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INNOVATIVE REPLANTING FINANCING MODELS FOR OIL PALM SMALLHOLDER FARMERS IN INDONESIA

POTENTIAL FOR UPSCALING, IMPROVING LIVELIHOODS AND SUPPORTING DEFORESTATION-FREE SUPPLY CHAINS

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ACRONYMS

AA Asian Agri

BAV Bahana Artha Ventura

FFB Fresh Fruit Bunches

FPSA Fund for Forest Protection and Sustainable Agriculture

FSP Financial Services Provider

GAP Good Agricultural Practices

GAR Golden Agri Resources

IDH The Sustainable Trade Initiative

KKPA Kredit Koperasi Primer untuk Anggota

KUD Koperasi Unit Desa – Village Cooperative System

SME Small and Medium Enterprises

TLFF Tropical Landscapes Finance Facility

TLGF Tropical Landscapes Grant Fund

TLLF Tropical Landscapes Loan Facility

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EXECUTIVE SUMMARY

Over the last hundred years, palm oil, which has its origins in West Africa, has become a significant driver for the economies of producing countries[1]. In Indonesia, the world's largest producer of palm oil, smallholder farmers work on approximately 3.1 million hectares of oil palm, representing 40% of the overall planted area and yielding around 35% of total crude palm oil production[2]. At a time when the world demand for vegetable oil, including palm oil, is expected to rise further, the issue of smallholders' decreasing yields coupled with increasing deforestation has become a concern for plantation companies, the Indonesian government and advocates of sustainable agriculture[3 4].

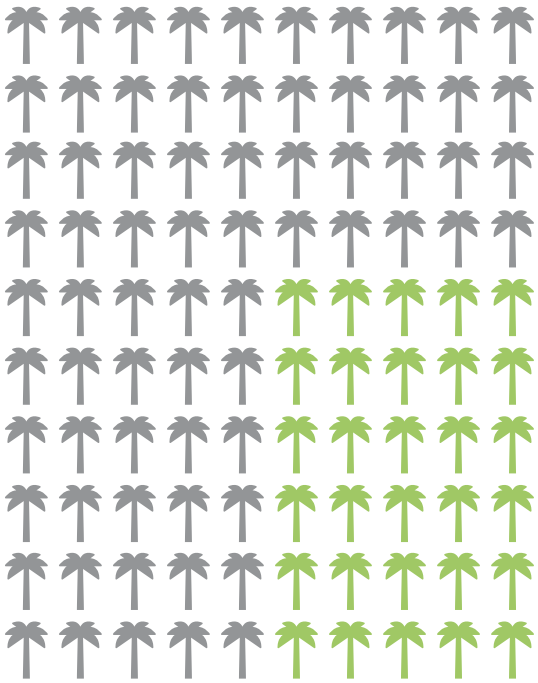
Smallholders' consistent low yield production is primarily driven by a lack of access to quality inputs, limited knowledge of good agricultural practices and a lack of access to adequate financing, in particular for replanting. Access to long-term finance for replanting is becoming increasingly critical for oil palm smallholders in Indonesia, as a large number of smallholder plantations are reaching the end of their productivity cycle due to aging trees. Replanting is required to increase production yields, to raise income levels and to improve the economic livelihoods of smallholder farmers.

In order to evaluate existing financing models for oil palm smallholders and their potential to be replicated and scaled up, to enhance rural livelihoods and to foster deforestation-free farming in Indonesia, this study has reviewed current smallholder financing practices of TFA 2020 members and recent research in this area. The starting point for the current study was a research paper published by CIFOR (Bronkhorst et al, October 2017) and a number of other publications. Also, the study has analyzed a number of smallholder financing programs developed by leading plantation companies and assessed the

smallholder farmers yield

35%

total crude palm oil production



smallholder farmers work 40% of the overall planted area

REPLANTING IS REQUIRED TO INCREASE PRODUCTION YIELDS, RAISE INCOME LEVELS & TO IMPROVE THE ECONOMIC LIVELIHOODS OF SMALLHOLDER FARMERS.

role of commercial banks, (impact) investors and the Government of Indonesia in this area. The findings of the study were gathered through extensive desktop analysis and interviews with senior managers and experts of some of the leading plantation companies and financial institutions in Indonesia.

More generally, this study has also reviewed the main prevailing challenges and issues related to oil palm replanting in Indonesia from the perspective of smallholder farmers, plantation companies and other supply chain actors, as well as the Indonesian government.

From a farmer's perspective, the willingness and ability to replant depends primarily on the following factors:

- Steadily declining yields of aging trees results in lower farmer income;
- Low average production levels due to low quality planting material;
- No availability of additional land to expand oil palm farming;
- Short-term horizon bias causing farmers to focus on current cash flows rather than potentially much stronger future cash generation post-replanting;
- Lack of alternative income streams to cover the income gap in the years between replanting and the time new trees become productive;
- Risk-averse mentality of farmers, who do not wish to become indebted unless their economic livelihood is under threat;
- Lack of replanting knowledge and skills of farmers.

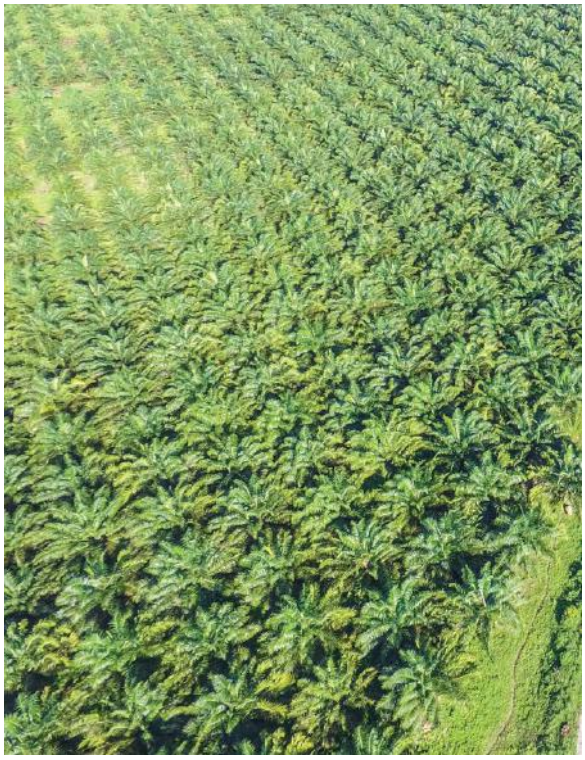
1 Teoh, Cheng Hai, 2010. "Key Sustainability Issues in the Palm Oil Sector," Discussion Paper for Multi-stakeholder Consultations commissioned by the World Bank Group.
2 Daemeter Consulting 2016. Indonesian Oil Palm Smallholder Farmers: Sustainability Challenges and Recommendations for the Design of Smallholder Support Programs. Bogor, Indonesia: Daemeter Consulting,
3 McNally, R., Enright A., Smit, H. 2014. Finding the Right Balance:Exploring Forest and Agriculture Landscapes. SNV Vietnam
4 Fairhurst T, McLaughlin D (2009) Sustainable oil palm development on degraded land in Kalimantan. Washington, DC: World Wildlife Fund.

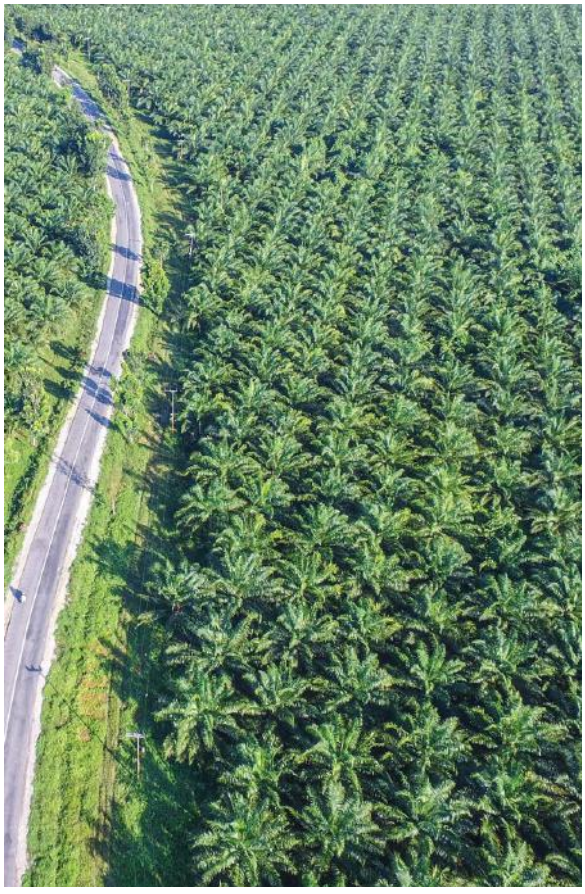
INDONESIA AIMS TO INCREASE ITS OIL PALM PRODUCTION TO 40 MILLION TONS PER ANNUM BY 2020

Impeding factors to obtaining replanting loans include high levels of current outstanding (household) debt and no or insufficient collateral, including land certificates (which are often imperfect, not available or pledged already to other financial institutions).

For the Government of Indonesia, the promotion of large-scale replanting programs for smallholders is a key priority, due to the environmental and economic importance for the country. Following the extensive forest fires in Sumatra and Kalimantan in 2016, there is a strong commitment from the Government of Indonesia to avoid further deforestation and a ban on further oil palm expansion was imposed[5]. As Indonesia aims to increase its oil palm production to 40 million tons per annum by 2020, up from 36 million tons in 2017, higher productivity through intensification of production on existing plantations is an important condition to meet this objective[6 7]. Several initiatives, including the establishment of the CPO fund and the expansion of the KUR loan program to provide low-interest replanting loans to farmers, were announced, but due to weak execution and lack of institutional support, these programs so far have not been able to reach sufficient scale to create meaningful impact.

From a plantation company point of view, the principal driver to actively promote replanting at smallholder level are the decreasing FFB production levels and the low quality of FFB supply. Replanting oil palm with higher quality planting materials will lead to higher production and better quality FFB, directly impacting company profits. For these reasons, plantation companies would be inclined to work toward solutions that support long-term financing arrangements with smallholders, either via plasma schemes or other partnership structures. The main current company-farmer partnerships can be categorized into two different models:





MODEL 1: GUARANTEED PARTNERSHIP LENDING

This is a financing scheme most commonly observed in practice. Whether in the context of classic plasma, "near plasma" or new partnership arrangements, the approach to financing is almost identical. The core common element is that this partnership model is the adaptation of key elements of the classic plasma model in order to be more attractive to non-plasma smallholders and previous plasma smallholders, whose term agreements have expired or are near expiration. Under this model, financing periods will typically be for 11-13 years, with three to five years "grace period" for repayment of principal and, in some examples, interest, which may vary within a range of 9-13% per annum. This type of lending is almost invariably carried out by Indonesian domestic banks, usually state-owned, with a stable, relatively low-cost rupiah funding base and a significant rural branch footprint, often within reasonable proximity of the plantation areas being financed.

This type of lending is usually, but not always, carried out with a corporate guarantee from the plantation company to provide additional assurance to the banks. Continued dependence on the corporate guarantee highlights a key limitation of this model and its potential for scale, as even large, financially healthy companies face limits in the total amount of corporate guarantees they can provide, as this constitutes a contingent liability with potential balance sheet impact that must be accounted for and disclosed in their financial reports.

MODEL 2: DISTRIBUTED RISK PARTNERSHIP LENDING

The Guaranteed Partnership Lending model is being carried out at present, but the need for corporate loan guarantees under most examples drastically limits its applicability. There are many potentially reliable medium-scale oil palm mills and companies that would be able to create partnerships with local farmers but are not able to provide corporate guarantees sufficiently acceptable to potential creditors. Also, from the lending side, there are still many potential lenders which, because of lack of experience or perceived credit risk, could provide stable, long-term funding but do not want to bear the full credit risk themselves.

This provides a key potential space for financial service providers willing to bear the credit risk, particularly in the pre-production stages, to partner with the funding bank in financing the farmer–company partnership arrangement. Such participants could include foreign banks lacking a strong local funding base, development banks, credit guarantee providers or other financial funds/institutions willing to offer loan guarantee facilities or other credit risk mitigation products, allowing them to share the risk burden with the lending institutions.

FINANCING PERIODS WILL TYPICALLY BE FOR 11-13 YEARS, WITH THREE TO FIVE YEARS "GRACE PERIOD" FOR REPAYMENT OF PRINCIPAL AND, IN SOME EXAMPLES, INTEREST

5 https://news.mongabay.com/2016/04/jokowi-announces-moratorium-new-oil-palm-mining-concessions/ Accessed on 22 June 2018
6 http://www.undp.org/content/undp/en/home/presscenter/pressreleases/2015/03/11/indonesia-government-addresses-deforestation-challenges-in-its-aim-to-double-palm-oil-production-by-2020.html. Accessed on 12 June 2018
7 https://www.reuters.com/article/palmoil-outlook-mielke-idAFL4N1N537D accessed on 22 June 2018

AN INNOVATIVE MODEL SUGGESTS A LOWER INTEREST RATE ON THE LOANS IN THE REPLANTING PERIOD WHEN CREDIT RISK IS HIGH

MODEL 3: FULL START-UP FUNDING FROM IMPACT INVESTORS, TO BE FOLLOWED BY LOAN SALE OR REFINANCING

In addition to the two basic models – and in particular if domestic banks' appetite for Model 1 and Model 2-style lending proves in practice to be highly restricted – there is another alternative partnership model that is currently being explored by a number of financial institutions and has interesting potential for scale. Rather than merely taking the early-stage risk, (international) impact investors would fund the full amount needed for replanting to pre-qualified farmers during the first 4-5 years and sell the loan to a partnering commercial bank post-replanting, when the farmer has started to generate income from replanted trees and therefore credit and environmental risk have significantly reduced.

This model suggests 1) a lower interest rate on the loans in the replanting period when credit risk is high and farmer cash flows are minimal; and 2) a higher interest rate when credit risk and income cash flows are increasing post-replanting. The two phases can be summarized as follows:

- Replanting phase: The (impact) investor channels funds to a local bank that acts as conduit; the (impact) investor absorbs all credit risk while the bank only takes counterparty risk on the investor.
- Post-replanting/ "sale" or "refinance" phase: The (impact) investor sells the loan with a profit to a bank after successful replanting in year 5.

The study concludes with a number of key recommendations, which are aimed at further improvement of the existing smallholder replanting financing models and the design of more suitable future models. These recommendations are:

1. THE INVESTMENT CASE FOR FARMER REPLANTING NEEDS TO BE MORE ATTRACTIVE.

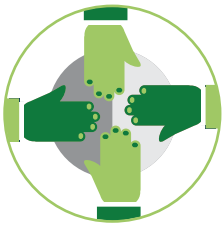
a) All companies working in partnership with smallholders, whether in plasma-style models or in partnership with independent smallholders, should develop their own financial projections to ensure that the proposition offered to farmers is truly a win-win, and in particular that the minimum return on replanting is financially attractive to farmers;

b) Similarly, all stakeholders should work on ways - whether via more efficient replanting techniques, more productive planting stock, higher premiums for certified production, government policy changes, etc. - to improve farmers' economic return on replanting;

c) Further research and analysis should be conducted to document both actual and best practices in terms of financial (and environmental) returns on replanting.

INVESTMENT CASE FOR FARMER REPLANTING NEEDS TO BE MORE ATTRACTIVE.

EXPLORE & DEVELOP EFFICIENT, INTEGRATED "STRATEGIC" SUBSIDIES.



CONTINUED DEVELOPMENT OF COMPANY- FARMER PARTNERSHIP MODELS.

CONDUCT PILOT TESTING ON "MODEL 2" FINANCE & MORE DETAILED DESIGN WITH PILOTING ON THE "MODEL 3" APPROACH.

2. CONTINUE TO EXPLORE AND DEVELOP EFFICIENT, INTEGRATED "STRATEGIC" SUBSIDIES.

In order to ensure that replanting, growing and harvesting are carried out in a sustainable manner, farmers need to be able to see an economic benefit. Work needs to continue on developing and communicating to farmers the package of strategic subsidies available for sustainable replanting as well as price incentives for achieving and maintaining certifications for sustainable palm oil. Government, donors and impact investors need to gain an understanding of farmers' economic needs in order to design a package that adds tangible economic benefits for farmers.

3. CONTINUED DEVELOPMENT OF COMPANY-FARMER PARTNERSHIP MODELS.

Of the companies interviewed, only one, Asian Agri, has demonstrated a clear appetite – and specific targets – for partnership with independent smallholders outside of a classic plasma-style model. Meanwhile, some smaller companies which are more dependent on independent smallholders for FFB supply, are moving rapidly to develop partnerships along the same lines. Although these models are still evolving, current knowledge about best practices in partnerships should be sufficient to guide and encourage all palm oil companies to pilot and/or scale up their partnership activities.

4. CONDUCT PILOT TESTING ON "MODEL 2" FINANCE AND MORE DETAILED DESIGN WITH PILOTING ON THE "MODEL 3" APPROACH.

Finding a risk partner, particularly from Development Finance Institutions and impact investors, to blend with domestic Rupiah funding from local banks or insurance companies, is a natural extension to the current model and should be piloted with one or more financial institutions.

In this regard, TFA 2020 could facilitate follow-up discussions and create proposals for innovative pilot financing projects.

5. EXPLORE EFFICIENT SMALLER-SCALE (LOWER COST AND REQUIRING LESS THAN 300 HA) REPLANTING SOLUTIONS.

Having an efficient, smaller-scale solution would help resolve some of the difficulties in organizing the typically larger groups of farmers for replanting, as is currently often the case.

6. FINALLY, FOLLOW-UP WORKSHOPS SHOULD BE ORGANIZED TO ADDRESS BANKS' CONCERNS ON OIL PALM SMALLHOLDER RISK ISSUES.

Otoritas Jasa Keuangan (OJK), the Indonesian Financial Services Authority, has shown a keen interest in the first workshop conducted by TFA 2020 on innovations in smallholder replanting financing. Due to their ability to access large local currency liquidity pools in Indonesia, Indonesian banks can and should play a major role in the mobilization and expansion of replanting finance to oil palm smallholders. For OJK, this study would represent an interesting theoretical framework than can lay the foundation for more implementation-oriented initiatives and regulations that will accelerate bank lending to smallholder farmers and enable banks to achieve OJK's financial inclusion targets and the recently announced sustainable finance objectives for financial institutions.

STUDY CONCLUDES WITH A NUMBER OF KEY RECOMMENDATIONS, WHICH ARE AIMED AT FURTHER IMPROVEMENT OF THE EXISTING SMALLHOLDER REPLANTING FINANCING MODELS

1. INTRODUCTION

THE REPLANTING ISSUE IN INDONESIA

In Indonesia, the world's largest producer of palm oil, smallholder farmers possess and/or manage approximately 3.1 million hectares of oil palm which is estimated to be 40% of the overall planted area, yielding around 35% of total crude palm oil production of the country. [8] However, smallholder farmers produce consistently low yields, often producing 45% less compared with plantation companies. [9] This is explained mainly by a lack of access to quality inputs, limited knowledge of good agricultural practices (GAP) and lack access to credit; especially the lack of investment capital for replanting of aged, low yielding palms, leave farmers little choice but to expand into neighboring forests with negative environmental impact.

While world demand for vegetable oil and thus palm oil keeps rising, smallholders are faced with decreasing yields, putting increasing pressure on the remaining forests and exacerbating climate change. [10] To meet the rising demand for palm oil in the coming decades without increasing deforestation, smallholders urgently need to replant and improve productivity on existing plots by adopting more sustainable production practices. [11] [12] [13] [14]

Thousands of smallholder plantations are currently coming at the end of their oil palm productivity cycle, with the average tree age being over 20 years old. Increasing production without opening new land is possible by intensification on existing plots, replanting old trees with high-yielding seed varieties.

The large-scale aging of smallholder plantations explains why the replanting matter is even more urgent at the current moment in time. As most farmers do not have the capital to finance replanting, they are likely to encroach into forested or protected areas to supplement the lost income from declining yields, if farmers do not receive support to replant on their existing plantations. These long-term financing needs of smallholders provide a huge investment opportunity to investors, who can contribute to promoting sustainable development of the palm oil sector, as well as increased livelihoods for farmers.

Replanting has the potential to increase incomes of smallholder farmers, who are producing a large share of the oil palm production nationally [17]. Funding is urgently needed as it is expected that in the next 25 years (2017–2041), around 175,000 ha of smallholder oil palm plantation will require replanting every year which creates a long-term financing need of USD 700 million per annum [18]. Although several models have been designed for smallholder farmers, there are only few examples of successfully implemented replanting financing schemes to date.

THE LARGE-SCALE AGING OF SMALLHOLDER PLANTATIONS EXPLAINS WHY THE REPLANTING MATTER IS EVEN MORE URGENT AT THE CURRENT MOMENT IN TIME.

THE OBJECTIVE OF THIS RESEARCH IS TO EVALUATE EXISTING INNOVATIVE FINANCING MODELS FOR OIL PALM SMALLHOLDERS, AND THEIR POTENTIAL TO BE SCALED UP

RESEARCH OBJECTIVES

The objective of this research is to evaluate existing innovative financing models for oil palm smallholders, and their potential to be scaled up, improve rural livelihoods and support deforestation-free smallholder farming in Indonesia. For this purpose, past research on existing smallholder financing has been identified and analyzed. Also, the report has investigated in detail a number of smallholder financing schemes of plantation companies, and addresses how financial institutions and the government play a role in the implementation and scale-up of the financing models. This results in recommendations for an innovative, scalable replanting financing model that incorporates the main concerns of different actors analyzed.

The starting point for the analysis of existing smallholder financing models has been a CIFOR research paper (Bronkhorst et al 2017), to which Financial Access and SNV contributed. This study investigated a number of innovative oil palm smallholder financing schemes in Indonesia and Malaysia. The scope of the CIFOR research, its main findings and proposed replanting financing scheme are presented in chapter 2.

In this study, a similar approach as in Bronkhorst et al (2017), has been taken; through desktop analysis and interviews with leading TFA 2020 members and financial institutions, information was collected on the current practices of plantation companies and financial institutions. In particular, this research investigated which (innovative) financing models or other types of support for replanting are provided or made available to smallholders. Based on the collected information, a number of financing models have been selected and presented to the TFA members who are part of the smallholder task force. Their final feedback will be incorporated, resulting in the identification of two underlying financing models.

The structure of the report is as follows. Chapter 2 presents the scope of the CIFOR research, its main findings and proposed replanting financing scheme. Chapter 3 discusses the different replanting perspectives of farmers, plantation companies and government. Chapter 4 presents the results from the interviews with the plantation companies, including their different access to (replanting) finance approaches. The TFA members' plantation companies interviewed are Golden Agri Resources (GAR), Wilmar, Cargill and Asian Agri. Chapter 5 discusses the involvement of the financial sector and the Government of Indonesia. In the Discussion in Chapter 6, the distinct financing models and smallholder approaches are compared, leading to the conclusions of the research and recommendations for further development of the recommended financing models in Chapter 7.

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18. Directorate General of Estate Crops. 2015. Tree Crop Estate Statistics of Indonesia 2014–2016. Jakarta, Indonesia: Directorate General of Estate Crops.

2.SUMMARY OF INNOVATIVE SMALLHOLDER FINANCING SCHEMES

2.1 CIFOR RESEARCH ON SMALLHOLDER FINANCING MODELS: SCOPE AND APPROACH

Recognizing the crucial role of smallholders in both the continued growth of oil palm production as well as its sustainability, in 2017 the Center for International Forestry Research (CIFOR) commissioned Financial Access and SNV to conduct a study, which evaluated current practices and innovations in smallholder palm oil finance in Indonesia and Malaysia.

In Indonesia and Malaysia, many smallholder farmers experience important positive effects of the high returns of oil palm production. Financing programs and policies on export taxes and subsidies are important drivers of the strong growth of oil palm plantation development observed in the two countries. Nonetheless, not all smallholders enjoy these benefits and at the same time, plantation development by both plantation companies and smallholders is leading to deforestation and land use conflicts.

For the CIFOR research study, the following activities were conducted:

- Extensive literature analysis of past and current financing models and practices for oil palm smallholders in Malaysia and Indonesia;
- Field assessment of innovative financing schemes in practice or under development in the oil palm sector in Indonesia and Malaysia;
- Meetings with relevant stakeholders regarding the needs and solutions required to more innovative financing schemes in Indonesia, in particular for smallholder farmers;
- Desktop research.

In order to analyze whether it is possible to steer the practices of oil palm smallholders into more sustainable and responsible directions, the study set out with three principal objectives:

1. To evaluate past and current policies and financing schemes that have played a role in the development of the palm oil industry in Indonesia and Malaysia

2. To evaluate the outcomes of these models for smallholders and the environment, in terms of income security and sustainable practices.

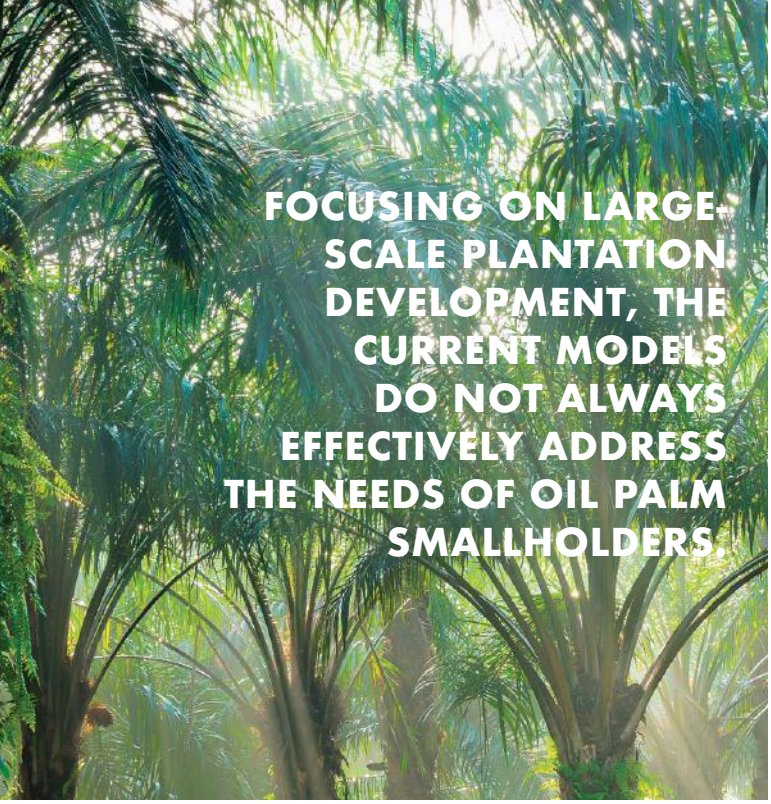
3. To analyze financing schemes that could contribute to sustainable smallholder oil palm development; with a view to stabilize the smallholder supply of FFB and enable smallholders to expand with improved sustainability practices, based on the lessons learned of past and existing partnership schemes.

2.2 CIFOR RESEARCH: SUMMARY OF FINDINGS AND INNOVATIVE REPLANTING FINANCING SCHEMES

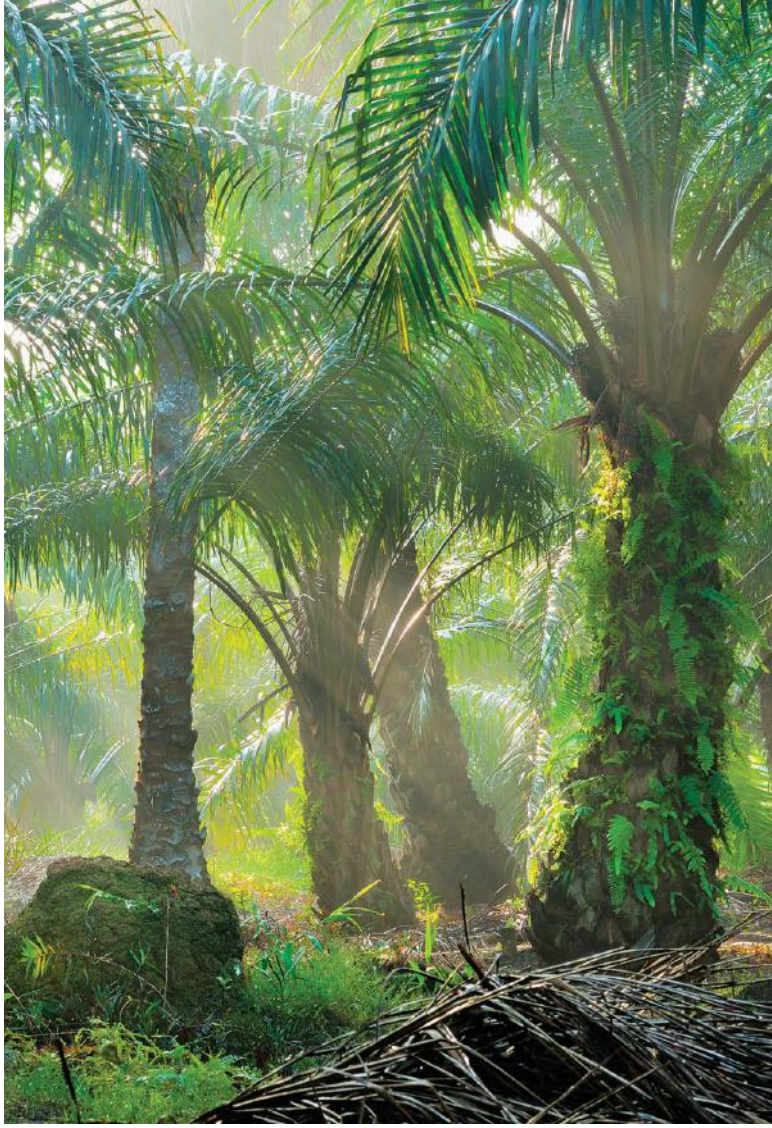
Bronkhorst et al (2017) revealed that in the past, smallholder support schemes were heavily dependent on state funding. However, in recent decades, the government has gradually withdrawn their support, enabling the emergence of more commercially

19 Molenaar J.W., Persch-Orth, M., Lord, S., Taylor, C., Harms, J. 2013. Diagnostic study on Indonesian oil palm smallholders Developing a better understanding of their performance and potential. International Finance Corporation. Indonesia.

20 Vijay V, Pimm SL, Jenkins CN, Smith SJ (2016) The Impacts of Oil Palm on Recent Deforestation and Biodiversity Loss. PLoS ONE 11(7): e0159668. https://doi.org/10.1371/journal.pone.0159668



FOCUSING ON LARGE-SCALE PLANTATION DEVELOPMENT, THE CURRENT MODELS DO NOT ALWAYS EFFECTIVELY ADDRESS THE NEEDS OF OIL PALM SMALLHOLDERS.



oriented investment models, often involving the private sector and smallholders organized in cooperatives. Focusing on large-scale plantation development, the current models do not always effectively address the needs of oil palm smallholders. These schemes faced various issues and challenges related to the implementation of the underlying financial models, including long delays in receiving the allocated land and credit, inaccessibility of allocated plots, restrictions on traditional intercropping, and high land reclamation costs [21]; poorly maintained infrastructure, weak decision-making power and management issues within cooperatives, high credit interest rates, high installation costs [22]; social and environmental impacts such as deforestation, overexploitation of water resources, and rising costs of living.[23] [24]

Bronkhorst et al (2017) has identified several challenges encountered by financial services providers (FSPs) related to offering affordable long-term financing to independent smallholders which are summarized as follows:

- Small loan sizes and limited ability of FSPs to mitigate associated credit risk;
- Lack of creditworthiness of smallholders;
- High credit risk during the unproductive period after replanting;
- Long loan tenor and limited ability to mitigate associated risks;
- Currency risks associated with lending to smallholders in IDR by impact investors;
- Limited levels of aggregation of farmers;
- Limited capacity to comply with sustainability criteria.

In response to the above-mentioned challenges, the study proposed six mechanisms which will allow FSPs to provide commercial long-term replanting loans to independent smallholders:

1. Data collection, mining and monitoring: FSPs can now overcome the constraints and risks related to the limited aggregation of farmers by outsourcing both data collection and data mining, required for cash flow projections and individual credit scoring decisions, as well as loan monitoring and evaluation as these are made easier with current technologies.

21 Vermeulen S and Goad N. 2006. Towards better practice in smallholder palm oil production. Report. London, UK: IIED (International Institute for Environment and Development).

22 Feintrenie L. 2013. Oil Palm Business Models. 4e Conférence Internationale Biocarburants et Bioénergies. 2ie, CIRAD, 21–23 November 2013. Ouagadougou, Burkina Faso: Ministère des Mines et de l'Énergie.

23 Vermeulen S and Goad N. 2006. Towards better practice in smallholder palm oil production. Report. London, UK: IIED (International Institute for Environment and Development).

24 Bissonnette J and De Koninck R. 2015. Large plantations versus smallholdings in Southeast Asia: Historical and contemporary trends. Conference paper No. 12. Chiang Mai University, Thailand.

2. Portfolio approach: FSPs can reduce loan distribution losses by relying on agency distribution agreements with KUDs (Koperasi Unit Desa, Village Cooperative System). Branchless banking schemes, whereby KUDs act as agents for the bank, also offer the possibility of establishing digital payment systems, thereby increasing rural financial inclusion.

3. Supply chain approach: Investment schemes for sustainability certification and replantation could be designed by moving a portion of credit risk down the value chain, onto larger, more financially sound organizations. In this regard, mills and processing companies could act as guarantors for smallholders, or as providers of offtake agreements between smallholders and buyers, resulting in more affordable financing costs for end borrowers. Consequently, the mills would themselves benefit, from a stable, RSPO-certified supply shed.

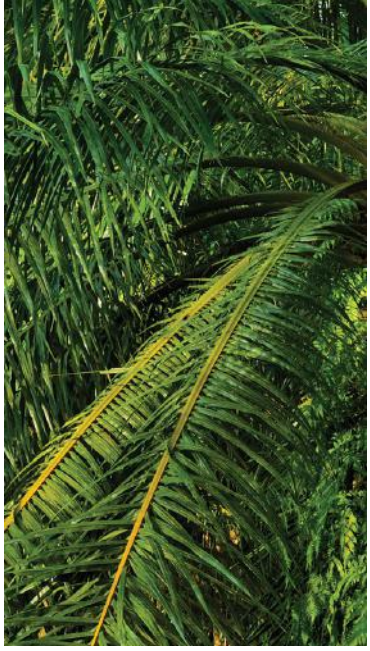
4. Income diversification sub-scheme: alternative income-generating activities remain essential as smallholders face cash shortages during the initial 3–4-year production gap after replanting. For this reason and because land clearing and preparation for replanting require external labor, instead of outsourcing these activities and related costs to a replanting company, the loan facility could be structured in a way to include a salary component to be paid to farmers to work on their own land. Other texted examples include livestock breeding and fattening schemes, the sale of tree trunks and the intercropping of chili and cassava.

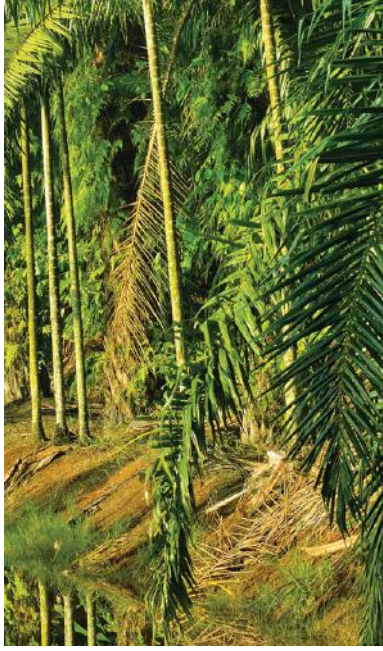
5. Cost of living stipend: In order to compensate for lost income during the unproductive replanting period, banks could elect to include a cost of living stipend in their loans to qualified farmers.

6. Sustainability criteria: many Indonesian banks have been accused of lagging behind in terms of incorporating sustainability criteria in their credit decisions. Key performance indicators addressing ESG criteria – regarding climate, ecosystem integrity and landscape conservation, species protection and improved livelihoods – should be defined and incorporated into the banks' credit risk frameworks.

Bronkhorst et al (2017) presented an example of a potential replanting scheme which has embedded the above-mentioned solutions although not implemented yet. Financial Access has developed a financial model to estimate the impact of key financial, household and production variables that determine the cash flows of oil palm smallholder households.

The cash flow model takes in account supply chain, market and agronomic data as well farm-and household-level data to estimate the financing need and potential repayment capabilities of each farmer. By means of statistical and scenario analysis, variables with the highest impact on cash flow are identified and ranked, which in turn represents the basis for the development of a non-historical credit scorecard.





ASSESSMENTS ARE BASED NOT ONLY ON THE CREDIT-WORTHINESS OF THE FARMER, BUT ALSO ON ENVIRONMENTAL RISKS

Assessments are based not only on the creditworthiness of the farmer, but also on environmental risks associated with replanting, for which data collected via satellite and drone imagery are used. Once data has been collected and analyzed, farmers are segmented. The intention is to select cooperatives and farmers that are most attractive for commercial financing, as well as to select those that would most benefit from training and technical assistance. Based on this segmentation, Financial Access focuses on realizing financing for the most creditworthy farmers, and SNV focuses on providing technical assistance programs, specifically designed to meet the needs of farmers with the potential to become bankable over time. Financial Access presents pre-qualified pools of fully assessed loan applications to lenders (banks, impact investors, investment funds). The result is that lenders will be offered a large pool of processed loan applications with an attractive risk profile, which significantly reduces costs and credit risk for lenders.

Another component of the model is a technical assistance offer that includes not only training and support to improve agricultural practices but also interventions to create additional income streams for farmers during the replanting period.

This model is expected to result in access to financing for selected smallholder farmers at lower interest rates. It also signifies a low-cost transformation of farmers' bankability, facilitating access to long-term capital and a low-cost, risk-mitigated attractive investment opportunity for investors and financial institutions.

Finally, Bronkhorst et al (2017) recommends the following interventions:

1. Smallholder farmers should be given support in order to: fill the income gap during the replanting period; increase their yields in a sustainable manner; acquire the knowledge and capacity for certification; formalize land documentation; and/or get access to mills, which themselves should be incentivized to purchase their fresh fruit bunches under medium to long-term supply arrangements. This will reduce smallholders' income risk, and in turn improve the credit risk for banks.

2. Financial institutions should be given support with the development of investment cases to allow financing to smallholder farmers at a larger scale. This includes better information about smallholder financing needs and better detailed credit and environmental risks assessment, through use of financial technology and improved analytic tools.

3. Smallholder organizations, such as cooperatives, should be given support through targeted interventions that allow them to enhance their management practices and trace palm oil within their supply chain. This will enable them to act as aggregators for data collection from, and loan distribution to, smallholder farmers, as a result of the reduced costs and risk for loan providers.

The developed replanting financing scheme as described above has been used as a starting point for comparison with current replanting financing initiatives from plantation companies, which will be discussed in chapter 4.

3. REPLANTING PERSPECTIVES: MOTIVATIONS & CHALLENGES

This chapter presents the different replanting perspectives from farmers, plantation companies and government, including the main motivations for replanting, as well as challenges and issues faced.

THE DECISION TO REPLANT: FARMER PERSPECTIVE

From a farmer perspective, there are several factors that influence the decision to replant or not. The main reasons for replanting are:

1. Steadily declining yields of aging trees results in lower farmer income;
2. Low average production levels due to low quality planting material;
3. No availability of additional land to expand oil palm farming.

Regarding the second point above, farmers are motivated to replant trees that have not reached the end or mature stages of their lifecycle but are producing very low average yields. This is usually due to poor quality of planting material, seed sources are unknown or uncertified, and leads to low average yields during the entire lifecycle.

BOX 1. HARVESTING AND OIL PALM YIELD

With high quality seeds, oil palm trees can start to produce fruits 30 months after plantation in the fields, with commercial harvest beginning six months later. The output of an oil palm tree is relatively low at this stage. However, as the tree continues to mature, its yield increases and it reaches peak production in 7 to 18 years. Yield will start to gradually decrease after 18 years while the typical commercial lifespan of a tree is roughly 25 years.

Fully mature oil palm trees should generate 18 to 30 metric tons of fresh fruit bunches (FFB)/hectare. The yield depends on a number of factors, including age, seed quality, soil and climatic conditions, quality of plantation management and the timely harvesting and processing FFB.

THE MAIN DRIVER OF REPLANTING IS THE INCREASE IN PROFITS THAT ARE GENERATED THROUGH MUCH HIGHER YIELDS AND RESULTS IN HIGHER PRICES

Also, if there is no or limited empty or new land available, and no other activities can be taken up to generate income, farmers will be more inclined to replant.

The major reasons why farmers are currently not motivated to replant are:

- Short-term horizon bias causing farmers to focus on current cash flows rather than potentially much stronger future cash flows post-replanting;
- of alternative income streams to cover the income gap in the years between replanting and the time new trees become productive. After replanting, it takes about 2,5 years before trees become productive, and only after year 4 trees are generating sufficient fresh fruit bunches (FFB) and cash flows to live from. The income gap is a demotivating factor for farmers, even more if they have no/ little savings or alternative income sources.

Other reasons that determine why farmers replant or not are:

- Risk-averse mentality of farmers, who do not wish to become indebted unless their economic livelihood is under threat;
- Lack of replanting knowledge and skills of farmers.

In case that a farmer does want to conduct replanting, there are other impeding factors, mainly related to financing. Current outstanding debts, and issues related to collateral and land certificates (pledged already/ partly, or on name of previous owner) are complicating the possibility to get a new loan.

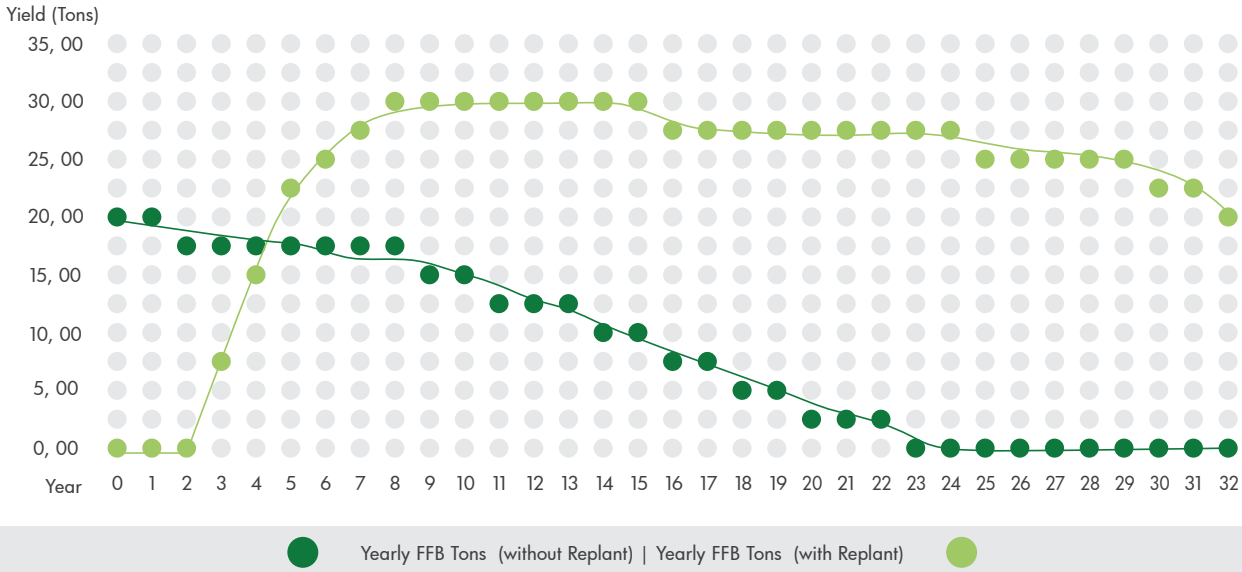
One of the key results of the generic financing model is that from a farmer's perspective, replanting often shows a relatively low return, with benefits only to be realized far in the future. Even though with improved planting materials trees may become productive earlier (after 3 instead of 5 years), this does not mean that farmers perceive this as more profitable in the short term, which they are mostly focused on. The question thus arises what makes replanting worthwhile for farmers?

BENEFITS OF REPLANTING FOR FARMERS

The main driver of replanting is the increase in profits that are generated through much higher yields and therefore results in higher prices (lower or no discounts). See Figure 1 and 2 for graphs that compare two situations: the front end of the yield curve for replanted trees with certified planting material and the back end of the current yield situation of 20-year old trees, both on an annual and cumulative basis. The graphs assume full replanting at once without any staggering over time. The justification for replanting depends on the current production and on how quickly the farmer expects his income to decline as the trees age.

FIGURE 1: ANNUAL YIELD PROFILE FOR 20-YEAR OLD TREES AND REPLANTING

Source: Financial Access based on data from Azman I. and Mohd N. M. (2002)



From a yield point of view, these two graphs reveal that:

- Annual production with replanting begins to exceed non-replanting in year 5 (and year 10 for cumulative production). This means that farmers would only have to forego 5 years of income from the old plantations if they decide to engage in full replanting. The fact that farmers are reluctant to start replanting while they can still make money out of their existing plantations makes the option of 'staggered replanting' more appealing as it would assure that they do not lose all potential income from old farms while new plantations' yields are still below the old plantations yields.
- Although old plantations may still be productive after 27 years, their yields will steeply decrease from the 29th year. Then, given that harvesting becomes very hard for trees older than 27 years because of their height, and the fact that fertilizer application should cease 1 to 2 years before replanting, the replanting decision should be made latest when trees reach age 27 (year 7 on the graph).

Taking a step beyond these graphs, there are two important factors which will push back even further the point at which yields to farmers under replanting exceed the non-replanting case yields:

- First, since replanting is a significant investment, yields to farmers need to be calculated net of interest and principal repayment. In this case, achieving the same yields net of principal and interest means that the break-even year will be pushed further back, perhaps to year 6 on an annual basis and year 13 on a cumulative basis.
- Also, certain aspects of FFB pricing push back this break-even point. Buyers (mills) will often pay discounted rates to FFBs from young trees, due to immature palm kernels. Also, FFBs from older trees may be discounted.

The net effect of these factors is that the economic returns to farmers from replanting, while positive, is much lower (and further in the future) than the apparent shift in yield curves would suggest.

As part of the Partnership model, farmers improve their agronomic knowledge while they are assisted during the replanting process and receive ongoing training on good agricultural practices, a key benefit.

When looking at the costs of replanting, the following costs should be taken into account: direct costs, time to first harvest and financing cost (interest and fees). Direct costs are costs for purchasing seeds, inputs, and payment for all tools and equipment required for the replanting activities, including all input costs until the time of first harvest (assuming high-quality varieties this is in general in year 3).

IMPORTANCE OF ASSISTANCE ON IMPLEMENTING BETTER MANAGEMENT PRACTICES

Due to limited access to information and technical assistance, independent smallholders typically perform relatively poor in terms of productivity. This is mostly due to the planting material

FIGURE 2: CUMULATIVE YIELD PROFILE FOR 20-YEAR OLD TREES AND REPLANTING
Source: Financial Access based on data from Azman I. and Mohd N. M. (2002)

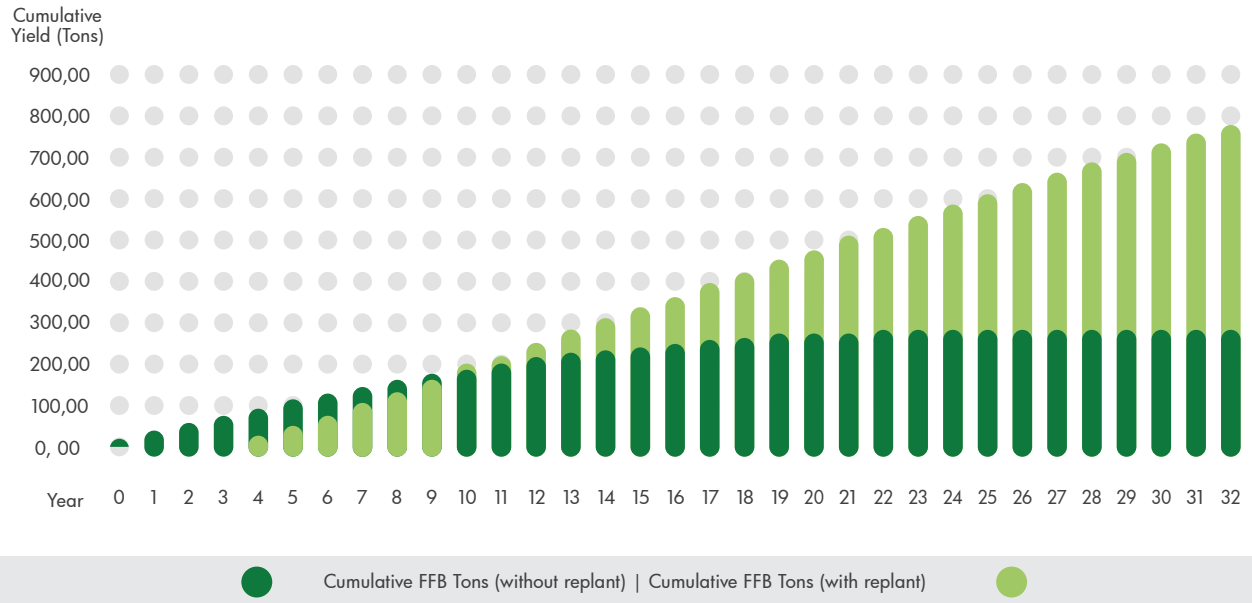


FIGURE 3: YIELD PERFORMANCE PER TYPE OF SMALLHOLDER
Source: Aidenvironmant, Global Sustainabilty Associates and Triodos facet, 2013, results of smallhoders survey

		YIELD PERFORMANCE		
		POOR	MEDIUM	GOOD
TYPE OF SMALL-HOLDER	TIED	4%	46%	49%
	TIED +	10%	49%	41%
	INDEPENDENT	24%	49%	27%
	ALL	16%	48%	36%

and plantation management. See Figure 3. This yield gap is estimated about 40% compared to a good agricultural practice scenario. In order to address this yield gap Molenaar et al (2013) recommends: **" The single, most essential activity to increase smallholder productivity in the long term is technical assistance, including awareness building and training. It should be the foundation of any attempt to increase smallholder sustainability performance." Molenaar et al (2013)**

Through replanting plantations, the quality issue of planting material should be addressed through procuring certified seeds. In order for the replanted plantations to achieve their maximum potential yield, however, providing appropriate technical support on plantation management is critical. In addition to yield and income benefits, introduction of Better Management Practices leads to more adequate use of fertilizers and other agrochemicals, thereby decreasing negative impacts on the environment (soil, water, air). Through providing support on intensification of oil palm production on existing plots, agreements are made, and incentives put in place to motivate farmers to conserve the remaining nearby forests. An example of an extensive training program currently being implemented by SNV is described in Box 2.

MANAGING FARMER CASH FLOWS

During the unproductive period following replanting, farmers need support in managing their cash flows. A number of options are available to achieve that:

- Alternative income: farmers may conduct other (temporary) activities that generate additional cash flows, such as paid labor, or can generate income from small businesses, through other agricultural activities or other existing oil palm plots that are not being replanted;

FARMERS MAY CONDUCT OTHER ACTIVITIES THAT GENERATE ADDITIONAL CASH FLOWS, SUCH AS PAID LABOR, OR CAN GENERATE INCOME FROM SMALL BUSINESSES

- Savings and Cost of Living Stipend: in case farmers have savings, these may be used for household expenses and other financial needs. However, the amount and capacity to live from household savings differs per farmer. Another option is to include cost of a living stipend into the loan, in which farmers receive a monthly "salary" for their basic household needs, which is added to the total loan amount.

THE DECISION TO REPLANT: COMPANY PERSPECTIVE

Plantation companies' main focus is on securing a reliable, stable, long-term supply of FFBs. From a plantation company perspective, the main reasons to stimulate replanting at the smallholder level are low production levels and quality of supply. Replanting with improved planting materials allows increased production and higher profitability since higher oil extraction rates will be achieved, which will increase revenues.

Given the need for stable supply, plantation companies will tend to favor solutions that support long-term partnerships with smallholders, whether via plasma schemes or partnership financing. Although companies have a clear benefit of the replanting of smallholder plantations, at the same time some companies face significant limits on their willingness and ability to provide the corporate guarantees many banks would prefer.

BOX 2. BETTER MANAGEMENT PRACTICES (SNV & WUR)

SNV together with Wageningen University developed an extensive training program that has been tested in Indonesia. Key topics that are addressed are:

1. Grading, Harvesting and Transport
2. Maintenance
3. Plantation design
4. Fertilization
5. Pest and diseases

The training program is using a High Impact Training approach and is based on adult learning, recognizing participants have existing knowledge and experience. The lessons are designed in a way so that participants can benefit quickly from their implementation; and the materials match education and literacy levels of smallholders. The material is simple and highly visual to reinforce learning and activity-based methods engage participants, resulting in higher knowledge retention.

The materials used to support the effective delivery of the training are:

- Training manuals – detailed technical content
- Trainer Guide – explaining how and what to train
- Flip file – visual centrepiece, to be used in the field
- Tips & Tools – hand-outs with guidelines and tools (e.g. Yield Recording sheet)
- Trainer kits – with flashcards, stationery, equipment, tangible examples
- Online portal – At a AKVOPedia portal, all the agro-nomical guidance is made available: https://akvopedia.org/wiki/Sustainable_Oil_Palm_Farming

THE DECISION TO REPLANT: GOVERNMENT PERSPECTIVE

At a national level, the reasons to replant are primarily driven by environmental and economic considerations. For the Government of Indonesia, the promotion of large-scale replanting programs for smallholders is a key priority, due to the environmental and economic importance for the country. Following the extensive forest fires in Sumatra and Kalimantan in 2016, there is a strong commitment from the Government of Indonesia to avoid further deforestation and, in 2015, a ban on further oil palm expansion was announced.[26] As Indonesia aims to increase the oil palm production volume to 40 million tons per annum by 2020 from 36.3 million tons in 2017, higher productivity through intensification of production on existing plantations is an important condition to meet this objective.[27] [28] The productivity gain is to be made mainly at the smallholder plantation level. Increasing productivity levels can support the government's policy to increase oil palm production and without opening new land for oil palm plantations. Large-scale replanting of aged, low productivity smallholder plantations therefore is also a key focus of attention for the government, and several initiatives to support smallholders have been designed. The most well-known are the establishment of the CPO fund and KUR-loans for replanting. Their implications will be further discussed in chapter 5.

The next chapter will discuss the various cases of plantation companies and their approaches to smallholder replanting financing.

INCREASING PRODUCTIVITY LEVELS CAN SUPPORT THE GOVERNMENT'S POLICY TO INCREASE OIL PALM PRODUCTION AND WITHOUT OPENING NEW LAND FOR OIL PALM PLANTATIONS.

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27 http://www.undp.org/content/undp/en/home/presscenter/pressreleases/2015/03/11/indonesia-government-addressesdeforestation- challenges-in-its-aim-to-double-palm-oilproduction- by-2020.html. Accessed on 12 June 2018
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4. CASE ANALYSIS:
PLANTATION COMPANY REPLANTING FINANCING SCHEMES

BOX 3. GOLDEN AGRI RESOURCES (GAR)

GAR is the largest plantation group in Indonesia and second largest globally in terms of planted area. The company's plantations are in Indonesia and they manage more than 502,000 hectares of oil palm plantations (including smallholder farmers).

Founded in 1996, GAR was listed on the Singapore Exchange in 1999 and the corporate office is based in Singapore. GAR has several subsidiaries which include PT SMART Tbk, a business operating in Indonesia; Victory Tropical Oil, a distribution business in Europe and the US; PT Dami Mas Sejahtera, a certified DxP seed producer and supplier; as well as various businesses in China.

4.1 GOLDEN AGRI RESOURCES (GAR)

ACCESS TO FINANCE APPROACH

GAR (Box 3) has developed a partnership program that includes farmers and cooperatives. GAR makes agreements with both the individual farmers, who receive technical assistance for instituting Good Agricultural Practices, and the Cooperative (for managing the land and off-taking the FFB from farmers). GAR enters into an offtake agreement throughout the partnership in two ways: both the farmer and the cooperative agree to sell to the company, very much in line with a plasma scheme arrangement where the company will manage the land until the loan is paid. Farmers pool control of their land for the term of the partnership with the cooperative. The Partnership Agreement might have a term of 20 years; GAR would like to extend this to a longer period than the previous/existing plasma model, which runs for 12-13 years based on financing term.

In the GAR approach, an agreement needs to be made with a cooperative, which is also in line with government recommendations or requirements. Although this could be considered an additional risk factor, in the model it is a critical channel to deal with social issues, as well as relations building and administration. See Figure 4 for GAR's closed loop business model.

GAR SEES A POTENTIAL PROBLEM IN HAVING DIFFERENT SCHEMES FOR SMALLHOLDERS IN CLOSE PROXIMITY, BECAUSE THEY MIGHT COMPLAIN THAT TERMS ARE DIFFERENT, UNFAIR, ETC.

The main benefits of GAR's program are:

- High-quality seeds provided;
- Good Agricultural Practices implemented professionally;
- Land certification by government (BPN) to achieve freehold title (SHM);
- Higher yields leading to increased incomes;
- Sustainability certification by ISPO.

During replanting, the management is taken over by GAR to do the replanting work and the harvesting. The company offers farmers the opportunity to become an employee on their own land generating additional income for them. Also, farmers receive the dividends generated by GAR's use of their land.

Before farmers can join the program GAR conducts an assessment on various aspects. The main requirements for participation in the scheme are related to the availability of land certificates, applicant profile, general requirements (cooperative membership, linkage to bank), and land provisions related to status of land and proximity to forested areas. See Annex 1 for the full list of requirements.

GAR's primary focus is to engage with farmers who own clean and clear status. However, GAR is keen to work with farmers who have outstanding debts in order to scale up the program. This would need bigger funding as to finance the replanting as well as to restructure the debt. The pricing / interest rate for this scale up needs to be carefully calculated so that farmers are still able to pay. GAR also seeks to partner with CPO fund and KUR loans. To be able to collaborate some requirements need to be adjusted to ensure that cooperatives receive support. However, GAR sees a potential problem in having different schemes for smallholders in close proximity, because they might complain that terms are different, unfair, etc.

FIGURE 4: GAR'S CLOSED LOOP BUSINESS MODEL FOR SMALLHOLDER REPLANTING FACILITATION

Source: "Replanting Program Through Innovative Financing for Independent Smallholders"- Syafaat (2018)

REPLANTING ACTIVITIES

In Riau and Jambi, 430 farmers are part of a scheme with GAR which covers 1200 ha. Another project in Riau is ongoing which targets 1000 ha. The target for 2018 is to have 5000 hectares replanted. So far a total of 3500 hectares has been reached and is ready for replanting in Jambi, Riau, South Sumatra, and North Sumatra.

For these schemes the investment cost is about USD 7500 per hectare. Out of this, USD 5000 is for replanting activities, this includes living allowance (Living allowance, USD35/ha per month for 48 months), and another USD 1000 for loan interest payments during the first 4 years, and the rest is for interest during production. The interest rate offered is typically about 11-12.5 %. For replanting schemes, GAR typically needs a minimum block around 100ha. A key driver for GAR in this effort is the need to secure FFB supply in the face of growing competition from strategically-located independent mills.

FINANCING PARTNERS

GAR is engaged in Smallholders Replanting with the Partnership Model with Syariah Mandiri and BRI Agro. Bank Syariah Mandiri's offer uses a corporate guarantee from GAR. GAR has investigated whether international investors could come in, but they are not able to compete with Indonesian investors.

This is due to the fact that with non-Rupiah sources of funds, investors are not able to reach competitive rates and loan tenure. GAR has also explored working with international social investors and others, but they were not able to come up with competitive terms either.

4.2 WILMAR

ACCESS TO FINANCE APPROACH

Wilmar (Box 4) has been actively exploring options for developing mechanisms for smallholders to obtain access to finance for replanting. Since 2016 Wilmar has seriously pursued options based on several proposals with international banks for supporting smallholder replanting. In the end the efforts have not been successful because of the reluctance of potential international investor partners to come to terms with potential credit risks. The main obstacles have been the long tenure of loans for oil palm replanting (i.e. 5 years before any return to investment may be expected and loans tenure expected to be between 10 – 12 years), and the hedging costs of foreign currency to IDR. The additional risk premiums made the offerings uncompetitive with the offerings already available from local banks, hence were not worth pursuing given that this did not create additional access to finance.

Overall, Wilmar is still exploring potential successful ways, as in its first experience the issue was poorly understood from the investor's side. Many of the proposals still focus on a corporate guarantee from Wilmar to mitigate risk. Also, most international investors were only interested in ticket sizes above USD 20 million, which is neither applicable to individual farmers, nor typical groups of smallholder farmers. Outside of typical micro financing options, many investors that Wilmar had discussions with were often not prepared to deal with individual farmers. Finding a plausible group of smallholders that had the institutional capacity to provide options for aggregation was difficult, and attempts to create such entities have not been successful due to internal social problems in the communities.

WILMAR BECAME THE FIRST PALM OIL COMPANY TO LAUNCH A NO DEFORESTATION, NO PEAT AND NO EXPLOITATION POLICY

BOX 4. WILMAR

Wilmar International Limited was established in 1991 and headquartered in Singapore. Wilmar is currently Asia's leading agribusiness group. Its business activities include oil palm cultivation, oilseed crushing, edible oils refining, sugar milling and refining, manufacturing of consumer products, specialty fats, oleochemicals, biodiesel and fertilizers as well as flour and rice milling.

Wilmar is the largest palm oil refiner and palm kernel and copra crusher, specialty fats, oleochemicals and biodiesel manufacturer in Indonesia and Malaysia. Wilmar is also one of the largest oil palm plantation owners globally. In 2013, Wilmar became the first palm oil company to launch a No Deforestation, No Peat and No exploitation policy that covered not just its own operations but that of their third party suppliers as well.

MANY INVESTORS THAT WILMAR HAD DISCUSSIONS WITH WERE OFTEN NOT PREPARED TO DEAL WITH INDIVIDUAL FARMERS.

One reason might be that banks have different reasons for lending to smallholders (profitability rather than social impact/ smallholder development), and therefore are not willing to take the risk related to financing this group.

Wilmar also highlighted that under the national plasma development program, where plasma holders have individual contracts with palm oil mills that have financed their initial oil palm development, plasma holder farmers are legally bound to their plasma contracts up to the end of the first cycle, i.e. up to the first replanting. This is the case even where plasma holders have paid back their loans and received their land certificates (where it was held by the company as collateral). Developed based on government guidelines, plasma contracts have requirements that are beneficial to the farmer, typically that the mill must pay above FFB market price for all crop, and that companies must provide development funds to the farmers, etc. These requirements are in place for the smallholders to then send 100% of crop to the company that financed the initial oil palm development. Due to this arrangement, there is an attractiveness to stay within a plasma structure. Given that the international investor community is largely interested in investing in independent smallholders, having existing plasma programs can be a deterrent. Additionally, there are also many cases where after the initial plasma loan is paid back, and farmers have reobtained the land certificate, the sale of the land can happen, often unofficially, and with no change in the name on the land certificate, so as to enable these lands to remain officially in the plasma program. As a result, it is not clear who owns the land, which can become a deterrent to qualifying for loans, as the ownership of the land is often the basis for collateral.

There is another model of plasma, which is based on the set up of a cooperative entity, the Kredit Koperasi Primer untuk Anggota (KKPA) scheme. The KKPA is a legal entity which holds the plasma contracts and therefore administers all fiscal responsibilities on behalf of their individual farmer members. Typically, this meant that the companies entering into plasma agreements and contracts would deal with the KKPA and not with the individual farmers. While this seems to meet many international investors preference for an aggregated group of smallholders, the reality is more complicated. First, there is a risk of bad debtors within the KKPA membership. Removing the bad debtors from a KKPA grouping, would therefore potentially raise conflicts within a community. Secondly, there is doubt of some KKPA's ability to manage loans appropriately. While plasma contracts are done between the company and the KKPA, the mill effectively controls payments, as it has the role of buying the FFB from the farmers. Hence, in the KKPA plasma model, the companies are responsible to ensure that loans are paid back.

GIVEN THAT THE INTERNATIONAL INVESTOR COMMUNITY IS LARGELY INTERESTED IN INVESTING IN INDEPENDENT SMALL-HOLDERS, HAVING EXISTING PLASMA PROGRAMS CAN BE A DETERRENT.

Given that replanting would mean plasma smallholders effectively become independent of the mill and companies, Wilmar's experience found that many KKPA expected to directly manage the loan, while still expecting that any potential defaults would be resolved by the company. This lack of capacity to manage loans and their repayments constitutes an additional complication and barrier to access financing.

Setting up a new entity may be as complicated, because it needs to have the farmers all individually buying into the new entity. With a new structure, there could be a smaller pool of farmers, and hence a smaller area of replanting, which reduces the attractiveness to international investors. There is also the real risk of limited commitment of the members who sign up, which could pose additional risks for loan repayments, as members may feel they are not responsible for the debt of the entity. In the case of Wilmar, a smallholder group that was set up from a collective of KKPA, fell apart because farmers didn't feel they had direct ownership, and that there was infighting within the groups on who should assume leadership. Setting up a brand new entity just for the sake of a replanting loan, therefore can be very risky as there is a large risk of the group disbanding, and then potentially defaulting.

Given the relatively long window from replanting to first harvest (typically 4-5 years), there is also the question of farmer livelihoods. This is an issue that is important to many international investors. Any loan program is likely to include this requirement. The original plasma loan programs in Indonesia accounted for the livelihood question by increasing the tenure of the loans, hence these are typically for 12 years repayment period or longer. This accounted for farmers' livelihoods by allocating a certain amount to be provided cash in hand to the farmer in the initial replanting phase, and repayments were paid only when crop was being produced.

Many recent international initiatives however, tend to focus on "alternative livelihoods" within the first phase, and typically explore the farming of other non-palm crops. Wilmar is not against the development of other crops, however, their view is that, introducing new crops does involve the risk that farmers are distracted from the management of their main crop, oil palm.

Noting that many smallholders are first generation farmers, there is a real concern that alternative annual crops could end up competing for fertilizer inputs that are critical in the early growth phase of the oil palm for long term productivity. Therefore any introduction of alternative annual crops needs to also provide strong technical agricultural assistance, in addition to having key agricultural support on oil palm best management. In traditional plasma agreements, the agricultural support has been provided by the company.

CURRENT SITUATION

Wilmar is currently focusing on encouraging smallholders to replant. No direct financial incentive is provided to replant, except noting that no replanting will see a continued decline of production from old palms. One avenue Wilmar is exploring is to recreate smallholder schemes in areas without plasma programs; as independent smallholders are not part of existing schemes, these provide an avenue for innovation in partnership.

4.3 CARGILL

Cargill (Box 5) sources from 37.000 ha of smallholder plantation (all plasma). Their own managed plantations (inti) covers about 80,000 hectares, so about 40% of their supply comes from smallholders (9 mills, 3 crushers). In every financial review for Cargill, the performance of smallholders is thus very important for the overall performance of the company.

REPLANTING ACTIVITIES

Cargill has different models for replanting. In particular around their Hindoli mill Cargill is looking for schemes to help smallholders with their replanting. This is to be done in phases, and from a Cargill perspective they have been trying to help them for a few years now to improve their management and prepare them for replanting.

Within the Cargill supply chain the first smallholders were RSPO certified, the ones that are also sourcing to Hindoli mill. These farmers are fairly well organized, fairly wealthy, some have their own outreach programs and even managed to implement their own drone programs.

When it comes to loans, different banks have approached Cargill to see if they can help provide loans to the farmers. In the end, Cargill has a preference for loans that can be provided locally at competitive rates. Cargill reported that some loan providers are asking complex reporting requirements; like reports on growth progress, additionality and profits. Eventually it became clear that those financiers want to have a share in the profits. In the end it looked more expensive and needed to put a value on the smallholder requirements as well, so was not accepted.

Even though Cargill doesn't provide a corporate guarantee but only offtake agreements, banks are willing to give loans to Cargill smallholders.

In South Sumatra, Cargill is looking at setting up plasma type programs with farmers again, but some smallholders believe that they can make more money independently. It does not always seem easy to keep systems in place after they have been set up. So far, 45 smallholders have been supported in getting RSPO certification. However, after one year, farmers didn't want to continue because they believe that benefits on the certified products are not sufficient. Farmers may underestimate the value of market access, and the benefits the company provides, and they don't seem to have the long term view. In West Kalimantan there may be sites that could be interesting to look into for replanting finance (there are some KKPA schemes up for replanting).

BOX 5. CARGILL

Cargill began doing business in Indonesia in 1974 by establishing a feed mill in Bogor, West Java. Today, Cargill, headquartered in Jakarta, is one of the world's leading merchants of grains and oilseeds. Cargill connects producers and users of grains and oilseeds around the globe. Its oilseeds business is based on palm oil, coconut oil and related derivate products from Indonesia.

EVEN THOUGH CARGILL DOESN'T PROVIDE A CORPORATE GUARANTEE BUT ONLY OFFTAKE AGREEMENTS, BANKS ARE WILLING TO GIVE LOANS TO CARGILL SMALLHOLDERS.

40%

of Cargill's supply comes from smallholders

4.4 ASIAN AGRI

Smallholders are considered an essential part of Asian Agri's business, contributing to a significant proportion of the 160,000 hectares of oil palm plantations that they manage. Since 2017, Asian Agri has announced a 1:1 commitment: for every one hectare of own managed plantations they aim to match it with one hectare owned by smallholders. Currently, about 40 percent of the land managed by Asian Agri, is owned by smallholders.

BOX 6. ASIAN AGRI INDEPENDENT SMALL-HOLDER PARTNERSHIP ARRANGEMENT

Started: 2012

Scale: 31,000 ha of oil palm plantation owned by independent smallholders, on top of 60,000 ha of plasma

Location: Jambi, Riau, and North Sumatra

Duration: Same as the term of the loans, currently 13 years

Objectives/ **Activities**: GAP, traceability, support farmer KUD certification (ISCC, RSPO, etc.), replanting

Organization: Farmer groups

Farmer Finance: Loan term is for 13 years (5 years "grace")

Corporate Guarantee: Yes, subject to terms and conditions

Future Plans: Expected to grow by end 2018 to: 100,000 ha (plasma smallholder 60,000 ha and independent smallholder 40,000 ha)

Asian Agri was one of the first companies involved in the government's PIR-Trans scheme and aims to provide an on-going support to raise living standards and boost yields. Asian Agri also supports smallholders having alternative sources of income – such as cattle or fish farming – when oil palms reach the end of their productive span and must be replanted.

TARGETS

Asian Agri aims for a partnership with smallholders to match the company's own plantation area, both targeted for approx. 100,000 hectares by end-2018. The total partnership area is approximately 91,000 ha currently, composed of 60,000 ha of plasma and the rest of independent smallholders. Moving smallholders toward sustainable agricultural practices is only possible if there are also increases in yield of smallholder farmers. Asian Agri has 31,000 ha of independent smallholders in their supply chain that are already organized in groups. Their independent smallholders are ready to do replanting, however the replanting fund cannot be delivered directly by the loan provider but it has to engage bank institution as regulated by government.

THE LOAN TERM IS 13 YEARS WITH A 5-YEAR GRACE PERIOD AND FOLLOWED BY A 8-YEAR REPAYMENT PERIOD. THE GRACE PERIOD WILL COVER THE COSTS FROM THE PREPARATION, REPLANTING, MAINTENANCE, ETC., TO EARLY PRODUCTION STAGE.

ASIAN AGRI PARTNERSHIP MODEL

Asian Agri has already been working on replanting with smallholders. Smallholders contribute their own labor for maintenance, while for harvesting, the company provides training, guidance and supervision. In the partnership, technical assistance is provided by AA personnel. Partnership scheme is a key part to ensure that smallholder sourcing is traceable, in this case to the known and approved production areas of the smallholders (in practice, this means that farmer's FFB sales are consistently monitored to match with their planted area and estimated productivity).

Asian Agri is also willing to support and provide a corporate guarantee over loans to all of its smallholders who participate in partnership agreements. Individual farmers pledge their land as collateral. Asian Agri partnership agreements last for the term of the loans and continue further to engage and assist smallholders to maintain their production yield. The costs for replanting will follow the regulation set by government, represented by the Ministry of Agriculture through the Directorate General of Plantation. Asian Agri provides assistance in helping farmers resolve their loan problems. At present, the loan term is 13 years with a 5-year grace period and followed by a 8-year repayment period. The grace period will cover the costs from the preparation, replanting, maintenance, etc., to early production stage. To repay the loan, there will be a portion of payment deduction from the farmer's FFB, currently set at 35%. With the current FFB prices, the percentage covers the cost of principal and interest.

'ONE TO ONE' PARTNERSHIP MODEL

Asian Agri's One to One commitment will see the company match each hectare of its own land with one hectare of land owned by smallholders by the end of 2018. The One to One commitment not only protects the traceability of palm oil, but also increases the capability of the smallholders to achieve optimum results.

Asian Agri's total partnership area of 91,000 ha composed of

60,000

ha of plasma and

31,000

ha of independent smallholders

Asian Agri has been building a partnership encompassing 60,000 hectares of land under the government's plasma smallholder scheme, and another 40,000 hectares belonging to independent smallholders, making Asian Agri the first palm oil company in Indonesia with such a commitment.

The company provides its smallholder partners with training, assistance and modern equipment to help them increase their yields and earn sustainability certification.

4.5 ROLE OF COOPERATIVES (KUDS), ADDITIONAL INCOME, AND LAND CERTIFICATES

Whether it is a plasma or independent smallholder partnership, cooperatives play important role, with financial, administrative and legal (but not marketing) responsibilities. For partnerships, consolidating farmer groups into farmer associations (Gapoktan, Gabungan Kelompok Tani) is an option, although KUD status is better from a legal / administrative perspective, both because the ability to participate in loan and other agreements is clear and because the government strongly favors and supports cooperative development among farmers.

THREE KEY FUNCTIONS OF KUDS HAVE BEEN IDENTIFIED:

1. Partnership agreements – Farmers sign agreements granting cultivation rights to the KUD, giving it the authority to make long-term partnership agreements. The KUD then makes the (long-term partnership) legal agreement with the plantation company.
2. KUDs control sale of members' FFBs to AA using letters of sale as part of traceability, which also helps to maintain certifications attained at the KUD level with support from AA (RSPO, ISPO, ICC, designation as Kosher, etc.)
3. Distribution of Sales Revenue and Price Premium Revenue related to certification – current practice is that price premium revenue is used for local/village infrastructure or other projects

ADDITIONAL INCOME GENERATING ACTIVITIES

Intercropping on replanted land (this does not include ground cover plants intended to fix nitrogen in the soil, which is part of good replanting practice) can have a negative impact on tree development and is not recommended.

Farmers need to fill in cash flow gap in other ways, including:

1. Household savings,
2. Living expense borrowing component for the loans,
3. Having multiple oil palm plots (two hectares plots may be registered in other names but controlled by a single farmer/farm household),
4. Plantation or other employment, and/or
5. Household enterprise or other agricultural activities (on different land).

LAND CERTIFICATES AND LAND USE

In some areas, including Riau province, there are significant problems with smallholder land status, which can affect farmers' ability to qualify for partnership and finance.

BOX 7. "ANOTHER PERSPECTIVE ON PARTNERSHIP."

Another partnership approach has been observed at Prosympac. This company is relatively new and heavily dependent on its relationships with smallholders for mill supply.

Prosympac seeks to carry out its replanting activities in partnership with farmer groups (kelompok tani). It utilizes high-quality seedlings, with some adjustment of seed variety for land type (especially relatively wet land). One kelompak tani may contain 60 farmers on average. Several kelompok tani together can form a KUD. Prosympac will pay for certification while price premiums for certification will be distributed back to the farmers. Arrangements for output delivery to the mill are made by Kelompok Tani which also makes arrangements for harvesting and other labor if the farmers don't want to do it themselves (for the most part, farmers do not harvest their own FFBs).

In the Prosympac partnership, prospective loan terms (not yet launched) may be for either 10 or 15 years; they will settle on the longer loan term if farmers decide that they want to build up long-term savings for the next replanting. The repayment period is therefore 6-11 years, a bit shorter than is seen at larger companies. During the repayment period, loans are repaid in fixed monthly installments. Unlike other loan types observed, there is no cost of living component for years 0-4. These farmers are "not that poor;" they have multiple plots (most farmers stagger their replanting to the extent they can), have an opportunity for intercropping and to work as contract workers for the kelompok tani or the plantation if they need to.

To serve a radius of approx. 15,000 smallholder-owned hectares, Prosympac has a team of approximately twenty (20) persons as "Tim Kemitraan," agents representing the company, providing technical training/assistance, and solving problems in the field.

In Riau, there are smallholder farmers who have already received land certificates, but their land has been reclassified as "forested". Spatial use information appears to be out of date and contains gaps.

Under partnership (kemitraan) arrangements, substandard FFBs are returned to the farmers. Under the plasma system, substandard FFBs are used while the mill pays a deeply discounted price – this is seen as less fair and less transparent.

5. INVOLVEMENT OF THE FINANCIAL SECTOR AND GOVERNMENT

5.1 COMMERCIAL BANKS

Interviews with a number of financial institutions were conducted to assess their willingness and capacity to develop or expand lending to oil palm smallholder farmers.

RABOBANK INDONESIA

Traditionally, Rabobank focuses primarily on agricultural financing to corporate customers; for Rabobank Indonesia, sustainable oil palm cultivation is a key area of interest and fits within the bank's strategy to support their corporate clients in their aim to develop sustainable supply chains. Rabobank Indonesia has experience with financing the oil palm sector, but currently does not have any dedicated oil palm smallholder-related financing activities.

In practice Rabobank faces some significant practical drawbacks vis-à-vis the state-owned banks which dominate lending in the sector. In particular, Rabobank lacks a branch network in rural areas and a low-cost, stable Rupiah funding base. The lack of experience with lending to smallholders also means that credit risks is perceived to be relatively high for the bank. Furthermore, state-owned banks also face pressure to support the Government of Indonesia's announced policy of supporting smallholder replanting. However, Rabobank continues to be interested in exploring possibilities, largely because they maintain corporate banking relationships with many large oil palm plantation companies, traders and buyers and are willing to explore innovative financing structures to accelerate smallholder oil palm replanting through

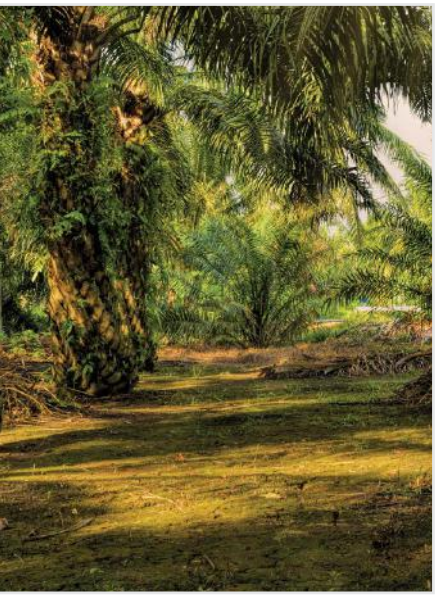
THE LACK OF EXPERIENCE WITH LENDING TO SMALL-HOLDERS ALSO MEANS THAT CREDIT RISKS IS PERCEIVED TO BE RELATIVELY HIGH FOR THE BANK.

their corporate customers. Rabobank Foundation is also offering, at limited scale, financial services to smallholders. Although its loan portfolio is currently relatively small, Rabo Foundation has extensive experience working with cooperatives in Indonesia and has the potential to expand its activities.

Further, Rabo International Advisory Service (RIAS) provides technical assistance to financial institutions, which includes strategic, risk management, operational and other support.

BANK MANDIRI

Bank Mandiri is a State-owned bank and a leading lender to palm oil plantations, with a IDR 48.9 trillion loan portfolio (approximately 9% of its total loan portfolio) exposed to the palm oil industry. [29] The bank mainly focuses on large plantation companies but also provides short term products to plasma farmers through partnership programs. Kredit Pengembangan Energi Nabati (KPEN) and Revitalisasi Perkebunan (RP) are two replantation credit facilities that Bank Mandiri offers with government subsidized interest rate in a perspective of covering the long-term financing needs



BRI AGRO HAS DESIGNED A CONSUMER BUSINESS FACILITY TO SUPPORT SMALLHOLDERS WITH OIL PALM RE-PLANTING IN THE FRAME OF THE KKPA AND THE KUR PROGRAM.

required to bridge the production gap between replantation and first production.[30] The facility which is offered through the KUR program, requires for example a plantation business license, corporate guarantees and eligible collateral.

BRI AGRO

BRI Agro has been founded in 1989 and today has a prominent and strategic role in the agribusiness sector in Indonesia.[31] The bank has a high exposure to the palm oil sector as the largest micro and small business loans provider under the KUR program in 2016.[32]

BRI Agro has designed a consumer business facility to support smallholders with oil palm replanting in the frame of the KKPA and the KUR program. Similar to Bank Mandiri, BRI Agro's facility applies a 'step-up' interest rate allowing farmers to bear less interest charges when replanted trees are still immature, before changing to the commercial rate by the time trees have achieved full production. In order to meet daily expenses during the production gap, farmers would receive a compensation fee of around IDR 500,000 ha/month, although the legal entity responsible to fill this income gap is undetermined.[33]

5.2 IMPACT AND OTHER INVESTORS

INTERNATIONAL IMPACT INVESTORS

Targeting to reduce the negative effects of deforestation, an increasing number of international impact investors are offering financial products such as green bonds, loan guarantees and investments in environmentally sustainable projects. Investments in (portfolios of) eligible oil palm smallholders may provide these investors with an attractive economic return as well as social and environmental impact.

In 2017, Rabobank and the UN Environment have announced to allocate up to USD 1 billion for financing of sustainable agriculture initiatives via the Fund for Forest Protection and Sustainable Agriculture (FPSA). IDH, The Sustainable Trade Initiative, and FMO are adherence partners of the fund.

The FPSA Fund's mission is to mobilize capital of commercial banks and other eligible partners to actively prevent deforestation, stimulate reforestation, contribute to efficient sustainable agricultural production, decrease carbon emissions and improve rural livelihoods in emerging markets. The Fund is comprised of a Finance Fund and a related Technical Assistance ('TA') Facility.

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29 Bronkhorst et al. 2017. Current practices and innovations in the smallholder palm oil finance in Indonesia and Malaysia: Long financing solutions to promote sustainable supply chains. Bogor, Indonesia: Center for International Forestry Research.
30 Bronkhorst et al. 2017. Current practices and innovations in the smallholder palm oil finance in Indonesia and Malaysia: Long financing solutions to promote sustainable supply chains. Bogor, Indonesia: Center for International Forestry Research.
31 http://www.briagro.co.id/en/aboutus/history Accessed on 18 June 2018
32 Bank BRI. 2016. Board of Directors report. Jakarta, Indonesia: BRI. Accessed 1 July 2017. http://bri.co.id/assets/files/E.3.20–1.PDF
33 Bronkhorst et al. 2017. Current practices and innovations in the smallholder palm oil finance in Indonesia and Malaysia: Long financing solutions to promote sustainable supply chains. Bogor, Indonesia: Center for International Forestry Research.

BAHANA ARTHA VENTURA IS 100% OWNED BY THE INDONESIAN GOVERNMENT THROUGH THE MINISTRY OF FINANCE, AND IT'S MAIN GOAL IS TO GROW SME BUSINESSES IN INDONESIA, BY PROVIDING FINANCING TO SMES AND COOPERATIVES

As of May 2018, the Finance Fund has a target of USD 250 million while the TA Facility targets USD 50 million. The main objectives of the Fund are the following:

- To contribute to sustainable land use practices at scale;
- To provide credit enhancement tools (such as grants, soft loans, guarantees) to catalyze private funding from commercial banks and their eligible partners to qualified initiatives;
- To stimulate initiatives that contribute to existing and innovative best practices in order to lower agriculture's footprint and restore land use for agriculture and forestry;
- To reach local farmers and smallholders as priority beneficiaries;
- To yield substantial, measurable environmental and social ('E&S') impact.

VENTURE CAPITAL COMPANIES

1- BUMDES

BUMDES or 'Village Owned Enterprise" falls under government regulation on Permendes No.4 2015, Badan Usaha Milik Desa. It is fully or partly owned by the village and manages the village's assets, services and other business with the aim of improving welfare of the village community. It receives annual budget based on village size (Dana Desa) – on average IDR 75 million. BUMDES is envisioned to perform activities as:

- Limited Company: conduct business activities where capital is partially owned by BUMDES in accordance with legislation on Limited Liability Companies.
- Micro Finance Institution: where 60% of shares are held by BUMDES, in accordance with laws and regulations applicable to MFIs.

BUMDES may well be an alternative to cooperatives as it has a more appropriate legal structure and less legacy systems, although, the legal framework for BUMDES to act as MFI or agent for banks still needs to be fully finalized. Most importantly, BUMDES is currently a government-led initiative and the extent to which this institution will be equipped with the necessary entrepreneurial skillset required to liaise with farmers and develop relationship with financial institutions still needs to be proven.

2- BAHANA ARTHA VENTURA (BAV)

Bahana Artha Ventura is a state-owned venture capital company, established in 1973. It is 100% owned by the Indonesian government through the Ministry of Finance. Its main goal is to grow SME businesses in Indonesia, by providing financing to SMEs and Cooperatives. In practice, however, BAV functions mainly as a holding company for regional venture capital companies (BMVD) as well as an intermediary for lending to selected cooperatives. At present, BAV's existing funding sources are dominated by bank borrowing on relatively short terms, limiting their ability to offer loans with tenors exceeding 3 years.

$250 MILLION
FINANCE FUND TARGET

STIMULATE INITIATIVES THAT CONTRIBUTE TO EXISTING AND INNOVATIVE BEST PRACTICES IN ORDER TO LOWER AGRICULTURE'S FOOTPRINT AND RESTORE LAND USE FOR AGRICULTURE AND FORESTRY;

Currently, BAV views both its capacity and appetite for long-term oil palm lending fairly negatively. In general, it seems that Indonesian venture capital companies are not well positioned to participate in financing, due to their short-term lending ability and the nature of their investments.

It appears that there is a need that the Government of Indonesia provides the enabling conditions (interest rate subsidies, loan guarantees, policy and other measures) in order to encourage the financial sector to develop and scale up lending and thus support smallholders to meet the financing needs required for oil palm replanting. The government initiatives to support replanting are discussed below.

5.3 GOVERNMENT INITIATIVES

In line with the governments' interests mentioned in chapter 3, there are two main initiatives that support smallholder replanting: CPO fund and KUR-loans for replanting. See Box 8 and Box 9 for a summary of KUR-loans and CPO-fund respectively.

BOX 8. KUR LOANS

The Indonesian Government has released a special policy on KUR with an interest rate of 7% for plantation communities which is aimed at oil palm farmers with the main goal of oil palm, to be implemented as from 1 January 2018. Total KUR IDR 4 billion is allocated for replanting.

Two KUR schemes for replanting oil palm:

1. Loan ceiling max. IDR25 million without collateral
2. Loan above IDR25 million with land certificate (max IDR500 million)
    - For individual farmer group members
    - Can also be used for cow fattening, and for fishing communities to buy boats

The scheme aims to help farmers for costs of living during unproductive period after replanting up to 5 years, at IDR 1 -1,5 million per month.

- Condition: own max. 4 hectares
- Once trees become productive, between year 3-4 years, they can start to repay their KUR loan

BNI will be the bank that will support the government in executing the KUR program for replanting.

BOX 9. BADAN PENGELOLA DANA PERKEBUNAN KELAPA SAWIT OR CPO FUND

The Agency for Oil Palm Plantation Funding (Badan Pengelola Dana Perkebunan Kelapa Sawit or BPDP-KS) as an allocation of Rp400 billion anually. However, the disbursement has been challenging and over the last few years less than 5% has been disbursed.
The government projects the replanting efforts to cost around Rp50-60 million/ha and the remaining costs will be funded by bank loans. BPDP-KS provides grants for replanting funds of Rp25 million per hectare. This should amount to 16 thousand hectares of oil palm plantations.
The main conditions are:

- For the submission of individual farmers, the broad terms of oil palm plantations that will receive a replanting fund is only four hectares. For the group, the total area of land should be at least 300 hectares up to 800 hectares
- Oil palm farmers should have the availability of remaining funds for replanting. According to calculations BPDP-KS, required replanting funds are Rp60 million per hectare. The remaining Rp35 million per hectare must be closed by farmers with private funds or bank credit loans.
- Oil palm farmers should at least have the potential to get certified Indonesian Sustainable Palm Oil System (ISPO), this means it cannot be ministry of forestry land or peat, and not land cleared through burning.
- The legality of the land should be clear, and the owner needs to have the right legal documents.

6. DISCUSSION

THE GROWING VALUE OF PARTNERSHIP (KEMITRAAN)

As it grows, the smallholder oil palm sector appears to be evolving beyond the plasma-dominated approach to farmer-company ties, which are rooted in the Indonesian transmigration experience dating back several decades. For financial institutions considering whether to finance smallholder replanting, it is therefore becoming crucial to evaluate the creditworthiness of the partnership between palm oil companies and smallholders. While most of the companies interviewed still appear to prefer a straightforward plasma-style approach where possible, there simply may no longer be enough willing farmers to meet supply targets through this type of relationship alone.

Instead, competitive pressures and farmer preferences are leading to partnership arrangements featuring shorter financing and agreement terms, now often 10-15 years rather than 20-25 years under the classic plasma model. In addition, most of the partnership models observed feature labor provided by the farmers, rather than hired and managed by the company.

Although all companies interviewed either have attempted or are currently undertaking partnership arrangements of some sort, there are significant differences in the details of the partnerships, commitment of resources by plantation companies, and results achieved to date. Clearly, though, a few companies' partnership approaches are emerging as worthy of closer evaluation.

Successful smallholder oil palm farmers have gained substantial knowledge and experience over time, and many have been able to successfully expand their landholdings as well. However, most smallholders with aging plantations recognize that they lack the resources and expertise to successfully replant on their own – and that replanting will be necessary in the near future. For these farmers, the most effective and efficient way to boost both long-term productivity and FFB prices will likely be to work in partnership with an oil palm company.

FINANCE-READY PARTNERSHIPS

In order to be able to present their partnerships as finance-ready, palm oil companies should present evidence of the following to financial institutions:

- Plantation company / mill with a proven track record and strong financial performance,
- Willingness to provide a corporate guarantee for bank loans to smallholders (some banks may not require a corporate guarantee, depending on their confidence in the company and the strength of the partnership arrangement),

REPLANTING ITSELF NEEDS TO BE CARRIED OVER AN AREA OF APPROXIMATELY 300 HA AT A TIME IN ORDER TO BE EFFICIENT IN THE USE OF HEAVY EQUIPMENT.

- Working partnership model (plasma, independent shareholder, or something in between) covering management of replanting including quality guarantee, ongoing technical assistance, FFB purchase, payment and loan payment deduction arrangements between farmer groups and the company, usually via special-purpose KUDs,
- Replanting approach meeting all regulatory requirements, including price ceilings and, ideally, accessing available subsidies,
- Significant company human resources in the field dedicated to partnership support,
- Assistance from the company to the KUDs / farmer groups in achieving and maintaining sustainability – and price — boosting certifications, including ICC, ISPO, etc.,
- Land titles on the replanted land of participating farmers, which will be pledged as collateral,
- Generally good farmer credit history – Because replanting occurs en masse over a particular area, some participating farmers will inevitably have problematic credit histories which the company and KUD / farmer group may need to work to reschedule or resolve. One interviewee reported that, given the strength of the guarantees and payment arrangements, the bank they used was open to lending to farmers with past credit problems.

CASH FLOW AND RETURNS ON INVESTMENT IN REPLANTING

Although results vary from case to case, an important result to emerge from initial estimates of returns on investment from replanting is that, despite major technological advances in the quality of planting material, returns do not appear to be particularly high. Compared to other moderately risky, long term activities, estimated returns are feasible but modest – not much higher than the interest rates charged for financing replanting. Further research into returns on investment needs to be undertaken in order to better understand whether this is an accurate depiction of the situation – and, if so, what could be done to improve the efficiency and profitability of investment in replanting.

Although individual cash flow-based lending to oil palm farmers already happens regularly, it appears that a plasma or partnership approach to replanting finance will continue to be needed – for the simple reason that replanting itself needs to be carried over an area of approximately 300 ha at a time in order to be efficient in the use of heavy equipment.

CREDIT RISK UNDER PARTNERSHIP LENDING

Under the partnership approach, there are several ways of allocating and mitigating credit risk, including:

- Corporate guarantee – putting the full risk on the company,
- Land titles on replanted farmland, and
- Partial mitigation of risk through operational design/ execution, including:
  - » Quality guarantees and supervision of replanting by field staff of the palm oil mills / companies,
  - » Loan installment deduction at the mill or KUD
  - » Ongoing technical assistance to farmer groups, and
  - » Sustainability certification at the KUD level, giving farmers greater incentive to sell through the KUD in order to earn the price premium.

From the interviews, financing of smallholder oil palm replanting can be categorized into two distinct models:

MODEL 1: GUARANTEED PARTNERSHIP LENDING

This is the type of finance currently observed in practice. Whether in the context of classic plasma arrangement, "near plasma" partnership, or new partnership arrangements that feature shorter agreement terms and rely more on farmer labor, the approach to financing is almost identical.

Partnership Arrangements

While there are almost as many variations on partnership models as there are companies implementing them, the core common element is that partnership models learn from and adapt the classic plasma model in order to be more attractive to non-plasma smallholders and previous plasma small-holders whose term agreements have expired or are near expiration. After years of experience and observation, these farmers tend to be much more capable and independent than would have been the case two

COMPARED TO OTHER MODERATELY RISKY, LONG TERM ACTIVITIES, ESTIMATED RETURNS ARE FEASIBLE BUT MODEST – NOT MUCH HIGHER THAN THE INTEREST RATES CHARGED FOR FINANCING REPLANTING.

decades ago. Because farmers are under no obligation to sign such agreements, the financial terms and value-adding features of partnerships must be sufficiently attractive to convince groups of smallholders (expected to be organized into KUDs) to make a medium-to-long term commitment to working with the Company. The Company provides technical training and assistance to the KUD and farmer groups, and in most cases farmers provide all post-replanting labor, including harvesting. In at least one case, though, the Company continues to provide and supervise labor for maintenance, fertilizing, etc.

Despite the differences in partnership arrangements, financing characteristics are basically the same under all variants.

Terms of Finance

Under this model, financing will typically be for 11-13 years, with three to five years' "grace period" on repayment of principle and, in some examples, interest. Interest rates may vary within a range of 9-13% per annum, relatively low when one considers bank lending rates for other activities and the relatively long terms of replanting loans. Some partnerships prefer to include a "cost of living" stipend to the farmer during the grace period, though this was not always felt to be needed.

Types of Banks

This type of lending is almost invariably carried out by Indonesian domestic banks, usually state-owned, with a stable, relatively low-cost rupiah deposit base and a significant branch footprint within reasonable proximity of the plantation areas being financed. State-owned banks get an extra incentive from their shareholders to lend in support of the Government of Indonesia's replanting objectives.

Lending to Finance-Friendly Partnerships, usually including Corporate Guarantees

This type of lending is usually, but not always, carried out with a corporate guarantee to provide additional assurance to the banks. For at least one respondent, Cargill, existence of a proven stable partnership combined with guarantees on replanting quality and purchase of output, was deemed sufficient by the lending bank when coupled with the other features and requirements of lending.

Continued dependence on the corporate guarantee highlights a key limitation of this model – even large, relatively healthy companies face real limits in the total size of any corporate guarantee they can provide. Such guarantees constitute a contingent liability that must be accounted for and disclosed, and well-run companies would normally also need to calculate a capital charge related to the practice, which could affect both the capital requirement and the target return on capital for the company. Even if they had plans to scale up their partnerships to the level needed to cover most smallholders (something that is not shown in the current research), companies would simply not be able to provide corporate guarantees to smallholders on the scale required.

Phasing Down the Corporate Guarantee – Limiting the Term, Adding Cash Collateral from Farmers

Companies should of course strive to follow the example of Cargill, where at least some banks apparently have enough confidence to lend without a guarantee. There are also some additional steps that could be taken in order to reduce the need for or amount of a corporate guarantee, including the following:

- As an intermediate step, companies should be able to negotiate with banks to end corporate guarantees after, say, year 5. At this point, farmers and companies will have been able to demonstrate the success of replanting and the working of their repayment system based on the farmer's FFB sales to the company. Banks should be open to bearing at least part of the remaining risk at this point.

- Carefully evaluate the real need for the "cost of living" component. For reasons mentioned earlier, many farmers may have the ability to partially mitigate the gap in income via other means, including additional oil palm plots, "small footprint" intercropping, or ability to engage in wage labor.

- Another potential option that may be worthy of further investigation would be to encourage farmers to contribute a small portion of their own savings to the total investment cost, creating a "sinking fund" that would be paid interest by the bank and could be used to offset a small (but continuously growing, since the loan outstanding would be decreasing) portion of the farmer's outstanding loan to the bank. This approach would also have the effect of modestly increasing the bank's yield on lending. Funds of this type are also sometimes referred to as "cash collateral" or "simpanan wajib" (compulsory deposits) and might total 5-10% of the initial loan amount.

- As part of the loan agreement, farmers could also be asked to make a modest addition to the sinking fund once their loans have reached peak productivity.

- If the KUD has the ability to build up capital or require farmers to deposit "simpanan wajib," the KUD itself might offer a small "first loss" fund to banks for loans to farmers in its area. More importantly, the KUD could become involved, via the partnership agreement structure, in taking over the operation of plots which are productive but for which farmers have fallen behind in their payments.

- Finally, it is worthwhile to return to consideration of how the collateral value of the productive plot area can be made more effective. In most cases, the plots will already have land certificates and should qualify as legal collateral. Clarity of how an orderly takeover or sale process would be conducted could conceivably be included in the cultivation rights agreement between the farmers and the KUD. Technically, GPS mapping of the boundaries of each plot might be useful as well.

MODEL 2: DISTRIBUTED RISK PARTNERSHIP LENDING

The Guaranteed Partnership model is being carried out at present, but the need for a corporate guarantee under most examples to date drastically limits its applicability.

Partnership Potential and Willingness to Lend Given Sufficient Credit Risk Cover

There are many potentially reliable medium-scale oil palm mills and companies that would be able to create partnerships with local farmers but are not able to provide a corporate guarantee sufficient for potential creditors. Also, from the lending side, there are still many potential lenders which, because of lack of experience or perceived risk, could provide stable, long-term funding but do not want to bear the full credit risk themselves. This provides a key potential space for financial service providers willing to bear the credit risk, particularly in the pre-production stages, to partner with the funding bank in financing the farmer

– company partnership. Such participants could include foreign banks lacking a strong local funding base, development banks, credit guarantee providers or other financial funds/institutions willing to offer guarantee facilities or other products allowing them to bear more of the risk burden.

MODEL 3: FULL STARTUP FUNDING FROM IMPACT INVESTORS, TO BE FOLLOWED BY LOAN SALE OR REFINANCING

In addition to these two basic models – and in particular if domestic banks' appetite for Model 1 and Model 2-style lending proves in practice to be highly restricted – there is an alternative. Rather than merely taking the early-stage risk, impact investors could fund the full amount needed for replanting. As part of this process, the impact investors would still need local partners to administer the loans and carry out operational aspects. Depending on the region and the circumstances, this might be a bank, or a non-bank financial institution such as a venture capital fund, or a different arrangement might be feasible.

Impact investors and their local partners would then lay the groundwork for refinancing or sale of the loans once they have entered the repayment period and established a repayment record.

IMPACT INVESTORS WOULD STILL NEED LOCAL PARTNERS TO ADMINISTER THE LOANS AND CARRY OUT OPERATIONAL ASPECTS.

Impact investors will tend to face somewhat higher costs during the time their funds are fully invested, so they will need higher returns for this period (up to 4-5 years). Since farmers' ability to pay will be significantly constrained during this period, a solution will need to be designed into the second, "sale or refinance" phase. Thus, this model suggests 1) a lower interest rate on the loans in the replanting period when credit risk is high and income cash flows are low; and 2) a higher interest rate when credit risk and income cash flows are higher. The two phases can be summarized as follows:

- Replanting phase: (Impact) investor channels funds to a local bank that acts as conduit, the (impact) investor takes all credit risk while the bank only takes counterparty risk on the investor.
- Post-replanting/"sale or refinance" phase: (Impact) investor sells loan to bank after successful replanting in year 5.

The next chapter will present the conclusions of the research and interviews, and provide a few recommendations that can allow the improvement of existing smallholder replanting financing models or the design of more suitable models.

7. CONCLUSIONS & RECOMMENDATIONS

CHALLENGES TO DEVELOPING EFFECTIVE FARMER-COMPANY PARTNERSHIPS

1. *Limited Scope for Further "Plasma"-Style Partnerships:* Although most companies appear to prefer this approach where feasible, indirect evidence from the interviews indicates that there are not enough farmers willing to sign up (again) for a long-term, plasma-style partnership arrangement. But to meet government targets and to ensure sufficient traceable, sustainable FFB supply, most companies will need to explore new types of partnership with farmers.

2. *More Innovative, Short-Term Partnerships may be a necessity if smallholders are to retain a significant role in palm oil production:* many palm oil companies are working on alternatives to the plasma-style approach, with most featuring a combination of shorter partnership term, greater farmer autonomy, and significant commitment of resources by the company to technical assistance and support to farmers, farmer groups, and KUDs. The alternative scenario would be to see smallholders stuck in lower-productivity, less sustainable agricultural practices, potentially increasing pressure on area expansion and encroachment on protected areas.

3. *"Best-practice" partnership models remain very much a work in progress.* Although the interviews revealed several promising approaches to farmer-company partnerships, development of effective, efficient, win-win partnership models is still in its early stages overall. One respondent, Asian Agri, has reached the "post-pilot" stage and is systematically scaling up its partnership program according to internal targets.

PALM OIL COMPANIES ARE WORKING ON ALTERNATIVES, MOST FEATURING SHORTER PARTNERSHIP TERM, GREATER FARMER AUTONOMY, AND SIGNIFICANT COMMITMENT OF RESOURCES BY THE COMPANY TO TECHNICAL ASSISTANCE AND SUPPORT TO FARMERS, FARMER GROUPS, AND KUDS

4. *Uniformity of Coverage:* Precisely because companies are still developing their smallholder replanting models, replanting finance schemes offered to smallholders, where they exist at all, are often perceived by farmers as incomplete and inconsistent. Different schemes for smallholders in close proximity can lead to complaints about differences in terms and access, which may result in farmers distrusting companies' intentions.

5. *Land Titles:* Land certificates remain crucial in any financing scheme, both from the perspective of the plantation company (in order to trace fruits to approved growing areas) and from the financier's point of view. It is critical to have a good understanding of the ownership status of the land, to avoid any conflicts in the future. Challenges remain in ensuring that farmers' land is titled and that titles reflect the true owners.

RESEARCH AND YIELD/INCOME ESTIMATES TO DATE INDICATE MODEST, NOT HIGH, YIELDS AND INCOME TO FARMERS.

CHALLENGES TO DEVELOPING ONE OR MORE "BEST PRACTICE" FINANCING MODELS

1. *Financial innovation;* further work needs to be done to develop and demonstrate a fully viable financing approach to replanting without using a corporate guarantee, beginning with a basic value proposition. Research and yield/income estimates to date indicate modest, not high, yields and income to farmers. Most likely, this means that work needs to continue on both the research documenting farmer-level returns on investment as well as working to improve farmer returns (especially short-term returns) via improvements in replanting partnerships.

2. *Potential value of "strategic subsidies"*: strategic subsidies can reduce replanting cost to the farmer while ensuring more sustainable replanting practice, but farmers need access to clear information in order to understand their obligations and be able to access subsidies and enter into subsidy agreements with confidence.

3. *Potential for legacy credit issues:* this challenge exists in previous lending schemes (particularly with past farmer non-repayment situation under KKPA) and should be dealt with on both a group and individual basis.

4. *Aggregation of farmers:* In order to reach scale advantages and attract financing, farmers need to be sufficiently organized. While this may be challenging, ensuring farmer "ownership" of new entities is critical.

5. *Hedging costs:* International investors, with non-Rupiah sources of funds, are not able to compete with the pricing offered by large domestic banks. Working with international social investors and others has been explored, but a solution has not yet been found that contains competitive pricing using international funding sources.

6. *Financing requirements:* there appears to be limited understanding of the issue by (international) investors, therefore loan requirements may not meet farmer needs. For example, ticket sizes are often too large and corporate guarantees are in general still needed.

7. *Role of cooperatives:* ideally, the set of tasks to be carried out by cooperatives should be limited and well-defined. Although a few cooperatives have proven to be imaginative and sustainable, in general the interviewees feel it is better to specify a limited set of functions, usually operational or administrative in nature, that need to be taken care of.

8. *Minimum land size for replanting:* for replanting schemes, GAR reported that it needs a minimum farmland area of around 100ha; other plantation companies require up a minimum size of upto 300ha;

9. *Incentive for companies:* a key driver for processing companies to support smallholders in this effort is the need to secure FFB supply in the face of growing competition from strategically-located independent mills.

10. *Availability of government programs:* the CPO fund is perceived by farmers as potential "free money". However, at present it requires an extensive application process - farmers are willing to accept long lead times, although, even if there is only a slight chance that they will qualify. Meanwhile, replanting schemes and loan products offered in partnership models usually demand higher (commercial or near-commercial) interest rates than KUR rates. Because farmers are familiar with low KUR interest rates and are often not fully aware of the qualification criteria it makes it more complicated to convince farmers to apply for long-term replanting loans loan at commercial rates.

RECOMMENDATIONS

Based on the research and interviews to date, the team recommends the following:

1. *The investment case for farmer replanting needs to be more attractive.* Research and yield/income estimates to date indicate modest, not high, yields and income to farmers. With moderate or relatively low returns on investment, farmers are more likely to be deterred by risks and be attracted to the idea of waiting for potential subsidies, which will limit economic sustainability and financing at scale. We therefore recommend that: 1) All companies working in partnership with smallholders, whether in plasma-style models or in partnership with independent smallholders, develop their own financial projections to ensure that the deal offered to farmers is truly win-win - and in particular that the return on replanting investment is high enough to be financially attractive to farmers; 2) Similarly, that all stakeholders work on ways – whether via more efficient replanting techniques, more productive planting stock, higher premiums for certified production, government policy changes, etc. - to improve farmers' returning on replanting; and 3) Further research and analysis be conducted to document both actual and best practice in terms of financial returns to replanting.

WORK NEEDS TO CONTINUE ON DEVELOPING AND COMMUNICATING TO FARMERS THE PACKAGE OF STRATEGIC SUBSIDIES FOR SUSTAINABLE REPLANTING AS WELL AS PRICE INCENTIVES (PREMIUM) FOR ACHIEVING AND MAINTAINING CERTIFICATIONS FOR SUSTAINABLE PALM OIL.

2. *Continue to explore and develop efficient, integrated "strategic" subsidies.* In order to ensure that replanting, growing and harvesting are carried out in a sustainable manner, farmers need to be able to see an economic benefit. Work needs to continue on developing and communicating to farmers the package of strategic subsidies for sustainable replanting as well as price incentives (premium) for achieving and maintaining certifications for sustainable palm oil. Government, donors and impact investors need to gain an understanding of farmers' economic needs in order to design a package that true adds economic benefit for farmers.

3. *Continued development of company-farmer partnership models.* Of the companies interviewed, only one, Asian Agri, has demonstrated a clear appetite – and specific targets – for partnership with independent smallholders outside of a classic plasma-style model. Meanwhile, some smaller companies which are more dependent on independent smallholders for FFB supply are moving rapidly to develop partnerships along the same line. Although these models are still evolving, current knowledge about best practice in partnerships should be enough to guide and encourage all palm oil companies to pilot and/or scale up their partnership activities.

4. *Conduct piloting on "Model 2" finance and more detailed design with piloting on the "Model 3" approach.* Finding suitable risk sharing partners, for example Development Finance Institutions and international impact investors, to pair with domestic Rupiah funding from local banks and/or insurance companies, is a natural extension to the current partnership model and should be piloted with one or more financial institutions. In this regard, TFA 2020 should facilitate follow-up discussions with potential qualified partners and promote the development of pilot financing projects that have the potential to be replicated and scaled

5. *Explore efficient smaller-scale replanting solutions.* Having an efficient smaller-scale solution (at lower cost and requiring less than 300 ha) would help resolve some of the difficulties in organizing groups of farmers for replanting, as at present.

6. *Finally, follow-up workshops should be organized to address smallholder risk-related concerns of banks.* In the TFA 2020 workshop which was organized in conjunction with this study, OJK, the Indonesian Financial Services Authority, has shown a keen interest in the continued development of innovative replanting solutions for smallholder farmers. For OJK, this study represents an interesting theoretical framework than can lay the foundation for more implementation-oriented initiatives and programs that will enable banks to become more acquainted and comfortable with the credit and other risks of this type of financing activity. Moreover, the active engagement, financial and environmental commitment from the Indonesian banking sector is a critical condition to be able to successfully address the large and growing replanting needs of oil palm smallholder farmers in Indonesia. Due to their ability to access large local currency liquidity pools in Indonesia, Indonesian banks can and should play a major role in the mobilization and expansion of replanting finance to oil palm smallholders.

SMALLER COMPANIES WHICH ARE MORE DEPENDENT ON INDEPENDENT SMALLHOLDERS FOR FFB SUPPLY ARE MOVING RAPIDLY TO DEVELOP PARTNERSHIPS ALONG THE SAME LINE.

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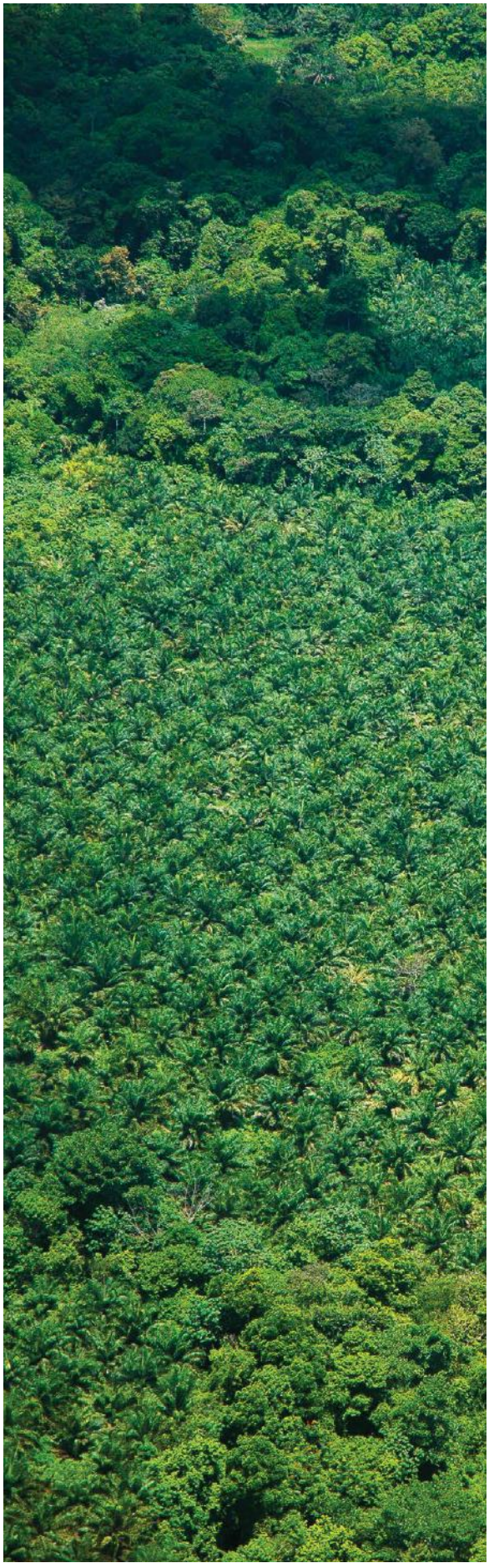

ANNEX: GAR REPLANTING PROGRAM REQUIREMENTS

SOURCE: POWERPOINT "REPLANTING PROGRAM THROUGH INNOVATIVE FINANCING FOR INDEPENDENT SMALLHOLDERS"- SYAFAAT (2018)

TERMS OF PARTICIPANTS	• Farmers must have identification Card (KTP) and Family Card (Kartu Keluarga). Farmer's minimum age is 21 year-old married • Farmers must submit original land deeds (SKT/SKGR/SHM) • Farmers are willing to sign Membership Affidavit Letter of the Innovative Financing program **freely according to FPIC***** • Farmers obtain Registered Planting Permit (STD-B) and Environment Permit (SPPL) issued by Local Government.
GENERAL REQUIREMENTS	• Farmers must form a Cooperative as their legal entity • Farmers are managed by **Partnership System*** • Replanting program using **Investment loan from bank **** • Signing a notarized **Partnership Agreement between farmers, cooperative, and partner company** • Cooperative must sell FFB to partner company dan the partner company must buy the FFB
LAND PROVISIONS	• Farmers' land is located outside Forest Concession Area • Farmers' land is located within a radius of < 30 km from partner company's plantation /mill in one continous plot of land of 1,000 Ha or farmer's land is located along the border of partner company's plantation • Farmers must have **land deeds (SKT/ SKGR/ SHM) that is not being collaterized by any institution or anyone and free of ownershop overlapping and free of legal problems.**

ABOUT TFA 2020

The Tropical Forest Alliance 2020 is a global platform for public-private cooperation, working to help organizations achieve their deforestation-free commitments. The mission of TFA 2020 is to help producers, traders and buyers of forest- risk commodities achieve their commitments to deforestation-free supply chains. It also helps governments of tropical forest countries to realize better growth through sustainable rural development in partnership with civil society and indigenous peoples.

TFA 2020 works by convening stakeholders at the global and regional level to form partnerships, which are designed to transform land use practices and supply chains.

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