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UNIVERSITAS INDONESIA

INVESTOR BRIEF:

Improving the Ecosystem to Optimize Smallholders Replanting Program

04/2022

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Abbreviations

AIMMI	Asosiasi Industri Minyak Makan Indonesia (Indonesian Edible Oil Industry Association
Apolin	Asosiasi Produsen Oleochemical Indonesia (Indonesian Oleochemical Manufacturer Association)
Aprobi	Asosiasi Produsen Biofuel Indonesia (Indonesia Biofuel Producer Association)
ATR/BPN	Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional (Ministry of Agrarian Affairs and Spatial Planning
BPDP-KS	Badan Pengelola Dana Perkebunan Kelapa Sawit (Palm Oil Plantation Fund Management Agency)
BPS	Badan Pusat Statistik (Central Bureau of Statistics)
CPO	Crude palm oil
Ditjenbun	Direktorat Jenderal Perkebunan (Directorate General of Estate Crops)
EU	European Union
FFB	Fresh fruit bunch
GAPKI	Gabungan Pengusaha Kelapa Sawit Indonesia (Indonesian Palm Oil Association)
GHG	Greenhouse gases
GIMINI	Gabungan Industri Minyak Nabati Indonesia (Indonesian Vegetable Oil Industry Association)
GoI	Government of Indonesia
ISPO	Indonesian Sustainable Palm Oil
Kementan	Kementerian Pertanian Republik Indonesia (Ministry of Agriculture of the Republic of Indonesia)
KESDM	Kementerian Energi dan Sumber Daya Mineral Republik Indonesia (Ministry of Energy and Mineral Resources of the Republic of Indonesia)
LULUCF	Land Use, Land Use Change, and Forestry
NGO	Non-governmental organization
PSR	Peremajaan Sawit Rakyat (Smallholders Palm Oil Replanting)
RSPO	Roundtable on Sustainable Palm Oil
RUEN	Rencana Umum Energi Nasional (National Energy Planning)
SDGs	Sustainable Development Goals
STDB	Surat Tanda Daftar Budidaya Tanaman (Plantation Business Certificates for Cultivation)

Overview of Palm Oil Commodities and Sustainability Relevance

Indonesia is the largest palm oil country producer with a significant development where there has been an increase in international reserves in the last 10 years.

Based on Directorate General Plantation, Indonesia is able to produce up to 48 million tons of crude palm oil (CPO) in 2018 and it is predicted to reach 50 million tons of CPO in 2021 (see Figure 1). In other words, Indonesia has great potential to develop palm-based biofuel products. The potential of CPO can not only benefit Indonesia economically but also contribute to energy security, emission reduction, and health.

In terms of economy, the palm oil inadustry has significant positive impacts. Based on Coordinating Ministry for Economic Affairs speech on Indonesian National Press Day, the palm oil industry has significantly supported the Indonesian economy during the COVID-19 pandemic through the absorption of 16 million labor and contribution of 3.5% to economic growth (BPDP-KS, 2021)[1]. Not to mention, the palm oil industry also has a significant contribution to Indonesia's export. Based on Figure 1, more than 50% of CPO production in Indonesia is exported to other countries for at least the last 12 years with a value of more than US$ 35 million in 2021[2]. The majority of the export of CPO comes from HS Code 15131100 which stands for crude oil of coconut (copra) with a total contribution of 36.87% of total CPO Export (Ministry of Agriculture, 2021).

The palm oil industry also has significant contributions through B20 and B30 programs. The implementation of those programs not only yields benefits in economic and social aspects but also environmental aspects through emission reduction. Palm Oil Plantation Fund Management Agency (BPDP-KS) estimated that greenhouse gas emission reduction as a result of B30 utilization reached 23,3 million tons of carbon dioxide in 2020 (BPDP-KS, 2021). The number is predicted to increase since the demand for biodiesel (B30) is still increasing.

As the biodiesel program emerges globally, the current use of palm oil for this purpose is only about 5% of total palm oil production. Most of the palm oil is used for foods (68%), such as margarine or cooking oil, and industrial applications (27%), such as soap or cleaning agents (Ritchie and Roser, 2018). In Indonesia, the domestic consumption is mainly for foods (57%), followed by Biodiesel (27%), industry (6%), and oleochemicals (5%) (see Figure 2). On the other hand, the export of CPO is dominated in the form of refined oil by 65%, followed by crude oil (19%), oleochemicals and lauric (6%), and a small portion of biodiesel (3%).

[1] Retrieved from: https://www.bpdp.or.id/industri-kelapa-sawit-mampu-bangkitkan-ekonomi-nasional-dan-media
[2] Retrieved from: https://databoks.katadata.co.id/datapublish/2022/01/31/nilai-ekspor-cpo-tembus-us-35-miliar-pada-2021

Figure 1. CPO Production in Indonesia

*) Temporary Figures
Source: Directorate General of Plantation, Ministry of Agriculture Republic Indonesia (2021)

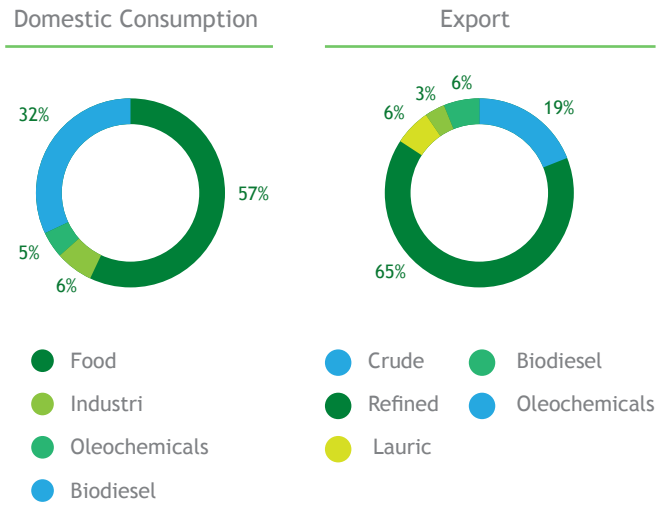

Figure 2. Domestic Consumption vs Export of UCO

Source: KESDM, Kementan, Kemenperin, BPS, GAPKI, APROBI, GIMNI, APOLIN, AIMMI, BPDP-KS (2018). Processed

The increase in the world demand for palm oil in recent years has benefited Indonesia in several ways, mainly CPO export. Because of this benefit, the EU's current ban on CPO import has become one of the most contentious issues in the palm oil industry. Indonesia, which is the primary supplier of CPO for the Netherlands, cannot export its product again. However, the EU CPO import ban has not had a significant impact on macro conditions due to the large market share (Rifin et al., 2020). This has allowed Indonesia to seek another growing market such as India or China. Alongside Malaysia (2nd largest palm oil producer), Indonesia could easily gain benefits from exporting both countries' palm oil products (Amzul Rifin, 2010). As an implication of both countries' position in the market with the projection of future demand for biodiesel (palm oil product), cooperation will bring more benefit for those countries.

The future demand for palm oil will increase as palm oil has become one of the most important crops for energy and trade in Indonesia. Major efforts to reduce emissions to achieve net zero-emission and biodiesel blending (B30 & B40) make the domestic demand for palm oil will significantly increase (Khatiwada et al., 2018). Based on Khatiwada et al. (2018), the demand for palm oil in both domestic and international markets will reach a total of 51 million tons. This opportunity will allow the palm oil industry to grow, but it will also necessitate a significant amount of land, possibly up to 6 million ha.

One solution to meet the increasing demand is the expansion of palm oil plantations. However, the expansion of plantations has become a major debate over deforestation or GHG emission. The palm oil expansion has already become the ultimate source of deforestation as well as GHG emissions (Austin et al., 2019). Furthermore, expanding plantations will naturally exacerbate pressures on land resources (Harahap et al., 2017) and pose significant environmental risks, including deforestation, biodiversity loss, and increased water and air pollution (Mukherjee & Sovacool, 2014; Yusoff, 2006). Currently, the GoI has implemented a moratorium policy on the expansion of palm oil plantations through Presidential Instruction No. 8/2018. This regulation focuses on the intensification of palm oil production to reduce the gap between smallholder and other producers without expanding the current palm oil plantations. As a result, while it is not possible to expand palm oil plantations, alternative solutions for meeting future palm oil demand are pressing needs.

Source: Tropical Forest Alliance

The Urgency of Replanting Programs to Achieve Sustainable Development Goals (SDGs)

Replanting is one of the alternative solutions for meeting the future needs of palm oil without expanding the current plantations. Replanting presents as a sustainable land-use option that aims to rejuvenate the existing oil palm plantation and promote sustainable agricultural practices to generate higher yields (Nurfatriani et al., 2019). According to Lee et al., (2014), the current trend of annual expansion rate by smallholders (11%) is consistently higher than state-owned and private plantations (5%). The replanting program does not require land expansion, deforestation and peatland conservation will be avoided, especially for smallholders. As replanting will not expand the plantations, deforestation and conservation of peatland will be avoided especially for the smallholders. This is an opportunity to conserve forest as well as preserve biodiversity. Replanting is also the solution for enhancing palm oil productivity (Halimatussadiah et al., 2020). If the productivity of the plantations is increased, the yield will also increase, resulting in an increase in income. This will improve smallholders' welfare in the future.

The current proportion of smallholders in the palm oil plantations landscape in Indonesia reaches 40% (Halimatussadiah et al., 2020). However, their production levels are still low, counted for 2.4 tons/ha in 2018. Comparing the smallholder statistics, government estate only has 4% of palm oil plantation but have higher productivity (3.3 tons/ha), while private who owned 54% of the plantation have productivity rate at 3.1 ton/ha. Overall, Indonesian productivity on CPO is lower compared to Malaysia (3.34 ton/ha) in 2018. In terms of the number of farmers, Indonesia has 2.7 million smallholders in 2019. This number is higher than government estate farmers (320 thousand farmers) but lower compared to the private estate (4.1 million). However, when viewed per ha, the number of smallholders only averages 5.2 (~6) farmers for each ha of land, lower than government and private estate which averages 6.5 (~7) and 6.3 (~7) farmers/ha, respectively.

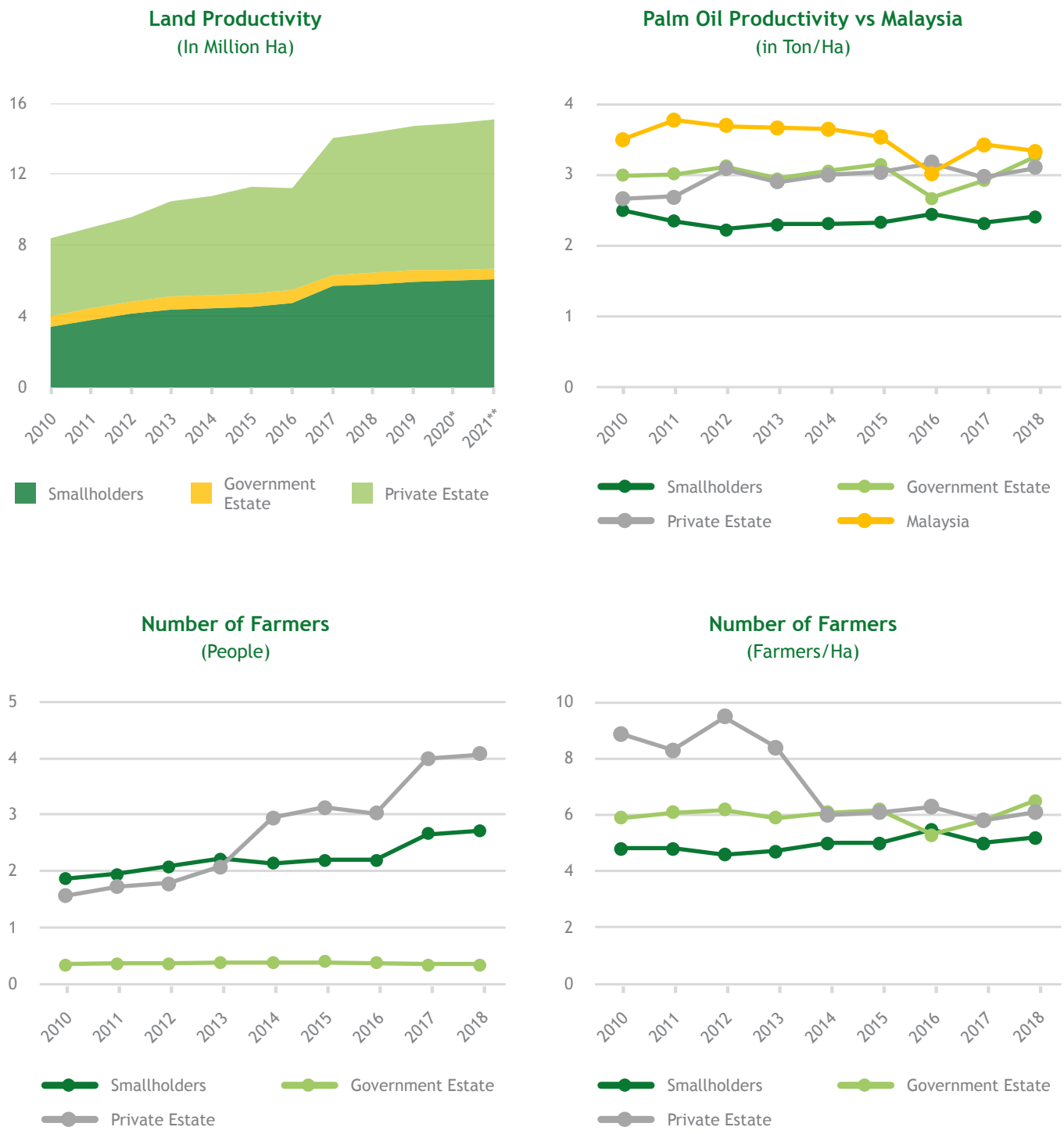

Figure 3. Palm Oil Land Productivity, Indonesia vs Malaysia

Source: Directorate General of Plantation, Ministry of Agriculture Republic Indonesia & Malaysian Palm Oil Board 2010-2018. Processed.

Smallholders also tend to implement unsustainable agriculture practices, such as slash-and- burn land clearing (Kharina et al., 2016), sporadic expansion, particularly in forest and peatland areas (Mukherjee and Sovacool, 2014), and use of low-quality seeds and fertilizer. The replanting program support smallholders to increase productivity while adhering to sustainable farming and land management practices. Thus, promoting replanting for smallholders is an imminent solution to focus on.

Other than welfare improvement for the smallholders, the replanting program could also strengthen Indonesia's effort to achieve the Sustainable Development Goals (SDGs) target (Purba, 2019). As mentioned earlier, replanting will increase smallholders' welfare through productivity improvement (SDGs 1: No Poverty) which also accelerate inclusive and sustainable economic growth in the region (SDGs 8: Economic Development) and converge the distribution of income in the palm oil industry (SDGs 10: Reducing Inequality). In addition, palm oil replanting also brings solutions for achieving SDGs targets on the energy sector and climate change (Halimatussadiah et al., 2020; Purba, 2019). The fresh fruit bunches (FFB) from palm oil replanting could provide clean energy (SDGs 7: Clean Energy) through biofuel and biomass which also help to achieve national renewable energy mix targets of 23% in 2025 and 51% in 2050 based on national energy planning (RUEN). In terms of climate change (SDGs 13: Climate Change Mitigation), the replanting program will reduce the CO2 emission from deforestation because land expansion is no longer needed (Nurfatriani et al., 2019). Lastly, the palm oil replanting program will enhance the sustainable chain of palm oil-related products which supports SDGs target Number 12, Sustainable Consumption and Production.

Figure 4. Palm Oil Replanting Program Impact on SDGs Target

Source: Tropical Forest Alliance

Smallholders Palm Oil Replanting Program

About the Smallholders Replanting Program

Realizing the urgency of palm oil replanting, especially for smallholders, the Government of Indonesia established the Smallholders Palm Oil Replanting (Peremajaan Sawit Rakyat/PSR) program.

The focus area of this program is to help smallholders renew their oil palm plantations with more sustainable and quality palm oil while reducing the risk of illegal land use, land-use change, and forestry (LULUCF) practice.

Through the PSR program, the productivity of land owned by smallholders can be improved without clearing new land. The cause of the current low productivity of smallholders' plantations is partly due to the condition of the old and damaged plantations and the use of some inferior and uncertified seeds. With the PSR program, planters will be helped to rejuvenate their plants by using better-certified seeds and better agricultural practices. The program is targeted to increase palm tree productivity standard to 10 tons of FFB/ha/year with a plant density of <80 trees/ha. PSR program will be carried out in stages in all palm oil-producing provinces.

Source: Tropical Forest Alliance

Key Issues in Replanting Program

From 2019 to 2022, the Government of Indonesia targets the PSR Program to be realized by 180 thousand hectares per year, spread across various regions in Indonesia. However, the realization of PSR's land area is still below 100 thousand ha per year. It is because the implementation of this is still facing several issues.

First, inaccurate and invalid land profile. There are still many smallholder farmers who work on family lands that have been passed down from generations. This has led to land-use changes and disputes over land status, which is also exacerbated by an invalid land planter profile. This issue is exacerbated by the land certification process which is considered complicated and expensive, which makes smallholders reluctant to take care of their land status. Another problem that is still related to land is that there are still many plantations that are indicated to be in forest areas, making it ineligible to obtain any land legality certificates. The issue of land legality makes it more difficult for them to obtain capital and assistance from financial institutions or the government. It also disqualifies them from obtaining ISPO certification.

Moving on to the replanting program itself, other obstacles are also faced by smallholders. The community's lack of understanding about the PSR program causes them to be reluctant to do replanting. There are still many smallholders who do not know the mechanism, requirements, costs, and benefits of the PSR program. In addition, some of them who already understand the program well are still constrained by administrative requirements such as plantation mapping.

The final major problem that arises in this program is financing. Ministry of Agriculture estimates the cost of replanting to range around IDR 50-60 million per ha (Nurfatriani et al., 2019). According to a study by Halimatussadiah et al., (2020), replanting efforts for smallholders in at least 1.55 million ha are required for Indonesia to meet its B30 blending target while still meeting the demand for CPO by 2025. Assuming that replanting per hectare requires a cost of IDR 55 million, the total funding required to achieve the replanting effort is IDR 85.3 trillion.

The high cost of replanting palm oil is not accompanied by adequate access to financing. In this case, independent smallholders tend not to be eligible to borrow from banks. Among the causes are: (1) they frequently struggle to obtain land certificates that can be used as collateral for loans; (2) they are more likely to keep poor financial records than plasma smallholders; (3) their cultivation procedures are less standardized, posing a greater risk of production loss upon replanting; and (4) the majority of them do not have bank accounts. Another concern is price-related. Prices paid to independent smallholder farmers are often unstandardized (as there is no formal contract between the smallholder farmers and collecting traders). This is in contrast to the prices earned by many smallholder farmers who have contracts with cooperatives or businesses that adhere to the local Plantation Office's standard rates. This may affect the cash flow of independent smallholder farmers and their ability to repay loans, particularly during the first three years of replanting. With this in mind, it's reasonable that financial institutions are averse to funding the replanting of independent smallholder land, since there is just too much at risk, including their reputation.

Palm Oil Fund Management Agency (BPDP-KS)

To support one of the most crucial issues in the replanting program, the Government of Indonesia established Palm Oil Fund Management Agency (BPDP-KS) in 2015. The BPDP-KS has the mandate to collect, develop, and use palm oil plantations funds for benefiting the palm oil industry. In terms of helping the PSR program, BPDP-KS disburses IDR 30 million grant per hectare to incentivize smallholders to do replanting. However, the fund is only intended as assistance to finance smallholders' living expenses for 48 months, after which after replanting, this period becomes the unproductive period for newly replanted palms. Therefore, the smallholders still need to secure the estimated IDR 50-60 million cost for replanting needs.

Source: iStock-816281706

Building Ecosystem to Accelerate Replanting Program

Numerous critical issues confronting smallholders suggest that the success of the replanting program is contingent on the involvement of diverse stakeholders, institutional improvement, and managerial interaction, all of which can have an impact on the entire business process (Jelsma et al., 2017).

In the PSR case, stakeholders need to collaborate to co-create the enabling environment to increase the uptake and optimize the results of the program. For that reason, this section discusses how each stakeholder's role should be maximized to accelerate the replanting program. These stakeholders include central and local governments, companies, financial institutions, and independent institutions. Figure 5 below illustrates the mechanism of interaction among them.

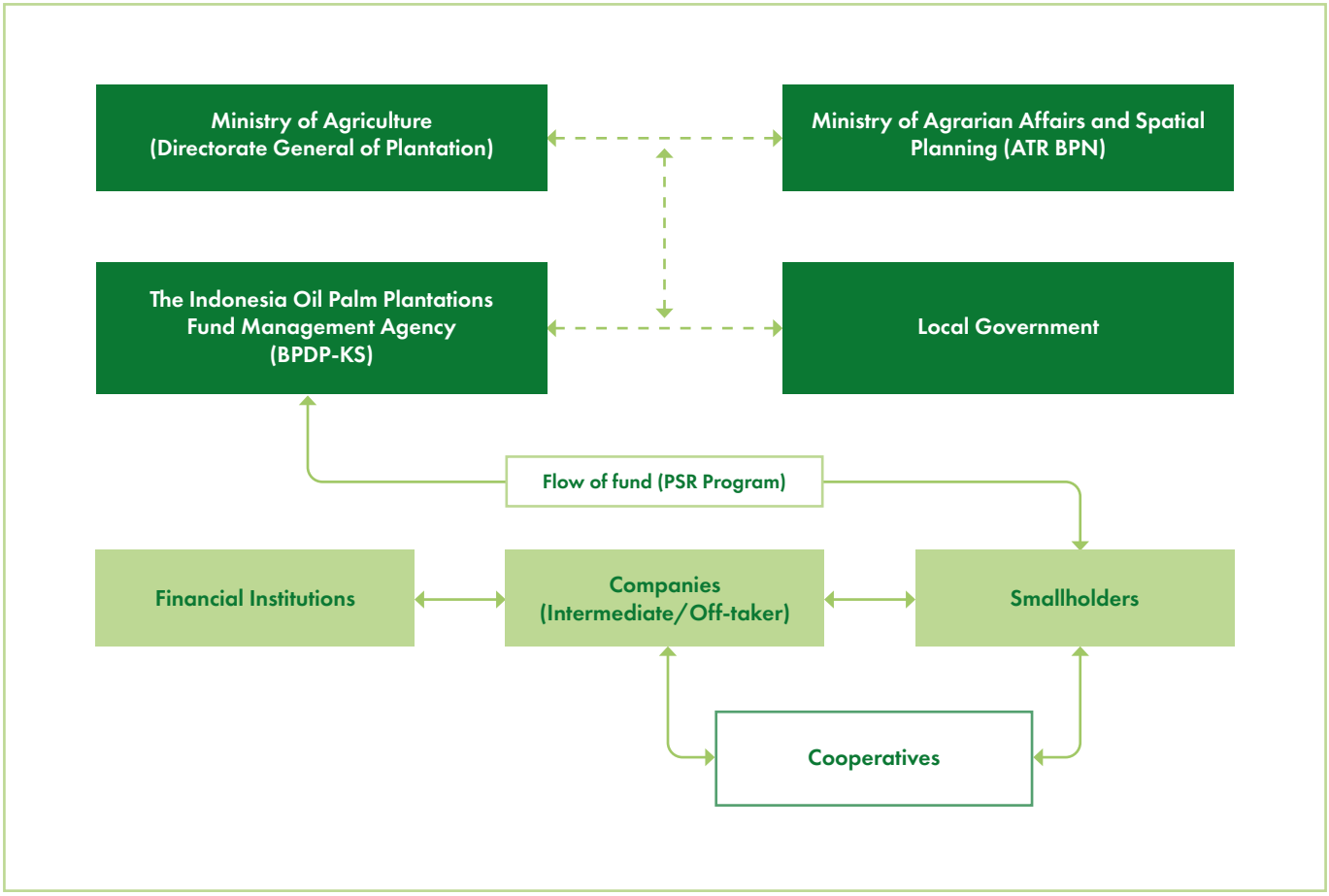

Figure 5. Related Stakeholders in Palm Oil Replanting Program

Directorate General of Estate Crops (Ditjenbun) Ministry of Agriculture and Ministry of Agrarian Affairs and Spatial Planning (ATR/BPN)

Ditjenbun and ATR BPN are important to help BPDP-KS accurately target the right smallholders to be funded. ATR BPN can act as a co-facilitator with companies in developing reliable tabular and spatial databases, that detail the number, distribution, and characteristics of smallholders outside and within forest areas. In this case, the company, with the assistance of local government coordination, collects data on smallholders at the regional level to be aggregated by ATR BPN. Besides, ATR BPN also has data access to the location of mills. It can map the optimal location of mills for plantations, considering that the location and access of mills from plantations greatly affect transportation costs and the quality of the FFB produced. Mapping these mills in the short term can assist the process of integrating appropriate plantations into the supply chain. In the long term, relying solely on existing mills will not help much. In several areas in Musi Banyuasin, for example, transportation of FFB still uses canoes, coupled with long distances between plantations and mills. In this regard, investors can play a role in the construction of new mills closer to the plantations to further increase efficiency in the supply chain. Eventually, the resulting databases created by ATR BPN can be used as a reference by the government and other parties to carry out smallholder development and empowerment planning, as well as to resolve tenure-related issues. In this arrangement, Ditjenbun has the mandate to prepare and allocate the funding for the databases. Ditjenbun should collaborate with BPDP-KS as it manages the palm oil plantations' funds.

Moreover, Ditjenbun also has a crucial role in planning the overall replanting program. Ditjenbun should make a road map that includes details of planning and priority areas for replanting. This roadmap aims as a signal from the central government to local governments. In addition to showing the government's attention to this program as a priority, a clear roadmap from the central government regarding priority locations for the replanting program can help prepare local governments to align their programs and budgets.

The Indonesia Oil Palm Plantations Fund Management Agency (BPDP-KS)

As one of the most prominent issues in the replanting program is funding, BPDP-KS, as the authorized institution to channel the fund for the PSR program, plays a central role in distributing various sources of funding from the government, donors, and investors. In this case, the government can extend the role of BPDP-KS by making it an investment hub. With the investor hub, it will be easier for investors to place their funds as investors tend to gather in one place with a large amount of funds. Investment hubs need to play at least 2 roles to ensure that the funds raised can be distributed properly. First, it is necessary to collect data on potential replanting projects throughout Indonesia to be funded. Second, it needs to sort the projects and match them with the available funds.

Aside from providing direct assistance to smallholders, BPDP-KS can also accelerate the replanting program through other channels. Funds owned by BPDP-KS also need to be allocated for the development of supporting infrastructure for replanting. In this case, BPDP- KS can coordinate with local governments that have infrastructure mandates at the local level.

Local Government

The role of local government, especially at the city or district level, is critical in this stakeholder arrangement because, while the central government is in charge of national planning, the executions of all programs take place at the jurisdictional level. The local government plays a role in disseminating information about investment opportunities and acts as a coordinator for regional stakeholders. Through provincial and district plantation offices, possibly in collaboration with companies, local governments can help determine the location of smallholder groups that are eligible to receive funds for the replanting program. Their role is also critical in issuing land certificates and Plantation Business Certificates for Cultivation (STDB) to assist independent smallholders to help to resolve legal and land verification issues. Plantation offices also assist the Directorate General of Plantation in making recommendations regarding proposed replanting activities, human resource development and facilities, and required infrastructure assistance.

To carry out these roles, local governments need to engage with central government planning. While the central government makes oil palm replanting one of the national priority programs, this plan should be embodied in palm oil-producing jurisdictions as its regional priority program as well. This is to make sure the plan can be implemented properly. In addition to making more detailed planning at the local level, aligning the program as a regional priority also means that there will be a budget allocation, which will later become a source of funding to facilitate local governments' roles.

Source: iStock-503077532

Private Companies

Private companies, in this case, intermediaries or off-takers from palm oil, play an important role in making the implementation of the replanting policy more effective. It is required that smallholders are facilitated from the early stages to prepare working and financing plans for replanting, including how to access financing from the BPDP- KS and banks, and to realize the plans. Companies can help smallholders with these matters. Moreover, companies, with the help of NGOs and sociopreneurs, could engage in seed quality monitoring to ensure there are no leaks in the quality of the seeds used. They could also provide training in obtaining ISPO certification to smallholders to make them acquainted with criteria and indicators of how their practices can be made more sustainable. In this regard, investors can place their funds to support companies or NGOs implement the facilitation programs.

Cooperatives

Cooperative could play a role in providing capacity building to increase farmers' capacity both in technical matters and how to connect with off-takers and investors. Some guidance and training in managing finance are also necessary to anticipate the use of the CPO fund if funding was finally granted.

Companies, Financial Institutions, and Smallholders Three-Party Engagement:

Engagement between companies, financial institutions, and smallholders is very critical in enhancing the replanting program. Funding needs for replanting that have not been met from the PSR program need to be met by financial institutions. In this regard, the funds are channeled directly to smallholders. However, companies also take part in managing the part of the loan to be allocated for fertilizers and seeds (this is done to minimize the risk of money being misused). With this kind of scheme, companies act as loan guarantors as well as off-takers for farmers. On the other hand, smallholders must become plasma farmers who are managed directly by the companies so they don't sell to other off-takers. Companies should also provide assistance and capacity building directly to the smallholders. The company can provide facilitation for smallholders in many forms. They can help facilitate the smallholders' affairs with the government related to plantation & environmental permits, assist the land ownership and certification process, help farmers obtain sustainable palm oil certification (ISPO & RSPO), develop and maintain plantations according to GAP, and help farmers to create partnership documents and access to financing and BPDP-KS grant funds. Furthermore, they can also help provide smallholders' needs for the program in the form of allotment of superior seeds, compensation for the TBM period, and also provision of guarantee for smallholder FFB purchases at the price set by the government.

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The Tropical Forest Alliance

TFA is a global multistakeholder partnership platform initiated to support the implementation of private-sector commitments as well as to amplify demand-side engagement in major economies towards the transition to reduced deforestation commodity supply chains. Hosted by the World Economic Forum, TFA partners with 170+ organizations - companies, government entities, civil society, indigenous peoples, local communities and international agencies. TFA operates regional platforms in Latin America, West and Central Africa, China, and Southeast Asia.

LPEM FEB UI

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It is our hope that this study could inspire scaled sustainability commitment and further collective actions across all stakeholders in our journey towards deforestation-free commodities supply chain, other forest-positive shared agendas, and eventually our pursuit towards net zero.

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