



Indonesian Oil Palm Smallholder Farmers

**Access to operational
and investment finance**

November 2016

This Working Paper is the second in a series of three studies on organizational, financial and sustainability challenges affecting smallholder oil palm farmers in Indonesia. The goal of the series is to (a) improve the understanding of smallholder farmer challenges in Indonesia, and (b) foster more informed discussion on how smallholder farmer support programs can be designed, and investments can be channelled, to promote environmentally sustainable, high productivity smallholder oil palm farming. Here, we describe the highly variable costs, revenues and profits of smallholder farming, including a discussion of major factors determining farm gate prices of fresh fruit bunches (FFB). We describe major sources of smallholder finance, and the terms and conditions associated with them, followed by a discussion of financing gaps and challenges to filling them. The paper highlights a genuine need to enhance farmer access to affordable credit, especially long-term investment credit, through better alignment of terms and conditions with farmer realities and more effective safeguards to ensure subsidized credit flows to rural, lower-income recipients. To ensure that access to credit leads to environmentally sustainable outcomes, farmer support programs will need to include safeguards for reducing the risk that increased productivity will lead to farm expansion with environmental impacts. This topic is discussed in Working Paper 3.

Published by
Daemeter

With funding support from
The Climate and Land Use Alliance (CLUA)

Written by
Skye Glenday, Gary Paoli, Godwin Limberg and Jim Schweithelm

Photos courtesy of
Daemeter

Acknowledgments

The authors would like to thank colleagues at Daemeter for their inputs to the study, and Redhahari for his contributions of data on K-values and FFB pricing in East Kalimantan. Other data on East Kalimantan were collected in partnership with STABIL and Serikat Petani Kelapa Sawit (SPKS). Daemeter is grateful to The Climate and Land Use Alliance (CLUA) for financial support to the project.

Citation

Daemeter (2016). Indonesian Oil Palm Smallholder Farmers: Access to Operational and Investment Finance. Daemeter, Bogor, Indonesia

Disclaimer

Whilst every effort has been made to ensure the accuracy of information in this publication, no guarantee is given that all errors and omissions have been excluded. No responsibility for loss occasioned to any person acting or refraining from action as a result of the material in this publication is accepted by the authors or publishers.

First published in Jakarta, November 2016

Download this report at www.daemeter.org

Summary

Financial dimensions of smallholder oil palm farming, including investment and operational costs, revenues and associated profits, are highly variable. Ultimately, profitability depends on the ability of smallholder households to access a blend of natural, human, social, and financial capital. Reported initial investment to establish oil palm plots ranges between USD 450-4000 per hectare over four years, with ongoing annual operating costs ranging from USD 450-2700 per ha. Initial pilot surveys in East Kalimantan found that farmer revenues in that geography range from breaking-even to around USD 2300 net profit per hectare per annum, with average profits at around USD 1100 per ha. These average profits are in line with similar analyses by the Palangkaraya Institute for Land-Use and Agricultural Research (PILAR) in Central Kalimantan.

Preliminary field data also suggests that farmer agricultural practices are directly impacted by fresh fruit bunch (FFB) price variations, with low prices commonly leading to significant under-investment and poor management practices, which in turn causes a cycle of low yields and low profitability. Consequently, farmers tend to be stuck at either higher or lower ends of the productivity-profitability spectrum. Higher performing farmers can earn well in excess of monthly minimum salaries and more readily save money to finance better management of existing plantations (intensification), replanting and establishment of new plots. In contrast, farmers at the lower end of the spectrum are likely to experience narrow profit margins and possibly even negative returns when FFB prices are low and operating expenses cannot be further reduced. Smaller-scale independent farmers are most likely to be at the lower end of the productivity-profitability spectrum compared with farmers that are part of other organizational models, but initial field data also highlights instances of failed cooperatives and company partnerships plagued by similar under-performance.

Concerning farmer investment needs, land acquisition can be a significant portion of upfront investment costs for farm establishment. Forested land is generally the cheapest land to purchase (and sometimes free), which poses a challenge for creating incentives to invest in deforestation-free farming practices or to avoid farm expansion into forested land. Other main costs include seedlings (which can be highly variable), land preparation and fertilizer. Levels of upfront investment in these inputs are highly variable among farmers, with direct impacts on future productivity and profitability throughout the 25-year plantation cycle.

All farmer organizational models appear to have at least some level of access to operational and investment credit from different sources of micro-finance, including formal and informal lenders, and government subsidized programs. One key finding from our initial field research is that loan size, time-horizon and formality is a continuum, with different credit sources for meeting a wide variety of farmer business and household needs. There is, however, a significant gap across the board in farmer access to larger amounts of longer term investment capital, especially to finance replanting of aged or low yielding, under-productive plots. Most existing schemes or sources of investment capital provide loans at relatively high interest rates, and with loan terms that are generally not well suited to farm establishment or replanting, which requires an extended grace period of 4+ years before farmers generate sufficient revenues to afford loan repayments while maintaining livelihoods. Farmers with higher incomes and longer term banking relationships or working in close association with companies appear better equipped to meet loan terms and manage financial risk associated with higher interest rates. However, further field data in additional geographies is needed to understand more fully how credit conditions vary, both by region and farmer organizational model, and the associated productivity-profitability impacts on farmers.

Loan eligibility requirements pose a key challenge for many farmers, especially the need to provide formal land title as collateral, or to hold an appropriate micro, small or medium enterprise (MSME) business license. Both the Indonesian Government and industry associations reported that challenges in meeting such requirements were a key reason the recently terminated Plantation Revitalization (Revitbun) credit subsidy program underperformed, achieving only 11% of the Government's replanting target over a seven year period (2007 – 2014). Larger-scale independent farmers, or those organized in cooperatives

or farmer groups, are more likely to meet the loan eligibility requirements, and are often able to manage loan repayments with less than optimal grace periods (<4 years) by leveraging from multiple plots or other sources of income. Farmers without land certificates or with single source incomes face much greater challenges in accessing investment capital for replanting or new plantation establishment. They are often unable to gain access to government finance schemes or formal bank loans, or where they do gain access, they are only able to access smaller amounts, with loans commonly capped below the investment required by farmers to replant a two hectare plot. This is especially true for smaller-scale independent farmers, who are more likely to be in poverty and less likely to hold formal land titles or other suitable assets for collateral. Such farmers also tend to be among most risk-averse and with least access to information about financing options, making them even less likely to access loans.

This Working Paper highlights a genuine need to enhance farmer access to affordable credit, especially long-term investment finance, and to achieve this through better alignment of terms and conditions with farmer realities on the ground. Revising eligibility conditions to enable more inclusive finance, for example through innovative financial products that take fuller account of non-traditional credit indicators or forms of collateral, and more effective safeguards to ensure subsidized credit actually flows to intended lower-income recipients, will be key. Coupling loan products with structured non-financial support such as training and local capacity building will further help to reduce default risk. Supply chain based finance arrangements also hold potential, with downstream actors cooperating with mills or upstream aggregators to offer both financial and non-financial support in exchange for off-take agreements and commitments to meet sustainability standards. Increasing farmer access to formal credit sources could help break cycles of under-investment for poorer, marginalised farmers and support operational and investment needs at critical junctures. This would increase rural incomes and support Indonesia's goal to expand palm oil production through increased productivity rather than farm expansion. However to ensure more environmentally sustainable outcomes, credit instruments will also need to be combined with safeguards to reduce the risk that increased productivity will stimulate farm expansion into forested or other sensitive areas. Options for this are the subject of separate study (Working Paper 3) on how to promote adoption of environmentally sustainable practices by smallholder oil palm farmers.



1 Introduction

From an economic and livelihood perspective, profitability determines the long-term viability of smallholder oil palm farming. Profitability depends on the ability of smallholder households to access natural, human, social, and financial capital. Financial capital is often one of the most limiting resources for smallholders wishing to boost their productivity, especially in cases where replanting of aged palms or low-yielding varieties is needed. Smallholder oil palm farmers are a diverse group, with wide variation in access to different types of capital and the local conditions under which they operate. Independent farmers have particular difficulty accessing credit on manageable terms and repayment tenor. The ability to effectively employ financial capital is also very important, which depends on farmer knowledge, the amount of labor available to them, and their access to high quality seedlings. Other factors, such as the terms under which farmers sell fresh fruit bunches (FFB) to the mill, the quality of their land, and the external support they can access, also affect the return on financial capital and labour invested. As a result, some farmers can use credit more efficiently than others, getting more return on the capital they borrow, and lowering the risk of loan default. While it's oversimplified to argue that improving smallholder livelihoods is simply a matter of giving them greater access to credit, finance is clearly an important factor that must be addressed in any attempt to improve the productivity, efficiency, and sustainability of smallholder oil palm farming.

The term smallholder covers a diverse group of actors including: (i) **small-scale independent farmers** typically working at the subsistence level, sometimes at or near poverty levels; (ii) **larger-scale independent farmers** (managing 10s to 100s hectares, including small enterprises); (iii) **smallholders working within a farmer group or cooperative**; (iv) farmer managed plots linked with **company plasma schemes**; and (v) **shareholders in company-managed, smallholder-owned plantations**. To qualify as a 'smallholder farmer' under Indonesian law, farmer parcels must be <25 hectares, although this limit can be circumvented by registering multiple plots under different names.

On average, a typical farming household manages two to four hectares. The economic unit for small scale independent farmers is the household, since all family members contribute labour and expertise and may have a role in decision-making. Smallholder households working in close proximity may differ in terms of: socio-economic status; ethnicity; length of residence in the area; level of integration into a local community; transactional models under which they are integrated into the value chain; degree to which they depend on oil palm for their livelihood; technical knowledge about growing oil palm; and access to the four types of capital described below, which may vary widely depending on household characteristics and location.

Small-scale independent farm households are rational economic actors within the scope of the information available to them, but they weigh business decisions differently than commercial enterprises or even larger independent farmers. They are often more concerned about avoiding risk, maintaining livelihood resiliency, and following community social norms than increasing their profit margin. Limited access to resources, relative lack of information and market power, and the absence of a social safety net forces them to be cautious in committing resources to an enterprise that will not begin to provide returns for four years after planting. Consequently, it may make more sense for them to invest less capital and labour into their plantations at the beginning even if this means lower productivity over the life of the trees. Many households devote some of their labour to growing subsistence crops or working for wages during the tree maturation period and afterwards to off-set the risks of low oil palm prices or poor yields.

The resources rural farmers need to succeed as oil palm farmers can be conceptualized as four different types of capital:

- **Natural.** The amount, quality, tenure status, and location of land available for conversion to OP farms. Farmers that have free access to land under customary rights or through encroachment into the Forest Zone are greatly advantaged compared to those who must buy land. This advantage is significantly diminished if land is far from a road, of low fertility, or on steep slopes.
- **Financial.** Access to financing on favourable terms is of prime importance, both for short-term operational credit and long-term investment finance. Other factors confer financial benefits, such as association with a large plantation company or proximity to a mill or good quality roads.
- **Social.** The availability of technical, marketing, and labour support from the community, farmer groups, a cooperative, a company, or a collaborating NGO. Social capital takes many forms.
- **Human.** The level of agricultural and business knowledge present in the household, especially previous oil palm cultivation experience and/or relevant technical training. Availability of unpaid labour from family members or on a reciprocal basis from nearby farmers is also important.



Natural, financial, and human capital can be substituted for each other up to a point, although there must be a mix of all three. Social capital is different – where necessary, smallholders can operate with limited social capital but this exposes them to more risk in the face of unpredictable events such as sickness in the family, declines in FFB price, and increases in input costs. Reliable access to financial capital, whether short-term operational credit or long-term investment finance, enables farmers to leverage greater returns out of the other three forms of capital they deploy.



2 Smallholder Farmer Investment Needs, Operational Costs & Revenues

This section reviews some of the key factors influencing farmer profitability, including upfront investment needs, ongoing operational costs, indicative revenue flows and factors affecting them, such as price setting for FFB and transportation costs charged by traders. Initial field data suggests that profitability is highly variable. This can result in under-investment in plantation establishment to balance fluctuating operating costs and lower FFB prices. Sufficient upfront investment in establishment and resources to pay for ongoing costs of good agricultural practices throughout the plantation lifecycle are critical to fostering more sustainable, more productive smallholder plots. Yet, in most cases, farmer access to investment and operational credit are insufficient to meet this goal, indicating that improved access to credit will be necessary (though not necessarily sufficient)¹ for Indonesia to meet palm oil production targets in part through productivity gains.

2.1 Investment Costs - Plantation Establishment

Initial field surveys indicate investment in establishment of existing smallholder farmer plantations is highly variable, ranging from IDR 6–50 million (USD 450 – 4000) per hectare over a four-year establishment period (Table 1).

Acquiring land and formal land title can be a large expense, though for many farmers who participated in government oil palm schemes, land was given to them free of charge (Table 1).² Land is also free for farmers who gain access to communal land or family owned land at no cost, as well as for farmers who establish farms on Forest Zone land illegally. Other significant up-front establishment costs include clearing or preparing the land for planting. Forested land is commonly 30-50% cheaper compared to other lands, and the cost of land purchase can be further offset through the sale of felled timber (though often illegally). This makes establishment of new plantations in forested land highly attractive, owing to both lower cost and reduced risk of land conflict with competing land permits.

Seedlings are another significant upfront cost (Table 1). Many farmers that participated in government schemes also received free seedlings from the government or a company partner. However, seedlings are of highly variable quality and provenance, even in government schemes, and this has ongoing implications for yield and revenue earning capacity of farmers. Use of poor quality planting material, and resulting chronically low yields, imposes a major constraint on farmer livelihoods in large parts of Sumatra and Kalimantan, especially where farmers used low cost, uncertified seedlings to minimize establishment costs.

Optional investment in own-transport (i.e. by truck) is a further potential high-value up-front expense for farmers. While this has potential to more than double the baseline investment cost, it also (a) significantly reduces operational costs throughout the plantation lifecycle, and (b) increases farmer access to wider FFB markets. It can therefore carry serious long run financial benefits for farmers that have access to sufficient investment capital to acquire and maintain such transport.

¹ Alongside credit, farmers also require training in good agricultural practices and on-going extension services.

² It's important to note that although land might have been free, there are instances where farmers still have not been transferred the correct, formal land title 15-30 years after participating in government or private schemes.

Table 1. Summary of costs for establishment of smallholder oil palm farms in Indonesia.

Key Investment Needs	Cost Estimates
<i>Original plantation establishment only (i.e. one off cost)</i>	
Land Acquisition	IDR 2.5 – 30 million / USD 200-2,300 per hectare (for degraded, scrubland or land with primary or secondary forest)
Land Certificate	IDR 250,000 / USD 19 (SKT – village land certificate) IDR 2.5 - 7 million / USD 200 - 530 (SHM – freehold land title)
<i>Plantation Establishment or Replanting (i.e. recurrent cost each 25 year plantation cycle)</i>	
Land clearing/ preparation	IDR 2 – 3 million / USD 150-230 per hectare
Seedlings	Certified seedlings: IDR 25,000 - 45,000 per seedling / IDR 2.5 – 6 million per hectare USD 2-4 per seedling / USD 190-460 per hectare
	Uncertified seedlings: IDR 10,000 per seedling / IDR 1 – 1.3 million per hectare USD 1 per seedling / USD 76-99 per hectare
Labour costs*	IDR 750,000 – 2 million / USD 57 - 152 per hectare for planting of seedlings plus IDR 16 million / USD 1,213 for maintenance
Fertilizer / Pesticides**	IDR 6 – 13.5 million / USD 455 – 1023 per hectare for immature plot (years 1-4)
Transportation***	IDR 115 – 250 million / USD 8,700 – 19,000 for a pick-up or dump-truck (varies based on capacity, new or used and model)

* Costs associated with planting and plant care during the plantation establishment or nursery phase (years 1 – 4). This is the imputed value of household labour or cash cost of hired labour (where necessary).

** Includes fertilizer and pesticides used in the plantation establishment or nursery phase (years 1 – 4).

*** Own-transportation is an optional investment. Other options include renting a vehicle as outlined in operational costs, or paying a third party to collect FFB. Transportation may not need to be purchased or replaced at same time as planting, but given vehicles have a relatively long, but finite lifespan they are included under recurrent expenses.

2.2 Operational Costs - Plantation Management

The main ongoing operational costs for oil palm smallholder farmers include labour costs associated with harvesting and plot maintenance, plus costs of fertilizer and transportation of FFB to the mill (Table 2). There is significant variation among farmers under each of these cost categories, depending on investment in human capital to manage the plot, access to fertilizer (subsidized or unsubsidized), distance to mill, reliance on traders vs own transportation for FFB delivery to mill, and quality of roads between the plantation and mill.

Total operational costs reported in field surveys ranged between IDR 6 million to 35 million (USD 450 – 2700) per year. This cost spectrum has a significant impact on farmer profitability in two respects: higher

costs for inputs such as transport and fertilizer reduce farmer profit margins; conversely, higher investment in labour and fertilizer may also be associated with good agricultural practices and higher yields. As such, initial field data suggests that farmer management practices, productivity and profitability are all highly variable, with operational costs and access to finance as key influencing factors.

Table 2. Summary of operational costs for smallholder oil palm farms in Indonesia.

Key Operational Costs	Cost Estimates (per ha)
<i>Annual costs of managing plantation (years 5 – 25)</i>	
Labour costs (harvesting & maintenance)	IDR 3 – 15 million / USD 230 – 1,140 per year (Estimates commonly range between 40-80 input days)
Fertilizer / Pesticides	Subsidized: IDR 1 - 6 million / USD 80 – 460 per year Unsubsidized: IDR 2.5 – 9 million / USD 190 – 680 per year
Transportation***	IDR 2-14 million / USD 160 – 1060 per year (Varies depending on distance and volume of harvest)

2.3 Revenues - Transaction Costs and Profit Margins

Given the variation in investment and operational costs outlined above, revenues and profits from smallholder farming are also highly variable. Initial surveys in East Kalimantan found that farmer revenue may range from just breaking-even, to around IDR 30 million (USD2300) net profit per hectare per annum, with average profits at around IDR15 million (USD1100) per hectare (Figure 1). Average profits reported in this survey are in line with similar analysis by the Palangkaraya Institute for Land-Use and Agricultural Research (PILAR) in Central Kalimantan. However, further data collection is needed to better understand how revenue varies over time and among farmer organizational models, and how it influences farmer plot management in different geographies.

Revenues depend on several key factors including the FFB sale price (see Box 1 and Figure 2 for more detail), age of the oil palm plot, geographic location and yields. This results in a spectrum of farmer profitability – on the lower end of the spectrum smallholder farming has high potential to deliver negative “net present value” (NPV) over the plantation lifecycle, particularly if farmers experience extended periods with low FFB prices and poor yields. Initial field data suggest that poorer and smaller-scale independent smallholder farmers are at risk of becoming trapped in a cycle of under-investment, consequent low agricultural productivity and limited profitability. On the other hand, farmers with greater access to investment and operational finance can achieve net profits in excess of minimum monthly salaries, promoting and enabling further investment and expansion of their oil palm plots.

For example, pilot data collection in Paser District in East Kalimantan suggests profits may range between IDR 10 – 600 per kg of FFB based on price ranges experienced in late 2015 (IDR 700–1100 per kg for farmers, equating to IDR1020 – 1275 at mill gate; see Figure 1). Reported farmer profitability in Paser was greatly impacted by their harvest frequency, which should ideally be about once every 10 days, but for 60% of farmers in Paser is longer than 20 days owing to harvest labour shortages. This has a major impact on realized productivity. In addition to harvest regularity, differences in yield linked to seedling variety and soils, transport and harvest costs, as well as level of investment in fertilizer are the main factors impacting local profitability. Transport access impacts not only the level of operational costs faced by farmers, but in the Paser context, also influences farmer access to higher prices through a wider variety of sale options. In general, available data suggest traders or ramp collection point owners earn only a modest margin per kg of FFB (ranging between IDR 45 – 120 per kg based on survey data).

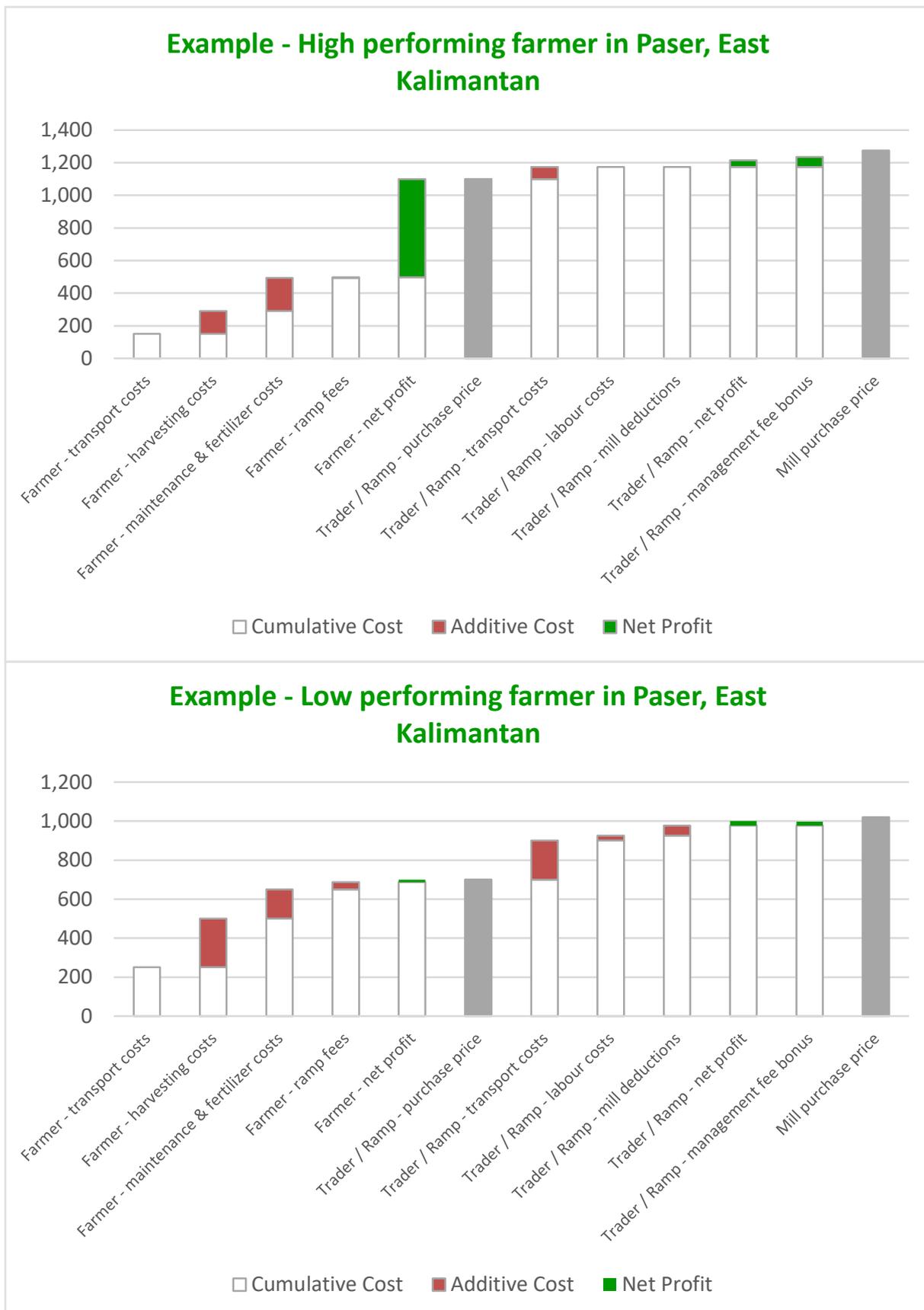


Figure 1. Illustrative cost-revenue flows for example low performing (upper graph) and high performing (lower graph) oil palm farmers in Paser district, East Kalimantan. Fifth column from left indicates estimated net profit (IDR per Kg) of fresh fruit bunch sales, with bars from left to right indicating cumulative costs of transport, harvesting, farmer labour and inputs, and delivery fees at loading ramp. Data acquired during field surveys by Daemeter during late 2015.

Box 1. How are FFB prices determined?

The price of FFB is one of the most important determinants of oil palm farmer incomes. It is set by provincial technical committees, at minimum on a monthly basis, as mandated by Ministry of Agriculture Regulation No. 14/Permentan/OT.140/2/2013. The committees must include representatives from provincial and district plantation agencies, companies and industry groups (such as GPPI, GAPKI, APKASINDO, SKPS etc.). However, the regulated price only applies to companies, smallholder farmers partnered with companies and farmer groups or cooperatives. As such, independent farmers generally do not receive the regulated price.

The price is determined based on a market-linked formula:

Mill Purchase Price = “K-index” x {(weighted Crude Palm Oil (CPO) export price) x (average % yield) + (weighted Palm Kernel (PK) export price) x (average % yield)}

- The CPO and PK prices are evaluated monthly, based on information from local companies on actual market prices. Prices are set for different age classes, generally with at least 10 different age brackets.
- Yield % for each age class are set by *Bupati*, and monitored and re-evaluated on a 5-yearly basis.
- The “K-Index” determines the share of the market price that is passed on to oil palm growers covered by the regulation, including companies and farmers in company partnerships or farmer groups.

The regulation includes guidelines on types of fees and transaction costs factored in to the “K-Index”, including:

- General factory & waste treatment costs
- Salaries & allowances
- Equipment & processing inputs (chemicals, fuels etc.)
- Maintenance, storage, packaging & transportation
- Insurance & depreciation.

The resulting K-Indexes vary significantly among regions (see Figure 2). This figure shows that in the first quarter of 2016, K-indexes in several major oil palm provinces differed by more than 12 percentage points. Further, it highlights that K-indexes in some provinces such as Central and East Kalimantan are consistently low and show limited variation between months, while over the same period K-indexes were higher but more variable in other provinces such as Jambi and West Sumatra, fluctuating by more than 5 percentage points. This has implications for farmer profitability in different geographies.

In addition to specifying what costs can be factored into the K-Index calculations, the regulation includes requirements relating to FFB quality for growers, and sortation and weighing by purchasers:

- **Quality:** FFB clusters must weight over 3kg, have short stems and bunches must be delivered “clean” (without soil & other debris) to mills within 48 hours of harvesting
- **Sortation** can be either conducted based on a random sample of >5% of delivery, or through complete inspection of contents, and FFB not meeting quality standard can be rejected
- **Weighing** scale must be periodically inspected by Metrology Agency (*although informants in some districts have indicated this does not actually happen in their region*)

The regulated price is then publicly announced by the provincial plantation agency, generally through their website and other media, including SMS, radio and local newspapers.

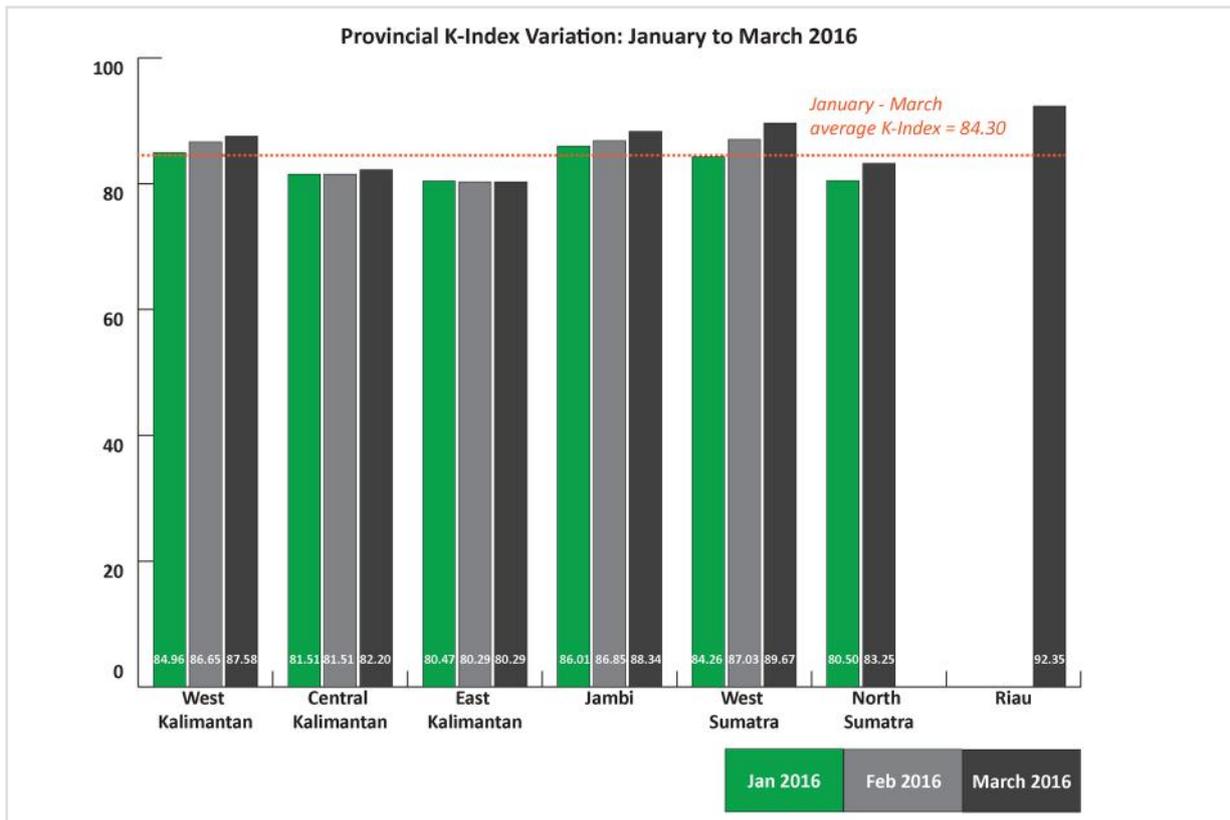


Figure 2. Geographic variation in K-Index during Q1 2016 across major palm oil producing regions of Indonesia. In the first quarter of 2016, K-indexes differed more than 12 percentage points. Further, K-indexes in provinces such as Central and East Kalimantan were consistently low and less variable among months, while K-indexes were higher but more variable in other provinces such as Jambi and West Sumatra. This has implications for farmer profitability in different geographies. Data acquired from a combination of provincial and/or district plantation agency websites as well as local industry and farmer sources.

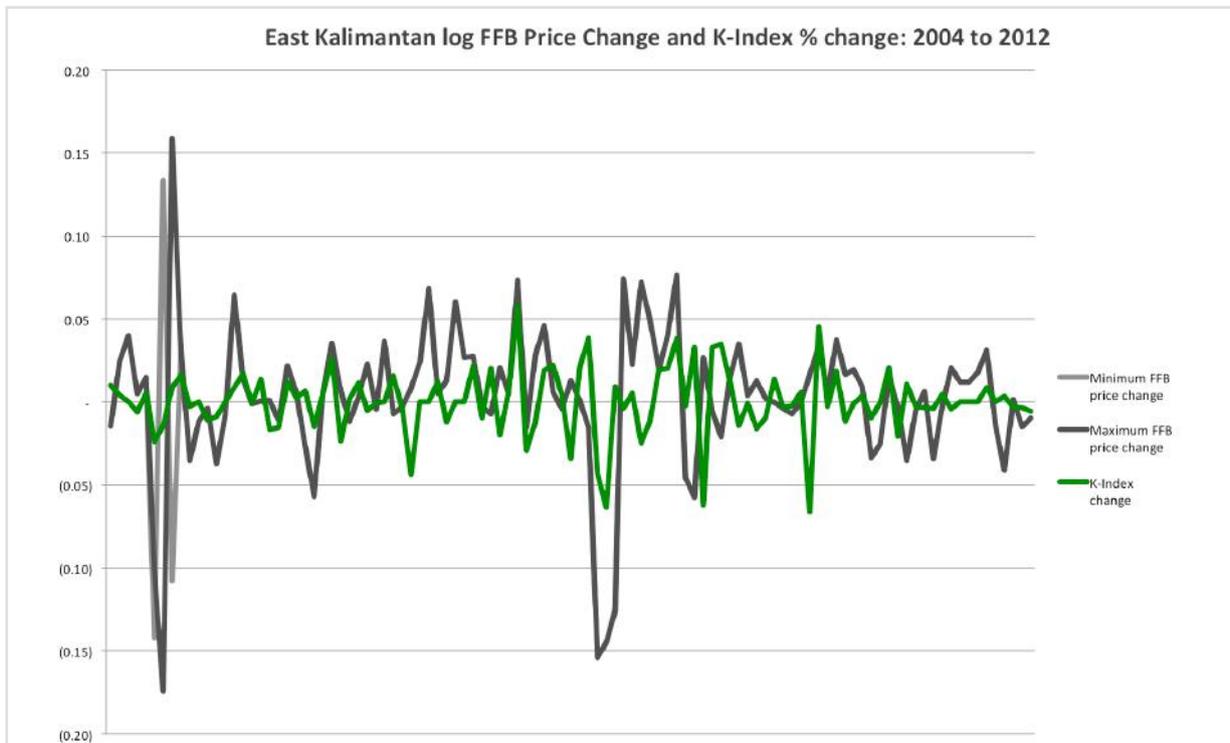


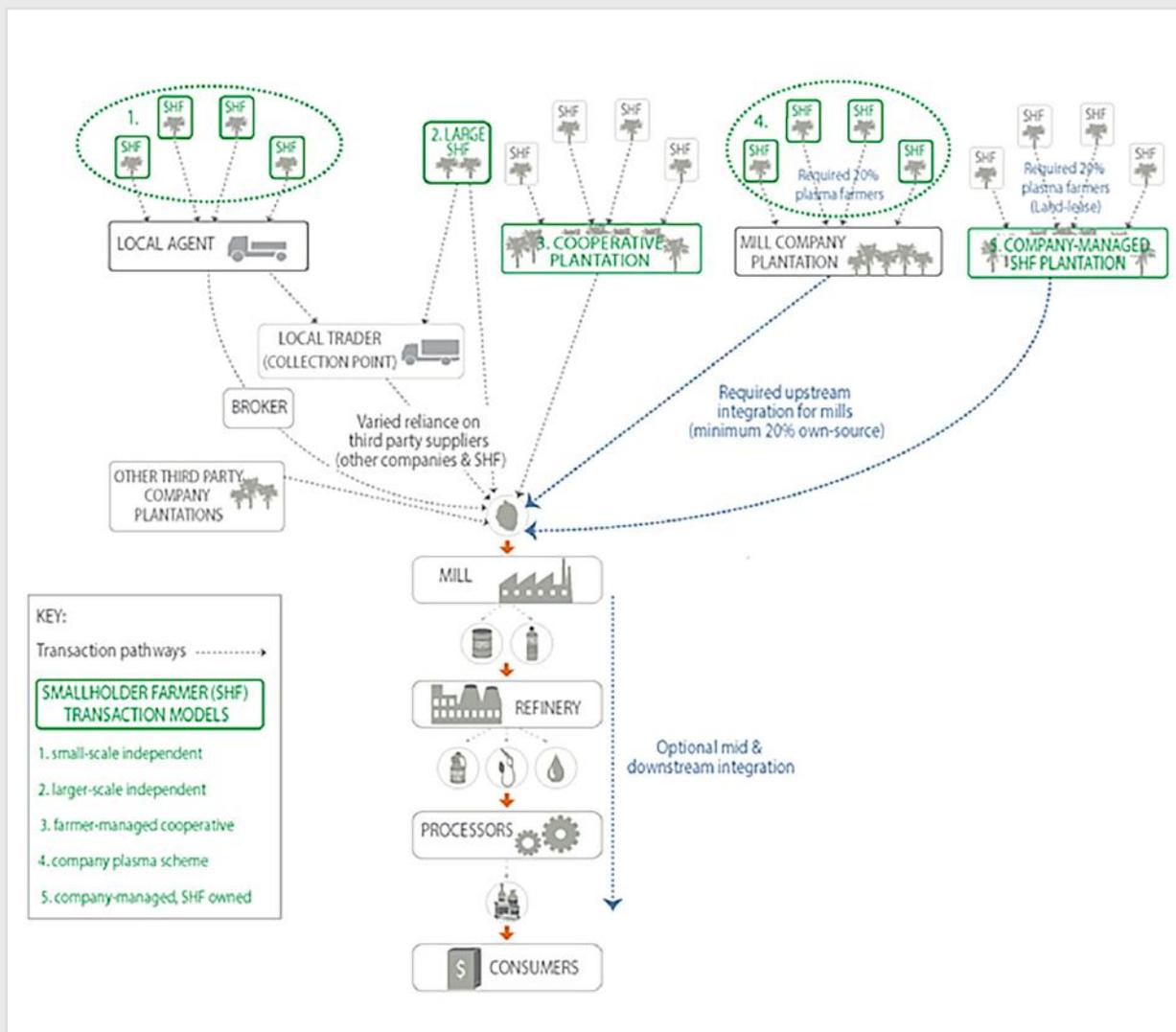
Figure 3. Time series of recorded FFB price and K-Index changes from 2004 to 2012. From this we can see that although in general FFB prices and K-Index move together, there are periods where the FFB price has been more volatile, and also where the price changes and K-index moved in opposite directions. This variation in price pass through has implications for farmer investment and thus productivity.

Box 2. Smallholder credit among different farmer organizational models

In Working Paper 1 we described five main organizational models for smallholder farmers:

1. **Small-scale independent farmers** linked to supply chain via local agents;
2. **Larger-scale independent farmers** linked to supply chain via local traders or mills;
3. **Farmer groups or farmer-managed cooperatives** that trade directly with mills;
4. **Smallholder farmer managed plots** linked with **company plasma schemes**; and
5. **Company-managed, smallholder-owned plantations** (leased community-lands).

The different models are depicted schematically below and are present to varying degrees in different provinces. In terms of access to different forms of credit discussed in this paper, in principle, farmers participating in each of the five models have the ability to access all forms of credit, with the exception of company credit that is only available to farmers participating in company linked Models 4 and 5. In practice, however, many of the eligibility requirements or application processes associated with formal credit are considerably more challenging for smaller-scale independent farmers, especially those related to collateral. Informal credit, such as finance provided by commercial moneylenders or local traders and agents, will likely still be available to these farmers.



3 Sources of Smallholder Farmer Finance

Most smallholder farmers under all organizational models have relatively limited access to formal sources of loan finance. In 2014, micro, small and medium enterprise (MSME) lending comprised, on average, 19.6% of lending by the formal banking sector in Indonesia,³ equating to approximately USD 57 billion (Bank Indonesia Statistics, September 2015). This is on track to meet Bank Indonesia's 2012 stipulation that MSME lending must comprise at least 20% of each bank's lending portfolio (Bank Indonesia Regulation No. 14/26/PBI/2012). However, given MSMEs comprise 97% of Indonesia's workforce and contribute more than 57% of the country's GDP, ⁴ MSME lending is still underdeveloped compared to its potential. Further, it's unequally distributed geographically and across sectors.

Micro credit is defined as loans below IDR 50 million (USD 3,800), **small credit** includes loans between IDR 50 – 500 million (USD 3,800 – 38,000), and **medium credit** is loans between IDR 500 million – 5 billion (USD 38,000 – 380,000).⁵ According to Bank Indonesia statistics, micro credit accounts for only 24% of MSME credit in 2015 or around USD 13 billion, with small credit accounting for 28% and the remaining 48% going towards medium enterprises (Figure 3). Further, more than 40% of the MSME credit that is extended goes toward projects in Jakarta, East and West Java. The majority of MSME credit is provided as working capital (75%), with the remaining 25% for longer-term investment purposes. The agricultural, fisheries and forestry sectors are the third largest recipient of MSME credit, but only comprised 8.5% of total MSME credit in September 2015, or around USD 5 billion. The wholesale and retail sector was the dominant recipient of MSME credit, comprising 53%, followed by industrial processing at 10%. The vast majority (>80%) of MSME finance is made available by state-owned lenders (48%) and private national banks (33%).

Box 3. Development of Micro-Finance Institutions (MFIs) in Indonesia

MFIs are broadly defined in Indonesian law as entities established to provide business development or community empowerment services through micro-enterprise financing.

Credit Unions, one kind of MFI, have undergone significant growth since appearing in Indonesia in the early 1970s as a non-government, unregulated movement. Since the 1990s, they've undergone significant transition and become more organised. In 2013, micro-finance institutions became regulated by Indonesia's Financial Services Authority (OJK) and must now obtain licencing, either as a cooperative or a limited liability company.¹ A series of new regulations issued by OJK in 2014 require improved management and monitoring of MFIs, including through increased requirements for data collection and reporting, as well as regulating proportions of savings and lending to provide enhanced governance and greater protection against bankruptcy. MFIs must be Indonesian-owned, either as locally owned cooperatives, or where established as limited liability companies, they must have 60% ownership by local government or village administration, with a maximum of 20% foreign ownership. Regulations cover criteria on how loans can be dispersed, including restrictions that a maximum of 10% of the MFIs credit can be provided to one single group or 5% to any individual member. The role of MFIs as local entities for delivering farmer credit holds significant potential but has not been well explored.

(Source Regulations: Law No. 1/2013; Government Regulation 89/2014; OJK Regulations 12, 13 & 14/05/2014)

¹ <http://www.ojk.go.id/lembaga-keuangan-mikro>

³ Bank Indonesia, Financing SMEs: Sharing Ideas for Effective Policies (2014), accessed November 2015, available at: <http://www.bi.go.id/id/umkm/penelitian/nasional/kajian/Documents/Financing%20SMEs%20Sharing%20Ideas%20For%20Effective%20Policies.pdf>

⁴ Bank Indonesia, Financing SMEs: Sharing Ideas for Effective Policies (2014), accessed November 2015, available at: <http://www.bi.go.id/id/umkm/penelitian/nasional/kajian/Documents/Financing%20SMEs%20Sharing%20Ideas%20For%20Effective%20Policies.pdf>

⁵ Bank Indonesia definition, available at: <http://www.bi.go.id/id/umkm/kredit/data/Default.aspx>

Based on current MSME-lending across all agricultural sectors, we estimate that total formal lending will fall significantly short of the investment capital required for oil palm smallholder farmer replanting, estimated at USD5-6 billion by 2025 or USD18-23 billion before 2040 (Daemeter, 2015). Interestingly, non-performing loans for MSME agricultural credit are below 5% according to Bank Indonesia statistics. This is considerably lower than the average 12% rate of default in Indonesia. Further analysis is required to better understand why the MSME agricultural sector default is so low. It may be a result of prudent or selective lending to MSMEs that have secure collateral (such as land title), or it may imply that lending to this sector is relatively low risk, despite anecdotal reports that lending to farmers is high risk.

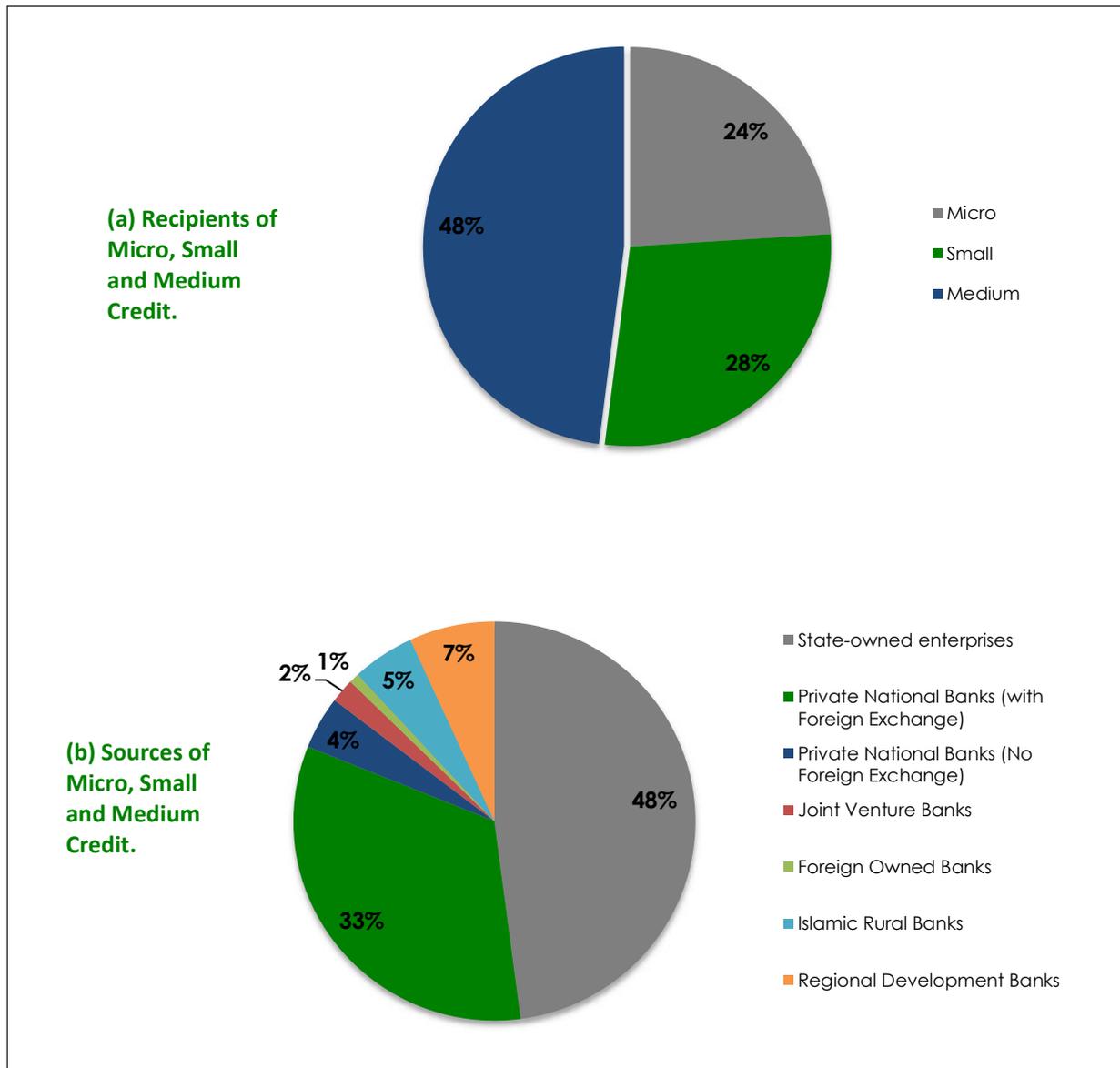


Figure 4. Sources and recipients of MSME Credit in Indonesia. Source: Bank Indonesia Statistics, September 2015

3.1 Sources of loan finance potentially available to farmers

There are numerous conventional sources of formal and informal loan finance potentially available to oil palm farmers (Table 3). Further details on these are provided in Annex 1. The formal banking sector is dominated by three domestic banks (Bank Rakyat Indonesia, Bank Mandiri, and Bank Negara Indonesia), who together make available the largest pool of finance to farmers via their MSME portfolios. The banks offer a mix of working and investment capital products, with average to high commercial rates (12-24%)

and short to medium repayment tenor (4-10 years). Such commercial lending is readily available to farmers with a banking history and collateral (e.g. land title), especially those with multiple income streams, but it is largely out of reach for most smaller scale farmers, especially those with few alternative income sources, insecure land tenure, inadequate collateral and requirements for a longer grace period while palms are immature.

Company partnerships bridge some of this access gap, with partnering companies providing loan guarantees to commercial lenders, and in some cases administering loans directly on behalf of the bank (Table 3). Companies offer participating farmers (petani plasma) loans at competitive interest rates and simplified repayment terms linked to plantation development and productivity, but farmers become tied to companies via debt relationships, and non-participating farmers are ineligible. Credit Unions are accessible to wider audiences (all members), but loan limits are low (IDR 7 million), repayment tenor is short (five years) and interests rates are high (27%). This might be suitable for operational credit but not for replanting.

At the other end of the spectrum, informal loan finance is more widely accessible and flexible, but at much higher interest rates,⁶ extremely short tenor and low maximum loan amounts (Table 3). Local traders and agents are increasingly recognized as important sources of short-term, small loans to farmers, often at zero interest to farmers with established trade relationships. In most cases, such loans are repaid by deduction from revenues of future FFB sales, tying farmers to a specific trader for the duration of repayment. Regulations governing Micro-finance Institutions (MFIs, see Box 3), of which Credit Unions are an example, offer a formal but flexible vehicle for establishing local commercial lending entities tailored to local conditions, and capitalized through a blend of public (local government) and private finance (including up to 20% foreign ownership). The potential role of MFIs as local entities for delivering farmer credit has not been well explored, and merits more attention.

3.2 Government finance schemes potentially available to farmers

Numerous government programs and schemes have been, are being, or will soon be deployed to improve farmer access to finance (Table 4). Such programs typically offer capital at sub-market rates (7-12%), through provision of government loan guarantees and/or subsidies, and while prioritizing farmer groups or cooperatives for eligibility they also accommodate individual farmers that meet requirements. Further details on select programs are provided in Annex 2.

The much-lauded *RevitBun* program made available subsidized rural credit for farm replanting, offering up to IDR 100 million per farmer at highly favourable terms (Table 4). Though well capitalized and tailored specifically for smallholder farm replanting (including a 6-year grace period), the program fell far short of its potential, due to inefficiencies and the fact that banks generally required land certificates to issue loans under the fund, which many farmers could not provide. *RevitBun* was terminated last year, and replaced with a revised and expanded, general subsidized credit program under Kredit Usaha Rakyat (Community Business Credit), or KUR. KUR offers loans of up to IDR 500 million at favourable terms and tenor, administered through commercial banks (Table 3). KUR does not require significant collateral, but borrowers must have an MSME business license, established business operations for >6 months, and no other non-consumer debt obligations. Subsidized finance via KUR could play an important role in reaching smallholder oil palm farmers, especially given provisions that allow for KUR funding to be administered through local “linkage institutions” such as cooperatives or other MFIs. Yet, given the continued predominance of KUR lending in urban rather than rural areas (see above), it’s not clear how well KUR is helping to close the finance gap for smallholder farmers.

⁶ Except collateralized loans offered by PT Pegadaian (pawnshop) for micro-credit or longer term multi-purpose loans with reasonable interest rates and tenor. Collateral presents major challenges for farmers to access this form of finance. See Annex 1.

New government programs under the CPO Fund specifically targets oil palm farmers, blending loan finance with grant funding, as a means of meeting investment capital requirements for replanting without creating excessive debt burdens. The program is still under development with pilots in South Sumatra among other locations, said to be launched in the very near term.

The Village Fund (dana desa) is grant finance on average totalling IDR 280 million per village annum. Funding at this level is not adequate to finance replanting, but it could be deployed as a revolving fund to defray land titling costs, or to provide operational credit, in coordination with cooperatives or local MFIs, or as a supplement to other loan programs that might be accessed, e.g. to pay for provision of extension services or facilitate access to quality inputs. Deployment of Village Funds are not limited to agricultural support per se, however, unless identified as a priority in agreed village development plans, so it is perhaps best to see the role of Village Fund finance as supplementary to other modalities.

In 2015, Indonesia introduced a series of regulatory reforms aimed at revitalising cooperatives across Indonesia, including inactive cooperatives or expanding functional ones (Box 4). The revised framework calls on cooperatives to develop strategic business plans, and is designed to strengthen cooperative governance and access to finance. Sources of capital funding for cooperatives were also expanded to include all legal entities, as well as foreign governments. It will be important to monitor developments in this space to assess uptake of the policy changes and whether this provides increased potential for farmer cooperatives to facilitate farmer access to micro or small-scale credit. Further study is warranted.



Box 4. Farmer Cooperatives: an opportunity for improving access to finance?

According to the Ministry of Cooperatives, Small & Medium Enterprises, as of December 2014, more than 200,000 cooperatives existed in Indonesia, with around three-quarters classified as active. However, approximately half of these cooperatives were located in Java where there is limited smallholder oil palm. As such, the prevalence and functionality of cooperatives in oil palm producing regions is generally limited and variable.

Rural cooperatives are commonly established at the village level (*Koperasi Unit Desa (KUD)*), and may have sub-groups focused on pursuing specific business enterprises. In the agricultural sector, cooperatives have two main functional models, including: (a) farmer groups where the main goal is to aggregate or pool farmers for a specific purpose, such as to access loan funds or inputs (e.g. fertilizer), or to participate in a scheme or program, such as RSPO certification, where individual farmers are not eligible; or (b) cooperatives that provide a comprehensive package of support for members, such as good agricultural practice training, transportation and infrastructure maintenance, and benefit funds and reserve funds that guarantee a minimum income in low-revenue earning periods or provide investment capital for replanting. The relative prevalence of these two types, the variation in member benefits and critical features for success requires in-depth field surveys.

In 2015, the Indonesian Government introduced a series of regulatory reforms with the goal of revitalising cooperatives across Indonesia, including re-activating inactive cooperatives or expanding functional ones. The revised framework calls on cooperatives to develop strategic business plans, and is designed to strengthen cooperative governance and access to finance with the aim of better utilizing cooperatives as a mechanism to alleviate poverty and create jobs as part of business ventures. For example, it requires a mandatory savings account and deposit of 2% of revenue into a reserve fund, which was previously optional. The updated regulations include mechanisms to provide member farmers with working and investment capital:

- Working capital is to be disbursed through a revolving fund that lends to cooperative members, with a maximum of IDR 4 million per member, loaned for 1 year with a maximum interest rate of 2% per month
- Investment capital can be provided by cooperatives to productive member businesses, including in agricultural sector, with loans up to 10 years with 16% set aside on loans (10% back to revolving fund, 2% for cooperative management/development, 4% for bank administration and training)

Sources of capital funding for cooperatives were also expanded in the recent regulations and now include all legal entities, as well as foreign governments. It will be important to monitor developments in this space to assess uptake of the policy changes and whether this provides increased potential for farmer or village level cooperatives to play a greater role in facilitating access to micro or small-scale credit, and in supporting smallholder farmers to transition to highly productive, sustainable oil palm practices.

Despite this potential, initial field interviews suggest there will be challenges in revitalizing failed cooperatives and varied levels of interest among farmers in joining. This is due in part to community distrust based on past negative experiences, as well as concerns about outstanding farmer debts that some farmers are worried will be collected if cooperatives are re-activated. In principle cooperatives offer a viable mechanism for aggregating farmers, improving extension services and facilitating access to finance, but local social and power dynamics, as well as time and resource needs to foster effective, participatory and locally-supported cooperatives should not be under-estimated.

(Source Regulations: Law No. 25/1992; Minister for Small Business & Cooperatives Regulations 10, 11 & 25/2015)

3.3 Gaps and challenges with conventional finance

Despite the availability of commercial finance and government programs described above, field interviews suggest that low-cost, longer-term finance remains a problem for farmers at key stages in the plantation cycle, and that in general this applies to all farmer organizational models. Farmers report that one of the key limitations for accessing capital relates to uncertain land tenure and/or inability to meet collateral requirements. While severity of this problem is greatest for smaller-scale independent farmers, farmers participating in other organizational models, including company partnerships, still face problems with insecure or disputed land tenure. A secondary set of chronic challenges includes limited access to reliable, affordable, high quality inputs (seedlings and fertilizer); poor infrastructure networks that impede transportation; limited access to structured extension services; and fluctuating market prices or lack of transparency in fees at mill or point of FFB trade.

Government programs, such as KUR, were designed to facilitate lending to actors with feasible but un-bankable projects, mainly by addressing challenges to meeting conventional lending and collateral requirements. However, analysis suggests that while these programs may have supported an increase in MSME lending, they have failed to reach the “un-bankable” target group, with less than 25% of lending flowing to un-bankable actors (TNP2K Profil Debitur KUR 2015). This means such schemes have largely facilitated access to finance for higher performing farmers or local elite, for whom conventional sources of credit were already available. The programs have also provided support to farmers who can meet requirements indirectly via company partner backing. The persistent problem of un-bankability needs to be addressed in order to connect the growing interest among members of the finance community to support smaller-scale, poor farmers integrate with sustainable supply chains.

Indonesia’s Micro and Small Business Licence program (Surat Izin Usaha Mikro dan Kecil) was introduced in 2014 (President Regulation No. 98/2014 & Minister for Home Affairs Regulation No. 83/2014) as a potential tool for addressing un-bankability challenges. The intention of this regulation is to empower and streamline finance opportunities for small business actors, increase business certainty (by validating reported business locations), improve access to finance and encourage growth in MSME sectors across Indonesia. According to the regulation, licences are free and can be granted by the Bupati, or with authority delegated to Village Heads. At present, there is limited information about how widespread uptake of this licence has been in rural communities, compared with urban retail sectors, so its impact on reducing barriers to farmer finance is not known. Further investigation of the program is warranted to understand its potential for helping farmers to meet lending criteria, especially under KUR.

Table 3. Sources of loan finance potentially available to smallholder oil palm farmers.

Source	Coverage	Scale	Standard terms	Eligibility	Accessibility	Suitability
Formal banking sector	BRI, Mandiri and BNI have the largest MSME portfolios within formal banking sector. They have branches Indonesia-wide.	IDR 25 – 500 million (average IDR 30 million per Ha)	- 1-4 yrs for working capital - 5-10 yrs for investment capital w 1 yr grace period - 12-22% interest per annum	- Bank account - Appropriate collateral (usually land title) - Minimum 6+ months business experience	Available to farmers with banking history & appropriate collateral (e.g. land title)	- Working capital - Limited investment capital
Company partnership	Present in all geographies	IDR 80-100 million (typically IDR 40 – 50 million per ha)	- 10-13 year loans for investment and working capital (managed by company) - Typically 12-15% interest per annum - 4 year grace period	- Plasma farmer affiliated with company program	Available to farmers who form formal company partnerships	- Investment capital - Working capital
Credit unions	921 credit unions across Indonesia, with significant variation in regional coverage.	IDR 7 million average loan size (2014)	- Loan terms up to 5 years - 27% interest per annum	- Opening deposit of IDR 5,000+	Available to farmers who are credit union members	- Working capital
Islamic MFIs	Branches Indonesia-wide, but with significant regional variation. Only 5% of the formal MSME lending in 2015.	IDR 1 million average loan size	- 22% per annum equivalent (“cost-recovery” rather than loan finance)	- Islamic	Available to member farmers	- Working capital
Pawnshops	Present in all geographies. 4500+ branches.	IDR 50,000 ++	- 1.2% for 15 days - 1+% per mo for 6-36 months	- Suitable collateral (e.g. land, car, house, jewellery etc.)	Available to all farmers	- Working capital - Investment capital
Commercial Moneylender	Present in all geographies	nd	- 10 weeks at 10%	nd	Available to all farmers	- Working capital
Local trader / agent	Present in all geographies to varying degrees	IDR 50,000 – 1 million or more	- Commonly 0% interest loans with IDR deducted from next FFB sale	- Ongoing trading relationship	Available to farmers who sell FFB to intermediary	- Working capital

Table 4. Selected government finance schemes potentially available for smallholder finance.

Program	Coverage	Finance Type	Standard terms	Eligibility	Status	Suitability
Credit for Development of Bio-Energy & Revitalisation of Plantations (<i>RevitBun</i>)	- Sumatra, Kalimantan, Sulawesi & Papua - Oil palm, cocoa & rubber	- Subsidised loan finance - Average IDR 100 million per farmer	- 7% interest per annum - 13 yr loan with up to 6 yr grace period	Individual farmers or groups (based on list from district plantation office)	Terminated (under-performed, achieved 11% of replanting target)	Investment capital - replanting
Community business credit (<i>Kredit Usaha Rakyat - KUR</i>)	- Indonesia-wide - Agriculture, fisheries, trade and services sectors	Subsidised loan finance (provided by BRI, Mandiri & BNI) IDR 25 – 500 million per loan	- Working capital: 12% interest w 3-8 year loan terms - Investment capital: 12% interest w 5-15 year loan terms - Announced plans to offer rates as low as 7%	Individual farmers or farmer groups	Active	- Working capital - Investment capital
CPO Fund – collection and use of palm oil export levy	- Indonesia-wide - Oil-palm specific	Grant & loan Funding scale approximately IDR 25 million per ha grant, IDR 25 million per ha as loan	Under development, soon to be piloted.	Farmer groups and possibly individual farmers	Pilots soon to be deployed.	Replanting; agricultural extension; farmer training and capacity development
Village Fund	- Indonesia-wide - Improve rural welfare including through development of village markets, enhancing supply of agricultural inputs and increasing capacity of farmer groups	Grant finance Average IDR 280 million / village	Finance used in accordance with approved village plans	Villages	Active	Village land use planning and farmer group / cooperative establishment
National Program for Community Empowerment (<i>Program Nasional Pemberdayaan Masyarakat - PNPM</i>)	- Indonesia-wide (coverage of 33 provinces & 67,000 villages in 2014) - Infrastructure, micro-credit extension etc.	Grant and loan finance Average IDR 130 million / village	Finance used in accordance with approved village plans	Villages & sub-districts	Terminated (currently being phased out)	Village land use planning and farmer group / cooperative establishment

4 Emerging Innovative Investment Models

In response to growing recognition of the need to improve farmer access to finance, recent initiatives have been launched to develop innovative models for channelling investment to smallholder farmers, including oil palm farmers in Indonesia. The models differ in their specific approach to farmer finance, but share in common the aim to (a) overcome limitations on collateral, interest rates and tenor that exclude many farmers, and (b) experiment with 'blended finance' as a means of deploying multiple sources of capital with complementary risk/return profiles. Some illustrative examples are highlighted below.

The Partnership for Indonesia's Sustainable Agriculture (PISAgro) was formed in June 2011 at the World Economic Forum on East Asia in Jakarta, as a cooperation between the Government of Indonesia and dozens of representatives from international and local companies, international agencies, civil society and farmer organizations.⁷ Through pursuit of "Vision 20-20-20" the partnership aims to increase farm yields by 20%, reduce poverty by 20% and reduce greenhouse gas emissions by 20%, by provision of tailored farmer investment coupled with technical assistance programs. The PISAgro working group on palm oil aims to engage with 1 million farmers across 2 million hectares of land to increase their productivity by 150%, creating US\$4.5 billion additional farmer revenue per annum while reducing impact on the environment.⁸ This is pursued through project-based investments as well as the development of an investment infrastructure for taking project-based pilots to scale.

On the project side, PISAgro has a working group, led by Sinar Mas with active participation by Indonesian Ministry of Agriculture Directorate General of Plantation, BRI Agro, IDH, Indofood Agri, Indonesian Palm Oil Association (GAPKI), Louis Dreyfus Commodities, PTPN III, Rabobank, RSPO, SPKS, Tiga Pilar Sejahtera and Triputra Agro Persada. The partners collaborate through a pre-competitive approach to enhance Good Agricultural Practices among smallholders aimed at closing the yield gap. Additionally, Grow Asia - in conjunction with PISAgro partners - is exploring the development of investment infrastructure to mobilize financing for replanting. Grow Asia is testing the potential use of a replanting bond to blend different capital sources in order to make available long-term lending for smallholders, who do not have land collateral. Farmers would benefit from improved access to financing with a sufficient grace period, a cost-of-living stipend during the early years pre-harvest, advance market commitment from participating mills, and capacity building for independent farmers around GAP, financial literacy, and environmental sustainability.

The Global Innovation Lab for Climate Finance is developing a farmer supply chain finance model under the Agricultural Supply Chain Adaptation Facility (ASCAF).⁹ ASCAF is a credit enhancement and technical assistance facility aimed at improving farmer knowledge of good agricultural practices and providing access to low-cost, longer-term finance tailored to farmer investment and operational needs. The facility will be backed by a donor trust fund that would cover a portion of potential first-losses to reduce credit default risks of Multilateral Development Banks and third-party lenders, mobilizing larger amounts of medium- to long-term commercial capital deployed in conjunction with structured technical assistance programs. Through ASCAF, development banks and commercial lenders would partner with agribusiness corporations (integrated players and off-takers) to make loans and provide technical and financial capacity assistance throughout the corporations' supply chains. The facility's initial pilot will require an indicative USD 10-30 million in reimbursable and USD 5 million in non-reimbursable finance from donors, and a further USD 100 million post-pilot to achieve scale. The facility is currently in final stages of design, and early stage negotiation with implementing partners.

Climate Policy Initiative (CPI) is developing a supply chain model similar to ASCAF but tailored for the oil palm sector. As with ASCAF, investment capital would be provided by a lead financial institution

⁷ <http://growasia.org/country-partnerships/indonesia/pisagro/>

⁸ <http://growasia.org/country-partnerships/indonesia/palm-oil/>

⁹ <http://climatefinancelab.org/idea/agricultural-supply-chain-adaptation-facility/>

(likely a development bank), with a smaller contribution of investment capital provided at market rates by midstream mill partners and downstream actors. Public and philanthropic co-finance would provide a credit enhancement/first loss guarantee to mitigate risk for investment capital providers and ensure loans (working capital and long-term investment) can be provided on affordable terms to farmers. Under the model, mills and smallholder farmer aggregators (e.g. cooperatives or local agents/traders) would play a key role in loan servicing, including disbursing funds and monitoring repayments. Additionally, training and extension services (e.g. provision of fertilizer) are integral parts of the model, including loan management training for mills and smallholder farmer aggregators, and good agricultural practice training for farmers. Development of an oil-palm specific model, focused on increasing farmer productivity and addressing sustainability issues, is ongoing, in consultation with potential lead private sector partners and financial institutions.

5 Preliminary Conclusions & Recommendations

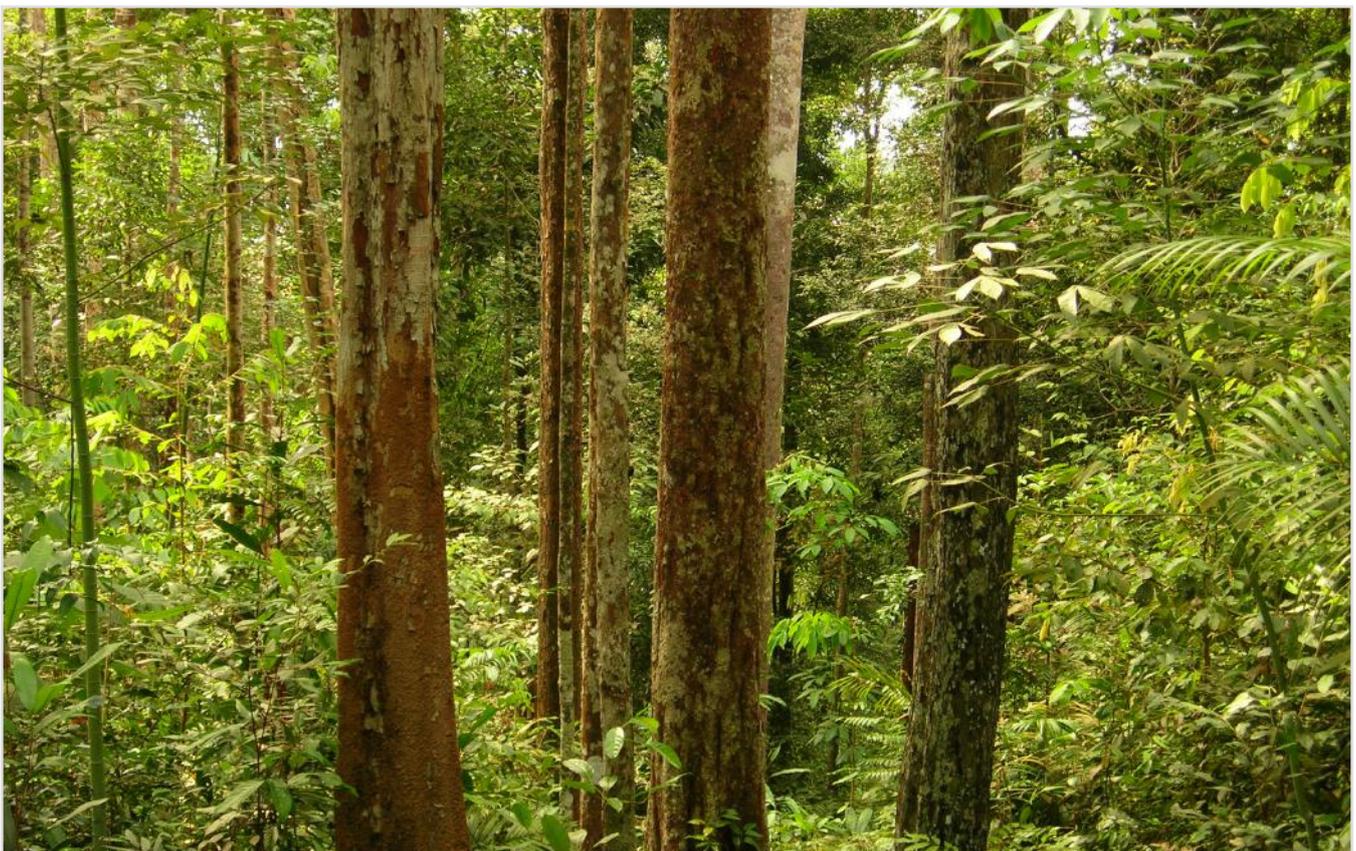
We draw preliminary conclusions from the above discussion, and identify areas of further study to inform the design of mechanisms for delivering affordable credit to smallholder farmers.

Conclusions

- Initial field data suggests that many oil palm smallholder farmers have access to one or more forms of short-term credit, but that such credit (especially for smaller, less profitable independent farmers) is more often from informal sources and typically at high interest rates that significantly impact farmer revenues and livelihoods. Such finance is generally unsuitable for longer-term investments, such as replanting with high quality seedlings. This creates a gap in affordable investment capital that must be addressed, particularly in geographies with large tracts of aging smallholder farmer plots. It also serves to perpetuate a cycle of poverty among smaller, less profitable farmers who can't access credit to replant aged or lower yielding variety trees.
- Secure land tenure is among the main hurdles for smallholder farmers accessing formal, more affordable, credit. This is particularly severe for smaller-scale independent farmers that are least likely to hold secure, legal land title, but it is not limited to this group, and can be problematic for many other farmers across all organizational models. Normalizing tenure or finding alternate suitable forms of collateral will be key to improving access to the formal credit market.
- Regulated FFB pricing is a significant factor impacting farmer revenues, given that transaction fees and input costs are comparatively stable. We observed significant geographic and temporal variation in FFB prices during field surveys in East Kalimantan, and this pattern seems to apply in other provinces as well (see Box 1, Figs. 2 & 3). The current approach to regulated pricing warrants further analysis to better understand how it's applied on-the-ground, and how it might be impacting price-pass through to smallholder farmers under different organizational models, given it doesn't apply equally to all models. This variation in revenues impacts livelihoods, as farmers with more limited profits are in turn investing less in operational capital, resulting in reduced productivity and reinforcing a low yield/low investment/low profitability cycle.
- Indonesia recently introduced a series of reforms to revitalise cooperatives (see Box 4). This included expansion of allowable capital funding sources, as well as broadening their remit to begin providing short and long-term credit finance to members. It will be important to monitor developments in this space to assess uptake of the policy changes and whether, in practice, this stimulates village level farmer cooperatives to become more active in micro or small-scale credit.
- Related to the above, regulations governing Micro-finance Institutions (MFIs, see Box 3), of which Credit Unions are an example, offer a flexible mechanism for establishing local commercial lending entities tailored to local realities, and capitalized through a blend of public (local government) and private finance (including up to 20% foreign ownership). The potential

role of MFIs as local entities for delivering farmer credit has not been well explored, and merits more attention.

- To date, public-funded oil palm farmer support schemes have under-performed. Going forward, it is imperative that future programs, as well as emerging innovative finance mechanisms, learn from past efforts to provide more targeted support. For example, lessons from RevitBun suggest that improving land registration processes for farmers and streamlined mechanisms for channelling funding on-the-ground via loan providers to independent farmers will be key. Here again, the role of cooperatives and MFIs could be key.
- There is increasing recognition about the importance of identifying and strengthening aggregation points to facilitate farmer access to credit in supply chains predominated by large numbers of small producers. In the case of oil palm, aggregators could take the form of farmer groups, cooperatives, or progressive minded FFB suppliers/traders and their agents committed to formalizing highly fragmented supply chains. Aggregators could facilitate information flow, help provide non-financial training and support services to affiliated farmers, and in some arrangements could even assume part of the risk on loans they might help administer (see below).
- Relationship banking in the informal credit sector seems to be one of the key success factors enabling more widespread access to credit. To improve access to formal credit sources, consideration should be given to how farmer aggregators (such as local traders and agents, farmer cooperatives or other supply chain actors) can act as intermediaries to channel formal finance, leveraging existing relationships with farmers to administer provisions of loan agreements and reduce risk of loan default.
- Highly variable profitability of oil palm smallholder farming raises questions about whether it is the most suitable commodity for all farmers in all places, or whether alternate crops might be more suited to specific local contexts and spatial scales. This warrants further assessment across different geographies and consideration of how crop selection might be factored into smallholder farmer support programs.



Recommendations

We identified a number of topics that must be better understood before effective programming can be designed. Some of these topics were partially answered in this Working Paper; others will require more field study. We're actively pursuing some of these questions through surveys in East Kalimantan, while others will require collaborations with other researchers in other geographies to address them more fully. Important research topics and related questions are described more fully in Annex 3. A brief summary is included here:

(i) How do credit conditions and credit access vary by region and farmer organizational model? What are the associated productivity-profitability impacts of this variation on farmers?

- What formal credit sources are available, and on what terms and conditions are they offered?
- Do smallholders know about these products, and to what extent can they meet requirements?
- Are finance providers aware of and sensitive to the needs and constraints of smallholders?

(ii) How should innovative financial products be designed to take fuller account of non-traditional credit indicators or forms of collateral?

- How should eligibility conditions be structured to enable more inclusive finance?
- What are the options for delivering combined financial and non-financial support, such as training and local capacity building?
- What is the potential for developing supply chain based finance arrangements, with downstream actors cooperating with mills or upstream aggregators to offer both financial and non-financial support in exchange for off-take agreements and commitments to meet sustainability standards?

(iii) How is the current approach to regulated FFB pricing applied in different jurisdictions?

- How might the procedure for FFB price setting be revised to take into account the constraints on smallholder farmers, especially independent farmers?

(iv) How do smallholder farmers of different sizes perceive their business environment? How do such perceptions affect their decision-making, practices, and productivity/profitability?

- What are the relevant characteristics of smallholder households with various size landholdings and working under different transactional models (e.g. education level, socioeconomic status, farming knowledge, diversification of income sources, reliance on credit, labor availability)?
- What is their level of access to the four forms of capital?
- What agricultural, business, and financial information is available and how do they use it?
- Which household characteristics best explain the productivity/profitability gap between those at the high and low ends of the spectrum?
- How risk-averse are the various types of households?
- Can a typology of household profiles be developed to categorize smallholders for purposes of financing or technical support?

(v) Given the high variability in profitability of oil palm smallholder farming, are there farmers for whom this is not a suitable crop?

- What are the key decision criteria in terms of farmer characteristics and local conditions?
- Which alternate crops might be more suited to specific local contexts and spatial scales?
- How can crop selection be factored into smallholder farmer support programs?

Annex I. Overview of Key Farmer Finance Providers

Indonesian Banks

(State-owned, private, & regional development banks (Bank Pembangunan Daerah (BPRs))

Standard Requirements:

- Proof of identify;
- Minimum deposit to open bank account (for example, BRI village account minimums range from IDR 20,000 – 100,000¹⁰);
- Collateral is generally required for loans. This commonly includes a combination of funds in a savings bank account and land title (freehold (SHM) or village letter of ownership (SKT) both commonly accepted). Collateral requirements can also be met by the provision of partner company guarantees.
- Minimum business experience of 6+ months

Type: savings and loan finance

Average loan size: loans are generally provided up to 30% of the value of the collateral (*2Ha of land is valued at approx.. IDR 100 million, resulting in average maximum loan of IDR 30 million*)

- Example: BRI provides micro credit without collateral up to a maximum of IDR 25 million, or up to IDR 500 million with appropriate collateral.¹¹

Standard terms:

- Working capital is generally provided for a maximum of 1-4 years
- Investment capital is generally provided for a maximum of 5-10 years
- Grace periods can be negotiated for investment capital (commonly 1-year, but some reports of 4/5 year grace periods based on field interviews)
- Interest rates are generally between 12% - 22% per annum for business micro credit

Accessibility: There is no direct, formal relationship between accessibility of bank credit and any of the specific smallholder farmer transaction models. However, larger independent smallholders, as well as cooperatives or farmer groups, company plasma or company-managed smallholder owned oil palm plots (Models 2-5) are more likely to be able to satisfy the collateral and land tenure requirements, whereas small-scale independent farmers are least likely to meet them.

For the major MSME lending banks (BRI, Mandiri and BNI), it appears the majority of micro-loans provided are not linked to the government schemes detailed later in this Annex. For example, BRI is the largest micro-lending bank with loans to 7.3 million clients in 2014, while only 70,000 loans or around 25% of the total credit extended was provided under the government sponsored programs (BRI 2014 Annual Report).

Company partner

Standard Requirements:

- company partnership
- Collateral (land title)
- Supply agreement (farmers sell FFB to company partner)

Type: loan finance

¹⁰ Current requirements for BRI Tabungan Ku (My Savings) and Simpanan Perdesaan (Village Savings), accessed November 2015 from <http://www.bri.co.id/articles/18>

¹¹ BRI <http://www.bri.co.id/articles/61>

Average size: Typically IDR 40-50 million / Ha (Source: SPKS, others)

Standard terms: 12% interest per annum, 10-13 year loans, with 4 year grace period (SPKS, others)

Accessibility: Typically available for Model 4 (Smallholder farmer managed plots, linked with company schemes; see Box 2). Increasingly, companies report to be developing schemes to support small-scale independent farmers (Model 1). However, where financing includes either handing over of land-title to the company as collateral, or a supply agreement, it is probably more accurate to consider this as a shift in farmer model from Model 1 to Model 4, rather than a scheme to support “independent” farmers.

Credit Unions (*Pusat Koperasi Kredit (Puskopdit)*)

Standard Requirements: membership fee (limited opening deposit IDR 5,000)

Type: savings and loan finance

No. of institutions: 921 (source: *Puskopdit* 2014)

Estimated total assets: IDR 21.57 trillion / USD 1.635 billion (2014)

Estimates total loans: IDR 16.20 trillion / USD 1.228 billion (2014)

Members: 2,353,704 (2014)

Average loan size: IDR 6.88 million / USD 522 (2014 average based on membership base)

(Loans commonly range from IDR 50 – 200 million)

Standard terms: 2% per month interest (~27% per annum), loan term up to 5-years

Accessibility: Although membership of credit unions has increased dramatically since 1970, when there were just nine credit unions and 733 members across the country,¹² these institutions still have limited penetration in the credit market, involving only 1.4% of the economically active population.¹³ There is no direct relationship between credit union finance and any of the specific smallholder farmer transaction models; rather, the ability to access credit unions is largely dependant on geographical proximity to a functional *Puskopdit*, and membership levels vary significantly in the different smallholder farmer geographies across Indonesia. Loans can be provided for a wide variety of activities, including business investments or working capital, house construction and purchase of vehicles.

Islamic Micro Finance Institutions (*Baitul Maal wat Tamwil (BMT)*)

Standard Requirements: (collateral, membership fee, credit rationing)

Type: savings and “profit-sharing” / “leasing” / “cost-recovery” finance

Average size: IDR 1 million (Masyita, 2012)

Standard terms: Islamic finance differs from standard commercial loan finance in that fixed interest rates are precluded, in-line with Sharia Law. Instead, financial instruments are designed to comply with Islamic “fairness” principles to equitably distribute risks between investors and debtors, and therefore returns on finance can be re-evaluated throughout the course of the financing agreement. Finance instruments may include a “rental-return” or other mechanism that has a similar function to interest (i.e. delivering a payback above the amount provided in capital, or in a “fair” proportion).

¹² Credit Union Central Indonesia http://www.cucoindo.org/index.php?option=com_content&view=article&id=86%3Apublikasi-data-pertumbuhan-inkopdit&catid=70%3Adata-statistik&Itemid=183&lang=en

¹³ http://www.woccu.org/about/intlcusystem/icus_country?region=AS&c=ID

Average returns paid to Islamic finance institutions are estimated at 1.68% per month (Masyita, 2012), equivalent to approx. 22% per annum. This is 5% less than credit union commercial lending, but not markedly different from the main stream banking sector.

Accessibility: There is no direct relationship between Islamic finance and any of the specific smallholder farmer transaction models. Rather, access depends on religious group, membership and/or geographical accessibility of an Islamic finance institution. Analysis suggests practices of Islamic micro-finance institutes, including lending criteria, reporting and availability of diverse financial instruments, lag behind the mainstream-banking sector (Masyita, 2012). Additionally, they are a relatively small player in the formal banking sector, providing only 5% of MSME credit in 2015. However, further analysis is needed to better understand their relative importance in different geographies, and especially accessibility for smaller scale farmers who have challenges accessing finance from mainstream banks.

Pawnshops (*PT. Pegadaian (Persero*¹⁴)

(Government Regulation No. 51/2011)

Requirements: Collateral (personal valuables, land title, gold, household appliances, motor vehicles etc.)

Type: loan finance

Average loan size:

- nd
- Overall, PT Pegadaian collected collateral worth more than 35% of its total loan portfolio (2014)

Total loans: PT. Pegadaian distributed IDR 104.59 trillion / USD 7.9 billion in loans to more than 50,000 MSMEs in 2014

Standard terms:

- Fast & Safe Loan (IDR 50,000+): 1.2% interest per 15 days, maximum loan period of 4 months
- Instalment Loan: 1.4% interest per month, loan period 6 – 36 months
- Micro business credit: 1% interest per month, 12-36 months
- Multi-purpose loan: up to 10 years for working capital, or 15 years for investment capital, grace period of 1-year

Accessibility: No direct relationship between loans from pawnshops and any of the specific smallholder farmer transaction models. PT. Pegadaian is a State-Owned Enterprise, established in 1901. It was originally established as a monopoly, and retains the majority of the market share (93%). It has high market penetration, with 3,841 conventional branches and 615 Sharia branches across Indonesia in 2014.

¹⁴ <http://www.pegadaian.co.id/>

Annex II. Overview of Indonesian Government Lending Programs

Credit for Development of Bio-Energy & Revitalisation of Plantations (KPEN-RP or RevitBun) (Ministry of Finance Regulation 117/ PMK 06/2006 & Ministry of Agriculture Regulation 33/Permentan/OT.140/7/2006)

Eligibility: individual farmers or farmer groups

Program Duration: two phases, 2007-2010 & 2010 - 2014

Status: terminated January 2015 (*Surat Menteri Keuangan No. S-5/MK.05/2015*)

Type: loan finance

Funding source: banks, with government credit subsidy

Total fund value: IDR 38.60 trillion / USD 2.9 billion

Average loan size: IDR 100 million / USD 7,500 per farmer (covering ~2 Ha)¹⁵

Loan terms: 7% interest & 13-year loan term with up to 6-year grace period.

Program targets and realisation:

Phase 1 – aimed to support replanting of 1.5 million Ha of oil palm, but only supported 165,241 Ha of replanting, or 11% realization of target area.

Phase 2 – replanted 223,996 hectares of oil palm.¹⁶

Acceptable use of funds: designed to support expansion, rejuvenation and rehabilitation of oil palm, cocoa and rubber plantations through government subsidised loans.

Participating banks:¹⁷ BRI, BNI, Bank Mandiri, Bank Bukopin, Bank Agroniaga, BII, Bank CIMB Niaga, Bank Artha Graha, Bank Mega, BPD Sumatra, BPD West Sumatra, South Sumatra BPD, BPD Aceh, BPD Kaltim, BPD Papua, Riau BPD

Regional coverage:¹⁸ North Sumatra, West Sumatra, Riau, Jambi, Bengkulu, South Sumatra, Bangka-Belitung, Lampung, West Java, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, North Sulawesi, Central Sulawesi, West Sulawesi, South Sulawesi, Southeast Sulawesi, Maluku, Papua, West Papua

Accessibility: The scheme was designed primarily to support farmers who were organised under farmer groups or cooperatives, or who formed partnerships with state-owned or private plantation companies, who could then support the provision of extension services to the farmers. Farmers had to be registered as candidates by the district government to participate, and credit could be extended for a maximum of 4 Ha per farmer. Further, district plantation offices were required to undertake technical assessments of the plots to verify that they met scheme requirements.

Banks generally required land certificates to issue loans under the fund. Ministry of Agriculture Reports and smallholder farmer industry bodies assert that this is one of the main stumbling blocks of the program, as many farmers could not provide the required certificate, and were therefore ineligible. Further, government programs to clarify land tenure in parallel were slow to eventuate. As a result, the program significantly underperformed against fund disbursement and replanting targets.

¹⁵ Estimated based on BRI data. IDR 3.85 trillion was provided to 38,000 farmers for 78,000 Ha.

¹⁶ Source: <http://sawitindonesia.com/hot-issue/revitalisasi-perkebunan-sulitnya-pembiayaan-untuk-petani>

¹⁷ Source: <http://www.bi.go.id/id/umkm/kredit/skim/Contents/Default.aspx>

¹⁸ Source: <http://www.bi.go.id/id/umkm/kredit/skim/Contents/Default.aspx>

Community business credit (Kredit Usaha Rakyat - KUR)

(Coordinating Minister for Economic Affairs Regulation No. 8/2015)

Eligibility: micro, small or medium enterprises (MSMEs) (*targeting productive and viable investments that are not yet bankable owing to collateral challenges*)

- Business enterprise has been running for minimum 6 months
- Hold appropriate MSME business licence (e.g. Surat Izin Usaha Mikro dan Kecil)
- No other debt obligations apart from consumer loans (e.g. mortgage, credit card, vehicle loan)

Program Duration: initially launched on 5 November 2007, with scheme arrangements recently revised in 2015

Type: loan finance

Funding source: banks, with government credit subsidy (7% for Micro, 3% for Retail & 12% for Migrant Workers)

Loan size:

- Micro-enterprises: max. IDR 25 million per loan (accumulation ceiling IDR 75 million per debtor)
- Retail: IDR 25 – 500 million per loan
- Migrant workers: max. IDR 25 million per loan

Average size: IDR 8-9 million / USD 600-682 (micro scheme) & IDR 175 million / USD 13,263 (retail scheme) (2007-2014)

Loan terms:

- Micro: 12% interest per annum, 3-year loans for working capital (can be extended to max. 6-year loan) or 5-year loans for investment capital (can be extended to max. 10-year loan)
- Retail: 12% interest per annum, 4-year loans for working capital (can be extended to max. 8-year loan), 5-year loans for investment capital (can be extended to max. 10-year loan), or 10-year loans for investments where a “grace-period” is negotiated owing to investment type

Program targets and realisation: targets set annually by Policy Committee: IDR 30 trillion in 2016, with IDR 20 trillion for Micro, IDR 9 trillion for Retail & IDR 1 trillion for Migrant Workers.

Between 2007-2014, IDR 180 trillion / USD 13.6 billion in loans were disbursed to over 20 million MSMEs. More than 50% went toward the trade sector, with around 18% going toward the agricultural sector.

Regional coverage: Indonesia-wide

Acceptable use of funds: working or investment capital for productive economic sectors, including agriculture, fisheries, manufacturing, trade and service sectors (defined in Annex I to *Coordinating Minister for Economic Affairs Regulation No. 8/2015*)

Participating Banks: BRI, Bank Mandiri & BNI. Several additional banks participated in the scheme between 2007-2014, but so far only three have been nominated under the revised 2015 scheme. Between 2007-2014, BRI disbursed more than 65% of the total loans provided under KUR, with 55% under the micro scheme (1.8% non-performing) and 10% under the retail scheme (2.9% non-performing).

Accessibility: individuals or MSMEs (including farmers) have access to KUR, or KUR loans can be also be distributed indirectly through “linkage institutions”, such as cooperatives, regional and Islamic banks and other micro-finance institutions.

Plantation Fund – collection and use of oil palm funds (Government Regulation No. 24/2015 and Presidential Regulation 61/2015)

Eligibility: not yet clear – support for actors within oil palm plantation sector

Status: active – but not yet operational

Program Duration: established in 2015

Type: grant & loan finance

Funding source: private sector (e.g. commodity levy); financial institutions; public funds

Program targets and realisation: not yet announced

Regional coverage: Indonesia-wide

Acceptable use of funds: In general, Plantation Funds may be established relating to several commodities (oil palm; cocoa; coconut; coffee; tobacco, rubber & cane) for the purpose of:

- Improved human capital in the plantation sector (e.g. education, training, mentoring)
- Research and development
- Infrastructure & facilities development (e.g. roads, or provision of extension services and improving access to inputs, such as fertilizer)
- Replanting
- Promotion of the sector (e.g. improving downstream industry development, promoting price stability, supporting smallholder farmers)

Accessibility: The Fund Management Agency (FMA) is responsible for collecting, administering, managing and distributing funds. It is not yet clear how farmers might access funds from the Plantation Fund, with guidelines still emerging about how the funds will be managed, prioritized and distributed by the FMA. Pilot programs are said to be close to launch.

Village Fund (Government Regulation No. 22/2015)

Eligible entities: villages (as regulated by Law No. 6/2014 and PP No.43/2014)

Program Duration: end date not specified

Status: active

Type: grant finance

Funding source: government budget (APBN)

Total Size: IDR 20.76 trillion / USD 1.57 billion in 2015¹⁹

Average Size: IDR 280 million / USD 21,221 (range: IDR 254 – 1,121 million / USD 19,250 – 84,960) in 2015²⁰

Program targets and realisation:

- Village funds comprise at least 10% of regional transfers, with a minimum of IDR 1 million per village (2014-2019)
- Approx. 1 trained facilitator per 4 villages by 2016

Regional coverage: Indonesia-wide

¹⁹ <http://www.kemenkeu.go.id/Page2/rincian-dana-transfer-ke-daerah-dan-dana-desa-apbn-p-tahun-anggaran-2015>

²⁰ https://www.kemenkopmk.go.id/sites/default/files/field/file_pendukung/Sessi%20I%20-%20KemenKeu%20-%20Bahan%20Sosialisasi%20Dana%20Desa%2028%20April%202015.pdf

Acceptable use of funds: fund aims to improve the rural welfare through inclusive development, by strengthening public services (health, education etc.), advancing village economies (including through development of village markets, enhancing supply of agricultural inputs and increasing capacity of farmer groups), addressing development gaps and strengthening community governance. Priority activities include infrastructure development, sustainable management of natural resources, supporting food and energy security.²¹ At least 70% must be used to fund village development activities, with a maximum of 30% available for salaries and operating costs.²²

Accessibility: Funding is not directly accessible by individual oil palm smallholder farmers or farmer groups. Rather, the village fund is part of the Indonesian State Budget, and is allocated for management by village governance bodies based on a formula (including total population, poor population, geographical area and regional cost indexes - see Ministry of Finance Regulation No.93/PMK 07/2015), via transfers from the national to the district government. Draft village budgets must be approved by the Village Head and the Village Consultative Committee, and submitted to the District Head (Bupati) for final approval. Budgets should be prepared based on Village Development Plans (RPJM Desa). The Village Fund is just one source of potential finance for RPJM Desa – additional funding can be sought from other sources including other state budget transfer mechanisms, development partner funding or private sector investment.

As members of their village, farmers can influence the priority activities for inclusion within the RPJM Desa, and therefore seek the inclusion of sustainable oil palm and natural resource management activities where relevant to the local context.

National Program for Community Empowerment (Program Nasional Pemberdayaan Masyarakat (PNPM)) (Coordinating Minister for People’s Welfare Regulation 25/2007)

Eligibility: villages and sub-districts

Status: currently being phased out²³

Program Duration:

- Phase I: 1997 – 2007 *Kecamatan Development Program* (KDP);
- Phase II: 2007-2011 (PNPM Rural & Urban replaced KDP, and added targeted programs, including PNPM Green (block grants for environmental sustainability) & PNPM Generasi (conditional cash transfers for health & education));
- Phase III: 2011 – end 2015

Type: grant and loan finance

Funding source: Indonesian Government, with supplementary grant and loan finance from development partners

Total fund size:

- PNPM Rural expenditure averaged at USD 1.03 billion annually, with 65% as grants, 35% as loan finance (2009- 2014) (PNPM 2014 Progress Report)
- Between 2008-2014, international development partner pledged USD 392 million in supplementary grant finance across all PNPM programs (USD 299 million disbursed by end 2014). Development

²¹ Ministry for Regional Development, Villages and Transmigration Regulation No. 5/2015

²² PP No.43/2014, Article 100

²³ With formation of Village Fund, the National Program for Community Empowerment (PNPM), managed by Ministry of Home Affairs with support from the World Bank and multi-donor finance, will be phased out. The Village Fund will draw on some aspects of PNPM according to the National Team for Acceleration of Poverty Reduction Report, “Integrating Community-driven Development Principles into Policy: From PNPM Mandiri to the Village Law” (2015).

partner finance generally supported new pilot windows (like PNPM Generasi or PNPM Revolving Loan Fund), while established programs were largely funded by Indonesian Government budget.

Average grant size:

- Average: IDR 130 million (USD 10,000) per village in annual grant finance
- Range: IDR 900 million – IDR 3 billion (USD 68,000 – USD 230,000) annual grant finance per sub-district

Program targets and realisation:

- In 2014, PNPM had programs in 67,000 rural villages and 10,924 urban wards.
- In 2007, the World Bank managed the more than 50% of the program funds, whereas in 2014, 74% of the funding was managed by the Indonesia Government
- PNPM rural has supported construction of 12,389 km of roads, development of 205,426 infrastructure projects, reaching 24,672,019 beneficiaries

Regional coverage:

- PNPM Rural covers 33 provinces, 405 districts, 5,300 sub-districts and 67,000 villages
- PNPM Green covered a sub-set of villages under PNPM Rural, including 27 districts across 8 provinces in Sumatra and Sulawesi,

Acceptable use of funds: PNPM Rural involves three main components: (i) block grants for investment in physical infrastructure, to facilitate revolving loan funds and to deliver training activities; (ii) community empowerment and facilitation; and (iii) implementation support and technical assistance. It is open to all activities related to poverty reduction that are proposed and approved by communities, potentially including: village development planning; building housing and basic infrastructure (road, water & sanitation, schools, energy access etc); revolving funds for micro-credit extension; good governance training and systems; business skill development; and disaster and crisis recovery, among others.

Accessibility: PNPM is the largest community-based poverty program in the world. It was started in 1997 and provides block grant and linked loan finance to communities to finance local development priorities. Funds are disbursed to village-managed bank accounts, rather than to individuals. However, community members have an opportunity to put forward proposals for activities and be part of implementation teams. Grants are accessed through a four stage process: 1) provincial and district workshops at start of grant phase including officials, community leaders, civil society and universities etc. to explain process; 2) facilitated discussions at sub-district and village level to prioritize, plan and prepare village proposals; 3) inter-village forums to discuss proposals, select and cost winning proposals and elect financial management unit; 4) bank account set up, funds released to sub-district and passed on to villages in instalments to elected village teams to implement activities. Results are then reported back to community and ongoing maintenance supported to sustain projects where appropriate. Projects are supported throughout by PNPM Facilitators and often by external development partners / civil society. At the national level, a cross-ministry poverty reduction coordination team (established under Presidential Regulation No. 13/2009) oversees PNPM.

Annex III. Recommended Topics for Further Study on Smallholder Oil Palm Farmer Finance and Sustainability

While completing this study we identified a number of topics where more information is needed before effective programming can be designed. Some of these topics were partially answered in this Working Paper; others will require further study. We're actively pursuing some of these questions through surveys in East Kalimantan, while others will require collaborations with other researchers in other geographies to address more fully. Suggested research topics and questions include the following:

(i) How do credit conditions and credit access vary by region and farmer organizational model? What are the associated productivity-profitability impacts of this variation on farmers?

- What credit sources and financial products are available?
- What are the terms and conditions of the various products?
- How much do smallholders know about the products, and to what extent can they meet loan requirements?
- To what extent are finance providers aware of and sensitive to the needs and constraints of smallholders?

(ii) How should innovative financial products be designed to take fuller account of non-traditional credit indicators or forms of collateral, including more effective safeguards to ensure subsidized credit actually flows to targeted lower-income recipients in rural areas?

- How should eligibility conditions be structured to enable more inclusive finance?
- How can loan products be tailored for different segments of the smallholder market?
- What are the options for delivering combined financial and non-financial support, such as training and local capacity building?
- What is the potential for developing supply chain based finance arrangements, with downstream actors cooperating with mills or upstream aggregators to offer both financial and non-financial support in exchange for off-take agreements and commitments to meet sustainability standards?
- How can the different levels of government facilitate smallholder access to credit through their own schemes (e.g. loan guarantees) and regulatory tools (e.g. land titling programs)?

(iii) How is the current approach to regulated FFB pricing applied in different jurisdictions?

- How is this system impacting price-pass through to smallholder farmers working under different organizational models?
- How might the procedure for FFB price setting be revised to take into account the constraints on smallholder farmers, especially independent farmers?

(iv) How do smallholder farmers of different sizes perceive their business environment? How do such perceptions affect their decision-making, practices, and productivity/profitability?

- What are the relevant characteristics of smallholder households with various size landholdings and working under different transactional models (e.g. education level, socioeconomic status, farming knowledge, diversification of income sources, reliance on credit, labor availability)?
- What is their level of access to the four forms of capital?
- What are their costs (including transaction costs) and profitability?
- How do FFB price fluctuations affect their decision making and profitability?
- To what extent do they follow good farming practices (e.g. harvesting on ten day cycles)?
- What proportion of their income is derived from oil palm?
- What agricultural, business, and financial information is available and how do they use it?

- What challenges do they face in terms of transporting FFB to the mill?
- What are their choices in terms of which mills or traders to do business with?
- Which household characteristics best explain the productivity/profitability gap between those at the high and low ends of the spectrum?
- How risk-averse are the various types of households?
- To what extent do other factors explain differences in profitability (e.g. land tenure status, proximity to a mill, social status, FFB price, access to quality seedlings)?
- Can a typology of household profiles be developed to categorize smallholders for purposes of financing or technical support?

(v) Given the high variability in profitability of oil palm smallholder farming, are there farmers for whom this is not a suitable crop?

- What are the key decision criteria in terms of farmer characteristics and local conditions?
- Are there plot size thresholds below which it is highly unlikely that oil palm farming can be profitable? Understanding this question would require getting a better understanding of the economies of scale in oil palm farming.
- Which alternate crops might be more suited to specific local contexts and spatial scales?
- How can crop selection be factored into smallholder farmer support programs?



Daemeter is a leading independent consultancy with offices in Indonesia and the US, providing research, advisory and practical on-the-ground support to agriculture, forestry and mining companies, as well as civil society organizations, government and the development community. Our clients share with us a commitment to responsible management of Southeast Asia's natural resources, especially Indonesia. Daemeter has expertise in social, ecological, business and legal aspects of sustainability in Southeast Asia, with emphasis on responsible production, supply chain sustainability, social and environmental risk assessment, and jurisdictional approaches to sustainable land management. Daemeter is a recognized leader in High Conservation Value and High Carbon Stock Assessment, as well as their integration and adaptation for use by smallholder farmers. Visit www.daemeter.org for more information.

Indonesia Office

Jl. Tangkuban Perahu no. 6
Bogor, West Java 16151
Indonesia

Phone/Fax: +62 251 833 6973
Email: info@daemeter.org

U.S. Office

437 Second Street
Eureka CA 95501
USA

Phone/Fax: +1 707 2675201

