Summary overview of costs and benefits

The total commercial bank funding requirement for the program in the three selected supply sheds (500,000 hectares under rehabilitation and replanting/replacement) will amount to an estimated US$ 800 million. The commercial loans for smallholders are made possible by a package of public-private grants and guarantees of US$ 135-215 million equivalent to US$ 1-2.25 per MT of oil per annum (for 7 years). These program costs could be financed as follows:

- 50% by the international donor community (US$ 67 – 107million)
- 50% by global off-takers and industry (US$ 67 – 107million)

This program will lead to an increase crude palm oil yields by 65% for 250,000 smallholders on 500,000 hectares in three supply sheds, resulting in:

- 5.1 million MT of fully traceable, sustainably produced and certified CPO
- Avoided potential deforestation over 380,000 hectares
- Additional annual income of US$ 2,000 per farmer (+ 50-80%)

More information?

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the sustainable trade initiative

Ministerie van Buitenlandse Zaken
DANIDA

Mainstreaming Sustainable Palm Oil

Increasing production while avoiding deforestation

Improving smallholders' productivity and income

Making sustainable, traceable CPO more cost-efficient

Creating a scalable solution attractive to banks

An innovative public-private business approach

the sustainable trade initiative

Summary

Demand for palm oil, the world's most used vegetable oil, is expected to double by 2020. Indonesia and Malaysia account for 87% of the global palm oil production and most of the remaining suitable land for palm oil expansion is in tropical forests.

A number of companies – united under the Consumer Goods Forum – have set ambitious goals to up-scale sustainably produced palm oil. They are also committed to avoid deforestation associated with palm oil expansion.

The IDH Sustainable Palm Oil program aims to increase output of sustainable, traceable palm oil while avoiding deforestation, raising the livelihoods of hundreds of thousands of Indonesian smallholders, and at the same time making sustainable palm oil production more cost-efficient.

Essential elements of the program

1. Increasing the productivity and efficiency of independent smallholders through training in good agricultural practices, provision of good planting material and other essential inputs;

2. Developing an innovative model to finance (at scale) replacement of trees from sub-optimal planting material and replanting of aged trees;

3. Creating regional supply sheds: clusters of mills located in the same geographical area working to include independent smallholders into their sustainable production, making way for 100% Certified Sustainable Palm Oil (CSPO) mill processing.

Key intervention logic

By providing independent smallholders with training in Good Agricultural Practices (GAP) and access to finance to replace low-productivity trees and/or replanting aged trees in the supply sheds, yields can increase without the need for expansion into forest areas. Increased yields and oil quality will also improve the livelihoods of independent smallholders. Connecting certified independent smallholders to mills will improve supply chain transparency and increase the production of 100% CSPO, avoiding expensive segregation, and making fully traceable CSPO more cost-efficient in the long term. This will drive the demand to produce and trade sustainable palm oil from areas that are avoiding deforestation. The intervention will create transformational change towards fully traceable CSPO being the norm.

Expected outcomes

Increasing sustainable palm oil production will help avoid deforestation and hence the emission of Greenhouse Gases (GHG), and improve the livelihoods of independent smallholders in Indonesia. The cost of rehabilitation, which includes GAP training and quality inputs is US$ 800 per hectare. Replacement and replanting costs are US$ 900 and US$ 2,175 per hectare respectively.

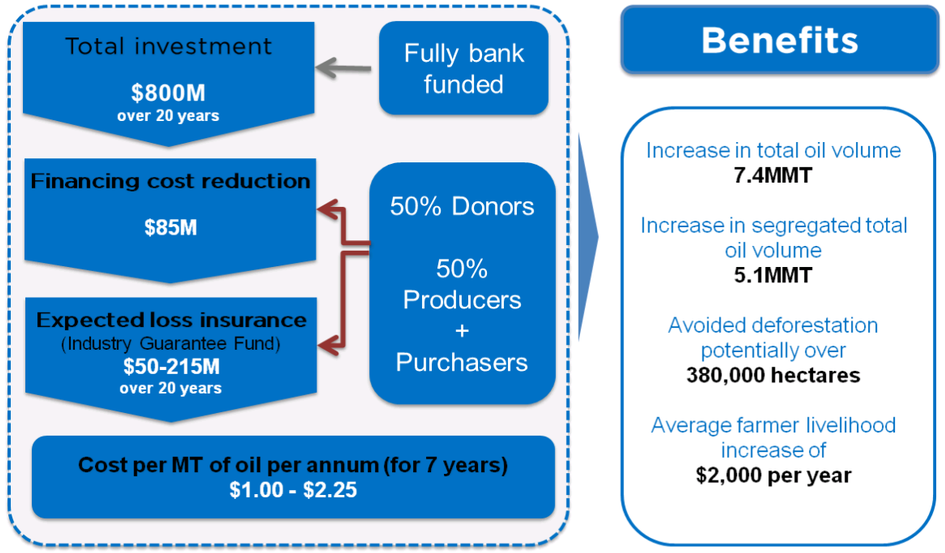
The supply shed program in the three selected areas will provide the following major benefits

- Increased yields of smallholders by an average of 66%, which translates to US$ 2,000 in additional income annually per farm;
- Increased total oil output of 21MMT, including an additional 5.1MMT of traceable, segregated oil;
- Avoided deforestation on 380,000 hectares (almost the size of Lombok);
- More direct links between demand and supply, leading to a more transparent supply chain.

Most Indonesian banks have a gap in their MSME portfolio

We propose engaging commercial banks to finance these loans. New legislation requires Indonesian banks to build up a loan portfolio such that 20% from all their assets come from loans for Micro, Small & Medium Sized Enterprizes (MSME) by 2018. Most banks in Indonesia have a large gap in their MSME portfolio. In combination with the wholesale funding arrangements described below, this regulatory requirement forms a main driver for the banks to lend more to the agricultural industry, particularly to independent palm oil smallholders.

The financial model



D. Wholesale funding

The total financing need for the rehabilitation and replanting/replacement program of 500,000 ha. under independent smallholder management is US$800 million. To assist the lending organizations in mobilising these funds, wholesale securitization and the establishment of a finance cost reduction scheme is planned. External financial institutions seeking exposure to MSME loans could act as a commercial participant by buying (part of) the independent smallholder loan portfolio from the original lending institution. The originating bank remains in charge of the collections, for which it receives an administrative fee. The default risk of the independent smallholder loan portfolio, in our proposal, is distributed along various agents in the financing chain, including the smallholder, the originating bank, the purchasing bank, securitisation investor and industry guarantee fund.

Increased availability of capital and lower borrowing costs

To lower the threshold for banks to enter into a wholesale banking scheme as described above, an industry guarantee fund could be set up to compensate for the first possible loss. Such a fund could be established with funding from donor agencies and global palm oil off takers.

By increasing the scale of the independent smallholder loan portfolio through wholesaling and introducing an element of insurance, overall independent smallholder lending will become more attractive to institutional lenders. This should attract a new category of lenders to the agricultural sector, which previously would not have been interested in lending to smallholder palm farmers. The main benefit for the borrowers -the smallholder farmers - will be the increased availability of capital and lower borrowing costs, allowing them to invest in productivity improvements.

The main advantages of the outgrower model are:

- the supply chain traceability is easier to institutionalize and control
- start-up costs are lower
- it is possible to develop and implement the model at different scales

The service program consists of 3 sequential components:

1. Rehabilitation practices needed by up to 90% of smallholders to increase yields will require: working capital for training, fertilizers & other inputs at a cost of US$ 800 per ha.
2. 60% of independent smallholder area needs to be replanted with high yielding varieties at a cost of US$ 900/ha.
3. Replanting 10% of aged palm trees will require US$ 2,175/ha

B. Service delivery

To close the yield gap in the smallholder sector, access to improved planting material, other farm inputs and the adoption of GAP are essential. Through the outgrower and FDC models smallholder producers will have access to the necessary inputs and technical support services to improve FFB yields and quality. The service program will comprise three different sequential components:

1. Through rehabilitation, the average FFB yields of smallholders will increase by 43%. Their turnover will then increase by more than 40%. The working capital required for training, fertilizers and other inputs amount to US$ 800 per ha. Impact of rehabilitation practices are immediate, but for most farmers will require two years to complete. Rehabilitation can be pre-financed with a three year commercial loan.
2. Particularly in the period 1999-2003 thousands of hectares under smallholder management were planted with low quality seedlings. Around half of the farmers in the target areas have such low quality plants, typically covering 60% their plots. These should be replaced with high yielding hybrids. Replacement costs are around US$ 1,800 for a typical 2-hectare plot, to cover investments in planting material and bridging of yield losses during the initial years.
3. Around 10% of independent smallholders have plots predominately covered by over-aged palms, meaning that the entire plot requires replanting. Investment costs are US$ 2,175 per ha. Both replacement and replanting require a loan of around 7-8 years.

C. Credit provision

In order to pre-finance the investments in production improvements and to bridge expected yield losses during the initial years after planting hybrids, independent smallholders need access to credit,. Local commercial banks and micro-finance organisations will liaise with the oil mills, cooperatives and FDCs to enter into a credit agreement with the independent smallholders. Inputs, services and working capital will be issued on credit for a period of three years (rehabilitation loan) or eight years (replacement and/or replanting loan). Disbursement and collection of the loan will be channelled through either the FDC, or the cooperative of independent smallholders linked to a mill.

These independent smallholder loans will have a financing cost reduction mechanism, to provide an interest rate that is conducive to participation. In order for borrowing to invest in productivity improvements to become more economically viable than the existing practice of production gains through expansion, loan interest rates to be around 6%. IDH believes that through a combination of finance cost reduction and guaranteeing losses, interest rates can be brought down to acceptable levels.

Introduction*

With 48% of the world production, Indonesia is the largest producer of palm oil. Independent and plasma smallholders account for 2 million farmers and they manage about 45% of the land cultivated for palm oil in Indonesia. Over the past decade, the Indonesian palm oil industry has grown by an average of 11.5%, to meet the world's growing demand for affordable vegetable oils. To keep up with demand, total palm oil production will have to continue to rise.

In Indonesia, palm oil is a significant driver of deforestation. At least 56% of new oil palm plantations between 2000-2005 were established on forest land. Selling the timber harvested from clearing the land generates the capital needed for establishing palm plantations. This timber harvest can bring in revenues of US$ 10,000 per hectare, making the logging for timber, pulp and paper production followed by palm oil production one of the most lucrative options for tropical forest exploitation.

IDH proposes a palm oil program that will create supply chain traceability by linking demand more directly to supply sources.

Ambitious goals to eliminate deforestation

A growing number of companies have set ambitious goals to eliminate deforestation associated with palm oil production and to source higher volumes of traceable, sustainably produced palm oil.

When independent smallholders are trained in good agricultural practices and are certified, mills can source 100% Certified Sustainable Palm Oil (CSPO)

However, presently the high costs of segregated CSPO form a barrier to market transformation. Currently, mills and refineries do not have enough supply of sustainable and traceable palm oil to switch to 100% sustainable production, and segregating the two production streams is cost prohibitive. However, if the entire volume of supply that mills source from smallholders is traceable and sustainable and there is a critical mass of CSPO feeding into the refineries, segregation is not needed. Sustainable palm oil production then becomes more cost-efficient.

Increase CPO production from 24 to 40 MT by 2020

Indonesia plans to increase its annual crude palm oil (CPO) production 40 million MT by 2020, from the current 24 million MT. The industry is investing around US$ 2.5 billion in refining capacity and vertical integration and US$ 2.0 billion in primary production capacity. At the same time, the government has set ambitious goals to mitigate further deforestation and GHG emissions. These different goals can only be met if productivity of independent smallholders on existing land increases dramatically.

Two million smallholders wish to increase their incomes

Smallholder producers currently account for 45% of the total planted area, but supply less than 30% of the total fresh fruit bunch (FFB) yield. Additionally, the quality of the supply is inconsistent and often inferior resulting in lower prices being paid for their FFB. This program wants to increase smallholders' income and improve their livelihoods by increasing productivity and quality of palm oil yields. Integrating smallholders into sustainable supply chains also allows them to capture sustainability premiums while simultaneously providing opportunity for greater supply chain transparency and traceability.

Currently, smallholders lack quality extension services, access to high-yielding planting material and access to financial services. Banks do not lend to independent smallholders, primary reasons being high transaction costs and sufficient collateral.

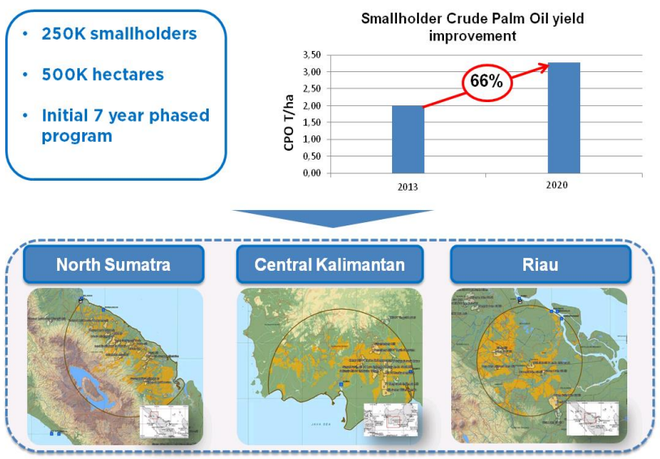
When independent smallholders are trained in Good Agricultural Practices (GAP), use high quality inputs and have access to quality planting material, their yields can increase, leading to higher incomes. Both innovative smallholder business models channelling access to finance and productivity gains are instrumental to the success of the program.

*Source: Boucher, D. et al, 2011; "The root of the problem; what's driving tropical deforestation today"

General approach and objectives

Ensuring the supply of 100% sustainable, traceable palm oil, delinked from deforestation, requires investment in sustainable productivity improvements for smallholders. The conversion from low productivity smallholder systems to more productive and profitable palm oil production will have a positive impact on the livelihoods of independent smallholders. At the same time, increasing overall production levels will reduce the need for expansion, thus making an essential contribution to the industry's objective of sustainable growth and deforestation-free supply.

Three supply sheds



We propose to develop a program based on a concentrated smallholder support and sourcing effort, by upstream supply chain partners starting in several key production areas or "supply sheds" in Sumatra and Kalimantan. In the targeted supply sheds smallholders are supported to boost productivity, integrated into the supply chains of local mills, and engaged to produce against credible sustainability targets. In doing so, the production within a shed can reach a critical mass of traceable and deforestation-free palm oil, eliminating the need for a separate supply chain and the associated inefficiencies and costs.

Total area of 2.73 million hectares

Three such supply sheds have been explored in the provinces of North Sumatra (Sei Mangke), Riau (Perawang) and Central Kalimantan (Kumai). The sheds have a total planted area of 2.73 million hectares, of which 948,000 hectares are managed by both plasma as independent smallholders.

By 2020, this program aims to reach up to 250,000 independent smallholders, with the potential to increase the volume of segregated palm oil by 5.1 million MT. Due to productivity gains, this will require 380,000 hectares less land than would be needed at current productivity levels. Average incomes will increase by up to US$ 2,000 per farm.

By 2020, up to 250,000 independent smallholders will be reached, with the potential to increase the volume of traceable, segregated palm oil by 5.1 million MT. The supply sheds will be developed in phases, and the independent smallholders in each shed will receive assistance to sustainably increase their productivity and income. Average annual livelihood income levels will increase by up to US$2,000 per farm. Additionally, expansion onto approximately 380,000 hectares of additional land will be avoided.

An essential component of the program is involving banks in financing smallholders. To achieve the productivity increases, innovative funding mechanisms are being developed to provide working capital and investment funding to smallholders for rehabilitation of their plantations, replacement of poor yielding trees and replanting of aged trees.

Innovative funding mechanisms are to be developed to achieve productivity increases.

This model can then be replicated in other supply sheds so as to become a mainstream solution for an inclusive, traceable and certified production system of palm oil throughout Indonesia.

Key elements of the proposed program

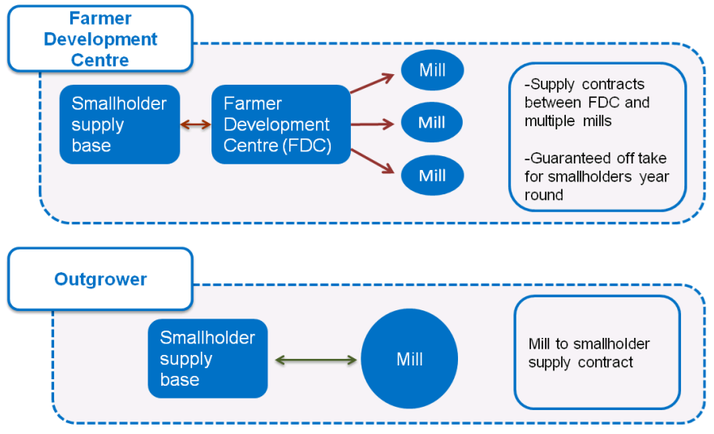
A. Smallholder organisation

The transaction costs for the provision of credit, supplies and technical and marketing support services are high. Through the organisation of smallholder farmers, transaction costs can be minimized. Two different models will be used:

- The Farmer Development Center (FDC) model whereby a local trader or a farmer cooperative manages input supplies, credit and technical support program, alongside the FFB collection and marketing activities. The FDC is thus the intermediary between the smallholder growers and the mills.

- The outgrower model whereby the smallholder producers are integrated into the regular supply base of a regional oil mill. Technical support services and credit are part and parcel of the supply and payment arrangements between the smallholder producers and the oil mill.

Two smallholder business models



In the three pilot areas, around 100,000 smallholder farmers are currently a part of a plasma scheme attached to various mills. In addition, more than 360,000 smallholders are independent and do not participate in any scheme. This program aims to work with 250,000 smallholders to increase their productivity and livelihoods. The two models represented in the above diagram can be equally effective.

The advantages of the Farmer Development Centre (FDC) model are:

- the mills are more flexible in managing their FFB supplies;
- the intermediate traders and cooperatives will remain in business