
ISSUES AND STRATEGIES FOR ACCELERATING THE IMPLEMENTATION OF SUSTAINABLE SMALLHOLDER OIL PALM REJUVENATION PROGRAM IN INDONESIA

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ABSTRACT

This research aims to analyze various literature that discusses problems and strategies for accelerating the realization of the national sustainable smallholder oil palm rejuvenation (PSR) program. The primary method used in this research is a literature study (desk study). The results of the study show that there are several strategies that the government must implement to accelerate the realization of the sustainable PSR program in Indonesia. The strategies in question include mandatory ISPO certification in 2025 (Indonesian Sustainable Palm Oil) for smallholder oil palm plantations, increasing the resource capacity of smallholder oil palm growers in implementing good agricultural practices (GAPs), providing access to smallholder oil palm growers to production inputs, resolving legality issues. Smallholders' land, encouraging land productivity and strengthening smallholders in fulfilling ISPO certification requirements, strengthening the institution of smallholders as a forum for smallholders to access government programs, and encouraging entry into the palm oil (CPO) processing sector which is an industrial raw material, and the government and related parties signed PSR cooperation through partnerships.

Keywords: acceleration; program realization; smallholder palm oil; sustainable.

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INTRODUCTION

The agricultural sector has a strategic role in economic activities in Indonesia; this can be seen from its contribution to Gross Domestic Product (GDP), which is quite large, around 13.7% in 2020 or second only to the processing industry sector in 19.88%. One subsector that has quite enormous potential is the plantation subsector. The contribution of the plantation sub-sector in 2020 is 3.63% of the total Gross Domestic Product (GDP) and 26.50% of the agriculture, forestry, and fisheries sectors or is the main priority for these sectors (Atikah et al., 2022).

One of the plantation commodities that plays a significant role in economic activities in Indonesia is palm oil. Palm oil can produce vegetable oil, which is much needed by the industrial sector. Its characteristics of being resistant to oxidation under high pressure and its ability to dissolve chemicals that are insoluble in other solvents, as well as its high coating capacity, mean that palm oil can be used for various purposes, including cooking oil, industrial oil, cosmetics, and biodiesel fuel (Jiménez-Carvelo et al., 2017).

Indonesia is the largest palm oil-producing country in the world. It has great potential to market palm oil and palm kernel in domestic and foreign markets. The high demand for palm oil can be seen from the increase in public consumption in domestic and foreign markets. Potential markets that will absorb the marketing of palm oil (CPO) and palm kernel oil (PKO) are the fractionation/ramification industry (especially the cooking oil industry), special fats (cocoa butter substitute), margarine/shortening, oleochemicals, and bath soap.

Palm oil production in Indonesia has the potential to produce local benefits if its development follows sustainable management. These benefits include increasing income for local communities, increasing government income, reducing poverty, and rehabilitating natural resource management. The bright prospects for palm oil commodities in the world vegetable oil trade motivate the Indonesian government to encourage the development of oil palm plantation areas (Halimatussadiah et al., 2021).

The government's efforts to increase the productivity of oil palm plantations through the People's Palm Oil Rejuvenation (PSR) program, as well as maintaining the area of oil palm plantations so they can be utilized optimally. The objectives of rejuvenating smallholder oil palms are resolving the legality of land that is in forest areas and does not yet have a certificate, increasing the productivity of independent plantations, increasing the income of growers along with increasing crop productivity, managing oil palms by best practices, and using certified superior seeds.

Rejuvenation is necessary and absolute now for smallholder oil palm plantations. Most smallholder farmers experience difficulties, mainly because of the significant costs involved and the loss of income when the plants still need to mature. When rejuvenating, smallholders will lose much potential economic value because the waiting time is relatively long for the oil palm to be produced again.

The PSR program has contributed to the recovery of the national economy during the COVID-19 pandemic by absorbing much labor and turning the wheels of the economy or creating a domino effect (multiplier effect). As the world's largest producer and exporter of palm oil, Indonesia produced 47.18 million tons in 2020. Around 37.3 million tons of this was absorbed into the export market (foreign). This export value indicates that palm oil is an essential commodity for the Indonesian economy and plays a role in contributing the largest foreign exchange to the country.

By data from the Ministry of Economy, the target for implementing PSR for three years (2020 to 2022) is 540,000 ha or 180,000 ha per year, spread across 21 provinces and 108 districts/cities and the realization of distribution of PSR funds (from 2016 to April 2021) is IDR 5.93 Trillion for 220,226 Ha of plantation land and involves 96,122 planters (Kurnianingrum et al., 2021). The obstacles to the participating program are that not all planters can meet the requirements of the PSR program, not all smallholder oil palm land meets legality criteria, requires a company (partner) as a guarantor or valise, and collecting and verifying administrative documents takes time.

The problem with smallholder oil palm plantations is low productivity and lack of competitiveness. The average productivity level of smallholder plantations in 2017 was 3.06 tons of CPO/ha; this figure is below the national average productivity of 3.52 tons of CPO/ha. This condition becomes even more unequal compared to the productivity of private plantations, which has reached 3.85 tonnes of CPO/ha. Government-owned plantations have reached 4 tonnes of CPO/ha

(Purnomo, 2020). The low productivity of independent smallholders' gardens has an impact on the income received by smallholders. Apart from that, the status of ownership of plantation land still needs to be cleaned and clear, both in terms of the legal status of ownership and land use. There is still a disparity in palm oil productivity between smallholder plantations and large plantations, both state and private companies. Therefore, the Indonesian government, in particular, prioritizes implementing oil palm development programs for smallholder plantations, even though this is challenging work and requires quite a lot of money.

The problem is that the productivity and sustainability of oil palm plantations on land owned by independent smallholders in terms of fulfilling the supply of oil palm plants will depend on people's plantations, the government through the BPD PKS (Palm et al. Agency) is launching efforts to rejuvenate oil palm plants to support the sustainability of palm oil downstream in the continuity of palm oil supply and increasing palm oil productivity from independent smallholders. This activity is expected to absorb labor, grow gross domestic product (GDP), reduce poverty levels in Indonesia, and bring farmers into middle-class economic society (Saragih, 2017).

Based on the problems faced regarding palm oil cultivation in Indonesia, it is urgent to carry out this research to infer, compare, and review previous studies related to efforts to accelerate the realization of the smallholder oil palm rejuvenation program with various strategies. This research aims to determine the problems and strategies for accelerating the realization of sustainable smallholder oil palm rejuvenation programs in Indonesia. The benefits of this research are to help identify the obstacles faced by oil palm farmers in participating in the rejuvenation program. Additionally, this research can also help identify environmentally friendly rejuvenation practices, thereby reducing negative impacts on the environment, including deforestation, land degradation, and other issues related to oil palm cultivation. Furthermore, the benefits of this research include raising public awareness of issues related to oil palm, including its environmental and social impacts. This can encourage more positive actions from the public in supporting sustainable oil palm cultivation.

METHOD

The method used in this research is qualitative. The aim of using a qualitative approach is in the form of descriptions explaining several concepts related to understanding "the understanding, background and in-depth objectives of a phenomenon, facts and reality (Raco, 2018). The data type used is secondary or bibliographic data sourced from various relevant materials, including books, scientific journals, previous research, regulations/legislation, official reports, the internet, and government agencies or institutions related to this study. The data collection method is a literature study. The data is compiled and analyzed to obtain conclusions regarding problems and strategies for accelerating the realization of Indonesia's national sustainable smallholder oil palm rejuvenation program.

RESULTS AND DISCUSSION

Palm Oil Production and Productivity in Indonesia

Table 1 Palm Oil Production in Central Provinces 2015-2020

Province	Production (Tons)						Average	Contribution %
	2015	2016	2017	2018	2019*)	2020**)		
Riau	8,059,846	7,668,081	8,113,852	8,496,029	9,127,612	9,775,672	8,540,182	21.47
Central Kalimantan	3,572,982	4,260,093	5,778,611	7,230,094	7,748,444	8,298,584	6,148,135	15.46
North Sumatra	5,193,135	3,983,730	5,119,497	5,737,271	6,163,771	6,601,399	5,466,467	13.74
South Sumatra	2,821,938	2,929,452	3,199,481	3,793,622	4,075,634	4,365,004	3,530,855	8.88
East Kalimantan	1,586,624	2,358,392	2,840,710	3,786,477	4,044,753	4,331,930	3,158,148	7.94
West Kalimantan	2,168,136	2,192,591	2,784,180	3,086,889	3,316,363	3,551,825	2,849,997	7.17
Jambi	1,794,874	1,435,141	1,849,969	2,691,270	2,891,336	3,096,621	2,293,202	5.77
South Kalimantan	1,049,463	1,750,389	1,933,721	1,464,227	1,556,612	1,667,132	1,570,257	3.95
West Sumatra	926,618	1,183,058	1,302,952	1,248,269	1,298,038	1,390,199	1,224,856	3.08
Other	3,896,397	3,970,034	5,042,253	5,349,484	5,638,558	6,038,894	4,989,270	12.54
TOTAL	31,070,015	31,730,961	37,965,224	42,883,632	45,861,121	49,117,260	39,771,369	100.00

Information : *) Temporary Figures

**) Estimated Figures

The islands of Sumatra and Kalimantan are still the concentration of oil palm plantations in Indonesia. Based on palm oil production data in Indonesia for 2015-2020, it shows that the most significant average production is in Riau Province at 8,540,182 tons with a contribution of 21.47%, second is Central Kalimantan Province with an average production of 6,148,135 tons with a contribution amounting to 15.46% and third is North Sumatra Province with an average production of 5,466,467 with a contribution of 13.74%.

Meanwhile, if we look at the productivity of oil palm plantations in Indonesia based on CPO, the average is 3,974 kg/ha, where the highest productivity is in North Sumatra Province, 4,760 kg/ha, the second highest productivity is in Central Kalimantan Province, namely 4,576 kg/ha. Meanwhile, the third highest productivity is Papua Province at 4,354 kg/ha (Rahayu, 2022).

Distribution of Oil Palm Plantation Areas

The prospects for the development of the current palm oil industry are very rapid, where there will be an increase in both area and palm oil production in line with increasing community needs. (Syahza, 2019); (Sianipar, 2019); (Lee et al., 2020); (Zain et al., 2021); (Chiriaco et al., 2022). In 2018, the area of oil palm plantations was recorded at 14,326,350 hectares. Of this area, most of it is cultivated by large private companies (PBS), namely 55.09% or an area of 7,892,706 hectares. The coconut area in 2018 reached 3,417,951 hectares, around 99% or an area of 3,385,085 hectares. People's Plantations (PR) are in second place regarding their contribution to the total area of Indonesian oil palm plantations, namely 5,818,888 hectares or 40.62%. At the same time, a small portion is cultivated by State Plantations (PBN), namely 614,756 hectares or 4.29%.

Based on the exploitation status, the area of oil palm plantations in 2020 shows that large private plantations (PBS) are more extensive than community plantations, let alone large state

plantations (PBN). Large private plantations still dominate control of the area of oil palm plantations. Of this area, the majority of 7.98 million hectares, or 54.69% of oil palm plantations, are controlled by private plantations, followed by smallholder plantations, which control 6.04 million hectares, or 41.44% of oil palm plantations, and the remaining small portion of 0.57 million hectares or 3.87% is controlled by large state plantations (Rahayu, 2022) (Figure 1).

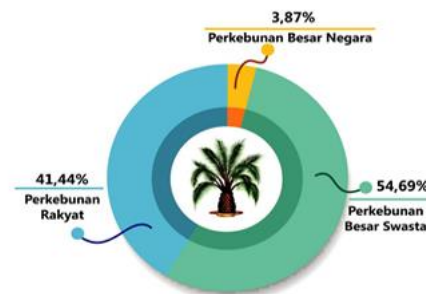


Figure 1 Comparison of the Area of Indonesian Palm Oil Plantations according to Business Status (Rahayu, 2022)

Factors That Influence Palm Oil Production and Productivity

Several study results related to factors that influence oil palm production and productivity in Indonesia include the results of research where the findings show that the factors that influence oil palm production are age or plant age, a significant positive rate of plants at 37.90%. The outpouring of favorable employment rates was 66.00% (Alfayanti, 2013). Meanwhile, the researchers found that the factors that influence smallholder oil palm production using the self-help pattern are that the age of the plant has a natural positive effect of 31.85%. The use of urea fertilizer has a natural positive effect of 33.24 (Ariyanto et al., 2017). From the results of these two studies, there is a similarity that plant age is one of the variables or factors that influence smallholder oil palm production and productivity.

Some of the challenges faced in smallholder oil palm rejuvenation include independent smallholder land certification, high capital requirements for oil palm rejuvenation, low farmer competitiveness, and institutions that are not active in their function to accommodate oil palm rejuvenation activities (Safriyana et al., 2019). Based on the t-test or t-test, only fertilizer, labor, and pesticide variables influence production. The results simultaneously show that the correlation coefficient value is 0.82. This indicates that the correlation ratio with all independent variables (land area, fertilizer, pesticides, and labor) is 82.1% (Arsyad & Maryam, 2017).

Relevant to determining the optimal age for rejuvenation of oil palms, it indicates that oil palms that are 34 years old have entered the optimal age of rejuvenation and must be immediately rejuvenated to maintain the sustainability of palm oil household income. The government can provide support to encourage the acceleration of oil palm rejuvenation in Paser Regency with a funding subsidy policy for rejuvenation, such as in the Vegetable Energy Development and Plantation Revitalization Credit (KPEN-RP) program so that it can open farmers' access to external financing assistance (Mariyah et al., 2018).

The research results show that the independent variables consisting of area, plant age, labor, and fertilizer significantly influence the independent variables at a significance level of 99%

(Manurung et al., 2019). The variables of area, labor, and fertilizer positively influence the dependent variable or influence increasing oil palm FFB production, and the plant age variable hurts oil palm FFB production.

The study results show that the value of the assistance funds provided by the government in carrying out palm oil rejuvenation has yet to be able to support the costs required (Siahaan et al., 2020). The percentage of farmers with a land area of 2 ha is 78.8%, while those with a land area of 4 ha is 21.2%, the age of productive farmers is 68%, while the age of 32% is unproductive. Farmers with legal land are 36%, and those without legal are 64%. This policy is not specific to location, as evidenced by data from 282 farmers who are members of Gapoktan (a combination of farmer groups); 16% have yet to be able to take advantage of this policy. The costs required by farmers from the start of planting to the 3rd year maintenance period are IDR 60,364,349.-. Through the indicative costs set by the government at IDR 66,437,000, the difference in the average cost of farmers' needs is smaller than that set by the government, namely IDR 6,072,651,- or 9.14%. Based on government assistance funds of IDR 25,000,000, -/ha/farmer, to meet the costs of palm oil rejuvenation, farmers need matching funds with an average value of IDR 35,364,349/ha/farmer or 59% of the total funds.

An urgent problem that needs to be addressed immediately is that the average age of oil palm plants has reached over 30 years, so it is necessary to rejuvenate them immediately. Reactivating farmer groups using Simluhtan (agricultural extension system) is also essential. Reactivating farmer groups is a mandatory condition for obtaining financial assistance from the government through BPDPKS (Palm et al. Agency) because the condition for receiving financial assistance for rejuvenation from the government is that farmers must be affiliated with farmer groups (Apriyanto et al., 2021). It was also found that oil palm production was based on ownership in 2020, where large plantations were 32 million tons (66%), while smallholder plantations were 16.3 million tons (34%). BPDPKS fund allocation for July 2015-December 2021 for biofuel subsidies of IDR. One hundred ten trillion (79.04%) for 2021 alone Rp. 51.86 trillion, while smallholder oil palm rejuvenation (PSR) is only 6.6 trillion (4.73%); if you look closely at this data, the subsidy for large plantations is more significant than for smallholder oil palm plantations.

The research found that oil palm farmers face several obstacles in rejuvenating old, damaged, and unproductive oil palms, which can be overcome by utilizing rejuvenation funds provided by BPDPKS, anticipating farmers' income loss during the rejuvenation process by implementing an intercropping pattern, namely by utilizing land. Rejuvenating palm oil by planting food crops such as upland rice and corn or horticultural crops such as watermelon, cultivating citronella plants accompanied by a distillation process, and cultivating livestock in the form of poultry or small ruminants (Napitupulu & Fauzia, 2020).

On the other hand, researchers found that some oil palm farmers still need more motivation to rejuvenate their oil palms (Napitupulu & Fauzia, 2020). Apart from being triggered by the wages or rewards obtained not being as expected, it is also due to the limited number of certified superior seeds at very high prices and unaffordable for farmers.

Researchers found that the fundamental problem faced by oil palm farmers in carrying out rejuvenation is that farmers still have debts with banks, so land certificates, which are one of the requirements for obtaining government funding support, are still being held by banks, the high costs

needed to carry out rejuvenation and loss of income to meet the costs. The lives of farming families during the immature crop period (TBM) and the total cost of replanting in the third year (Marlina, 2020).

Meanwhile, other researchers in this study showed that the institutional principles of farmers still need to be implemented. In contrast, 65.96% of the ISPO criteria still need to be implemented. Only 34.04% of the ISPO criteria have been implemented by farmers. At the same time, there are no farmer groups, data collection, and counseling for farmer groups. Independently (Sabinus et al., 2021). The main problem that occurs in smallholder oil palm plantations is low land productivity. The reason is that the ability of smallholder oil palm growers to implement good agricultural practices (GAPs) needs to be higher. Smallholder oil palm growers also have limited access to production inputs, such as quality seeds, fertilizer, capital, etc. This is the leading cause of low land productivity by smallholder oil palm plantations (SAPUTRA et al., 2022).

From various previous findings and studies related to the factors that influence the production and productivity of smallholder rubber plantations, many influencing factors are necessary to accelerate the realization of a sustainable smallholder oil palm rejuvenation program in Indonesia. These factors include the age of plants over 30 years old, the amount of labor, the use of urea fertilizer, independent farmer land certification, high capital requirements, low farmer competitiveness, farmer institutions that are inactive in their functions, pesticides, and land area, climate (rainfall), fertilization factors, number of trees erected per hectare, farmers' groups are less active, farmers still have obligations or debts to banks, large cost requirements, factors for theft of fresh fruit bunches, ISPO criteria have not been implemented, there is no data collection and counseling for farmer groups.

Strategic Efforts to Accelerate the Realization of the People's Palm Oil Rejuvenation Program

By the problems, objectives, and previous discussions. There are several appropriate strategic efforts in developing the accelerated realization of the sustainable smallholder palm oil rejuvenation program in Indonesia, which can be described as follows:

The government and palm oil stakeholders must try to achieve the smallholder palm oil rejuvenation (PSR) target in 2021. One of the efforts to accelerate the realization of this PSR is by signing the Cooperation on Community Palm Oil Rejuvenation through Partnerships. The Indonesian government is targeting 540,000 ha of palm oil rejuvenation in 2020-2022. Signing of Cooperation for the implementation of PSR between 6 member companies of the Indonesian Palm Oil Entrepreneurs Association (GAPKI) and 1 State-Owned Company, namely PTPN VI with 18 KUD/Koperasi/Gapoktan members of the Indonesian Palm Oil Farmers Association (APKASINDO) from 6 regencies, namely Kotabaru (Kalsel), Serdang Bedagai (North Sumatra), Muaro Jambi and Merangin (Jambi), Kampar and Indragiri Hulu (Riau), with a total land area in this PSR agreement of 18,821 hectares. This smallholder oil palm rejuvenation program is the government's effort to increase the productivity of smallholder oil palm plantations.

Sustainable palm oil plantation certification continues to be promoted. Acceleration efforts continue to be carried out, especially to encourage certification among oil palm farmer groups. In the ten years since the application for sustainable palm oil management certification (Indonesian et al./ISPO) has been operating in Indonesia, approximately 755 certificates have been issued for

private plantations and PT Perkebunan Nusantara (PTPN) with a land area of 5.8 million hectares out of a total of 9.6 million hectares.

Currently, only 20 ISPO certificates are issued to farmer groups, cooperatives, and village-owned enterprises (Bumdes) with a land area of 12,600 hectares or only 0.18 percent of the total existing land. Through the temporary ISPO commission in Minister of Agriculture Regulation No. 30/2020, the Certification Institute carries out the government. With the same principles and criteria as Minister of Agriculture Regulation No. 11/2015, 139 ISPO certificates have been achieved. Minister of Agriculture Regulation No. 38 of 2020. In this new Minister of Agriculture Regulation, the Certification Institute (LS) is implemented in its entirety. From July 2020 to August 2021, 139 certificates were successfully issued. The aim of the ISPO certification system is contained in Presidential Decree No. 44 of 2020, Article 3. First, guarantee and improve the management and development of Palm Oil Plantations by the ISPO Principles and Criteria. Second, increasing the smoothness and competitiveness of Indonesian palm oil plantation products in both national and foreign markets.

In developing the palm oil industry, it is necessary to develop professional human resources competent in the palm oil plantation sector. The government is trying to improve the quality of human resources through education, namely by increasing the beneficiaries' knowledge, skills, attitudes, competence, independence, and competitiveness. Expected. Vocational and academic higher education scholarships Target: Planters, Farmer Families, and ASN in the Palm Oil Sector. Not only through the education system, the government is also trying through training channels to simultaneously increase competency levels, which include Preparation and Socialization, Training, Mentoring, and Assistance/Monitoring. Technical Training and Non-Technical Training (Empowerment). Target: Planters, Farmer Families, Extension Workers, Supporting Personnel, ASN, Communities around the plantation. This activity aims to increase knowledge, skills, attitudes, competencies, independence, and competitiveness and improve technical, managerial, and entrepreneurial abilities through formal vocational higher education.

CONCLUSION

The challenges faced in expediting the smallholder oil palm rejuvenation program are multifaceted, encompassing various factors such as aging palm trees, labor shortages, suboptimal fertilizer use, limited land certification, capital constraints, low farmer competitiveness, inactive farmer institutions, environmental concerns, and inadequate support mechanisms. Addressing these challenges necessitates a comprehensive approach that involves implementing mandatory ISPO certification by 2025, enhancing resource capacity, resolving land legality issues, strengthening farmer institutions, and fostering collaboration between government and stakeholders. These strategies are crucial in achieving sustainable smallholder oil palm rejuvenation and overcoming the identified obstacles.

The strategy to accelerate the community's sustainable palm oil rejuvenation program involves several key components. First, mandatory ISPO certification by 2025 for smallholder oil palm plantations not only offers economic benefits but also aligns with climate change conventions and contributes positively to the Global SDGs. Second, enhancing the resource capacity of

smallholder oil palm growers through the adoption of Good Agricultural Practices (GAPs) and facilitating access to crucial production inputs like quality seeds, fertilizers, and capital. Third, addressing land legality issues for smallholders to boost productivity and ensure compliance with ISPO certification requirements. Fourth, strengthening the smallholder oil palm growers' institutions as a platform for accessing government programs and promoting participation in the palm oil processing sector (CPO). Lastly, the collaboration between governments and stakeholders, as exemplified by the PSR partnership, serves as a vital source of raw materials for the industry. These strategies collectively aim to achieve sustainable palm oil rejuvenation within the community.

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