increasing annual village funds delivered by the central government since 2016, each village or village group has been stimulated to establish BUMDes to promote local products.

Since 2016, the number of BUMDes has mushroomed, but most do not function optimally; the one in Muara Jekak is considered exceptional. It has been active in addressing poor pricing by intermediaries (middlemen), and in distributing high-quality oil palm planting materials and fertilizer, which are not easily obtained by smallholders. It also functions as a transportation service provider from plantations to collection points.

**Discussion**

Smallholder inclusion is highly influenced by the equitable distribution of benefits. This is clearly shown by the village-managed plasma plantations. Although the village managed only 150 ha, with good institutional governance the revenue from this supported village infrastructure development and was distributed fairly to all village households. More importantly, it has triggered smallholders to establish independent plantations. If not for this initiative, farmer-managed plasma plantations would still be very dependent on the company more than ten years later, and income would be less than for independent smallholders. In all cases, income generation is highly susceptible to price fluctuation, and the sustainability of future income after the first rotation remains uncertain, with no savings for replanting.

**Table 2. Income per capita and source (IDR per year) between two types of farmers in two villages**

<table>
<thead>
<tr>
<th>Income source</th>
<th>Income per household</th>
<th></th>
<th>Income per capita</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Muara Jekak</td>
<td>Telok Bayur</td>
<td>Muara Jekak</td>
<td>Telok Bayur</td>
</tr>
<tr>
<td></td>
<td>IDR</td>
<td>%</td>
<td>IDR</td>
<td>%</td>
</tr>
<tr>
<td>1. Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil palm plantation</td>
<td>30,971,111</td>
<td>28</td>
<td>58,174,222</td>
<td>68</td>
</tr>
<tr>
<td>Rubber plantation</td>
<td>906,667</td>
<td>1</td>
<td>7,066,667</td>
<td>8</td>
</tr>
<tr>
<td>Paddy field (subsistence)</td>
<td>88,800</td>
<td>0.1</td>
<td>1,008,333</td>
<td>1</td>
</tr>
<tr>
<td>2. Worker</td>
<td>n/a</td>
<td>0</td>
<td>55,556</td>
<td>0.1</td>
</tr>
<tr>
<td>3. Entrepreneur (home industry, small business)</td>
<td>62,155,556</td>
<td>55</td>
<td>13,333,333</td>
<td>15</td>
</tr>
<tr>
<td>4. Professional/official (village, government, company)</td>
<td>17,333,333</td>
<td>15</td>
<td>3,555,556</td>
<td>4</td>
</tr>
<tr>
<td>5. Other</td>
<td>644,444</td>
<td>1</td>
<td>2,155,556</td>
<td>3</td>
</tr>
<tr>
<td>6. Total income per year</td>
<td>112,099,911</td>
<td>100</td>
<td>85,349,223</td>
<td>100</td>
</tr>
<tr>
<td>7. Income per day</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>
Based on interviews with village officials, large oil palm plantation companies had generated significant livelihood improvements. Before the establishment of the company, most households were dependent on forest-based activities such as illegal logging as their only source of cash income. With the establishment of oil palm, livelihoods have changed from extraction to production, stimulating the capacity of villagers as entrepreneurs. As illegal loggers, they thought only of how to earn money each day, with limited consideration of the future. Now, as palm oil producers, they think in the mid and long term, knowing that they need to set aside money for the period before new plantations begin to yield fruit, and for replanting. The high labour demand of oil palm plantations has also reduced illegal logging as a source of short-term income, with many respondents considering the need to conserve the remaining forests through village regulations.

Smallholder plantations are operated within village jurisdictions, and national law No. 6/2014 requires each village to establish village business units (BUMDes). Similar villages can develop inter-village business units. Such socio-economic institutions — which comprise several villages in the same landscape — aim to strengthen village assets and potential products (IRE 2018). In oil palm areas, inter-village business units should be able to overcome barriers in the value chain such as procurement of farm inputs, and can act as intermediaries that favour smallholder interests.

Lessons learned

Six lessons can be learned from this research. The first and overarching one is that good village governance is key to increasing smallholder inclusion throughout the value chain. This starts with checking the legality of land during plantation development, providing loans and technical assistance for implementing good agricultural practices, providing transportation from plantation to mill, and negotiating prices with oil palm fruit buyers. Muara Jekak village is an excellent example of such effective village governance.

Second, the extent of increases in productivity and in revenue from smallholder plasma plantations is very much determined by the level of inclusivity regarding the relationship with the nucleus plantation, especially in decision-making processes and the transparency surrounding profit sharing.

Third, the model of plasma plantations managed by village assemblies with inclusive decision making is a good institutional choice. It can enhance smallholder productivity and equitably distribute benefits to all households in the village. More recently, there have been more opportunities through the stimulation of village business units (BUMDes) to overcome barriers faced by independent smallholders related to land tenure and good agricultural practices.

Fourth, oil palm plantation development has significantly changed the source of livelihoods, from forest extraction to farm production. In addition, generating entrepreneurship also has the potential to stimulate the protection of remaining forests.

Fifth, government and civil society organizations play an important role in improving transparency and smallholder inclusiveness in established nucleus-plasma companies.

Sixth, together these factors could have a significant positive impact on landscapes and on forests, and could improve land-use sustainability in general.
Efforts to help smallholder farmers enhance their bargaining position are urgently needed, however. Villages where a larger part of the land has been used by large and smallholder oil palm plantation (oil palm villages) should begin to consider the existence of social and economic institutions at the local level to address the issues that result from this use.

Acknowledgements

Thanks to Yana Buana and Rahmawati (consultants), Irpan and Jaswadi Jabir (Tropenbos Indonesia) for data collection and preliminary analysis.

References


Good agricultural practices in oil palm and smallholder inclusion in Indonesia

Harro Maat, Lisnawati, Lotte Woittiez and Maja Slingerland

Introduction

There has been steady growth in the number of smallholders managing oil palm plantations in Indonesia since the late 1970s, when policies enabled them to benefit from the expanding sector. In 2004, the Roundtable on Sustainable Palm Oil (RSPO) was established, an international and sector-wide initiative to reduce the negative environmental and social impact of palm oil production. Its main goals are to reduce deforestation and protect high conservation and high carbon stock areas and peat lands when increasing the area of oil palm plantations, while also providing economic opportunities for smallholders. Before oil palm growers can acquire RSPO certification, they must implement “good agricultural practices.” These include a wide variety of farm operations that increase the efficiency of production, thereby reducing the...
unnecessary waste of resources; this increases yields and net returns from existing oil palm plantations and decreases the need for expansion.

Increasing the yields of existing oil palms through implementing good agricultural practices is especially relevant in smallholder plantations, as these show the largest yield gaps. RSPO certification for smallholders aims to help them produce more oil using less land, provide access to new markets, increase their income, and reduce the risk of land conversion, which threatens forests and biodiversity (RSPO n.d.). Introducing good agricultural practices to smallholder oil palm farmers is also a potential means of achieving inclusive innovation, i.e., promoting technical and organizational changes that predominantly benefit low-income groups in society (Chataway, Hanlin and Kaplinsky 2014).

This article reports on results from a survey of more than 310 smallholders in five different areas in Sumatra and Kalimantan, and an in-depth study of weeding and harvesting practices in Riau province, Sumatra. It reflects on how implementing good agricultural practices contributes to the inclusion of smallholders in Indonesian palm oil production. It also provides a better understanding of the potential trade-offs between costs and benefits, and between crop productivity and the environment. This understanding will better allow for tailoring farm labour management and the functioning of smallholder organizations in order to realize inclusive and sustainable palm oil production.

**Fertilizing and harvesting**

The survey looked at agronomic practices in terms of weeding, pruning, fertilizer application and harvesting (Figure 1). It surveyed smallholders who had and had not received training in good agricultural practices from government extension officers, NGOs or consultants. Some mills organized training for smallholders connected to the company, so-called plasma smallholders. Results showed that most farmers knew about “good” oil palm management practices, but implemented them in only a limited way, irrespective of whether farmers were trained or not. Most farmers carried out most activities themselves, except for harvesting and pruning, for which they hired labour. Pruning and harvesting were done simultaneously or as separate operations.

Improving soil fertility is a key component of good agricultural practices. It involves the application of the right quantities of the key nutrients in the right balance and at the right time. Mulching with empty fruit bunches is recommended as organic fertilizer. The survey showed that smallholders applied enough nitrogen and phosphorus, but insufficient potassium (K). More of the trained than the untrained farmers reported that they had changed their fertilizer application practices, but all farmers said that fertilizers were very expensive and not always available and that they therefore applied what they had on hand at the time. Farmers also received different advice from different traders, as illustrated by one farmer’s comment: “there are so many different ideas about fertilizers, I get confused.”

Farmer organizations and cooperatives have an important role to play in facilitating smallholder access to fertilizer at a fair price, and providing independent advice on what, when and how to apply fertilizer. However, it will be difficult for cooperatives to control fertilizer application other than through price reduction sand incentives. Fertilizers are mostly applied by the farmers themselves (Figure 1), which implies that organizing fertilizer application (such as by labour teams) is not appropriate. In implementing good fertilizer application, cooperation plays a key role in facilitating access to inputs and agronomic advice. Once these conditions are met, smallholders can follow recommendations more easily, which will lead to increased yields and incomes.
Implementing good harvesting practices can lead to quick increases in the quantity and quality of harvested and marketable fresh fruit bunches. Recommendations include a shorter (ten-day) harvesting interval, the use of loose fruits as a ripeness standard, and collection of all harvested bunches and loose fruits, but the survey showed that these practices were not implemented consistently. Trained farmers did increase their harvesting frequency and applied the ripeness standard, but very few of them managed to follow the ten-day cycle. To implement recommendations in full, smallholders, cooperatives traders and mills all have to adjust their practices. Smallholders have to reorganize farm management; cooperatives and traders need to collect the harvest more frequently; and mills must accept more regular deliveries. Mills should also recognize the increased quality of fruits and be willing to pay a higher price for them; that would also benefit the traders and cooperatives in the medium term. Good harvesting and a reasonable mill price are necessary for making other good agricultural practices profitable. When mills, cooperatives and traders align their activities with such recommendations, there is more inclusion of smallholders in the supply chain.

This study shows that producer groups face new organizational challenges in the implementation of good agricultural practices. One aspect is arranging new and effective linkages between farmers and other actors, mostly traders who buy fresh fruit bunches or sell fertilizer. An important role for farmer organizations is to negotiate lower prices for farm inputs and higher mill gate prices for farmer produce. Another is organizing adequate support for smallholders to implement good agricultural practices. Organizing labour teams for fertilizer application may not be feasible, but for harvesting this is a viable option that is already widely practised. These examples show that improved inclusion requires intensifying the interactions between smallholders and cooperatives, which in turn requires increased organizational capacity.

Figure 1. Use of different labour sources for four key oil palm management practices: harvesting, weeding, pruning, and fertilizer application.

Source: Woittiez et al. 2017. Note: A kelompok is a group of smallholders that operate as a team and mutually assist each other in performing farm operations. Number (y-axis) is the number of respondents who said that used one or other labour source for different activities.
Organization of weeding through spraying teams

An in-depth analysis of a spraying team in Pelalawan District, Riau Province, Sumatra (Lisnawati 2017) involved the work of a team (tim unit semprot) created by a farm cooperative to facilitate safe herbicide applications. Team members followed basic rules, including the use of protective clothing, safe storage of chemicals and equipment, and guidelines on using designated spots for cleaning equipment and disposing of empty containers. These rules are all in line with the good agricultural practices required for RSPO certification. Recommendations for limiting environmental impacts included correct mixing of chemicals (mostly Glyphosate and Triclopyr) in relation to observed weed cover, and effective application. For example, clean water is brought to the fields for making the spraying liquid. This prevents labourers from filling their sprayers with water from open sources, which brings a substantial risk of spillage.

The use of spraying teams should reduce health and environmental risks, but in practice there were several observed challenges. The volumes of herbicide were not always correctly measured and safety instructions were not always followed. And when spraying devices stopped working, mostly due to small pieces of debris blocking the nozzle, disassembly resulted in leakage and skin contact. If specialized teams have difficulties following the rules, it can be assumed that individual smallholders will find it even harder. This must be addressed.

The cost structure of weeding teams created further complications. Most smallholders own one or two fields of about two hectares each, and a spraying team served several farmers per day. Costs per farmer were calculated based on the amount of herbicide used and the number of sprayers, but farmers also pay for other costs such as safety equipment, the tank of clean water needed, and the
hours worked by the team leader responsible for oversight of the operations. Farmers compared the costs for a team with the costs of hiring individual labourers, and often chose to hire one or two individual sprayers because that was cheaper than paying for a whole team. This shows that for the use of spraying teams to be adopted, the cooperatives have to convince the farmers of the added benefits and have to foster a sense of shared responsibility between the farmers and the teams to respect the rules and keep each other accountable (Jelsma et al. 2017). This requires the extensive involvement of cooperatives, both for organizing the teams and for providing farmers with information about costs and benefits, so that they become, and remain, included and committed.

**Conclusions**

Effective implementation of good agricultural practices and RSPO certification as a whole requires greater involvement of farmers and their organizations in farm operations. Optimizing agronomic techniques requires greater social inclusion of smallholders and labourers in the cooperatives. However, support from producer organizations to smallholders for implementing good agricultural practices and arranging RSPO certification also involves additional costs. In principle, cooperatives should be able to reduce these costs through economies of scale, but in practice, smallholders and cooperatives struggle to achieve the combined goal of economic inclusiveness and more sustainable palm oil production practices. In particular, more efficient use of chemical fertilizers and herbicides, and following the rules set by RSPO for these fertilizers, requires concerted efforts by all actors involved in palm oil production and limits the options for smallholders to gain direct income benefits.

Results from the survey underlined the importance of farmer groups and cooperatives in sharing information and creating economic benefits for their members. Price benefits from the shared procurement of inputs, realigned harvest frequencies, and the collective selling of fruit bunches will increase smallholder inclusion in the palm oil economy. Farmer groups and cooperatives also play a key role in the introduction of improved farm practices aimed at the increased sustainability of smallholder oil palm farms. But results from this survey show that the implementation of good agricultural practices as required for RSPO certification poses serious challenges for farmer groups and cooperatives. The task-based organization of spraying teams is new, compared to that of harvesting teams, and is driven by and assessed on economic output criteria. Such criteria are not enough to assess the performance of spraying teams, however. When working with products hazardous to health and the environment, the need for safe handling should not be overruled by economic considerations. Spraying teams and their methods of working must be redesigned to optimize logistics, economics, farmer health and safety, and the environment.

Findings make clear that organization within and around smallholder palm oil production needs to be reconsidered. Farmer groups and cooperatives have a broad set of tasks, but seem to be primarily product-focused organizations that mediate economic transactions between farmers, traders and millers. However, realizing benefits for members also requires the organization of knowledge and on-farm labour in relation to farm operations. Introducing new work procedures and technologies implies a rearrangement of farming practice (Glover, Venot and Maat 2017). The different organizational requirements of farmers, cooperatives and other farmer groups become more apparent when RSPO certification is an objective. The responsibility of task-related organizations does not stop at the farm gate, but involves the actual practices of fruit bunch harvesting, fertilizer application and weeding on the farm.
Farmers may prefer individual decision-making and want to hire their own casual labour, which seem more cost-effective. However, the increased dependencies between smallholders, cooperatives, mills and other actors imply that mistakes or noncompliance of any of these actors imperils group certification, and may reduce benefits for smallholders. These interactions and co-dependencies need much more attention from science and policy when moving toward more inclusive smallholder palm oil production.

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Introduction

Recently, oil palm cultivation in Brazil has expanded as an alternative energy, income-generating and livelihood strategy. This reflects an international trend; oil palm occupies 20% of all permanent cultivation in the world and oil palm cultivation is expected to double or triple by 2050 (Overbeek 2017). In South America, Colombia, Ecuador and Brazil are the principal palm oil producers. In these countries, corporations dominate the production chain. Large areas of monocultures coexist with small to medium-sized plots belonging to smallholder farmers, who have a range of different contract arrangements to supply fresh fruit bunches.

In Brazil, oil palm agribusinesses have caused many controversies. On the one hand, according to investors’ official reporting, oil...
2.6 Does oil palm contract farming improve quality of life for family farmers in the Brazilian Amazon?

Palm oil is widely recognized as a valuable investment for alternative energy, combating climate change through reforestation and reducing the use of fossil fuels through biodiesel, with the added benefit of reducing oil prices. Moreover, palm oil is competitively priced when compared to bioethanol from soybeans, considering the quantity produced per hectare. Palm oil production is also considered an opportunity to generate jobs, making local economies more dynamic.

On the other hand, a more critical analysis points to processes of land grabbing by foreign corporations, and specifically to land privatization justified on the grounds of environmental sustainability. This intensified in Brazil beginning in 2000 (Backhouse 2013). Others point to problems with sanitation, water contamination and reductions in biodiversity (e.g., Vilmar et al. 2014; Lees et al. 2015). In addition, the livelihoods of those who depend on natural resource use in areas now occupied by monocultures, or on those adjacent to oil palm plantings, have been transformed, if not undermined, in this changing context.

Oil palm in Pará state

Pará is the largest oil palm producing state in Brazil. Oil palm has been cultivated for decades in the state. Production has been incentivized by public subsidies from the National Programme for Oil Palm Production and Use (PNPB) since 2004, and by the Sustainable Oil Palm Production Programme (PSOP) since 2010. These initiatives officially introduced a new production model where the main participants are farmer representative organizations, farmers, oil palm company associations and government institutions. Despite these new initiatives, however, empirical evidence shows that the number of family farmers integrated into agribusinesses in Amazonia is lower than predicted, and that the model does not appear to operate as forecast.
Considering the differences between expectations and reality, the analysis of farmer perceptions was shaped by how oil palm expansion, in response to growing global demand, involved land concentration and occupation by foreigners. The notion of “improvement” of life was assessed from semi-structured interviews with 122 family farmers who had signed production contracts with agribusinesses in three municipalities in Pará.

Farmers who produce oil palm under contract are predominately men (91%) and have an average age of 48 years. Most of them (85%) have legal access to land up to 25 ha, while the other 15% cultivate oil palm on land granted by family members, acquired through occupation and then regularized through agrarian reforms. Traditionally, cassava production represented the primary economic activity, whereas more recently, oil palm has become a part of household production. Kinship relationships, along with those with neighbours and religious groups, structure social and political organizations.

**A contract between those with unequal powers**

The integration of smallholder family farmers into palm oil production in Brazil began in the early 2000s, in Moju municipality, Pará state. The first initiative was incentivized by a company stimulated by the Novo Para (New Pará) Project, which was funded by the state government to support business development. Following this, the federal government created two public policies that subsidized and consolidated the expansion of oil palm: the National Programme for Oil Palm Production and Use (PNPB) and the Sustainable Oil Palm Production Programme (PSOP). PNPB encouraged biodiesel production on a national level, and PSOP offered structural support to produce oil palm, such as agroecological zoning of lands suited to the crop. A specific line of credit called Pronaf Eco Dendê was also established to support family farmers who chose to take up palm oil production.
Biodiesel production did not become important in Pará; production was destined for food and drug markets. Nevertheless, the area of oil palm cultivation in the region expanded to 31 municipalities through the establishment of national businesses and multinational companies. Approximately 1,508 families became integrated into these companies, representing 20% of all planted areas, totalling 207,000 ha (Brandão and Schoneveld 2015). Both farmers and agribusinesses approve of such contracts, since these contracts meet their interests and expectations. However, farmers also have their suspicions about signing contracts.

This work aimed to assess whether contract farming improved the quality of life for family farmers in the Brazilian Amazon. Interviews revealed that economic motives stand out as the main reasons for signing contracts (Table 1). These economic motives are specifically related to hopes of increasing earnings, and having easier access to rural credit, something that is difficult to achieve for any other crop. Another set of motives is related to being able to cultivate on newly available lands, thus securing work opportunities for farming families and allowing them to continue as farmers. Other motivations include unsatisfactory earnings and crop health problems, which are aggravated by a lack of technical assistance when cultivating other crops. Nearly 90% of interviewees had just one contract; 10% had two contracts and a single interviewee had three contracts.

Table 1. Reasons farmers cited for signing contracts to cultivate oil palm

<table>
<thead>
<tr>
<th>Type of reason</th>
<th>Reasons</th>
<th>No. of farmers</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic</td>
<td>Secure market</td>
<td>85</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td>Expectation of good earnings</td>
<td>85</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td>Guaranteed financing</td>
<td>61</td>
<td>56%</td>
</tr>
<tr>
<td>Opportunity</td>
<td>Desire to try something new</td>
<td>34</td>
<td>34%</td>
</tr>
<tr>
<td></td>
<td>Land availability</td>
<td>27</td>
<td>25%</td>
</tr>
<tr>
<td>Production system</td>
<td>Unsatisfied with previous agricultural earnings</td>
<td>25</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Lack of alternatives</td>
<td>16</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>Degraded soils</td>
<td>15</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>Less arduous work</td>
<td>14</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Diseases in cassava crops</td>
<td>12</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>Other reasons</td>
<td>46</td>
<td>35%</td>
</tr>
</tbody>
</table>

Research showed that 48% of farmers knew little about the details and conditions of their contracts, but still hoped to improve their livelihoods. In terms of compliance of the company and farmer responsibilities as described in the contracts, 19% of farmers were very satisfied, 28% were satisfied, 39% were unsatisfied, and 14% were very unsatisfied. Those most satisfied cited the benefits from year-round income provided by harvests every 15 days, guaranteed markets, and greater access to services (credit and technical assistance). In contrast, those who were unsatisfied mentioned delays in receiving agricultural inputs, transportation costs and the low price paid for fruits as reasons for their discontentment. Very unsatisfied farmers described a significant increase in work and lack of expected economic benefits, and expressed outrage that they had to use resources from other activities to pay oil palm debts, especially annual loan payments.
Did life improve after the contract?

One of the purposes of PNPB in Brazil is to improve social inclusion; within the programme this is related to economic aspects, specifically to increasing rural earnings. A broader vision of “improvement” was expressed by farmers to address their own perceptions of earnings and how each felt as an oil palm producer. Results showed that 72% of farmers have a positive self-perception related to being oil palm producers. However, the positive perception related to earnings was notably lower (55%), indicating that satisfaction was expressed lower when based on this objective indicator.

Using a combination of these two perspectives, four groups became apparent:

1. satisfied as producers and with earnings (53%);
2. unsatisfied as an oil palm producer and with earnings (25%);
3. unsatisfied, particularly with the “feeling” of being an oil palm producer (19%); and
4. did not respond (3%)

Analysis of data on satisfaction with earnings showed that farmers who had been contract farmers for longer, borrowed less money, and had plantings at peak production were most satisfied with their earnings. These data, however, require further assessment, given that all farmers from Irituia and Garrafão do Norte and half of those from Moju are not yet in a position to repay their loans. When repayments begin, satisfaction levels will probably change. This calls into question the adequacy of the model and its ability to improve the lives of contract farmers. Three farmers expressed differing perceptions of their experiences with oil palm contract farming.

“Here in this municipality, I don’t see any better crop, because this one has no end. Every month it puts money in our pockets; even if it’s just a little bit, it gives. Pepper provides from year to year, and cassava, well, you plant it [and harvest it] and then it’s just the soil, it’s all gone.” Mr. Tocantins, July 2017.

“It is one of the best projects that appeared for farmers. My father was a farmer and I have been a farmer for a long time. You plant cassava, the cassava flour is doing well, and then when you’re not paying attention, prices fall. So, then you make many sacks and cannot find a buyer. Oil palm has this advantage. I plant, and I like it; I don’t have anything bad to say. If it were possible to plant more, I would.” Mr. Tefé, May 2016.

“All the work that goes into oil palm plantings, we have been doing for nothing and it is very bad. I am realizing that it is better for us to earn just a little bit, but at least you can earn a little rather than work a lot and in the end work for nothing.” Mr. Trombetas, July 2017.

Notwithstanding the different satisfaction levels between the groups, they had similar perceptions of contract farming as a new means of production. Most were unsatisfied because of the lack of government incentives that would allow investments in other crops, principally cassava or other perennials. With few alternatives, oil palm cultivation becomes one of few possible means for improvement, with feelings of improvement based on the fact that the crop has a guaranteed market, allows for a relatively regular income every 15 days, and provides access to credit.

Farmers also consider that the recognition they receive as contract producers is an improvement. Contract agreements create options once unavailable to them, such as rural financing. This makes
it possible for them initiate their plantings, often through credit made available by public authorities who support oil palm initiatives. This data should be analyzed relative to the deprivations that farmers have historically faced, since most farmers opted to plant oil palm in the hope of improving their earnings, with support from rural credit. They made these decisions within the context of great public support for this crop, which benefited from prioritized resource allocation.

Conclusions

This paper presents information about family farmers who signed contracts with agribusinesses to produce oil palm in northeastern Pará state, Brazil. These initiatives were funded by public policy programmes to diversify national electricity production, with a secondary goal of promoting social inclusion. For farmers, signing contracts was motivated by economic factors such as freeing themselves from market and income instability, having access to rural credit, and the opportunity to engage in a new activity following difficulties encountered with previous production systems.

After 14 years of PNPB and eight years of PSOP, most farmers feel their lives have improved, based on greater earnings and how they feel about being palm oil producers. Nonetheless, some remained unsatisfied, due to dissatisfaction with contractual clauses, low income relative to labour inputs, and fear of not being able to repay their debts.

Within the context by which government initiatives give priority to palm oil production, many families considered integration into agribusinesses as the only way to improve their lives. However, the credit they obtained to establish oil palm plantings is not yet being repaid by most farmers. Based on data and farmer perceptions, the capacity of these initiatives to improve the lives of farmers is questioned.
In conclusion, the model shows a tendency to intensify social differentiation between farmers, with risks of impoverishing a significant number of smallholders.

**Recommendations**

These recommendations address the needs of family farmers, the state and companies. Importantly, any actions taken should encompass the livelihoods of family farmers and consider them as more than just palm oil-producing agents. In the face of possible budget constraints, recommendations are very low-cost and easy to implement.

- Organizations that represent family farmers must be more engaged in issues related to the contracts in order to better mitigate disagreements, misunderstandings and conflicts that ultimately affect the satisfaction of family farmers.
- Companies must provide regular transportation of harvested palm oil fruits and regular delivery of inputs.
- A clear and effective information channel to companies and banks about family farmers’ financial situation (expenses and revenues) is needed.
- Initiatives are needed for adding value to palm oil fruits in the family farm itself, aiming to broaden market possibilities, especially important when a contract is terminated early, or interrupted.
- Incentives are needed to diversify activities in farms and permit intercropping in the first three years.
- Specific actions are needed for family farmers who experience difficulties, through exchange programmes with farmers in better situations or with more technical assistance.

**Acknowledgements**

Sincere thanks to Moisés Mourão Júnior, who helped with quantitative analyses, to Maria do Socorro Gonçalves Ferreira for her careful review and suggestions, and to Ângela May Steward for reviewing the English version of this text.

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Smallholder perspectives
Photo, previous page: Tractor transporting oil palm fruits in an oil palm plantation in Indonesia. Photo: ©14nkyong / Adobe Stock
Local livelihood stories from producers of a global commodity

Thijs Pasmans

“Smallholders don’t produce for global food security, but to meet their own needs.”

Introduction

Increasingly, including smallholders in developing sustainable oil palm is perceived as desirable. More and more often, smallholders are becoming incorporated in sustainability policies and this is becoming a key issue in sustainability debates. Some governments are funding smallholder schemes; some parties in the industry are setting up extension services for them; and civil society organizations are helping them achieve sustainability certification. In 2018, it was decided that smallholders would have a separate Roundtable for Sustainable Palm Oil (RSPO) standard.

Support for smallholder oil palm producers can stimulate rural development, increase the supply of higher-quality oil palm, and improve agricultural and environmental practices. But care is needed in framing smallholder development as the answer to
all problems. Extension service programmes and best management guidelines are often aimed at increasing the production of sustainable oil for export. But generally, farmers base their decisions on what is good for them, depending on their livelihood wishes and opportunities. What is sometimes perceived to be a positive outcome of smallholder development programmes can vary, because measuring effectiveness requires an improved understanding of decision making at the farm level. This article offers some preliminary insights by presenting cases on how smallholders dealt with oil palm as part of their livelihood strategies. It results from a three-month study tour to Sumatra, Indonesia, that involved many discussions with palm oil producers.

**Between cucumbers and oil palm**

The global debate on best practices for smallholders often focuses on increased yield per hectare. The need for intensification is confirmed by numerous oil palm-related publications that introduce smallholders as suffering from lower yields or that stress the intensification of existing plantations as a key support strategy (IFC 2013). This need for intensification is confirmed by governments, who often use it as a sustainability argument: more oil yield per hectare requires less land and reduces the need for deforestation (Johnston et al. 2018). What this means for smallholder support programmes is a focus on better use of fertilizers and agrochemicals, improved harvesting techniques, and replanting with certified seedlings. This makes sense from the perspective of an individual farmer and a single crop. But experiences with intercropping in small oil palm plantations in Jambi and South Sumatra encourage a community perspective that looks beyond oil palm monoculture for smallholder development.

**Intercropping vegetables and oil palm**

The landscape around Sungai Rotan village in Jambi is dominated by oil palm. Around 550 farmers are organized in a cooperative; 172 of them have recently become RSPO certified. A smaller group of nine farmers is organized around vegetable farming. One of the farmers said that he doesn’t want to switch to growing oil palm. “There is already enough; I prefer vegetables,” he says. And since land is becoming more scarce in the region, farmers in the region have also started looking for opportunities to intercrop between young oil palms.

Vegetable farmers borrow land for free from oil palm farmers. Young oil palms only start producing three to four years after planting, and the rows between them are perfect for growing cucumber, cabbage, chili and other crops. When the oil palms are four years old, vegetable farmers will shift to another freshly planted oil palm plantation to continue intercropping. The farmers in this region are either oil palm farmers or vegetable farmers, but land use and ownership seem to be flexible, with land shared by farmers for producing a range of crops. This can be partly explained by the various skills and knowledge that vegetable farming requires, and is also reflected in the various farming systems that these crops require. Many oil palm land owners in this region do not farm themselves, but manage their land plots from a distance, using hired labour for harvesting and maintenance. Vegetable farming, on the other hand, requires daily maintenance and good oversight, especially when harvesting and taking products to market.

Intercropping between oil palm is not limited to smallholders. In Palembang, South Sumatra, a producer with several 100- to 200-ha plantations allows local farmers to grow rice between his young oil palms, saying it was “not a big deal” for him to have them on his land. This might seem like a detail, but it shows that intercropping and land sharing is happening not only in farming communities; it is also possible between entrepreneurial plantation owners and local small-scale farmers.
3.1 Local livelihood stories from producers of a global commodity

Planting or replanting oil palm

Almost all the smallholders in the region visited faced the same questions when having to replant oil palm; they found themselves unable to obtain credit to make the needed investments or did not have the means to generate other income during the unproductive early years. And although this is often acknowledged in smallholder policy studies, the variety of options that smallholders encounter on the ground are not always recognized. Discussing these issues with the smallholders in this region, the following strategies emerged for how they cope with such situations. The first was a wait-and-see approach, with individual and organized farmers remaining hopeful that they would receive help from companies to convert their land and get credit. But machinery is expensive, making fire the dangerous but most attractive option to clear old plantations or agricultural land. The second option was to expand into new areas. It is easiest to plant on empty land, using income from the first plantation to bridge those earlier years. But with land becoming scarce and the illegal use of fire increasingly condoned, this strategy is becoming less favoured. A third way used by some farmers is to plant young oil palms under their aging oil palms or rubber trees. This practice of under-planting allows farmers to continue deriving income while young oil palms mature.

Side selling

Surprisingly, the answer to the simple question “to whom do you sell your fruit?” was far from straightforward. A representative of an RSPO-certified farmer group said that he sold part of his harvest to a local trader to repay a loan in fresh fruit. Other farmers said that they sold part of their harvest via a family member who was acting as an agent. What this meant for logistics became clearer during the weighing process just after harvesting: fresh fruit bunches were separated into two heaps before weighing. The first heap was sold via a local trader as partial repayment of an outstanding loan. The
second heap was to be picked up by a truck owned by the farming group and delivered directly to a
nearby oil mill. The total weight of the two heaps was sold together by the group as RSPO independ-
ent smallholder credits on the RSPO trading platform.

Although such farming groups have some form of central organization, they are often flexible and
dynamic in nature. Further, logistics surrounding the sale of fresh fruit bunches depend on financial
obligations and family relations, but also on the availability of and access to credit, fertilizer, seedlings
and labour. And to where and via whom fresh fruit bunches are sold is not predetermined. Farmers
can sell individually, as a group, or both at the same time.

Many RSPO-certified members of this group also had additional non-certified farms elsewhere. This
became very clear during visits to a group of Kredit Koperasi Primer Anggota (KKPA) scheme small-
holders in West Sumatra and Riau. This is a partnership model between a plantation company and
smallholder cooperatives. Most of the scheme’s smallholders had two types of farms: one managed
as part of the cooperative and a second farm managed individually. The cooperative land was
grouped together, whereas the individual farms were scattered, mostly outside the village district.
The independent farms were often larger (up to 10 hectares) than the scheme farm (~2 hectares) they
started with. The scheme farms were often co-managed by the plantation company. This meant that
farmers received advice on best management practices and were supplied with good-quality seed-
lings. That is why the yields of scheme smallholders were often close to commercial plantation stand-
ards. Unfortunately, this wasn’t transferred to independent farms, which lacked almost everything
that was successful on the scheme farms. Farmer training in good agricultural practices apparently
did not guarantee good practices. This is not because they did not know or did not care. Fertilizer
is in many cases too expensive, and manual weeding generally takes more time, effort and labour

Young palm growing under rubber trees. Photo: Thijs Pasmans
than chemical spraying. Improved harvest timing is a relatively easy best practice, but collectors only pass by every 15 days. With the theft of fresh fruit bunches being a real threat, it is better to harvest all fruit, even though it’s not entirely ripe, in one go, even if that leads to lower quality. And as there is not always any quality grading at the palm oil mill, farmers in this region know that there is always a market for their fresh fruit bunches. Farmers do not always base their decisions only on agricultural knowledge, as is sometimes assumed, but on what is happening around them.

**Implications for future scenarios**

These stories show how smallholders are planting, intercropping and replanting oil palm. Expansion in this region is often impossible due to the lack of available land. The wait-and-see option of these smallholders can result in reduced crop yields, while underplanting may also result in lower yields due to competition for light and nutrients. Additionally, when young palms mature, older palms are often poisoned to clear the canopy, resulting in the peculiar sight of dead grey palms next to young green ones.

This urgency for smallholders to find a way out is acknowledged by many stakeholders (Johnston et al. 2018). At the moment, governments and industry players are reaching out to smallholders with replanting schemes. The line of argument is that without access to sufficient credit, there is a risk of smallholders reverting to less favourable coping strategies. Additionally, it is stated that smallholders can successfully replant only when palms are clustered together, with a minimum requirement of 100-300 hectares to start replanting (Johnston et al. 2018); this is needed if they are to find partnerships with external sources of credit from banks or companies. But framing the replanting issue only as “the
Intercropping could be a best management practice to stimulate the inclusion of multiple farming skills and land-use and tenure systems, and to diversify agricultural opportunities at the community level. Intercropping encourages a vision beyond the oil palm monoculture paradigm, and requires a new perspective from the farm to the village level. It also provides farming opportunities for those without land or capital and creates access to land by sharing or leasing possibilities, balancing livelihood possibilities between those who own land and those who do not. Intercropping has been noted as a coping strategy for some years (Vermeulen and Goad 2006; Bronkhorst et al. 2017), but approaching replanting from a communal perspective could create more flexible options for farmers. Farmers can intercrop on their own land, but they can also lease land to neighbouring farmers. At the same time, larger plantations can be made more inclusive to locals when intercropping between young oil palms is allowed. What is needed to start this is for governments and companies to see replanting from a communal perspective that allows practices such as intercropping and land sharing.

Sustainable supply chains

From a certification perspective, side-selling is counterintuitive, as “true” sustainable supply chains are often defined by NGOs or manufacturers to reach final consumers. Farmers are sometimes also motivated to become better organized and certified, but what do these assumptions mean for smallholders in reality? There is not necessarily an RSPO-certified mill nearby, and even when there is, whether farmers sell their fresh fruit bunches there depends on opportunities driven by price or social obligations. This forces a rethink of how to include more smallholder farmers in sustainable supply chains. RSPO credits seem the best option from a transactional perspective, since a good price premium could provide a direct incentive to the farmers to get certified without the obstacle of obtaining access to a certified supply chain. On the other hand, certification requires the strict recording of activities inside the certified area. But if farmers can sell fresh fruit outside the cooperative, they may also buy fruit in from outside.

Having too tight control over the complete supply chain distracts from the real case at hand. Sustainable sourcing should support and improve better practices for the benefit of smallholders, not for mitigating sourcing or reputational risks. It is certainly a paradox, but achieving the greatest impact means working with those areas that have the highest sustainability risks. If certification standards are only for those who have applied sustainable practices, can those in the process of adapting sustainable practices be included as well?

Implications for smallholder policy

Improved smallholder inclusion and development is heavily debated in both producing and consuming countries. But it is often forgotten that at a local level, palm oil is a rich man’s crop, relatively speaking. Those who have land and capital to bridge the first unproductive years are likely to be successful and to continue to be so in the future. However, the preceding examples describe how oil palm is part of broader systems of farming and communal decision making. Smallholders do not produce palm oil to help provide global food security. They grow it as part of their own livelihood strategy. These
examples from Sumatra, Indonesia, show how farmers choose how, when and where to grow oil palm based on a wider spectrum of influences, stakeholders, problems and challenges on how they base their decisions. For palm oil production to be truly inclusive for smallholders, it must acknowledge their farming and livelihood decisions and build on their ideas. To do so, this means that their stories from the ground need to be more widely collected and shared, to serve as a source of inspiration and to help the joint seeking of solutions that include smallholders in the value chain.

**Acknowledgements**

Thanks to Musim Mas and MVO – The Netherlands Oils and Fats Industry, for facilitating this learning project in Indonesia.

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Accepting smallholder producers as key stakeholders is fundamental in solving the many problems associated with oil palm, by giving them an amplified voice. Their presence in inclusive platforms can increase the confidence and capacities of individual farmers and producer organizations, and can improve their access to finance and vital information on the whole palm oil production chain. This in turn is important in developing skills among smallholder producers that could lead to improved productivity, marketing, income, profitability, bankability and investment in farms and producer groups.

Increasing inclusiveness exposes smallholders to new concepts and innovations that are hard to come by in isolated operations; it will lead to greater gender and financial equality, and reduce the exploitation of producers by intermediate traders.

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What can smallholders do to better engage with companies?

Smallholders on Uganda’s Bugala and Buvuma islands, where oil palm is planted, are fragmented and sometimes dependent on agents to sell their fresh fruit. They lack access to information on prices and on sustainable agricultural practices, with no traceability. The most important strategy for smallholders to engage with companies is to raise their voice by coming together as producer organizations.

Presenting a single set of messages to companies will steadily and sustainably lead to smallholders achieving their goals of fair prices and ensuring that companies respect their rights as suppliers. This will also help meet the demand for appropriate farm implements, inputs, information on the safe use of fertilizers and pesticides, improved transportation, and opportunities for applying new technologies to enhance on-farm productivity.

What advice would you offer oil palm companies to improve smallholder inclusiveness?

A vital first step is to ensure that companies involved in the planting, purchasing and processing of oil palm become truly transparent in their reporting, through benchmarking of sustainability, and through support to coalitions of sector actors, with key emphasis on smallholders. It is also in the best interests of companies to increase the efficiency and profitability of producers by providing increased services, and offering a fair price for their produce that will also help to improve company-smallholder relations.

The quality and quantity of fresh fruit bunches can then increase, and farm incomes can improve by removing the presence of middlemen. And if supported by companies, cooperatives are also valuable for improving the collection of empirical production data and environmental and social information. Increased yields per hectare will guarantee a sustainable source of oil palm for the companies, and have the potential for environmental protection in the long term by reducing the need for further deforestation.

What is your vision for a more inclusive future?

I can see the emergence of sustainable oil palm “model villages,” that encapsulate a holistic and inclusive approach which recognizes that social, environmental and commercial progress are all interconnected. To achieve this and to balance the different needs of various stakeholders, smallholder-led cooperatives must be supported by both government and the companies that work with cooperatives. Government and companies must also listen to the needs of farmers, and implement inclusive and equitable policies to create harmony, especially for land-tenure issues.

Sustainable oil palm villages would also be avenues for information sharing, skills development, gender campaigns, positive critiquing and capacity needs identification. Such cooperatives can be used to test models of integrated livestock and fish farming, whereby oil palm by-products such as fronds are used as livestock feed, cow manure fertilizes oil palms, and palm oil mill effluent is used as fish feed. In all, inclusiveness can result in the emergence of improved well-being of smallholder producers within stronger and more sustainable smallholder communities. These can in turn increase the resilience of the oil palm supply chain and further strengthen the trust that consumers have in the companies and brands concerned.
Introduction

Oil palm in DR Congo, after decades of being abandoned, is now seeing new investments in the provinces of Tshopo and Mongala. There, small-scale plantations of oil palm and wild trees have provided opportunities to improving local livelihoods. Oil palms also play major social-cultural roles in the region, through their part in family life, marriage and festivities. Besides the use of palm oil, the trees and land around them provide families and communities with multiple other products. These include palm wine, edible beetle larvae, vegetables from intercropping, craft items woven from palm fronds, and home-produced secondary products from palm oil, including soap, body lotion and food for livestock and poultry. In addition, the manufacture and sale of palm oil products significantly improves women’s control of household income. Although new investments may bring interesting opportunities for multiple...

“I planted oil palm to prepare for my retirement. Now I live decently, earning money while my rice and cassava are growing.”

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stakeholders, including smallholders, there are also signs that this development is leading to land grabbing and human rights abuses. This article looks at experiences from the region and reflects on the past and potential future relationships between local people and oil palm.

Development of the palm oil sector over time

Under colonial rule, the country developed large oil palm plantations (Vanderweyen et al. 1953). In 1957, what was then the Belgian Congo exported 150,000 tonnes of palm oil, making it the largest exporter in Africa and second in the world after the Dutch East Indies, now Indonesia (Nicolai 2013). But since independence in 1960, thousands of hectares of oil palm groves were abandoned, linked to the zaïrianisation (nationalization) of the economy under Mobutu Sese Seko’s rule during the early 1970s. Consequently, exports declined, collapsing to zero by 2000. Today, DR Congo imports 50,000–60,000 tonnes of vegetable oil per year, mainly rapeseed oil from Malaysia and the EU (AGRER-EARTH GEDIF 2006).

But recently, there have been new investments in palm oil development in DR Congo in the provinces of Tshopo and Mongala. In 2009, two agri-food companies, Feronia Inc. and EWG, took over 141,447 ha of plantations and processing mills in the former Equateur Province and Oriental Province. These companies are investing in rejuvenating plantations and modernizing palm oil processing to increase palm oil yield. All palm oil production passes through Kinshasa, where it is refined into consumer products such as oil, margarine, soap and beauty lotion. Feronia invested US$170 million, much more than the initially planned US$50 million. At the same time, the company focused on local processing to improve the oil extraction efficiency.

However, this economic success conceals prolonged and continuous violation of human rights in industrial plantations in these regions. Some large-scale companies are known to have stripped local populations of their land since 1911 without any compensation (WRM 2017), even when these companies were supported by a development aid fund (WRM 2018). Even in more recent years, peasants were reported to have been expelled from their land (ACP 2016), and forbidden to market palm oil and derivative products on the pretext of the risk of theft. Other human rights abuses have also been reported in recent years, including murder committed by guards or police on behalf of the corporations (Radio Okapi 2013, 2014). In the face of increased palm oil demands, Feronia signed a document with customary chiefs in January 2018, but local communities members and civil society actors say that this is not well respected. According to local civil society organizations leaders interviewed for this article, the chiefs also say that they never agreed to this, but were forced to sign it by the provincial governor. Additionally, civil society organizations and human rights activists repeatedly voiced concern about employees who are not regularly paid, despite regularly claiming their payment. Some staff managers of the industry indeed recognized that salary payment was delayed. Moreover, industrial processing excludes female labour, although women play a major role in the artisanal chain of palm oil.

Given the growing local and global demand, the local oil palm industry may see profits in the future, despite threats to the environment. The industrial renewal of oil palm is undoubtedly a great opportunity for the national economy. But this must not come at the expense of the inclusiveness of marginalized social groups, and in no case should there be any threat to the rights of smallholder farmers, for whom oil palm is still a major source of income and for whom access to land is a matter of life and death (RAIO-RDC et al. 2016). Unfortunately, potential profits seem to make companies greedy for land, and recent palm oil developments have been associated with negative impacts on smallholders. How can the negative effects of oil palm for smallholders and the environment be mitigated?
Gender roles in the informal sector

There is a clear division when it comes to gender and labour within the palm oil sector. In the informal smallholder setting, women and children tend to plant and manage on-farm oil palm trees and plantations, whereas industrial harvesting tends to be men’s work and only men are hired. However, in industrial plantations, women and children often collect fruits and carry them to local presses for extraction for family use. Women collect wood, break and cook nuts, and run the press, although sometimes the male head of household or paid relatives help. Women also market oil palm products, which gives them control over household income; they give part of this to the husband for his needs. The production and marketing of palm wine are exclusively reserved for men. The use of oil palm wood is shared by men and women. The collection of beetle larvae is a men’s activity, whereas commercialization of larvae is entrusted to women. The distribution of income from oil palm is generally advantageous for women, notwithstanding the hard work involved.

Oil palm and future well-being

Production in Tshopo and Mongala provinces is characterized by the juxtaposition of two operating systems: agroindustry, represented by Feronia Inc. and EBG; and the informal artisanal sector. Oil palm is known to generate many positive social, cultural and economic benefits for various stakeholders in the province. Unfortunately, local civil society organizations leaders interviewed for this article

Oil palm – a part of life...

Agriculture is the principal activity for more than 80% of the rural population in DR Congo. They grow food crops and plantation crops such as coffee and cacao that provide nutrition, construction materials, medicines and other products. Oil palm, which is native to tropical Africa, is also very culturally and economically important: 80% of production is used for local consumption and supporting local livelihoods; and 20% is used for manufacturing industrial derivatives such as soaps, cosmetics, inks, resins and chemicals such as fatty esters and methyl esters for domestic use. Local production still does not meet all the national demand.

Crude palm oil is processed and used with other vegetable oils for cooking (as margarine, vegetable fat and frying oil). Palm products are also used by various local industries for making soap, cosmetics, and sawn timber for furniture, rustic construction and public works such as bridges and buildings. Infants, young brides and breastfeeding mothers use skin lotions based on palm oil. Palm wine is a popular drink. Larvae collected from oil palm trees are in high demand as a food. Palm heart, the core of young stems (locally called macaroni) is very popular. In order to produce oil palm wine and larvae, the plant must be killed. To meet the growing demand in Congolese cities for wine, larvae and palm hearts, young plants are often harvested completely.

Oil palm shells, which make up some 8–10% of the total weight of fresh fruit bunches, are used as fuel, with other residues used as feed for livestock, poultry and fish farming. Palm oil is mixed with extracts from other plants and used in traditional medicines to treat cramp, blocked sinuses, wet coughs, colds and other ailments such as sinusitis. The bicarbonate from burnt palm nut shells is used when cooking cassava leaves, and also has therapeutic virtues. Palm branches are used for ornamentation and various cultural rites in birth, initiation, marriage and death ceremonies. In fact, oil palm products accompany every rural Congolese person from birth until death.
reported many negative environmental impacts (RAIO RDC 2016), such as deforestation and devastating effects on forest ecosystems, including environmental pollution from untreated waste, and loss of habitat and biodiversity. Local presses are the main producers of two types of oil palm in Tshopo, one from the nut, and one from the kernel. Although artisanal production is increasingly important, it still does not meet all industry and households needs.

Revival of the oil palm industry must increase local well-being by placing people at the heart of economic activities, and must not debase or enslave local populations. In DR Congo, industrial plantations are indispensable for production, but are often linked to the impoverishment and exclusion of smallholders, who are also forced to sell their labour. Local people living in and around industrial concessions currently face restrictions on where they are allowed to exploit wild trees and their own plantations to produce oil, wine and other products.

Buying back the local production of fresh fruit bunches instead of restricting smallholders would encourage growth and improve relations between companies and farmers while integrating them into a more inclusive value chain to guarantee improved profits for all. Such collaboration between artisanal and industrial exploitation is thus considered inevitable, even imperative, in meeting the goals of well-being and inclusiveness. To achieve this, an inclusive development policy is the only viable option in the long term. With harvests of oil palm almost weekly from the third year after planting, oil palm is a tree of the future for smallholders and industry, with added value, especially for those preparing to retire, guaranteeing an income where before there was none.
Co-management

Managing areas of industrial concessions not planted with oil palm can contribute to improved relationships between local people and companies, who can together define the use of space and the responsibility of each stakeholder. Since 1911, indigenous peoples have lost land that was taken by companies that considered it vacant, and did not receive any compensation. Thus, to be truly inclusive, co-management must be accompanied by substantial compensation for indigenous people who have been waiting for more than a century for such justice.

Smallholders are the main suppliers of domestic palm oil. Therefore, their views must be taken into account in the development of all relevant agricultural policies for the whole country. Given the importance of oil palm products in everyday life in DR Congo, policies must support the sustainable development of local and valuable products such as palm wine and beetle larvae. Bars serving palm wine are places of conviviality, debate and socialization (Nkoko Lipambala 2008). Trees that are taller than 12 metres are difficult regarding harvesting of the fruit, and in such cases, the tree is destructively harvested for producing wine and larvae. And the production of oil palm crafts items should be promoted to encourage sustainable livelihoods for forest-dependent populations.

More research on sustainable production of palm oil is needed, to meet a threefold challenge faced in DR Congo. There is a need to meet the growing global demand for vegetable oil, a need to produce more per hectare whilst respecting biodiversity and the environment, and a need to integrate impacts of an emerging biofuels sector. Among the noted solutions, is the ecological intensification of existing plantations, spatial management for reasoned site selection, and adding value to quality oil.
Conclusion

The oil palm industry in DR Congo is being reborn after years of decay. This was sparked by an increasing national demand for palm oil, mostly due to demographic growth. The rebirth was also by the use of palm oil in diverse industries, and by the increased demand for other products derived from the crop. Long-abandoned industrial plantations have been rejuvenated, small family farms have multiplied, and old and obsolete industrial mills are being modernized to meet the growing needs of the national market.

In addition to the palm oil industry, this article demonstrates that for many households, oil palm plays a more important role in the lives of local people in DR Congo. For smallholders, oil palm is part of a broader strategy to reduce poverty, while at the same time representing enormous potential and investment opportunities. Many smallholders are able to generate regular revenue by growing palm oil. And with a daily consumption of 0.4–0.7 litres per family, palm oil is, for the vast majority of households in Tshopo and Mongala, the only vegetable oil.

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How will increasing inclusiveness be good for smallholder oil producers?

Large-scale oil palm expansion has many negative impacts on the local economy, environment and people. Of these, particularly important effects are the displacement of people, loss of individual, family and community land, and reduction in rich biodiversity, including endangered plant and animal species. However, observed increases in local poverty and unemployment can be resolved with greater smallholder inclusiveness. This will also help to foster respect for community rights to sustainable livelihoods and customary laws and traditions, and also address problems with food security. Inclusiveness can turn smallholders into critical stakeholders, help establish and strengthen their role in the oil palm value chain and their terms of engagement, and ensure transparency in consultative processes, price determination and negotiations on land allocation. It will also compel compliance by multinational companies with environment and customary laws, and will boost production and improve smallholder living standards.

In my view, most company policies and practices are motivated by their drive to maximize profits, and smallholders are so often not consulted nor considered as important stakeholders. Smallholders also have limited access to information, including costs to be incurred in securing the tenure of production units, and companies often make unrealistic projections of smallholder income while in turn

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overstating their production costs. Current practices exclude smallholders, leaving them at the mercy of company contractors, who often have monopolies to buy from farmers and resell to the company at a much higher price.

**What can smallholders do to better engage with companies?**

Smallholders must create viable networks and platforms to meet their various aspirations, and to advance, secure, strengthen and sustain their interests in the oil palm value chain. To do so, they have to organize themselves into cooperative and formalized associations or unions, in order to become critical stakeholders and to influence the price of their fresh fruit bunches.

**What advice would you offer oil palm companies to improved smallholder inclusiveness?**

Companies must become more transparent and accountable, with the adoption of a bottom-up accountability framework that gives smallholders a sense of belonging, and more. This will help convince smallholders that they are partners with oil palm companies, and not objects to be exploited for the selfish gains and interests of multinationals. Companies must eradicate the platforms that permit the imposition of unfavourable rates on producers, and start dealing directly with smallholders to agree on acceptable prices. Agreements should be properly documented, written up and circulated, not just presented as oral statements alone as is currently done. Smallholders must have confidence in companies. Companies should adopt environmentally friendly practices and put measures in place that will help curb hazards, particularly since most of their activities often result in the pollution of air, water and other parts of our common environment.

There are various aspects of corporate social responsibility that companies are introducing, but these must include projects that will directly address the main needs and challenges confronting local people and their communities, and such projects should be acknowledged by and lodged with host communities and not just the local government. Importantly, the existence of memoranda of understanding, environmental impact assessments and other such documents must not remain secret. The fact that they exist, where they are kept and that they are accessible should be known to all smallholders and members of the public. Companies should also create space to allow for the possibility of sharing views, to allow effective criticism, promote partnering with smallholders, and create policies that will help to improve livelihoods.

**What is your vision for a more inclusive future?**

I want to see a future that will guarantee improved livelihoods for all smallholder oil palm producers. This future will eliminate the many complex and diverse barriers that smallholder are constantly faced with, such as the denial of any ability for them to access markets, land, finance, training and information. Concrete and financially supported means are urgently required to support smallholders to actualize their full potential and enhance their productivity in terms of quantity and quality through improved and sustainable agricultural and environmentally friendly practices. These must also include long-term business commitments, to help establish an effective synergy between large-scale companies and the smallholders that will ultimately underpin their future profits.
How will increasing inclusiveness be good for smallholder oil palm producers?

Increasing inclusiveness improves the livelihoods of smallholders in their communities, and gives them added bargaining power when they are determining the price at which they will sell their produce. It will increase their resilience through access to financial services. Improving the bankability of smallholders is an important step to their becoming entrepreneurs; with access to finance and credit services they can implement good practices adopted through training and coaching. Research has also indicated that investing in smallholders provides opportunities to reach local markets and advance local economic growth.

In the past, all cooking oil in Uganda was imported, but since a decade ago, the government has promoted smallholder palm oil production through the Vegetable Oil Development Project (VODP), which has encouraged smallholder inclusiveness. Oil Palm Uganda Limited in Kalangala, for example, earns US$42,300–52,600 every year while the district collects US$21,800, with more than 1,000 jobs created as a result of smallholder inclusiveness in the project. And when these farmers get paid extra because they are part of an inclusive oil palm project, they can then save money, send more children to school, and have added access to power, health care and housing. Increasing inclusiveness also attracts government attention to supporting smallholders with agricultural extension services that these farmers need to increase their productivity.
What can smallholders do to better engage with companies?

Smallholder farmers should first of all ensure that they have legal rights over their own land, however small it may be. Land is the most important factor in agricultural production; without it nothing can be done, and companies tend to want to work with farmers who own land and have proof of ownership. So, acquiring official title for land can also give smallholder farmers more incentives to better engage with the companies. Forming farmers’ cooperatives and farmer groups is crucial, since companies generally find it much easier to work with farmer groups instead of individuals. It also reduces transaction costs and makes it much easier for smallholders to engage with companies.

Smallholders must also aim at improving the quality of their produce to be able to better engage with companies. Final product quality depends very much on the quality of product inputs, and high-quality smallholder produce can attract new companies to engage with them. Smallholders should, in my view, drop the concept of subsistence farming and adopt the attitude of durable production with a business mindset.

What advice would you offer oil palm companies to improve smallholder inclusiveness?

Oil palm companies should involve smallholder farmers right from the project planning stage. This will also offer companies opportunities to listen to smallholders’ concerns and encourage them to get involved. Oil palm companies should take the time to study and understand the behaviour of smallholders and how this could negatively affect the project and its future profits. Involving smallholders should thus be seen as a positive economic choice that will save companies a lot of money and time that would have otherwise been lost in the process. Companies should work closely with the local authorities in areas where they want to grow oil palm. Smallholder farmers believe in their leaders so much that even if a project is very profitable, as long as the local leaders do not support it, they will reject it, and that will mark the start of project failure.

Oil palm companies must also provide smallholders with a stable and profitable market for palm oil, since smallholders are generally willing to produce palm oil, but are usually worried about price fluctuations and the fact that they cannot sell their produce to anyone except the oil palm companies.

What is your vision for a more inclusive future?

Smallholders are many and are committed to production as long as they are assured of a stable market for their produce. Investing in smallholder inclusion secures a sustainable supply of commodities that provide local producer organizations with opportunities to show their responsibility to social issues from a business perspective. Smallholder inclusiveness in palm oil production is my vision for a sustainable future leading to rural transformation. In Uganda, we are about to see an expansion of the industry in Buvuma and its islands, and there are many expected benefits, such as development of the industry’s own solar-powered electric grid and a promised 4,000 jobs. But can it be arranged so that people truly play a full part in developments?
Corporate views and strategies
Photo, previous page: Women carrying fruit at the Serendipalm processing plant, Ghana. Photo: Christine Moncoquet
Introduction

Land grabbing, exploitation and destruction of natural ecosystems is a common criticism of large industrial agricultural projects and investments in developing countries. In Papua New Guinea, serious controversies unfolded after more than 10% of the country was hastily handed out to non-land-owning third-party companies controlled by foreign entities using special agricultural business leases under the promise of future oil palm projects. In contrast, New Britain Palm Oil Limited (NBPOL), wholly owned by Sime Darby Plantation, has been in Papua New Guinea and Solomon Islands for more than 50 years and has found that local inclusion and certified sustainable practices are a necessity to doing business.

The palm oil industry was introduced to Papua New Guinea and Solomon Islands as a means of delivering development through

“Palm oil is by its very nature reliant on a high degree of local participation.”

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public-private partnerships, starting in the late 1960s. Later, these projects were all wholly privatized. The fact that they persist is a testament to their success, with an estimated 200,000 people in Papua New Guinea living in households that depend on oil palm as their principal source of income (Nelson et al. 2010). Being a vehicle for development, the business models were designed to maximize local participation as a means to amplify impact. Oil palm plantations require large local expenditures for labour, goods and services, and projects were designed to outsource many services to local providers.

Smallholder participation was a condition for the original loans in order to establish the industry, and the terms and conditions defined in these loans still characterize how the industry works today. The recognition of indigenous/customary land-ownership in Papua New Guinea and Solomon Islands requires joint ventures to obtain land. A smooth and long-term business relationship makes Free, Prior and Informed Consent (FPIC) paramount in preventing disputes. This article presents a variety of innovative participatory processes that are part of NBPOL’s “no deforestation, no peat and no exploitation” expansion and sustainable management.

The NBPOL development model

The NBPOL development model was based on appropriate and tested technologies to provide a multitude of economic benefits. In summary, the company provides genetic material for planting, extension services for cultivation, the logistical support necessary for transport and processing, and access to international markets. Services include long-term research and development, including significant programmes on plant breeding and integrated pest management, agronomy, certified sustainable management, and access to certified sustainable markets. Local participation took the form of government and land-owner shareholding. At the outset, the government owned 50% of the NBPOL project, but over the years it sold off most of its shares; the remainder were sold when Sime Darby purchased NBPOL.

The project in Solomon Islands is different in that local land-owners still own 20% of the shares in the local company there. In all areas where oil palm is planted on customary land, land-owners receive a per-hectare lease fee for both conservation and production land and a percentage royalty of fruit harvested from the land. The recognition of customary land rights means that most farms are established through joint venture arrangements with local land-owners, resulting in substantial payments to them for land rental and royalty. As an example, NBPOL plantations in West New Britain Province paid out more than US$95 million in 2017: 49% of which for local salaries and wages; 37% for smallholder crop purchases; 8% to local contractors; and 6% as royalty and rental payments.

The oil palm industry is by its nature very reliant on local participation, and the inclusion of independent smallholders is an important part of its supply base. NBPOL has more than 25,000 permanent employees, and as such is the largest private-sector employer in both Papua New Guinea and Solomon Islands. Complete mechanization is impossible and palm oil production therefore relies on an extensive amount of labour. Logistics are a major facet of the business, and local contractors take on significant shares of both road maintenance and transport. Since most of the workforce is provided with housing, water and electricity by NBPOL, this in itself creates an industry in which local services in the form of construction, repair and maintenance are fundamental.

Smallholder support programmes follow the original agreements established in 1967, which have provided a solid foundation for smallholder inclusion in the industry. Smallholders have access to credit
from NBPOL for the purchase of seedlings, tools and fertilizers at cost, and these interest-free loans
don’t need to be paid back until they start selling fruit to NBPOL. All research, development and pest
and disease control services are provided by the Oil Palm Research Association, subsidized by all
growers through a levy of US$0.80 per tonne of fruit. Transportation of fruit is provided at cost where
required, and all fruit is purchased at a price determined by applying a profit-sharing formula that is
regularly reviewed and mandated by the government. Unlike many business models in Asia, there are
no middlemen, and fruit is not graded according to quality on arrival at the mill. Per original develop-
ment agreements, the mill is obliged to buy all the fruit delivered by smallholders, regardless of quality
and at a price determined by the government.

The latest review indicates that this results in smallholders receiving more than 57% of profits from
milling (KPMG PNG 2014). Although the arrangement ensures that smallholders always have a buyer,
it does not ensure a constant price. The price a smallholder receives is influenced mostly by the US$/
PGK exchange rate and by the price of crude palm oil and palm kernel oil in Rotterdam. Because of a
high demand oil palm has provided a significant and consistent financial input for local economies
over the past years, with NBPOL’s average total monthly payments to smallholders in excess of US$4.6
million every month. Considering all this, the majority of land-owners living within transport distance
of an oil palm mill in Papua New Guinea will consider planting this crop, since the risk of failure is low
and the returns very attractive.

All smallholders linked to NBPOL participate in and benefit from the company’s sustainability pro-
grammes. They are provided with the training and support needed to be audited against interna-
tional standards. Smallholders are not required to contribute to auditing costs, and NBPOL passes
on the entire premium it receives for the smallholder crop to them. Since they became involved, the
premium has increased from US$1.80 to 4.25 per tonne. NBPOL is recognized as the first palm oil company to achieve 100% RSPO certification for all the smallholders that supply it. Today it supports more than 17,000 independent smallholders within its certification programmes, or 16.3% of all RSPO-certified smallholders in the world. NBPOL is now also working on rolling out smallholder inclusion in the company’s Rainforest Alliance certification.

The issue of land

Most land in Papua New Guinea (97%) and Solomon Islands (83%) is governed and owned by indigenous land-owners. Customary land rights are recognized in their Constitutions and form the basis of traditions and the social security of indigenous communities. All decisions regarding ownership and user rights are decided following communal customary laws. There are also legal provisions through which temporary user rights can be transferred to investors through sub-leases founded on the principles of free and prior informed consent. Not transferring user rights would risk long-term investment. Social and environmental impacts assessments are essential to maintaining good relationships with communities. These assessments are achieved through extensive information transfer and meetings on their premises and on their terms, and are essential to ensuring everyone’s full understanding of all issues.

The NBPOL experience has shown that it takes at least three years from receiving an unsolicited expression of interest by local customary land-owners to signing a development agreement. A significant part of the process revolves around building integrated land-use plans in cooperation with the traditional land-owners. These integrated land use plans utilize the High Conservation Stock Approach (HCSA); NBPOL is a member of the HCSA steering group and has helped define its practical methodology. The participation of communities is fundamental to both identifying conservation values, and the strategies to conserve them. All scientifically justified High Conservation Values (HCVs) and High Carbon Stock Habitats are identified through HCV Accredited Licensing Scheme assessments (HCV Network n.d.) and presented to communities through consultative process. Other participatory processes include identifying and setting aside areas for community use to ensure that communities have enough land for subsistence and commercial farming. These Community Use Areas are calculated on a basis of 0.5 ha per person over the projected lease period, taking into account population growth, to ensure that ample land is available for living space, food security and the provision of basic needs. Such land-use planning is an iterative process that requires time for communities to discuss internal agreements.

Land is leased from communities only if they register it for a formal title. If this process is done correctly, it bolsters the company’s FPIC process. To ensure that the process is conducted with integrity, NBPOL assists by conducting genealogical studies, helping individuals attain birth certificates and identification cards, and ensuring that rental and royalty payments are in place so benefits flow directly to the recognized families and not necessarily their legal representatives.

Acquisition of customary lands — a case study from Papua New Guinea

Practices to meet sustainability standards are being implemented in Chivasing and Tararan villages in the Huon Gulf district of Papua New Guinea. Working with customary land-owners who are interested in leasing land to developers is challenging, since most people have no title to their land. The lease titles on which business relationships are based must be issued to those who represent communities
who own the land, to avoid disputes and maximize benefit sharing. This case study summarizes the process undertaken that assisted seven land-owning clans, who approached NBPO with letters of interest signed by clan elders, to develop their land in a joint venture.

The approaches used by NBPO followed standards for incorporating sustainability requirements for new development, and minimizing the negative impacts of oil palm cultivation on communities and the environment. Feasibility studies were first undertaken to ensure that areas that communities wanted to develop in joint ventures did not include forests or any area of high conservation value or carbon stock value. With high levels of population growth in rural areas people cannot understand why non-utilized customarily owned forests cannot be used to address their increasing needs. Most communities were confused by NBPO’s no-deforestation policy. In this case, however, most of the lands were grasslands, so there was sufficient potential to proceed. High Conservation Value (HCV) and High Carbon Stock (HCS) surveys were conducted with the full participation of land-owning communities. Further participatory social surveys, GPS boundary surveys, land-use planning, clan genealogy, and test plantings of oil palms were also conducted. Before these took place, clan elders and NBPO signed a clan land-use agreement that allowed these studies to be undertaken, with the understanding that nothing was to be harvested from the land during that period.

Based on survey results, an integrated land-use plan was produced and agreed to by clan elders. To define limits, all clan representatives, neighbouring clans, government representatives and NBPO staff walked the boundaries while noting GPS data. These data were then printed on high-resolution satellite imagery maps, on which they drew their land-use plans, including areas for potential conversion to oil palm, areas for conservation, and areas for community use (Figure 1). Conservation areas (including HCV and HCS) were identified by experts approved by the Accredited Licensing Scheme after consultation with the land-owners. Community use areas were identified by the land-owners themselves, taking into account their current and future living space requirements and food security for itself and its members. The potential for conversion to oil palm was limited by NBPO’s no-deforestation policy.

Figure 1. Map of intervention area

Note: Of the total 10,652 ha, communities decided that 31% (3,293 ha) would remain available for their own use, and 10% (1,017 ha) would be retained as conservation areas, leaving 59% (6,280 ha) to potentially use for planting with oil palm.
needs. Only after these areas were mapped were potential areas for conversion to oil palm added to a first-draft map. This underwent several rounds of discussion and revision by clan members and NBPOL, until all were satisfied. A final version was signed and included in an Integrated Land Use Management Plan submitted through the RSPO New Planting Procedure for review as part of the management planning required by RSPO.

In general, free, prior and informed consent, community engagement processes and awareness-raising activities were followed throughout the process. To date, more than 100 meetings have been held (with 40% female representation), to inform communities of the positive and negative impacts of oil palm, and of policies and procedures such as the Grievance Procedure and Whistle Blower Policy, that are instrumental to developing a functional relationship. Informative brochures and leaflets were distributed. Meetings concerning participatory mapping were also held, and NBPOL organized field trips so clan members could visit existing projects where customary land-owners had leased land to NBPOL and they could see what they could expect.

Are others going the wrong way?

Although NBPOL has shown that certified sustainable oil palm and local inclusion has helped its profitability, other companies establishing plantations in Papua New Guinea do not seem to be interested in a similar approach. It must be emphasized that by and large, the global market is not very interested either: only 20% of the global supply of palm oil is RSPO-certified and only half of that is bought as RSPO on the market. This has resulted in more plantations being established without considering the social and environmental safeguards that both NBPOL and RSPO find important. A recent internal study using publicly available satellite imagery data showed that over the past ten years, more than 50,000 ha of new non-RSPO oil palm plantations have been established in Papua New Guinea. It is

Oil palm is established only on grasslands by NBPOL since it is now a zero-deforestation company. Photo: © NBPOL
suspected that these may have been financed by the logging procedures, which are by definition unsustainable. NBPOL has become a zero deforestation company that follows the HCSA methodology, but the company also understands that some countries are willing to sacrifice some of their forests for agriculture and economic development.

Scaling up inclusive approaches

Given the relatively low positions of PNG and SI on the UN Human Development Index — 153 and 152 respectively out of 189 countries listed— (UNDP 2018), it is not surprising that both governments are eager to develop sustainable agriculture industries as a means to improve the standard of living. Both countries also have more than 70% forest cover and less than 4% of land under permanent agriculture (Allen and Filer 2015). Papua New Guinea’s Vision 2050 strategic development plan states that some land reform is needed to strengthen economic development, and refers to this being driven by high-impact projects that will in turn provide spin-off benefits. NBPOL recognizes the conflicting interests in Papua New Guinea, and feels that their inclusive approach could serve as a model for others. For example, NBPOL is working with government and RSPO partners to streamline new planting compliance for smallholders. This will help create a standard for the jurisdictional approach, defined as a means of certifying the entity managing and responsible for this jurisdiction, and to influence government policy that may provide inputs to the oil palm debate.

Streamlining compliance for smallholders is conducted in partnership with The Forest Trust. This includes implementing existing simplified RSPO-developed approaches and improving them by including the use of predictive land-use modelling and High Carbon Stock mapping in participatory land-use planning processes that meet local development needs. NBPOL is also a co-chair of the RSPO Jurisdictional Approach Working Group, to guarantee responsibilities for providing services to all producers within a jurisdiction and supporting them to comply with local legal frameworks and with RSPO Principles and Criteria. Benefits are multiple, providing a rationale for protected areas beyond concession boundaries, and allowing growers to benefit from group economies of scale.

NBPOL is also implementing its One Hour Principle partnership within areas of new development. This states that all communities should have access to health care, education and potable water within one hour’s walk. To assess this, community needs assessments are undertaken; the results provide assistance to obtain these services where possible. It is hoped that in the future this will lead to improved approaches acceptable to all stakeholders, but most importantly to farmers and land-owners.

References


“There has been a clear change in smallholder attitude toward more sustainable palm oil production.”

An interview with Charlotte Löhr

**Why did you decide to work towards smallholder inclusiveness?**

Wilmar recognizes its fundamental role in the sustainable transformation of the palm oil industry. Five years ago we launched a “No Deforestation, No Development on Peat and No Exploitation” (NDPE) policy, with a requirement to include smallholders in our global supply chain.

In Wilmar, smallholder inclusiveness refers to providing smallholders with market access, and not excluding them from our supply chain. Second, Wilmar recognizes that a lack of information leads to unsustainable practices, including deforestation and human rights violations. Many small-scale farmers close to our mills who suffer from low yields think that unsustainable practices are the only way to compete against the bigger players. Therefore, Wilmar supports smallholders by including them in our supply chain, providing market information, and helping them to adopt sustainable practices through various training programmes we rolled out globally. We hope that this will ultimately lead to improved livelihoods in a sustainable way.

Most reports of unsustainable oil palm practices are from Indonesia and Malaysia. Production is now growing rapidly in Central America; the region is becoming an important supplier for the European market, where Wilmar Europe is a significant buyer. So in order to prevent smallholders using unsustainable practices here, we are thinking and getting ahead of the game...

Charlotte Löhr work at Wilmar Europe Holdings B.V.
How have you put these commitments into practice?

Two capacity-building programmes were established: the Wilmar Smallholders Support Honduras (WISSH) and the Wilmar Small Growers Support Colombia (WISSCo). The aim is to train smallholders (<50 ha) and small-scale growers (50–500 ha) to improve production practices while respecting the environment. This would benefit both farmers and mill owners through compliance with international sustainability market requirements and potential increases in production.

The WISSH programme started in 2016 in partnership with AIPAH (Asociación Industrial de Productores de Aceite de Palma de Honduras), using the train-the-trainer method. Each mill assigned 5–6 supervisors (50 in total) to receive extensive training. Afterward, the supervisors trained 3,300 smallholders in 488 separate training sessions. Topics included the need for zero deforestation following Wilmar’s NDPE policy, good environmental and agricultural practices, improved business skills, social responsibility, pest and disease control, and monitoring. Sessions used a range of techniques, including role play and visualization exercises, complemented by a training manual.

The WISSCo capacity building programme started in 2017 in partnership with the Sustainable Trade Platform chaired by Solidaridad. The goal of training 261 producers in Los Llanos Orientales was exceeded by 267%, with 691 individuals eventually benefitting from training. Although only 117 participated in three or more training sessions (out of five), a survey found that more than 96% applied the acquired knowledge on their plantations, saw improvements to yields and quality of life, and wanted the programme to continue.

Also under the WISSH programme, NES Naturaleza undertook 170 assessments to examine how the acquired knowledge was implemented by smallholders. Although considerable progress was observed, no smallholder was able to implement all the sustainable practices learned. Consequently, to improve all the sustainability practices of their full supply base, each mill received an action plan with findings and solutions based on these smallholder assessments. Both programmes ended in October 2018. During the completion event, stakeholders shared experiences and lessons learned, and committed to continue on this sustainability path in the future.
What changes (outside of your immediate control) would help you achieve these aims?

We need to consider the actions and efforts of other stakeholders. In Colombia, the government is involved in promoting sustainable palm oil for the biofuel industry; this could lead to sustainable reforms in the industry, specifically for smallholders. In addition to government, other downstream buyers should be willing and committed to buying sustainable palm oil produced in Central and South America. Often this part of the world is neglected, with the focus still on Malaysia, Indonesia and Africa. If this trend continues, the incentive to transform to more sustainable practices will decrease.

How do you see developments into the future?

Wilmar continues to promote sustainability in the palm oil industry in line with its NDPE policy, and continues to increase the inclusion of smallholders into our supply chain. The two capacity building programmes described here provided significant steps toward more sustainable practices that could lead to certification compliance in the future. Based on the smallholder assessments and participant surveys, a clear change in attitude towards more sustainable palm oil production was seen, and this increasing awareness and mutual respect has helped form more and stronger partnerships.

The lessons learned and positive feedback have also led to scaling up, with a third smallholder programme (WISSCo2) to be launched in 2019 in a different region in Colombia.
Ghana’s oil palm sector, pointing a way towards inclusive development?

Christine Moncoquet and Mirjam Ros-Tonen

The Ghanaian palm oil sector

The oil palm industry is high on the agenda of the Government of Ghana. The 2012 tree crop policy of the Ministry of Food and Agriculture recognizes the industry’s potential for growth, employment and rural development. Palm oil is a versatile product, used as cooking oil, livestock feed and biofuel and in manufactured goods such as soaps and cosmetics (Ofosu-Budu and Sarpong 2013). The crop is assumed to play a role in poverty alleviation, since 45% of national production comes from smallholders (Adjei-Nsiah, Sakyi-Dawon and Kuyper 2012). The remaining production is from large-scale plantations that occupy 20% of the land under oil palm. These larger plantations rely partly on outgrower schemes on land owned by smallholders and smallholder schemes on company-owned land. Through these schemes, credit and inputs (planting material, pesticides and fertilizers) are provided to

“Values related to sustainable and inclusive development need to be anchored in the company’s organizational culture.”

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producers in return for their produce. Palm oil processed by industrial mills is relatively high quality and is exported. Artisanal mills, often operated by female processors, typically produce lower quality oil for the domestic market.

Despite the crop being a national high-priority since 2003, Ghana’s productivity and total national production of palm oil still falls far behind that of Southeast Asian and Latin American countries, with production in 2018 stagnating for the second consecutive year. The contribution of the fast-growing palm oil industry to sustainable development is receiving increasing attention. The international demand for palm oil is growing and the potential for employment, rural development and economic growth is deemed high. Moreover, the UN “Agenda 2030” assigns an important role to the private sector in achieving sustainable development.

Setting the scene

This article focuses on Ghana and addresses the question of what contribution oil palm companies in the country can make to promoting sustainable and inclusive development. It examines the contribution of two oil palm companies to sustainable and inclusive development: Ghana Oil Palm Development Company (GOPDC) and Serendipalm. The article is based on an MSc thesis (Moncoquet 2018), which compares the corporate sustainability strategies of two companies. This is done by using a policy reconstruction method (Runhaar, Dieperink and Driessen 2006) to examine (1) how the companies see the problem and its causes (causal relations); (2) how the companies define the desired situation (normative relations); and (3) how the companies envisage to implement their strategies and achieve the desired situation (final relations). Findings come from 33 semi-structured interviews with company managers and workers, outgrowers and independent farmers, local community members, and government officials in Kwaebibirem District in Ghana’s Eastern Region, the major centre of palm oil production in Ghana.

Two corporate approaches

This article analyzes corporate strategies and their implementation by the Ghana Oil Palm Development Company (GOPDC) and Serendipalm. These companies were selected for their influence on the local social fabric, their explicit ambition to bring about development where they operate, and their different sizes, missions and history. The article explores how different discourses about the private sector and development result in different corporate sustainability strategies (Figure 1).

GOPDC belongs to the SIAT Group, a multinational corporation that owns oil palm plantations in five African countries and undertakes Corporate Social Responsibility and Roundtable on Sustainable Palm Oil (RSPO) certification. With 6,000 outgrowers, it is the largest oil palm producer in Ghana. Serendipalm is a smaller oil palm company that works exclusively with 650 independent smallholder farmers under the world’s largest Fair Trade and Organic (FTO) oil palm project. Both companies are committed to sustainable palm oil production, provide their workers with social benefits and fair working conditions, and implement community development projects to meet local communities’ needs in education, infrastructure and water and sanitation. However, the two companies rely on very different approaches to promote sustainable development. GOPDC uses a vertical, top-down and business-driven approach that tends to exclude people from decision-making processes. In contrast, Serendipalm applies a horizontal and gender-sensitive approach that encourages community participation and empowerment.
Discourses and corporate approaches to sustainable development

Corporate sustainability strategies are inspired by different discourses such as inclusive growth, green development, aid-for-trade or sustainable development. With various labels, they boil down to integrating the “triple bottom-line” (the three dimensions of sustainable development) into a business’s organizational culture and strategic decisions. The two best-known strategies are corporate social responsibility (CSR) and creating shared values (CSV). CSV claims to be superior to CSR because environmental and social aims are not an “add-on,” but are fully integrated in corporate strategies. The two strategies target different audiences. CSR focuses primarily on creating legitimacy among consumers, while CSV targets shareholders and communities. The corporate strategies of the two businesses in this study represent these two strategies: GOPDC practises CSR, while Serendipalm practises CSV (although it doesn’t use that term). Mainstream ideas also affect corporate approaches and the degree to which they are embedded in the company’s organizational culture, i.e., the shared values and beliefs that determine behavioural norms. How these affect a company’s activities eventually determines the company’s contribution to sustainable development and the SDGs (Figure 1).

Figure 1. Discourses about the role of the private sector in sustainable development.

How companies see the problems

The two companies frame the problems of Ghana’s oil palm sector in largely similar ways. They point to adverse environmental impacts, poor working conditions in the plantations and mills, and the use of child labour. However, GOPDC’s problem analysis reveals a focus on threats to operational interruption and economic viability resulting from competition, supplier failure, theft of fresh fruit bunches, and infrastructure costs. Environmental problems (climate change, biodiversity loss) and social problems (social conflicts, malaria) are also translated into operational threats. GOPDC also frames people as “malaria cases” and sees them as “causes of operational interruption,” tending to
render people invisible. It also remains silent about threats to food security from expanding oil palm (see Asubonteng et al. 2018), giving no consideration, for instance, to intercropping of oil palm and food crops.

This differs from Serendipalm, whose problem analysis shows a more human face. Its sister company, Dr. Bronner’s, argues that typically, oil mills are poorly embedded in the local social fabric and that profits are seldom shared with the communities. Like GOPDC, it recognizes that the environmental effects of large-scale monoculture oil palm plantations lead to resource and supplier failure, but it also considers that these effects eventually lead to lost livelihoods. Concerned by livelihood issues and food security more broadly, Serendipalm operates intercropping programmes and recently started an agroforestry initiative. Both companies share a concern for economic viability and remaining competitive in the market, but Serendipalm aims to find a balance by paying a fair price for organically produced palm oil.

How the companies define the ideal situation

The norms driving GOPDC’s sustainability strategy are anchored to its Code of Business Conduct and inspired by the RSPO certification standard. The standard requires adherence to integrity and transparency principles, compliance with national and international regulations, and commitment to promoting the well-being of shareholders, employees, customers and communities while preserving the environment. As the company that spearheaded negotiations on the national interpretation of the RSPO principles in Ghana, and the first to become RSPO-certified, GOPDC aims to be Ghana’s leader in sustainable palm oil production. The company also aspires to be the major employer in Kwaebibirem District and an innovative company.

The RSPO standard also requires adherence to Free, Prior and Informed Consent (FPIC), but in Ghana land is made available through customary landowners (chiefs or paramount chiefs) who do not necessarily consult their communities. As observed in Kwae, this puts food production and local livelihoods at risk, which goes against RSPO principles.

Serendipalm’s strategy is driven by norms originating from Fair Trade principles. Fairness and social justice are enhanced by “giving back” and by sharing profits with the communities. The company also aims to promote inclusive development by empowering local people through community-managed projects. The company feels a moral responsibility to share profits, letting communities take part in its success, thereby obtaining social legitimacy. In this vision, local communities and workers are seen as people and not resources, and their well-being and livelihoods are central to the company’s vision.

Like GOPDC, being a leader in sustainable palm oil production and proving that sustainable palm oil production is possible is Serendipalm’s key mission. Serendipalm’s aspiration is to pay local people decent wages that give them purchasing power, and to recognize them for their work.

Both companies mention gender equity as a norm. GOPDC focuses on sexual harassment, violence and reproductive rights, but strategic documents overlook issues of participation and discrimination in career opportunities. Serendipalm goes beyond harassment cases and reproductive rights and includes equal career opportunities based on skills and ability. At Serendipalm, gender equity is about observing and finding solutions to women’s difficulties. In general, Serendipalm goes a step further in its drive to promote fairness, environmental preservation and inclusive development. See Table 1.
Table 1. Comparison of two companies’ corporate sustainability strategies

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| The problems of the oil palm sector | - Threats of operational interruptions and economic viability due to:  
  » environmental harm and biodiversity loss  
  » issues over land rights and other social conflicts  
  » supply failure  
  » theft of fresh fruit bunches  
  » malaria incidences  
  » infrastructure costs  
  • Child labour  
  • Poor working conditions | - Environmental harm and biodiversity loss  
  - Risks to rural livelihoods and food production through expansion of oil palm  
  - No real distribution of benefits from oil palm companies to communities  
  • Child labour  
  • Poor working conditions |
| The desired situation | - GOPDC as a leader in sustainable palm oil production  
  • A prosperous, safe and environmentally sustainable business  
  • GOPDC as an enabler of economic and social development  
  • GOPDC as an economically viable business | - Serendipalm as a role model and inspiration for other companies in showing that sustainable practices and products are possible  
  • Serendipalm as a company with a positive impact on the environment and the well-being of employees and surrounding communities  
  • “Giving back” to communities; redistributing profits and contributing to sustainable livelihoods and fair and inclusive development  
  • Serendipalm as an economically viable and socially responsible business |
| Ways to achieve it | - Apply RSPO standards and Clean Development Mechanism  
  - Use technologies to optimize resource use (e.g., integrated pest management) and reduce carbon emissions (e.g., zero burning practices, a boiler with turbines that turns organic waste into fuel, a biogas plant)  
  - Implement conservation programmes (protection of riparian and other areas for biodiversity conservation)  
  - Promote well-being of shareholders, customers, workers and communities through education, health and infrastructure projects, no child labour, and gender equity policies  
  - Create employment under decent labour conditions with holidays, sick leave, maternity leave, pension, health care | - Apply Fair Trade and organic certification standards and pay farmers the resulting 10% premium  
  • Train farmers in organic farming, agroforestry, intercropping, and higher yield production, to ensure sustainable production and food security  
  • Share profits by implementing community projects in health, education and infrastructure, water and sanitation through a collaborative approach (with decisions made by a Fair Trade Committee consisting of farmers, workers, and managers)  
  • Create employment under decent labour conditions, with holidays, sick leave, maternity leave, pension, health care |
How the companies see themselves achieving the desired situation

GOPDC embarks on smallholder and outgrower schemes to develop a network of loyal suppliers, and provides its workers with decent working conditions and social benefits (pension, sick leave, annual leave, maternity leave and health care). However, these social plans and outgrower schemes are not accessible to everyone. GOPDC employs many temporary workers over long periods who are excluded from the favourable labour conditions the company claims to give all its workers.

Abiding by Environmental Protection Agency (EPA) and RSPO guidelines and principles, GOPDC has created high conservation value areas for biodiversity conservation. However, environmental concerns are considered mainly for their costs and benefits and for the economic viability of the company. GOPDC focuses on technological solutions for pollution and environmental problems, avoiding questions about its current practices and core business model. In this way, it continues its business-as-usual approach, at best along more sustainable lines, instead of generating transformative change.

Socially, GOPDC undertakes health campaigns and scholarship schemes, and builds infrastructure (roads, nurse's quarters, schools, libraries), but it is the sole decision-maker on how to allocate funds to community projects. The social sustainability programmes are carried out under GOPDC’s own terms, leading to the conclusion that GOPDC adheres to participatory consultation processes only to comply with RSPO principles, not to advance social sustainability and inclusiveness.

Although Serendipalm also institutes decent labour conditions with social benefits (sick leave, etc.) and community projects, two main differences stand out in how the company implements its sustainability strategy. First, it deliberately uses manual labour, with the aim of creating more employment,
especially for women without an education who would otherwise not be hired. Second, the company pays a 10% premium on the market price of fresh fruit bunches and supports farmers who are willing to switch to organic production with seedlings and loans. Third, it established a Fair Trade Committee composed of farmers, oil mill workers, and company managers that decides which project proposals are admissible, and how to allocate the budget. It then uses a randomized ballot system, in an open and transparent process, to choose which project to implement first.

Discussion and conclusions

Both companies contribute to sustainable palm oil production, provide decent labour conditions, and implement community projects for the supply of water and sanitation, health campaigns, and social infrastructure. Yet, there are fundamental differences in the underlying mindsets and the drivers behind the two approaches. Being mainly concerned with potential disruptions to operations, GOPDC’s corporate sustainability strategy focuses on the economic dimensions of sustainable development, adhering to RSPO certification standards. GOPDC’s commitment to human and social development through its CSR strategy appears to be an additional layer of its core business strategy. This contrasts with Serendipalm’s integrative and socially-driven approach. Based on Fair Trade principles, the approach focuses on the inclusion of marginalized groups and on an ongoing concern for the social and environmental dimensions of sustainable development.

GOPDC uses a vertical approach based on a discourse that centres on efficiency, processes and technological innovations. Serendipalm’s discourse and practices, however, reflect a horizontal approach guided by notions such as participation, sharing, transparency, people, and joint decision-making that enhances the empowerment of local people. GOPDC decides on and sets the terms of community projects, whereas Serendipalm uses a participatory and inclusive process that transfers ownership of community projects to local people through the Fair Trade Committee. GOPDC’s business-driven organizational culture is based on economic values, whereas social and environmental values are more solidly established in Serendipalm’s organizational culture and shared among all stakeholders. This makes Serendipalm’s strategy more inclusive in terms of promoting meaningful participation, decision-making, empowerment and inclusion of marginalized groups.

Both approaches contribute to sustainable development, but in order to enhance inclusiveness there is a need for a more people-centred approach that promotes meaningful participation, increased empowerment and more involvement of marginalized groups. GOPDC could make its strategy more inclusive by (1) reducing the use of short-term labour contracts; (2) making the selection of outgrowers more inclusive; (3) taking FPIC more seriously; and (4) making the selection of community projects more transparent and democratic. Serendipalm could improve inclusivity by (1) communicating better with local governments; (2) providing management training to villagers in charge of community projects; and (3) taking better account of different interests among community members.

Elaborating an effective corporate sustainability strategy does not guarantee that a company will succeed in bringing about sustainable and inclusive development. To ensure that such strategies are translated from paper to reality, the values related to sustainable and inclusive development need to be part of the organizational culture, including the shared values and beliefs and behavioural norms within a company.
Acknowledgements

This research was carried out within the framework of the Inclusive Value Chain Collaboration project (InclusiveVCC.wordpress.com) and benefitted from a fieldwork subsidy from the University of Amsterdam.

References


“Smallholders are an essential part of our supply chain”

An interview with Pak Pungki

Pak Pungki works for Golden Agri Resources.

**Why did you decide to work toward smallholder inclusiveness?**

Smallholders are an essential part of our supply chain, and are crucial stakeholders in our sustainability journey. In Indonesia alone, more than 44% of all palm all plantations are managed by an estimated two million farmers. But independent smallholders face many challenges, including low yields due to poor quality planting material and lack of training in improved agricultural methods. This also hampers their ability to fully adopt responsible palm oil management practices.

**How have you put these commitments into practice?**

To tackle smallholder challenges, GoldenAgri Resources (GAR) supports them through the Innovative Financing Scheme launched in Riau and Jambi, supported by securing loans of US$11 million from state-owned banks. This programme aims to encourage more independent smallholders to replant with better quality material by offering improved higher-yielding seed, and by giving them access to financing to help sustain their livelihoods during the four years it takes for new seedlings to mature. By the end of 2017, more than 730 farmers were participating in the scheme. It also encourages smallholders to form cooperatives, and by doing so, secure long-term supply contracts with GAR’s supplier mills.

In addition to long-term supply contracts, farmer cooperatives are able to have access to certification in the form of the Indonesian Sustainable Palm Oil System (ISPO), government land certification, grants, training and subsidized loans to enable farmers to invest in certified high-yielding seeds and...
the best available crop science. The results are higher yields and incomes for the farmers, a greater and stable supply of certified palm oil for GAR and reduced pressure on nearby forests.

GoldenAgri Resources also runs other finance and support programmes for independent smallholders. Through the Smallholders Development Programme, the company has provided technical assistance and extended interest-free credit to more than 3,800 independent farmers in East Kalimantan since 2013; they managed plantations covering a total of more than 7,700 ha. This programme also provides access to high-yielding seeds, fertilizers, herbicides and rental of heavy equipment, all at below market rates.

**What changes (outside of your immediate control) help you achieve these aims?**

GoldenAgri Resources partners with customers on several projects aimed at helping the transformation of the palm oil industry. In March 2017, together with Neste and SPKS (a smallholder association), GoldenAgri Resources identified and mapped the farms of some 3,000 smallholders in 14 villages in Siak, in the province of Riau where independent smallholders manage a quarter of the total planted area. This project aimed to help them achieve sustainable palm oil certification, identified potential candidates for the Innovative Financing Scheme. GoldenAgri Resources also collaborates with BASF on Innovative Financing, with BASF providing four-year stipends for enrolled farmers in two cooperatives that target nearly 400 hectares for replanting.

**How do you see developments into the future?**

We will continue to promote innovative financing and smallholder support for scaling up to other provinces, especially in South and North Sumatra, where we also work with many independent farmers.

Also, over the next few years, GoldenAgri Resources will also play a role in a major new national initiative. The Indonesian government, Chamber of Commerce and the Financial Services Authority, under the umbrella of the Partnership for Indonesia’s Sustainable Agriculture (PISAgro), is targeting one million farmers producing various agriculture commodities across Indonesia, to join Innovative Value Chain schemes aimed at increasing farmer productivity and income.

Successful projects supporting financial inclusion for farmers have already been implemented in palm oil and coffee, with initiatives for cacao and other commodities such as rice, soybean, potato, milk, horticulture and rubber to follow. These pilot projects have improved farmer productivity and income by an average of 25%.
Inclusive palm oil development in Sierra Leone

Mohammed Kamara and Monique van Wijnbergen

Introduction

Millions of people around the world today depend on palm oil, for their livelihoods with approximately 40% of global output produced by smallholder farmers, and great improvements to rural livelihoods could be made by including more smallholders in the global supply chain. Access to new markets, raising incomes and reducing illegal land conversion that threatens forests and biodiversity are shared objectives in both consuming and producing countries.

In addition to existing palm-growing smallholders in global supply chains being included, the worldwide oil palm area is expanding in order to meet the growth in global demand for palm oil. New oil palm development can provide much-needed rural economic development, for example in West Africa. From the company’s

“Inclusive collaboration requires patience and slow but deliberate steps forward.”

Mohammed Kamara is General Manager, NedOil Sierra Leone Ltd., Yele, Sierra Leone; and Monique van Wijnbergen is Sustainability and Corporate Communication Director, Natural Habitats Group, Rotterdam, the Netherlands.
perspective, a prerequisite for this rural economic development is responsible, transparent and inclusive land investment to protect the rights, livelihoods and food security of local communities.

Natural Habitats Group (NHG) is one of the world’s top three producers of organic palm oil; it was established in Ecuador in 2009 with its headquarters in the Netherlands. In 2013, the company wanted to expand its organic palm production to meet the growing market demand and saw the need to diversify its supply base to mitigate risks. Exploring opportunities in West Africa, NHG took ownership of two palm oil developments in Sierra Leone. One was NedOil, with 66 ha of nucleus plantations, a palm oil mill and an active network of smallholders; the other was an existing land lease of 30,700 ha. NHG then established Natural Habitats Sierra Leone Ltd. (NHSL), committed to NedOil’s inclusive approach with independent smallholders in communities of Tonkolili District, and with the larger land lease, to developing an organic, world-class, and RSPO-certified palm plantation in Makpele Chiefdom.

Background

Sierra Leone is one of the least developed countries in the world, with years of civil conflict and few opportunities for economic development, and growth further hindered by the 2014–15 Ebola outbreak. In spite of this, in the heart of Sierra Leone, in Gbonkolenken Chiefdom of Tonkolili District, there is the vibrant town of Yele, where NedOil is based. Many of the thousands of surrounding farmers have small plantations of 0.5 ha to 2 ha. During the civil war all the mills were destroyed and farmers turned to manual processing — which is still common today — but this leads to lower yields of low-quality oil and to much fruit remaining unharvested, since only so much can be processed manually. As a result, incomes are low, and with no access to agricultural training, improved planting materials or inputs, farmers are caught in a poverty trap.
NedOil was established by the Lion Heart Foundation in 2008 with a small nucleus plantation, a mill and a nursery to grow a better-yielding hybrid oil palm. From its inception, the company was guided by an inclusive mindset. It was originally set up to generate funds to cover the operating costs of the local hospitals — built by the same foundation — and to provide direct and indirect employment and income for communities in and around Yele. After a few years, however, NedOil was not generating enough income to support the hospital, so the foundation sought an investor for the company, and NHSL stepped in.

Today, in addition to buying from 2,501 farmers across Tonkolili District, NedOil provides permanent work for 50 employees, most from Yele town. In 2018, one-third of the crude palm oil was sold on the local market and two-thirds was exported to the Netherlands for further processing and sale.

**NedOil’s inclusive model**

The foundation sources from independent smallholders and provides training and certification support. In May 2014, immediately after NHSL’s acquisition of NedOil, Sierra Leone was confronted with the Ebola outbreak that severely affected the country. Fortunately, the company managed to continue to provide work and income, source palm fruit from its smallholder network, and produce the oil that is deemed indispensable in Sierra Leone. Despite the outbreak, NedOil obtained organic certification of the mill, nucleus plantations and 1,392 independent farmers. This number almost doubled to 2,501 in the following two years, and the independent farmers were grouped into regional farmer-based organizations for future legal entity registration.

NedOil provides employment and training to 50 permanent workers, with additional temporary labour from Yele in peak periods; it also hires women to pick the fruit from the fresh fruit bunches from the nucleus plantations. The focus is to employ locally and promote employees from within the company as much as possible. As an example, Mohamed Kamara, NedOil general manager, started as plantation manager at NHSL in Makpele Chiefdom, and Santigie Sesay, now a production assistant, will soon take the rank of production manager. When the boiler operator resigned, a temporary worker filled the role and now has the job full time.

Smallholders receive continuous training and education in organic palm growing practices. This is done with a combination of a “top-down” extension of technical information, and knowledge transfer using a “bottom-up” farmer field school approach. The latter approach focuses on participatory, experiential and reflective learning to improve problem-solving capacities through highly trained facilitators working with farmer groups. Sensitization and training have been provided on multiple topics, including land tenure and legitimation of land rights, good agricultural practices, organic principles, health and safety, gender equality, environmental protection and social responsibility.

NedOil is currently preparing for RSPO certification, supported by the RSPO Smallholder Support Fund. Training includes sensitization on legal compliance, health and safety, environmental and social impact management, protection of biodiversity and high conservation value areas, standard operating procedures, community relations, and engaging farmer communities on land rights and women and land tenure.
Main challenges

NHSL's experiences in sourcing from and collaborating with a smallholder network highlight the fact that logistics are a major constraint in NedOil's inclusive sourcing model. With 2,501 farmers spread across a large area and long distances from the mill and the poor state of the roads, the prolonged pick-up time affects fruit quality. It was therefore decided to stop sourcing from farmers who were located in the hardest-to-reach areas.

Another major challenge is the condition of smallholder plantations; low-quality planting material produces annual fresh fruit yields of around 2–3 tonnes per hectare. Due to these issues in particular, it has proved to be challenging to source adequate quantities of fruit to run the mill at full capacity.

Natural Habitats Group's focus on organic palm production requires time and investment in training and certification. Moreover, considering the high illiteracy level among farmers, these processes are necessarily long and therefore costly, and present many challenges in terms of ensuring compliance with certification requirements.

Nonetheless, the company has seen that some of the technical challenges have been overcome. First: the independent farmers linked to the company were seen to be managing their plantations better. Through training, the company saw that smallholders began to realize the importance of best management practices; this led to better maintenance, including regular weeding around the base of the trees, which in turn led to more fruit recovery. Another success is that farmers now know the true size of their plantations due to the company's evaluation team taking GPS coordinates of all boundaries. With this information, NedOil will begin the process of creating locally recognized land tenure title for all farmers in the network. This is an important step, considering the local lack of formal procedures for land tenure rights.

With NHSL's access to markets, farmers can sell most of their fruit for a cash income. That fruit is processed and then sold both locally and internationally; the remainder of the fruit is processed manually for home consumption. Based on the authors' observations, smallholder farmers in NedOil's network appreciate the benefits they see from improved plantation management and the reward for post-harvest work, but farmers also expressed that they would like to see more benefits. Many farmers need to renovate and rehabilitate their plantations to secure their livelihoods in the future. A number of farmers also expressed the wish to receive more agricultural support, infrastructure improvement, access to finance, provision of high-quality farm tools and personal protective equipment, and requested support to grow other food crops in order to improve their food security.

An inclusive approach to greenfield development

It takes six hours on a bush road to go from NedOil in Yele to Zimmi in the south of the country, home to NHSL's second palm oil operation. Unlike the land in Tonkolili District, the land in and around Zimmi still needs to be developed into palm oil plantations. In 2014, NHSL took over an existing land lease, which covered the entire Makpele Chiefdom in Pujehun District. The leased land had an established nursery of 19 ha with some 30,000 seedlings, some of which were used to plant 216 ha.

When NHSL took over the lease, the company learned that some members of the community were not happy that the late Paramount Chief had included the entire Chiefdom in the lease and that
the negotiations lacked the free, prior and informed consent of all stakeholders. NHSL then started a process with all stakeholders regarding the ambitions and objectives of NHSL and other stakeholders, and how these could be achieved together with the community. Four years later, in October 2018, NHSL and the international NGO Solidaridad hosted the 7th Multi-Stakeholder Platform meeting in Zimmi, bringing together land-owners, land users, community members, Chieftdom authorities, District and Provincial authorities, women’s groups, CSOs and youth to discuss a new and smaller land area lease. Raising awareness and dialogue through the platform has been key in building and maintaining good relationships with local stakeholders and authorities, promoting transparency, and allowing issues and disagreements to be discussed and resolved in a fair and open manner.

After extensive community engagement, sensitization and training, individual land-owner agreements (LOAs) were put in place with land-owning families. All stakeholders are now fully aware of the new possibilities and how these opportunities will affect them. NHSL expects to sign a new land lease with consenting land-owners and authorities at the end of 2018, preparing the way to develop the land in collaboration with the communities in the Chieftdom.

The aim for 2019 is to prepare the land and plant at least 500 ha with oil palm. And although the processes and coming together for the lease signing took longer than anticipated, today the company perceives much enthusiasm among the different stakeholders to move forward together in developing an organic, world-class and RSPO-certified plantation in Makpele Chieftdom.
Tenure and land governance

Land tenure can be very complex and highly sensitive. This is especially true in Sierra Leone, where land tenure has been a source of conflict. To move toward a better, more fair and more effective land-tenure system, a new National Land Policy was drawn up (Government of Sierra Leone 2015). This was inspired by the Voluntary Guidelines for Responsible Governance of Tenure of Land, Forest and Fisheries (FAO 2012). Supported by FAO and the Committee on World Food Security, these guidelines promote inclusive and responsible land investments in ways that respect and protect rights, sustainable livelihoods and food security.

To ensure that NHSL would develop the land in Makpele Chiefdom with the full consent of local communities and according to the new National Land Policy, there was a need to strengthen processes of community engagement and sensitization. To support this work, NHSL — in partnership with Solidaridad West Africa — was successful in obtaining a grant from the UK’s Department for International Development in 2016 for the “Land: Enhancing Governance for Economic Development” (LEGEND) project, which is due to end in 2019. The project focuses on mobilizing knowledge and capacity to improve land governance as an essential and inclusive basis for economic development.

A new lease agreement has now been formulated that aligns with the local context and realities and with national policy; it is supported by Namati, an international paralegal CSO. There were a number of other highlights during the course of the LEGEND project. Local authorities and communities became aware of the National Land Policy and the FAO Voluntary Guidelines. Participatory mapping of the leased areas and community lands was undertaken with land-owners and land users, and a food security baseline was established of various groups in the chiefdom, including those who had
and had not leased land to NHSL. Various groups of farmers have started working together to improve food security through the application of good agricultural practices and improved crop varieties. Importantly, a process to address grievances was developed with affected community groups. Finally, experiences and lessons were shared during the national multi-stakeholder platform in October 2018.

NHSL carried out a good collaboration around participatory mapping in September and October 2018, and to be followed by a participatory planning process in collaboration with the Solidaridad team. The Zimmii project has been operated by local staff for almost two years, supported by the NHG head office and monthly visits. NHSL is satisfied with the work and sees that the local people have done an excellent job. They have had to learn new skills and processes at a distance, and have shown a lot of commitment. The nursery and plantation follow best management practices, and multiple international experts have commented on the high quality of the work.

**Learning from people who guided the process**

Through elaborate engagement with stakeholders, the LEGEND project and the multi-stakeholder platforms have created awareness with all stakeholders and brought initially opposing views together. It has been a long process, but the company has taken all the stakeholders where they needed to go.

In his reflection on the processes and project, Alie Bao, NHSL Community Relations Manager, stated, “We needed to be patient. It is a very time-consuming process and needs to be set up correctly from the start,” adding also that a third party is needed to check progress and offer independent advice. On another note, he stated that “the platform is a good tool for stakeholders to voice their differences, but it is in the communities and through the existing local structures that differences and conflicts are really resolved.”

The value of collaborating with Solidaridad West Africa (SWA) in the LEGEND project is that this has further broadened the stakeholder group and helped to resolve tensions that had not come to the surface before. For example, although some land-owners fully supported the leasing of land to NHSL, but some land-owners declined to lease their land. This resulted in disputes between various land-owner representative groups within the communities.

NHSL and SWA are now setting up community committees to ensure better representation and improved communication. In hindsight, it would have been better to set up these committees earlier in the process, instead of relying on existing representatives of stakeholder groups. Alie Bao concluded that, “Setting up community committees was not on our radar at first, but we have learned that we should have been out in the communities even more.”

Another insight is the importance of livelihood support to ensure successful stakeholder engagement in areas where food security is fragile. Lahai Amos Koroma, a Community Development and Extension Officer for Solidaridad reflected that, “Initially, there was no livelihood support, even though we provided training on best management practices. Then we saw that people needed help in improving their agriculture and other livelihood activities, seeds, training, backstopping…” Solidaridad later broadened the base of the Inland Valley Swamp (IVS) rice project, begun by NHSL, to reach more communities and to create an important base for further engagement. Solidaridad also started village savings loan associations in eight communities; women have been trained and organized into groups to organize savings based on the income they generate.
Conclusion

This article highlights NHSL’s efforts to achieve an inclusive approach on two levels: NedOil’s inclusive approach of providing employment, sourcing from independent smallholders, and supporting training and certification; and NHSL’s inclusive approach to greenfield oil palm development. In Sierra Leone, with its high levels of illiteracy, limited infrastructure, and fragile food security, inclusive collaboration requires patience and slow but deliberate steps forward. It is essential to create effective farmer and community outreach structures, and to use innovative and bottom-up approaches to reach all the stakeholders. It is also crucial to understand the many and various constraints to livelihoods, and the need for the support of local CSOs to advise and guide community engagement and sensitization processes in order to take these progressive steps forward.

References


Tools and practices
Introduction

Despite being one of Africa’s largest palm oil producers, with an estimated annual production of 300,000 tonnes, Cameroon also imports 130,000 tonnes per year, mostly from Malaysia and more recently from Gabon, according to the national oil refiners association. Cameroon has three main palm oil production areas, in the South-West region (100,758 t/yr), Centre (57,584 t/yr) and Littoral (47,658 t/yr) (INS 2015). Although the industry provides significant revenues, yields per hectare are relatively low. This is attributed to aging plantations and the limited use of improved seeds and technical knowledge, particularly related to fertilizer use. The extraction rate of palm oil from fresh fruit bunches in Cameroon is 21% in local industrial mills and 14% in artisanal mills (Ndjogui et al. 2014).

“Micresse Kamto, Durrel Halleson, Emmanuel Ngom, Églantine Fauvelle, Alen Salihovic and Claude Garcia

Using role-play to explore strategies for improving palm oil production and sustainability in Cameroon

“The game has helped us understand many things…”

Micresse Kamto, who died in January 2019, was technical assistant at WWF Cameroon; Durrel Halleson is Business and Industry Coordinator, WWF Cameroon; Emmanuel Ngom is with the Ministry of Agriculture and Rural Development – Palm oil development, Cameroon; Églantine Fauvelle works at CIRAD Montpellier; Alen Salihovic is a Master’s student in Environmental Sciences at ETH Zurich, Switzerland; and Claude Garcia works at the Forest Management and Development Group, ETH Zurich, Switzerland.
To reduce imports, the government aims to increase production and productivity, but there are concerns that such plans could negatively affect the biodiversity in the country’s dense humid equatorial forests, or worsen existing power asymmetries and disrupt local livelihoods. With the development of such projects since 2003, there was an urgent need to develop a national sustainable palm oil strategy to provide a framework for sustainable development of the sector (Hoyle and Levang 2012).

Can decision makers design strategies that will generate inclusive development and avoid negative environmental impacts? Ensuring increased palm oil production without negatively affecting smallholder livelihoods and the environment is a daunting challenge, not just for Cameroon. To develop strategies leading to sustainable solutions, decision makers must better understand the needs, constraints and aspirations of all stakeholders in the supply chain, from smallholders to millers and second-level processors, and pay greater attention to feedback loops and the variables affecting social, economic and ecological processes.

To tackle complex issues in renewable resource and environment management, role-playing games and simulation models are increasingly being used, some based on the participatory approach of companion modelling (Etienne 2014). This article describes an approach initiated by WWF and its partners in Cameroon aimed at fostering dialogue among value chain stakeholders, academics and government. The purpose of the initiative was to help national supply chain actors and policy makers design trajectories for sustainable green development that balanced development with social and conservation objectives. Role-playing games were carried out with stakeholders to validate and explore possible future scenarios and actions. Analysis of game sessions would illustrate the differences between the assumptions behind policies and the actual practices.

The process

A model describing the supply chain in Cameroon was developed through participatory modelling. In January 2015 at a WWF scoping workshop, partners of the Oil Palm Adaptive Landscape (OPAL) project noted the low productivity in Cameroon, and noted that smallholders were delivering to low-yield artisanal mills instead of more efficient industrial mills. At the workshop, local producers and processors described their needs, expectations and constraints. These were formulated into possible strategies that were presented to the Inter-ministerial commission for palm oil pricing and to other policy makers, who drew insights and explored possible interventions. This was followed by workshops and interviews in all three production areas, leading to a prototype of a game, co-developed with producers and industrial actors. The game represents the current realities of oil palm landscapes, because it is based on the real lives of producers and processors in the field. During the design of the game, great care was taken not to influence specific behaviour or what decisions were made by any of the players/roles, but to explore why certain decisions were made.

One supply chain, multiple actors

Local producers, artisanal and industrial mill owners, secondary processors, local markets, domestic consumers, and international markets are the main direct actors in the supply chain. The eight national ministries involved are important indirect influencers. Other indirect actors include the UNEXPALM producer organization, the national Association of Oil Refiners (ASROC), and numerous local and international NGOs who help strengthen the capacities of producers and decision makers to adopt sustainable palm oil solutions. Figure 1 shows the complex roles and interactions between
these multiple direct and indirect actors, and the high level of policy fragmentation such as between the many ministries involved. In addition, it shows the potentially overlapping and conflicting messages sent by indirect actors when trying to influence the evolution of the supply chain.

**Figure 1. Interactions between actors of the oil palm supply chain in Cameroon**

**Game rules – a reflection of the Cameroonian palm oil system**

In April 2016, the first game in the Cooperation in the palm oil supply chain in Cameroon (CoPalCam) initiative was played by the Committee for Palm Oil Price Regulation in Yaoundé, based on the conceptual model (Figure 2). Each game begins with a short introduction by a trained game master, who facilitates the role-play. During sessions, the decisions of players and the interactions between them are observed and recorded, before a final debriefing that encourages players to draw lessons from their experiences (Garcia, Dray and Waeber 2016).

This article presents experiences from games played in Littoral (Douala) and South-West (Limbé) regions. They included 14 players from a range of backgrounds, including producers, mill owners, secondary processors, decision makers and researchers; one game was played by 14 members of a national policy dialogue for sustainable palm oil organized by WWF Cameroon.

Players can choose from four main roles: smallholder producers, industrial or artisanal mill owners, or secondary processors (soap, vegetable and cosmetic makers), all located in the same production area (Figure 2). Smallholders decide where to deliver their harvest. Industrial mills are more efficient, requiring only five fresh fruit bunches to produce one unit of crude palm oil, whereas artisanal mills need seven fresh fruit bunches for the same output. Delivery to artisanal mills is direct, whereas delivery to industrial mills requires the renting of a truck. Crude palm oil from industrial mills is sold directly to secondary processors at a price set by government. Palm oil produced by artisanal mills is sold
in local markets, satisfied with two units of crude palm oil per year, with surpluses eventually sold to secondary processors with a capacity for up to ten units. If this is not met by domestic production, processors will source from international markets, but the extent of imports in turn influences market prices at artisanal mills.

The game is played in turns for a hypothetical year, with a high and low season with three and one harvest rounds in each, respectively.

**Figure 2. The CoPalCam conceptual model.**

Note: Green boxes represent players; red boxes represent counters whose decisions are scripted by the research team. Adapted from Fauvelle et al. 2016.

**Challenges and bottlenecks**

The debriefings that followed each game were found to be crucial learning events, building on what was learned while playing the game. During debriefings, players highlighted the difficulties they faced in the game, and linked these to the challenges and bottlenecks they were familiar with in their everyday lives. Various issues were raised, two of which are described below.

**Price volatility, taxes and lack of transparency.** The price that secondary processor pay industrial mill owners for crude palm oil is regulated by the government. But this is not the case for the price of fresh fruit bunches delivered to artisanal mills or the price in local markets. As a result, differential treatments, unequal profit margin distribution and a lack of transparency affect smallholders, who lack bargaining power. Playing their own roles in one game, some complained. “The real problem is the unstable market price, and the government doesn’t want to homogenize it so producers can benefit. Buyers impose their price.”

However, one consequence of power asymmetries between industry and producers is that producers tend to prefer artisanal mills. Tabé Robert Taku, who works at an industrial mill in Dibombari, playing his own role, confirmed that in reality, “Some people can never come to us because our prices are too low.” The issue of taxes was also mentioned by Tsewele John, a producer in Eseka: “VAT is imposed on smallholders who supply to industry, so it’s better to go to artisanal mills.”

**The poor state of roads.** Delivery to industrial mills is tied to the low availability and expense of trucks, reflecting the logistic constraints faced by smallholders. During one game, someone who played the
role of an industrial mill owner observed that “no farmer can rent a truck to bring fruit to me in the low season, so they rather sell at the same price to artisanal mills.” Why would farmers incur transport costs when artisanal mills are nearby and offer the same price? Ebanda Ernest, a producer from Dibombari, lamented the poor roads, particularly in the July low season, when rains make transport very difficult. New contracts between industrial mills and smallholder producers can be redesigned based on such observations.

**Silent expansion and the fate of the forest**

One strategy to increase production is to expand the cultivated area, but communities and conservationists alike are concerned about the impacts this will have on biodiversity and alternative livelihood options (Strona et al. 2018). Once raised, this new possibility was added to the game rules. This allowed players the option of clearing forests and expanding the production area, provided that they complied with a set of conditions imposed by formal and customary tenure rights. This in fact very complicated, since control over land is not straightforward and a new layer of regulation is unlikely to change matters. Although changes on the board are slow to happen during the game, a sudden transition in the latter part shows that expansion by smallholders into public land is a possibility and is likely to happen if not adequately prevented (Figure 3).

**Figure 3. Number of plots cleared during a game in Douala.**

One smallholder confirmed this during a debriefing. “I find a forest. The first year I can cultivate 5 to 6 ha. I do not inform the administration and neither is the administration aware. After five years I have 90–100 ha. That’s why I say [speaking to the Ministry of Forestry] that the authorization you talk about is in reality not applicable, if I deal directly with elders and the village head.”

**Proposed smallholder strategies for sustainable palm oil production**

Many suggestions arose during and after games. They provided valuable and often innovative insights into ways forward. In response to the high costs of establishing and maintaining plantations, players suggested that the government promote the creation of nurseries and provide training for smallholders in agricultural techniques. They requested fertilizer subsidies to increase yields without expanding the production area, and discussed taxation and price control, not only for crude palm oil but also for fresh fruit bunches. They suggested that support was needed to improve the efficiency of artisanal mills and to develop infrastructure in order to reduce costs of production. And to prevent the loss of critical forest habitats, participatory local zoning was suggested for each village.
These issues deserve to be taken seriously by decision makers, and various policy options can also be tested in the safe context provided by the game. Several layers of complexity emerged from the messages that participants took home, also indicating the different depths of strategic thinking. For example, is it possible to anticipate the impacts of fertilizer subsidies on the system? The immediate effect would probably be to increase productivity, and a shallow strategic analysis could stop there and proceed to implementation. But a more careful analysis may suggest that this will result in an increased capacity by smallholders to convert forest — the opportunity costs of conserving forest having increased, precisely because fertilizers have increased productivity. Instead of concentrating production in existing areas and reducing pressure on the forests, this measure could fuel a wave of silent expansion, as farmers respond to new opportunities. But to identify indirect and long-term impacts and integrate them into the analysis is not easy. Such analytical depth requires a vantage point, and the game offers this to the participants, making links obvious, even if it takes a few games.

**Conclusions**

The role-playing CoPalCam game creates conditions for integrative dialogue, allowing stakeholders with different and sometimes opposed objectives to better understand each other and negotiate joint strategies. “The game has helped us understand many things, especially in face-to-face discussions with the Socapalm mill,” says one smallholder Ebanda Ebanda Ernest. The game also highlights the many challenges faced by the oil palm value chain in Cameroon, such as low productivity, infrastructure and transportation issues, lack of social cooperation and price volatility. The political will to improve the production system, modernize the artisanal sector and collaborate with civil societies is a move in the right direction.
However, the issue of sustainable management of agricultural land remains inadequately addressed and is as yet unresolved. The continuing but silent expansion of smallholders into forested areas has the potential to change the landscape in the long run. The game allowed all these issues to be highlighted and discussed by all stakeholders in a transparent, fair and dispassionate manner. In game sessions, hard facts were discussed and constructive ideas proposed; this led to changes in perceptions and attitudes, a critical first step towards behavioural changes. As Ebanda concluded: “We noticed direct engagement from Socapalm after the game, as they organized two sessions of discussion with producers and promised they would help us with fertilizers and help us to work together.”

The game has since been used for education purposes in Cameroon, played with national and international media for further diffusion of outcomes, and in Switzerland, played with primary and secondary school children. Most recently, the game was used to explore scenarios regarding oil palm developments in a changing landscape in Uganda (Tropenbos 2018).

Cameroon is moving toward sustainable palm oil production. The government has taken up many initiatives to achieve this, including a commitment to adopt a national strategy for this aim. CoPalCam can help in the discussions to follow. All stakeholders are keen on ways to increase their incomes, but not if this causes a loss for the environment. As one player said, after discovering the benefits of smallholder cooperatives during the game: “We need to go back in the village and practise the same cooperation as we did in the game.”

Acknowledgments

This article resulted from research that was part of the Oil Palm Adaptive Landscapes (OPAL) project, funded by the Swiss Programme for Research on Global Issues for Development of the Swiss National Science Foundation (Grant no. 152019). Special thanks are due to the following people for developing the model, the game, and fully participating in the process, and in the preparation of this paper: Ludovic Miaro III, Regional palm oil programme coordinator, WWF Regional Office for Africa; Fideline Mboringong, Business and industry assistant, WWF Cameroon; Patrice Levang, IRD and CIFOR, Yaoundé, Cameroon; and Anne Dray, Forest Management and Development, Swiss Federal Institute of Technology.

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Improving smallholder inclusivity through integrating oil palm with crops

Maja Slingerland, Ni’matul Khasanah, Meine van Noordwijk, Ari Susanti and Mayang Meilantina

Introduction

Oil palm cultivation in Indonesia and Malaysia is valuable for the trade balance of these countries and in the past was the exclusive domain of large companies. This was the case until national policies facilitating the Federal Land Development Authority (FELDA) system in Malaysia and the Nucleus Estate Plasma system in different forms in Indonesia made the oil palm sector more inclusive by encouraging links between smallholders and large companies.

To so-called plasma smallholders, these policy measures supported access to technical and financial assistance for planting and tending, provided by companies on a loan basis. It also guaranteed purchase of fresh fruit bunches delivered to the mills. More recently, independent smallholders throughout Indonesia and

“Despite reductions in palm oil yields, smallholders prefer mixed systems to diversify sources of household income.”

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Malaysia have started planting oil palm themselves, and are free to choose the mills they want to deliver to. This freedom, however, is accompanied by a lack of access to technical and financial assistance, including superior planting stock; this could lead to with lower prices or even rejection by mills, especially in times of oversupply. Over time, some plasma smallholders have also established additional independent fields that are excluded from their existing agreement with mills.

### Oil palm cultivation

Oil palm is the most financially productive of all vegetable oil crops, providing regular income from frequent harvests throughout the year. It generates relatively high income per hectare and per labour hour. Therefore, it is a crop that fits well with many smallholders in Indonesia and Malaysia who have limited land availability and labour resources, and it has lifted large numbers of people out of poverty.

Yet, like all crops, oil palm does need land. There are multiple cases where oil palm plantations have replaced forests on mineral and peat soils, causing biodiversity loss, fires and haze, among other impacts. These negative effects have been exacerbated by the fact that oil palm has been largely promoted as a monoculture crop. In many cases this has led to loss of ecosystem services, replaced food production in farms and over entire landscapes, and caused dependency on world market prices, leading to high income fluctuations for smallholders. In Indonesia and Malaysia, promotion of oil palm cultivation by companies has also caused conflict with smallholders about land, their livelihood strategies, and the terms of their involvement in the oil palm supply chain.

One way the oil palm sector is dealing with the negative impacts of palm oil production and expansion is through government regulation and public and private certification schemes. These schemes aim to prevent biodiversity losses by prohibiting deforestation of high conservation value areas and prevent conflict through processes of free prior informed consent, among other goals. Neither regulation nor certification schemes address farmers' livelihoods concerns, however, since they focus on oil palm monocultures.

### Monoculture productivity

Oil palm is most productive on a per-hectare basis when trees are planted as a monoculture, based on an equilateral triangular planting pattern at 9x9x9-metre spacing. The first few years after planting, other crops can be planted in the spaces between trees and many smallholders do so. These crops include banana and cassava on mineral soils as in Central Kalimantan, Indonesia, and pineapple on peat soils as in Johor, Malaysia. This intercropping provides smallholders with income before the oil palm starts bearing fruit. After three to five years, however, depending on the level of management, the canopy closes, leaving too little light for other crops to grow. To increase oil palm yields, best management practices are often promoted, starting with the use of certified seeds, adequate weeding, pruning, use of fertilizers and improved harvesting. With optimized management, potential annual oil yields can be as high as 12 tonnes per hectare. Many smallholders in Indonesia and Malaysia achieve only up to 3 t/ha, however, due to poor planting material, inadequate or inappropriate use of fertilizers and pesticides, lack of access to credit, and poor logistics during harvesting and delivery to mills (Woittiez et al. 2017).
Farmer practices in Indonesia

Two independent surveys in 2018 in central Kalimantan identified several smallholders who included other tree crops in their oil palm fields, including rubber, fruit trees such as durian and mango, and timber species such as sengon (Paraserianthes falcatoria); the planting timber species was motivated by a sudden demand for timber in the market. Another survey in Jambi, Sumatra, revealed that farmers included meranti (Shorea leprosula) in their oil palm fields, stimulated by the scarcity of construction timber. Unfortunately, as the planting density and configuration of oil palm trees had not been modified in these cases, this led to strong competition for light, water and nutrients and resulted in reduced yields for both oil palm and the other species. The outcomes of these farmer experiments and associated observations seem to confirm that oil palm needs to be cultivated in monoculture in order to optimize yield.

The surveys show that despite reductions in palm oil yields, smallholders still preferred mixed systems in order to diversify sources of household income and to stabilize income over time. Local smallholders often had diversified systems before converting to monoculture oil palm and over time missed their former livelihood options. Javanese workers who came to Sumatra or Kalimantan as part of a government-supported transmigration programme were given monoculture oil palm plantations of two hectares to cultivate and half a hectare to build a house and have a home garden. These people were very dependent on oil palm for their income. The wish for diversification was also motivated by the very volatile prices of agricultural commodities. In July 2018 this was confirmed during discussions with a cooperative of Javanese oil palm farmers in central Kalimantan who were preparing for replanting in three years’ time. At that time, they had only oil palm monocultures, but were exploring options to integrate oil palm with cacao, without losing too much of the expected oil palm benefits.
Learning from experimental research in Malaysia

In Malaysia, research by the Malaysian Palm Oil Board has led to the development of a new planting scheme called the double-row avenue system (Suboh Ismail, Norkaspi and Zulfkifli 2009). Under the system, the same number of trees per hectare (138) are planted as in the conventional planting configuration, but are planted closer together (9x9x6 m), with 9 m between the two rows and 6 m between trees in the rows, leaving avenues 15 metres wide for growing other crops between the double rows. Experiments have included rice, pigeon pea, cassava, black pepper, groundnut, rubber, cacao and some fodder crops. After promising initial results (Zulkifli et al. 2016), the state of Sarawak, Malaysia has started a subsidy programme for smallholders who want to start intercropping with black pepper, which is already an important export crop with existing supply chains. Combining oil palm with black pepper provides diversity in income and lower dependency on the fluctuating world market price for oil palm (Box 1).

Box 1. Intercropping with black pepper

Black pepper starts producing 1–2 t/year during the first three to five years, before oil palm comes into production. At peak production, black pepper yields about 3 t/ha. Black pepper is a high-value crop that has a much higher price per tonne than oil palm; therefore, some decreases in oil palm yield in an integrated system (compared to monoculture) will be compensated by the additional income from black pepper. The exact compensation depends on the evolution of yields of oil palm and black pepper over time and market prices each year. Black pepper prices FOB Indonesia went steadily up from US$2,000/t in 2006 to US$14,000/t in 2015, dropping to US$2,700/t in October 2018 (www.agriwatch.com). During the same time, palm oil prices fluctuated between US$350/t (2009) and US$500/t (2003–16) and peaks of US$886 (2008, 2011, 2013) traded at the Malaysian stock market (Trading Economics 2019). Even in the worst case scenario, with the palm oil peak price of US$886/t and lowest black pepper price of US$2,000/t, one tonne of black pepper can still compensate for a 2.5 t decrease in palm oil production, equal to 12 t of fresh fruit bunches, whereas yield decreases of fresh fruit bunches at maturity never exceeded 5 tonnes (compared to monoculture) and black pepper yields at maturity are 3 t/ha. So, black pepper always more than compensates for the modest reductions in palm oil yields, and additionally, reduces dependency on volatile palm oil prices.

Figure 1. Oil palm integration with black pepper as used in WaNuLCas model

Illustration: Adrien-Francois Migeon
5.2 Improving smallholder inclusivity through integrating oil palm with crops

Using models to increasing the learning on intercropping

To provide smallholders with adequate advice on intercropping, various crop combinations should be tested, preferably for the entire 25-year rotation of oil palm. As an alternative or a complement to costly long-term trials, models such as WaNuLCA5, which have been developed specifically for this purpose (van Noordwijk et al. 2011), can be used. The model focuses on competition for water, nutrients and light, leading to predictions on yields of each crop over 25 years. It uses labour requirements and costs of labour and inputs to calculate farm income, both per hectare and per unit of labour. In addition, effects are estimated for environmental indicators such as erosion control, runoff, nitrogen leaching and carbon stocks.

In 2016, testing of various crop combinations using the WaNuLCA5 model identified multiple synergies and trade-offs. For example, interplanting oil palm with velvet bean, groundnut and cassava showed similar returns for labour as for oil palm monoculture: US$5.50 per day, which is almost twice the average daily wage of US$3. Compared to oil palm monoculture, all the crop combinations improved erosion control by about 40%, but also slightly increased nitrogen leaching. Interplanting oil palm with rubber provided farmers with a daily average income of US$3, equal to the daily average wage and provided a positive cash flow for the first 12 years, compared to the 22–23 years required for the annual crops analyzed. Other advantages of interplanting oil palm compared to oil palm monoculture with rubber are environmental benefits: increasing carbon stock by 37%, decreasing nitrogen leaching by 66%, and improving erosion control by 57%. In terms of climate change, high carbon stocks are a desirable feature of systems, and decreasing nitrogen leaching may save fertilizer costs. Further testing of the model in 2017 with black pepper intercropping found very positive effects until ten years after planting, after which production from pepper rows closest to oil palm trees declined rapidly. This is

Oil palm and meranti (Shorea leprosula) in Jambi. Photo: Budiani
important information for smallholders; it tells them that their initial success will not continue for the full 25 years and that more shade-tolerant crops are needed when oil palm trees grow larger.

The results derived from the WaNulCas model show that perfect solutions do not exist, but that intercropping provides smallholders with an increased number of options to choose from, depending on their wishes. Intercropping systems provide the possibilities of generating substantial income as well as environmental benefits. Spreading income over two or more crops is expected to decrease dependency on oil palm and therefore provide more income resilience. The impacts of intercropping on other ecosystem services — such as biodiversity, pollination and integrated pest management — are still to be investigated in field experiments and likely will differ per crop combination. Research on biodiversity in smallholder alley cropping oil palm systems in Malaysia (Ashraf et al. 2018) adds to optimism in this regard, as it showed that the number of arthropod orders, families and abundance were significantly greater in alley-cropping systems than for oil palm monocultures.

**When to use intercropping options**

In new planting areas or in oil palm frontiers such as in West Kalimantan, companies promote oil palm monoculture and try to acquire farmland for nucleus plantations. Local land users strongly reject oil palm because of their preference for diversified livelihoods and a desire to be self-sufficient in their main food crop: rice. Furthermore, smallholders did not want to become "coolies" (paid labourers) on their own land and lose their independence as farmers (de Vos 2016). Many conflicts arise around these opposing wishes, offering smallholders only two choices: either fully converting to oil palm monoculture, or being excluded from oil palm cultivation altogether.

Intercropping within a double-row avenue system may prevent such conflicts, since it is potentially able to satisfy both farmers and companies. Smallholders would benefit from the additional income provided by oil palm trees, compared to their conventional cropping patterns, and they can continue to cultivate a variety of their usual crops in the avenues of the proposed integrated system. It is to be expected that potential oil palm yields in intercropping systems will be lower than those from monoculture. However, so far the actual yields of smallholder plantings have averaged only 3 tonnes of oil/ha and such yields can certainly be achieved in intercropping systems. Yields could even increase, depending on crop choice, level of competition, and the extent to which farmers follow management recommendations by government and companies for each of the crops.

In Sumatra, where there is a long history of oil palm cultivation, smallholders have been enriching their existing oil palm monocultures with other species. However, throughout Indonesia, many smallholders will need to replant in the coming years. Using the double-row avenue system may be attractive to them to satisfy their livelihood needs beyond oil palm income alone. Results suggest that those who fund replanting should include such options in their portfolios.
Conclusions

Based on the field experiments and farmer surveys in Indonesia and Malaysia reported here, it is argued that palm oil production can be much more inclusive for smallholders when it addresses their diverse livelihood needs and resilience. This means going beyond just providing high incomes from palm oil monocultures, and contributing to more stable incomes and access to food and building materials based on a diversity of crops.

Smallholders have been found to experiment with diversification of existing oil palm monocultures to better meet their livelihood needs, with observed negative results on the yields of both oil palm and the interplanted crops. Based on experiences and research results, as discussed in this article, the double-row avenue system is a promising alternative to monoculture. It provides opportunities to include more smallholders in oil palm cultivation while safeguarding their diversified livelihoods.

Since intercropping needs a different planting configuration, it can be proposed only at the replanting stage or when establishing new plantations. Intercropping, rather than either full conversion to oil palm or being fully excluded from oil palm benefits, can increase smallholder inclusion in oil palm supply chains and potentially contribute to conflict avoidance. This could be especially valuable in frontier areas during free, prior and informed consent (FPIC) processes linked to certification schemes. Oil palm intercropping systems increase the chances of smallholders being included in palm oil production value chains by accepting oil palm trees on their land while pursuing additional, otherwise conflicting, livelihood goals such as food production. For companies, intercropping may be desirable since it may convince smallholders to enter the oil palm value chain instead of resisting it.

Intercropping approaches — including the double-row avenue system — still need to be further investigated for additional crop combinations, using field measurements and modelling. This is necessary to provide companies and smallholders with realistic expectations of what to expect in terms of yield, and amount and stability of income, and what to invest in. This preferably considers the 25-year oil palm cycle, something that can be achieved using models. Also, the potential to include more ecosystem services in oil palm cultivation, such as biodiversity for pollination and integrated pest management, merits additional research. In terms of biodiversity, intercropping may be a stepping stone between high conservation value areas and currently proposed landscape approaches.

Many actors, scientists and development workers define smallholder inclusion as engaging smallholders in oil palm supply chains, thereby providing them with access to national and international markets and to technologies to increase yields and income per hectare and per unit of labour. This inclusion needs to be evaluated not only on yields and associated income, however, but also on the potential for investments through access to planting materials, labour and agrochemicals, and access to credit to acquire these. But to really enhance smallholder inclusiveness, palm oil production systems need to address smallholder livelihoods in terms of crop choices that fit their direct household needs for food or timber, or for income by connecting to existing or emerging local marketing options and longer value chains. This would contribute to improved livelihood resilience from a diversity of income sources and lower dependency on volatile palm oil prices.
Acknowledgements

Thanks to Hero Marhaento and Dwiko Budi Permadi, Faculty of Forestry, Universitas Gadjah Mada, Yogyakarta, Indonesia for sharing field experiences; Dienke Stomph and Adrien-Francois Migeon for their master theses work at Wageningen University and ICRAF parametrizing the WaNuLCas model for different crop combinations; and Budiaidi for the photo.

References


Introduction

Oil palm cultivation can be a valuable source of income, but farmers may have important reasons to make other choices, preferring other crops or combine oil palm with other crops. In West Kalimantan, land acquisition for large-scale oil palm expansion has led to conflict with local communities, because to existing land uses and livelihoods. In such cases, participatory village-level spatial planning and mapping is a way to strengthen the ability of rural communities to decide whether to engage in oil palm, and if so, on which land, and under what terms.

Oil palm has gained a strong foothold in West Kalimantan: the area of mature industrial plantations has more than doubled, from 683,276 ha in 2011 to 1,445,695 ha in 2017 (Directorate General of Estate Crops 2017). Many farmers have benefited from this...
boom, but others have become involved only under adverse terms, and have lost access to land and sources of income. Conflicts between companies and local communities occur, since concessions are often given for land that is already inhabited and being cultivated, with customary land rights only weakly protected by Indonesian law. Lacking formal land title, farm lands may be regarded by the government as state land, unencumbered by rights, and therefore available for land investments.

Although important steps have been taken, policy initiatives to prevent and address conflicts do not always match the realities on the ground. Land conflicts are not easily solved by just sorting out who owns what, and by determining the right amount of compensation for the transfer of land from communities to companies. Land acquisition for plantation development is a complex and fragmented process, involving many actors and activities, dispersed over place and time (Peluso and Lund 2011; de Vos, Kühne and Roth 2017). Policymakers strongly believe in the principles of free, prior and informed consent (FPIC), but in reality, negotiations between companies and communities do not take place in “roundtable-like” settings where consent can be negotiated, and companies and communities rarely meet directly before a project begins to discuss the details of proposed plantation projects.

Consent must be negotiated in the planning phase, and project details should be made known to the wider public beyond the villages concerned. But as commonly happens, concessions are granted without consultation, and local communities find out only as companies start work on preparatory activities such as constructing roads and canals, measuring land and demarcating concession borders. In these cases, when companies finally meet community members, tensions are often already high. This leaves little room for a thorough consideration of the pros and cons for giving consent, the terms under which this is given, and the many long-term consequences of plantation development.

Mapping as a tool to protect livelihoods

Therefore, rather than relying solely on free, prior and informed consent, solutions for sustainable and equitable palm oil production require more structural approaches to protect rural livelihoods, based on respect for existing ways of using and understanding land, prior to any land acquisition activities. In West Kalimantan, local NGOs are taking steps to achieve this by promoting participatory village-level spatial planning. The objective is to strengthen the autonomy of local communities to control their territory, and to decide whether to engage in oil palm cultivation; and if so, on what land, and under what terms.

Mapping is used by NGOs around the world as a tool to help protect the land rights and livelihoods of marginalized communities, in cities and in rural areas. Researchers, however, have warned that mapping and spatial planning should not be seen as panaceas for securing land rights. On the contrary, such activities may create new conflicts, as they potentially exclude certain groups of people, and can even make resources more visible to potential investors (Peluso 2005; Fox et al. 2006). Moreover, village maps and spatial plans may be disregarded by governments and companies, or by villagers themselves.

This article highlights two examples from Sambas District in West Kalimantan: Sungai Putih village and Tanah Rawa village. Both villages have been in conflict with an oil palm company and are now in the process of conducting participatory mapping and spatial planning, assisted by local NGO Lembaga Gemawan.
This research was based on ethnographic fieldwork conducted between 2013 and 2016 (11 months in total). Research methods included participatory observation, focus group discussions and semi-structured interviews with village members, village officials and NGO staff, and analyses of local media and NGO reports on the subjects of spatial planning, mapping, the village law, palm oil and land rights.

**Oil palm expansion in Sambas**

Sambas is a coastal district in West Kalimantan, an important maritime trade hub with a long history of smallholder production for the global market. Key crops are rubber and coconut, as well as rice, black pepper, maize, fruit and pulses — and, for more than a decade, oil palm. Since 2004, 32% of the region (202,331 ha) has been granted to 35 oil palm companies; by 2018, 43% of these concessions had been developed, as shown by CIFOR’s atlas of deforestation and industrial plantations (CIFOR n.d.). In other areas, the process of land acquisition is ongoing, although some communities are now also engaged in village-level mapping and spatial planning to anticipate company claims.

In 2008, Sungai Putih village and 14 other villages were included in an oil palm concession of 20,000 ha given out to a private company. Unrest began when the company started demarcating the borders of the concession. This included placement of cement poles in farmers’ crop fields on village land, making the farmers afraid that they would lose their livelihoods. Company representatives and government officials told farmers to cut down their rubber trees to make way for oil palm, which was assumed to be more profitable. But farmers said that they cherished their rubber plantations as they provide a daily source of cash; also, tapping rubber is considered “light” work that can be done between other farm activities. Rubber trees also offer a connection to the ancestors who planted them, and they are valued as an asset for future generations. Producing rubber on their own land...
gives farmers autonomy, and they feared they would become mere plantation labourers on their own land if oil palm plantations were established.

During the first socialization meetings between company representatives and community members, there were no discussions on how to explore ways to integrate oil palm with other community land uses. One farmer who attended a meeting described it as merely “informative,” without room for discussion, adding that, “The company just made promises about how we would become rich, but did not discuss the details of the plantation project plan,” such as the exact location, time frame, land transfer arrangements, or details of the proposed plantation scheme.

Later, villagers organized a demonstration, demanding that the head of the district government revoke the plantation licence; which, to their surprise, he did on the spot. However, after challenging this decision in court, the company’s licence was reactivated, and although the company withdrew from Sungai Putih, it started to develop in another village where resistance had been less organized. Almost a decade after the demonstration, rumours kept circulating about the company’s plans to expand and return to Sungai Putih. In addition, concession documents related to other companies were circulating in the villages, and the district government could not guarantee that oil palm companies would not return in the future.

Putting livelihoods on the map

Community mapping has a long history in Indonesia; NGOs have mapped villages to protect land rights since the ‘new order’ in 1966 (Warren 2005). In response to uncertainty, the council of Sungai Putih and neighbouring villages invited the NGO Lembaga Gemawan to map the village land. This
NGO was established during the 1999 reformation by student activists from Pontianak and Sambas, with the aim of strengthening rural economies and political rights. Since oil palm conflicts started to occur in Sambas, around 2006, Lembaga Gemawan has used mapping to strengthen communities’ ability to plan and control their territory.

In 2014 President Jokowi’s new Village Law (No. 6/2014) granted more autonomy to villages to control their own territory (Vel and Bedner 2015; de Vos 2018). Lembaga Gemawan noticed that since the implementation of the new Village Law, some district governments were more interested in facilitating village mapping and spatial planning. Local communities and NGOs in Indonesia can use this momentum to further influence the allocation of concessions by proposing long-term spatial plans for village development, based on the assets and resources already present in villages.

Lembaga Gemawan stresses that in its participatory mapping, the role of the NGO is mainly to train villagers in mapping skills. It is important that villagers are in control of the process and can do most of the work by themselves. In Sungai Putih, after a series of meetings, villagers appointed a mapping team and the village head provided a formal mandate letter. The team first took GPS coordinates of village borders, and after discussions with neighbouring villages, drones were used to make high-resolution photographic maps.

Based on these efforts, the village council created a spatial plan of land-use zones, including rubber plantations, rice fields, mixed-crop gardens, and residential areas. These zones would then be formalized through regulations (peraturan desa), to be enacted after approval from the district government. The idea is that these zones cannot then be converted to other types of land use, such as oil palm, without the formal permission of the village council. The former village head of Sungai Putih argued that the village needed to have its own spatial plan, because many parties seek access to land. He said that “To secure our land rights, we need to have a village map. Then we are in a better position when we are at the negotiating table with companies and the government.”

In addition to designating zones through village regulations, villages in Indonesia can also opt to propose to district governments the designation of land for sustainable food crops, peatland protection, agrarian reform, or social forests, where villagers are granted legal permission to use state forests. This procedure can be complicated, especially when land is still classified as forest and as such, formally controlled by the state; this means that proposals have to go through the Ministry of Forestry and the Environment. However, Lembaga Gemawan has experience with communities in another district who successfully claimed former converted production forest as sustainable food crop land; this was formally ratified by a district regulation, with permission from the Ministry of Forest and the Environment.

In another village in the area, Tanah Rawa, Lembaga Gemawan and the Institute for Peat Land Recovery worked with farmer groups to recultivate a peat forest area that had been destroyed by fire and was prone to new fires. A participatory mapping programme was initiated to inform village-level spatial planning so that villagers could contribute to restoring and protecting the area. After testing which crop would grow best on the deep peat soil, villagers choose to grow ginger and taro, and to keep livestock.
In addition to restoring peatland, preventing forest fires, and creating new livelihood opportunities, this programme was part of a more general effort to strengthen village autonomy and give villagers control over their own land. This followed conflict with another oil palm company in 2010 after a large part of village land was included in a 10,000-ha plantation concession. A key problem in that case was the lack of clarity regarding the exact location of the projected plantation, as a village official explained: “They said they would plant on ‘empty’ land. We thought this was the production forest that previously had been used by timber companies to grow acacia and mahonia. But they lied. Our rubber gardens would be destroyed. It turned out that they were not allowed to plant in the production forest, only on our land, which has the status of non-forested, agricultural land. The land marks were placed in our gardens. The village head asked me to cut my rubber trees to make way for a road. They never discussed the exact location. If it is on our land, we reject [it]. If it is in the forest, we agree, because we want a road. There were many ambiguities. It was not clear.” The company eventually cancelled the plantation project after community protests. However, after the first company retreated, several new concessions were granted to other companies. This has prolonged the uncertainty, but it is hoped that village-level spatial planning may help to avoid a repetition of conflict.

Benefits and challenges

In the two villages where spatial plans were piloted, the resulting maps have not yet been put to the test because no new companies have yet become active there. However, the process of mapping and spatial planning activities, such as taking GPS coordinates and having village meetings, has already generated valuable discussions within the villages about the status of land, tenure security, and aspirations regarding land use in the future. In addition, the fact that villagers are visibly engaged with spatial planning also sends a message to companies.

During one village meeting where company activities were discussed, a community representative from Sungai Putih said that, “Surely the company will hear about our meetings now, and they will know that we are on our guard.” In addition, activities are picked up by local media and this influences debate at the district level and beyond. In this way, village-level spatial planning could help in the revision of concession maps so that they would be more aware of local community interests. And if oil palm companies propose to use village land for plantation development, maps and spatial plans can provide leverage at the negotiation table.

Lembaga Gemawan acknowledges that spatial planning alone is not enough to protect land rights and livelihoods. Therefore, it works in parallel on socio-economic development programmes, including a rubber cooperative, organic farming, a credit union, and women’s groups that produce traditional Sambas cloth and handicrafts. The NGO also organizes workshops on village governance and village law, and has established village schools to train women to participate in village governance. Such activities aim to strengthen the capacity and capability of villagers to protect their rights and influence their own socio-economic development.

Keeping the pitfalls in mind, several conditions are crucial when using mapping to prepare spatial plans for villages. The process needs to be genuinely participatory and inclusive, involving both women and men and representatives from various social classes and ethnicities. In addition, a key factor explaining the success in Sambas was the fact that the village head and council had good relations with the NGO and were highly involved in facilitating the process. Local leadership and
networking are vital in such programmes. And importantly, a village map and spatial plan should not be the end goal. Rather, these tools should be the starting point for discussions, raising awareness of land rights, and influencing government spatial plans.

**Ways forward for a more inclusive palm oil sector**

Crucial for a more inclusive palm oil sector is the strengthening of village economies and community autonomy. Planning for plantation development must also consider existing land use to avoid conflict; FPIC procedures alone are not enough. Village-level planning and mapping, on the other hand, give communities leverage when they negotiate with companies and government.

Indonesia’s 2014 Village Law provides room for NGOs and villages to take initiatives in planning future land use. If villages are offered palm oil development projects on village land, maps and spatial plans can help them assess the direct and long-term consequences and the terms under which a project can be beneficial. Participatory mapping and spatial planning contribute to free, prior and informed consent procedures, by giving communities the opportunity to accept proposals under their own terms, or to say no to plantation development.

**References**


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#### Section 2. Alternative models

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Established in 1991, the European Tropical Forest Research Network (ETFRN) aims to ensure that European research contributes to the conservation and sustainable use of forest and tree resources in tropical and subtropical countries.

ETFRN promotes a dialogue between researchers, policy-makers and forest users, the increased coherence of European tropical forest research, and increased collaboration with researchers in developing countries through partnerships and other forms of capacity building.

ETFRN provides a range of services, including ETFRN News, which comprises theme-based issues on research relevant to the international development agenda. This issue provides insights into increasing smallholder inclusion in the production of oil palm.

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