

## What are The Major Barriers and Challenges Faced by Independent Oil Palm Smallholder Framers in RSPO Certification?

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### Abstract

The Roundtable on Sustainable Palm Oil (RSPO) certification is essential for promoting sustainable palm oil production; however, smallholder farmers face significant obstacles in meeting its standards, hindering their growth. This study aims to identify the main barriers and challenges for independent oil palm smallholders in the RSPO certification process and to propose strategies for overcoming these issues. Using a mixed-methods approach, researchers collected data from 60 smallholders through a snowball sampling method and analyzed it using descriptive statistical techniques such as frequency counts and cross-tabulations. Critical barriers identified include high certification costs, lack of knowledge, limited resources, difficulties tracking production yields, and challenges meeting social requirements. Furthermore, smallholders struggle with adapting cultivation practices, accessing markets, maintaining commitment, building capacity, and navigating bureaucratic hurdles. Organizations are urged to adopt market development strategies, enhance their Corporate Social Responsibility (CSR) initiatives, and facilitate better access to sustainable technologies to tackle these challenges. Additionally, enhancing green skills, simplifying record-keeping, reinforcing farmer groups, and offering financial incentives, including soft loans and tailored training, are critical. Streamlining certification procedures will also alleviate administrative burdens, enabling smallholders to adopt sustainable practices more effectively

**Keywords:** barriers, palm oil, RPSPO certification, smallholder farmers, sustainability

### Introduction

Indonesia relies on palm oil for its economy. This sector contributes 96.86% of agricultural exports to state revenue and improves global food security (Saputra & Sulistiyandari, 2024). Indonesia is one of the world's top palm oil producers, producing 37.4 million metric tons in 2019 (Hariani et al., 2021). Its export revenue—28.1 billion USD in 2018—shows its importance for national foreign reserves (BPDP, 2018). The Indonesian government also promotes sustainable palm oil production by rejuvenating plantations and increasing output while balancing social, economic, and environmental factors (Sakai et al., 2022).

As global environmental consciousness grows, Indonesia's palm oil industry is pressured to embrace sustainable methods (Pacheco et al., 2020). The industry has been criticized for deforestation, habitat degradation, and plantation social issues, causing environmental and ethical concerns (Choiruzzad et al., 2021). Deforestation threatens biodiversity and local livelihoods, spurring a shift toward Sustainable Palm Oil (Grabs &

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Garrett, 2023). This effort strives to make palm oil production more ecologically friendly and socially responsible, addressing ecological implications and community well-being (Pasaribu et al., 2020).

The Roundtable on Sustainable Palm Oil (RSPO) certification is essential for sustainable palm oil production (Apriani et al., 2020). RSPO ensures ethical palm oil production through robust global standards and multi-stakeholder governance (Choiruzzad et al., 2021). This certification boosts market trust and demand for sustainable palm oil products and encourages the sector to adopt environmentally friendly and socially beneficial practices (Npueng et al., 2023). RSPO is crucial to linking palm oil with global environmental goals (Oliphant & Simon, 2022).

As significant palm oil producers, smallholder farmers help achieve sustainability goals. However, they face many obstacles in satisfying RSPO certification standards, which slows their growth (Dharmawan et al., 2021). Limited information, resources, technology, and insufficient institutional capacity contribute to these issues, making it crucial to support and develop solutions that allow these farmers to embrace sustainable practices (Raharja et al., 2020). By tackling these hurdles, they can improve the palm oil industry's sustainability and smallholder livelihoods.

Even though RSPO certification has been the focus of many studies, many researchers still do not recognize the unique barriers and challenges that smallholder farmers growing palm oil encounter. Previous studies by Apriani et al. (2020), which have primarily focused on large companies or cooperatives, have not fully explored smallholders' experiences and points of view. Also, little research by Veriasa et al. (2024) has been done on the factors that make or break these farmers' attempts to get RSPO certification. This background shows how important it is to research their specific situations and needs.

This study aims to answer the following questions based on the research gap mentioned above:

1. What are the key barriers and challenges to independent oil palm smallholders in the RSPO certification process?
2. What strategies can be implemented to overcome barriers and increase the success of RSPO certification among independent smallholders?

This study will help us learn more about the problems small independent farmers have getting RSPO approval. This information can then be used to improve policies and programs. This study can help make palm oil production in Indonesia more environmentally friendly by finding problems and ways to fix them. These studies can help small, independent palm oil farmers get better deals and reach more markets by giving them more insight into the palm oil supply chain.

This study is unique because it focuses on smallholder farms and shows their experiences and points of view, which have not always been considered in previous research. The main goal of this study is to find out what makes RSPO certification work or not work for smallholders by doing a thorough qualitative analysis. It will also include specific policy suggestions to help these farmers deal with their problems and improve their chances of getting certified, leading to more eco-friendly practices in the palm oil industry.

## **Method**

### **Research Design**

This study uses a mixed-methods strategy combining quantitative and qualitative techniques. While the quantitative part uses surveys to collect numerical data, the qualitative part uses in-depth interviews and observations to grasp the phenomena under study better (Lee, 2024). This analytically descriptive study examines smallholder palm oil producers' difficulties during the RSPO certification procedure. It integrates different techniques to illuminate these farmers' complexity and offers a holistic understanding of the issues.

### **Research Location Determination Method**

Mesuji Timur District in Mesuji Regency, Lampung Province, was purposely selected for the research through a purposive sample technique. Many smallholder farmers are in this area, a significant hub for palm oil production in Indonesia. Also, the area has a lot of different traits when it comes to using sustainable farming methods, which helps us understand the problems these farmers are having more completely. By focusing on this area, the study aims to demonstrate the complexity of sustainable farming and highlight the significant challenges of obtaining certification.

### **Respondent Determination Method**

Small-scale palm oil farmers who are members of farming groups and grow at least 2 hectares of oil palm were asked to participate in this study. A snowball selection method was used to find people to take part. At first, the sample came from suggestions made by area agricultural extension workers. Later, farmers who had been interviewed were asked to suggest more farmers. In the end, 60 smallholder farmers were included in the study. This number is considered a good representation of the region's bigger group of similar producers. This method ensures the researcher gets a complete description of their practices and problems.

### **Data Collection Methods**

Three different methods were used to gather data for this study. First, a poll was given using a pre-made questionnaire with closed and open-ended questions about the farmers' traits, the size of their land, their experiences with RSPO certification programs, and how they saw the problems they were facing. Second, in-depth interviews were done with a small group of farmers who were chosen based on certain factors, such as whether they had successfully achieved RSPO certification or not. These conversations aimed to learn more about their experiences, thoughts, and reasons for going through the certification process. Lastly, direct observations were made to look at the farmers' oil palm farms, how they farmed, and how they interacted with essential people in the field.

### **Data Analysis Methods**

The researcher evaluated the data collected from the surveys using descriptive statistical methods such as frequency counts, percentages, and cross-tabulations. This analysis is intended to depict the characteristics of respondents, assess farmers' awareness of RSPO criteria, and show the distribution of their responses to survey questions. Researchers use these methodologies to provide a detailed and analytical description of the findings, highlighting major trends and farmers' understanding of their certification experiences.

The thematic analysis examined the qualitative data from in-depth conversations and observations. This thematic analysis is all about finding repeating themes in the data and organizing the information based on those themes. The main goal of this study is to describe the types of problems and issues that smallholder palm oil farmers face and learn

more about the things that make or break their attempts to get RSPO certification. The study aims to shed light on these topics and give helpful information about how complex the certification process is for these farmers.

## **Result and Discussion**

### **Respondent Characteristics**

The researcher made profiles of the smallholder palm oil farmers who participated in the study by looking at their age, education level, land size, farming experience, and membership in farmer groups. This information was carefully assembled to show how these traits are connected to their participation in the RSPO certification program. By mapping these factors, the study hopes to show how they might affect farmers' views and experiences with the licensing process. This mapping will help researchers learn more about how smallholder agriculture works in the long run RSPO certification program.

According to Table 1, most smallholder palm oil producers are aged 40 to 49, comprising 31.67% of the population, while 21.67% fall within the 50–60 age bracket. This result highlights the importance of younger and older farmers in sustaining palm oil production, as they bring a blend of energy and experience. Farmers aged 40 to 60 possess significant knowledge in managing challenges like pests, price fluctuations, and climate change, with older farmers serving as valuable mentors. However, the low percentage of farmers under 40 indicates a potential generational gap that could threaten the industry's future. Older farmers remain committed to their farms, but many face physical challenges and struggle to find successors, raising concerns about the sustainability of palm oil agriculture.

Table 1 reveals that 28.33% of independent palm oil farmers have only completed elementary school, 18.33% finished junior high, and 25% completed senior high school. Only 3.33% have diplomas or higher education, indicating a significant lack of educational attainment among these farmers. This limited education complicates their ability to adopt modern farming methods and sustainable practices, as they may struggle to access updated information and knowledge. Although some farmers express interest in training programs, barriers such as distance and cost prevent participation. Enhancing training and extension programs tailored to their educational levels is crucial for improving their openness to new technologies, ultimately boosting productivity and sustainability in the palm oil industry.

Land ownership data reveals that 38.33% of palm oil farmers manage plantations between 2 and 3 hectares, significantly impacting their profitability and production capacity. The fragmentation of land ownership complicates efficient palm oil management, highlighting the need for programs that empower small-scale farmers to enhance their output and livelihoods. Access to necessary knowledge and technology is often limited for these farmers. Implementing land consolidation programs could address ownership fragmentation if conducted transparently and fairly. Additionally, some farmers have formed cooperative associations to streamline land administration and resource sharing, promoting collaboration and optimizing resource use, ultimately leading to improved agricultural output and sustainability within the community.

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Table 1. Characteristics of respondent in East Mesuji District

Respondent Characteristics	Frequency	Percentage (%)
<b>Age (years old)</b>		
≤30	4	6.67
30.1 to 39	6	10.00
40.1 to 49	19	31.67
50.1 to 60	13	21.67
≥60.1	8	13.33
<b>Education Level</b>		
Elementary School	17	28.33
Junior High School	11	18.33
Senior High School	15	25.00
Diploma-1	2	3.33
Diploma-2	0	0.00
Diploma-3	3	5.00
Bachelor's Degree or Above	2	3.33
<b>Land Size (hectares)</b>		
2 to 3	23	38.33
3.1 to 4	15	25.00
4.1 to 5	8	13.33
≥5.1	4	6.67
<b>Farming Experience (years)</b>		
≤3	4	6.67
3.1 to 5	15	25.00
5.1 to 7	24	40.00
≥7.1	7	11.67
<b>Involvement in Farmer Groups (years)</b>		
≤3	2	3.33
3.1 to 5	12	20.00
5.1 to 7	21	35.00
≥7.1	15	25.00

Source: Primary Data Analysis, 2024

Table 1 shows that 40% of autonomous palm oil farmers have 5.1 to 7 years of experience, indicating a solid foundation in managing their farms. This expertise allows them to effectively understand the palm oil growth cycle, pest and disease management, and proper fertilization techniques, which enhances their ability to maximize sustainable production. Experienced farmers can mentor newcomers, sharing valuable knowledge gained from overcoming challenges. However, 6.67% of farmers have less than three years of experience, suggesting a potential generational shift. As climate change impacts palm oil growth, seasoned farmers have developed adaptation strategies but often struggle to access the latest agricultural information. Targeted training and extension programs are crucial for equipping all farmers with the skills to ensure the industry's long-term viability and productivity.

Table 1 shows many independent palm oil farmers (35% of participants) who have been part of farming cooperatives for five to seven years, according to the data. This high participation level shows that these farmers strongly support the cooperative plan and are ready to work together. Joining these groups has many benefits, such as giving you access to essential resources, knowledge, and technology. Cooperatives also provide a way for people to help each other and share their experiences. Farmers' long-term involvement shows these groups can grow into more substantial, self-sufficient entities.

Many farmers reported that their farmer groups provided valuable support, including access to better market price information, free fertilizer, and training opportunities, indicating that these unions effectively meet their needs. However, some farmers

expressed concerns about the infrequency of group activities, citing a lack of meetings and collaborative events. This issue may stem from member disinterest, insufficient public or private support, or resource limitations among group leaders. Revitalization efforts are necessary to enhance participation and collaboration. Engaging in agricultural cooperatives is crucial for improving palm oil farmers' well-being, as this collaborative approach fosters productivity through community support and resource sharing. Yet, challenges such as inadequate training and limited resources must be addressed to maximize the impact of these cooperatives on farmers and promote agricultural sustainability.

### **Barriers Faced by Independent Oil Palm Smallholders in the RSPO Certification Journey**

Smallholder palm oil producers face numerous challenges in obtaining certification from RSPO. Many of these farmers possess minimal educational qualifications, typically confined to elementary school, leading to a deficiency in knowledge regarding sustainable agricultural methods and the requisite criteria for certification. Their limited education hinders their capacity to understand and apply the sustainability concepts set forth by RSPO. A comprehensive approach is needed to tackle these barriers by improving education, increasing access to funding, providing organizational assistance, and fostering collaboration among farmers. This approach will help farmers obtain certification and encourage sustainable agricultural practices.

Table 2. Barriers for independent oil palm farmers towards RSPO certification in East Mesuji District

No	Barriers	Frequency	Percentage (%)
1	High cost	31	51.67
2	Lack of Knowledge	18	30.00
3	Resource Limitations	6	10.00
4	Difficulty in Tracking Production Results	3	5.00
5	Difficulty Meeting Social Requirements	2	3.33
<b>TOTAL</b>		<b>60</b>	<b>100.00</b>

Source: Primary Data Analysis, 2024

The data from Table 2 indicates that the main obstacle hindering smallholder palm oil farmers from obtaining RSPO certification is the steep cost, which impacts 51.67% of them. This result underscores that certification expenses create a substantial financial barrier for these small-scale producers, complicating their ability to move forward. The total land area of 30 hectares can be acquired for a minimum price of Rp 150 million for certification. There is a clear need for more accessible financing options to assist these farmers in their certification efforts. Furthermore, research conducted by Choiruzzad et al. (2021) points out various challenges independent palm oil farmers face, such as compliance with RSPO standards, disputes over land ownership, limited financial literacy, food insecurity, and fluctuating prices for certified palm oil. Additionally, many farmers find paying for consultancy services essential for successfully navigating the certification process difficult.

Data shows that a lack of knowledge is the main barrier for smallholder palm oil farmers in obtaining RSPO certification, affecting 30%. Limited understanding of RSPO standards and certification requirements hinders their participation. Many smallholders struggle with low literacy, inadequate infrastructure, and high costs, making it difficult to

comply with RSPO standards. Research by de Vos et al. (2023) emphasizes that this knowledge gap prevents certification and highlights the need for better information to integrate smallholders into sustainable practices in the palm oil sector. Field surveys indicate that many farmers are unaware of RSPO and its certification process, underscoring the urgent need for information on these topics.

Small palm oil farmers struggle to obtain RSPO certification due to resource constraints, which affect about 10% of the total. They face high costs for certification, audits, and training, lack essential farming tools, and have limited knowledge of sustainable practices. A study by Watts et al. (2021) notes that independent farmers often cannot secure certification, while certified farmers benefit more financially, particularly those with larger plots or cooperative support. Many farmers are concerned about the certification costs and face challenges in securing loans, using outdated equipment, and organizing for certification. Their lack of skills and understanding of RSPO standards further hinders their efforts.

Data shows that 5% of smallholder palm oil farmers struggle to monitor their production outputs, presenting a significant challenge in the RSPO certification process. Accurate tracking is essential for transparency, sustainability evaluation, and meeting RSPO reporting criteria. Many farmers lack efficient recording systems, making consistent documentation difficult, especially for those with smaller plots. Harvest fluctuations due to weather, pests, and plant age complicate monitoring further. Research by Innocenti and Oosterveer (2020) reveals that limited access to and understanding of technology hampers effective yield tracking, as farmers often rely on traditional methods. Financial and labor constraints add to the difficulties, emphasizing the need for improved tracking systems to support sustainability and compliance in palm oil production.

Data indicates that 3.33% of smallholder palm oil farmers struggle to meet the social criteria for RSPO certification, highlighting significant issues since these standards are essential to RSPO principles. Social criteria encompass human rights protections, fair wages, safe working conditions, and community engagement. Many farmers lack awareness of the importance of these social factors and face complex community issues that complicate resolution efforts. Resource limitations hinder their ability to fulfill social responsibilities, such as financing community initiatives. Conflicts over land use and inadequate amenities in surrounding communities exacerbate these challenges. A study by Novita (2024) emphasizes the necessity of local government support for financial and technical assistance, which is crucial for helping farmers achieve RSPO certification and improve their livelihoods sustainably.

### **Challenges Faced by Independent Oil Palm Smallholders in the RSPO Certification Journey**

certification, significantly when modifying their cultivation techniques. Shifting to more sustainable practices often entails considerable changes, which can be overwhelming without sufficient training and resources. Moreover, these farmers usually find it challenging to reach markets that require certified products, hindering their ability to obtain fair prices. Consistency and dedication to sustainable practices are vital; however, many smallholders lack the support to enhance their capabilities effectively. Additionally, bureaucratic challenges and administrative complexities further complicate the certification journey, highlighting the necessity for streamlined support and guidance to assist these farmers in navigating the complexities of sustainability standards.

Many small-scale palm oil farmers have difficulty meeting the RSPO's standards for sustainability. Their lack of technical skills and resources is a significant problem because

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it makes it harder for them to meet certification standards. On top of that, these farmers don't always know much about the prices of fresh fruit bunches (FFB) or how to make healthy palm oil. This lack of knowledge can hurt their management skills, making it hard for them to run their plantations well. Also, bad road conditions and limited access to transportation make it harder to move harvested goods to more markets because they are harder to carry. Because of this, these interconnected problems make it much harder for them to get sustainable approval.

Table 3. Challenges for independent oil palm farmers towards RSPO certification in East Mesuji District

No	Challenges	Frequency	Percentage (%)
1	Changes in Cultivation Practices	27	45.00
2	Difficulty in Gaining Access to Markets	17	28.33
3	Maintaining Consistency and Commitment	10	16.67
4	Capacity Building	4	6.67
5	Bureaucracy and Administration	2	3.33
<b>TOTAL</b>		<b>60</b>	<b>100.00</b>

Source: Primary Data Analysis, 2024

Table 3 indicates that 45% of independent palm oil farmers find it challenging to modify their farming practices to meet RSPO certification standards, highlighting significant barriers to adopting innovative methods. Farmers' reliance on traditional practices makes change difficult, compounded by a lack of awareness about eco-friendly techniques. Financial concerns about investing in new equipment and uncertainty regarding production yields deter them from adopting new methods. Research by Hou et al. (2024) emphasizes the need for equitable resource distribution to empower smallholder farmers. It suggests that a comprehensive approach is essential for facilitating sustainable changes in farming practices.

Data shows that 28.33% of independent palm oil farmers struggle to access markets after achieving RSPO certification, limiting their economic gains. Large businesses favor suppliers with established relationships and high production volumes, making it difficult for small farms to meet quality standards and access essential market information. High costs related to transportation, storage, and certification further hinder competitiveness. Research by Rodthong et al. (2020) highlights that complex certification paperwork and negative perceptions of RSPO standards restrict market opportunities. Addressing these issues requires coordinated support from governments, businesses, and NGOs to enhance market access for certified farmers.

Data indicates that 16.67% of independent palm oil farmers struggle to maintain commitment to RSPO certification standards, facing challenges in sustaining sustainable practices post-certification. Economic pressures, such as fluctuating costs and declining prices, push farmers back to traditional methods. The lack of ongoing incentives, generational turnover, and recurring certification costs complicate sustainability efforts. Research by Veriasa et al. (2024) highlights the need for adherence to RSPO principles, yet many farmers revert to harmful practices and struggle with documentation. A lack of solid farmer organizations further hampers support, necessitating a comprehensive approach involving multiple stakeholders to address these challenges.

Data indicates that 6.67% of independent palm oil farmers view capacity building as a significant challenge in the RSPO certification process, highlighting the importance of



improving skills for sustainable practice adoption. Insufficient information about RSPO standards, sustainable agricultural technologies, and market opportunities is a vital issue. Many farmers face educational barriers that hinder their understanding of certification requirements, compounded by a lack of training facilities and experts in their regions. Additionally, the rapidly evolving RSPO standards require farmers to continually update their knowledge and skills. Research by Oliphant and Simon (2022) identifies challenges such as the inability to meet standards, lack of training resources, and difficulties with sustainable practices. It emphasizes practical training to help farmers manage complex certification documents and enhance their skills for successful RSPO certification.

Data shows that 3.33% of independent palm oil farmers face bureaucratic challenges in the RSPO certification process, which can significantly hinder their ability to obtain certification. The complex procedures and numerous documentation requirements overwhelm smallholders who lack administrative experience, consuming considerable time and effort. Administrative costs, along with the need for travel, add financial burdens. Research by Chandra et al. (2024) identifies that certified smallholder farmers in Indonesia struggle with convoluted regulations and poor inter-agency coordination, leading to lengthy certification timelines and unexpected costs. Limited access to information and inadequate support further complicate compliance. Streamlining procedures and providing robust assistance could enhance smallholder participation in RSPO certification, allowing them to benefit from sustainable palm oil initiatives.

**Enhancing RSPO Certification Adoption among Independent Smallholders: Strategies to Overcome Barriers, Challenges, and Boost Success**

An accreditation from the RSPO is essential for promoting sustainable palm oil production since it creates strict rules that guarantee environmentally friendly and socially acceptable behaviors. Smallholder farmers, on the other hand, frequently face significant obstacles when attempting to obtain this certification. These obstacles include high expenses, insufficient knowledge of the certification procedure, and restricted access to the required resources. These impediments may severely hinder their capacity to comply with RSPO criteria, ultimately impacting the palm oil industry’s ability to provide for its long-term sustainability.

It is necessary to have a comprehensive plan to increase the number of smallholders who choose RSPO certification and overcome these difficulties. This plan should enhance access to information regarding certification criteria, provide financial support to decrease the economic burden and implement targeted training programs that provide farmers with the skills necessary to manage the certification process. Through the implementation of these efforts, we will be able to empower smallholders to manage better the complexity of certification, which will ultimately lead to the development of a palm oil business that is more sustainable and will boost the livelihoods of farmers.

Table 4. Strategy to overcome barriers and challenge RSPO certification in East Mesuji District

No	Strategy to Overcome Barriers and Challenges	Frequency	Percentage (%)
1	Market development	15	25.00
2	Corporate social responsibility (CSR) programs	12	20.00
3	Facilitating access to sustainable technology	9	15.00
4	Green skills enhancement	8	13.33
5	Simple recording system	6	10.00
6	Strengthening farmer groups	4	6.67

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7	Farmers' incentives	3	5.00
8	Soft credit or installment payments	1	1.67
9	Customized training	1	1.67
10	Simplifying certification procedures	1	1.67
<b>TOTAL</b>		<b>60</b>	<b>100.00</b>

Source: Primary Data Analysis, 2024

Table 4 highlights that most independent palm oil farmers adopting RSPO certification prioritize market development, with 25% focusing on this strategy. This approach enhances the competitiveness of their products in a sustainability-driven global market, offering potential income boosts through access to developed nations. However, farmers encounter challenges in establishing marketing networks due to intense competition and the complexities of RSPO standards. Research by Limaho et al. (2022) outlines strategies like promoting sustainable practices and collaborating with stakeholders to increase awareness and demand for certified palm oil. Observations reveal that farmers are optimistic about the market prospects for certified products, noting an increasing demand from large companies. However, they hesitate to establish broad marketing networks and emphasize the need for additional support from government and non-governmental organizations. Ultimately, market development is crucial for smallholder farmers seeking RSPO certification, yet its success depends on government backing, information access, and marketing capabilities.

Research shows that 20% of independent palm oil farmers pursue RSPO certification by developing CSR programs in collaboration with companies. This approach acknowledges the importance of social dimensions in sustainability, providing farmers access to essential resources, technology, and expertise that improve local community welfare. Engaging in CSR initiatives helps farmers build a positive image and strengthen ties with their communities, highlighting their awareness of social responsibilities beyond financial gains. According to Schoneveld et al. (2019), integrating CSR strategies encourages sustainable practices among smallholders, aligning with global sustainability goals. However, challenges like budget constraints and low community participation can hinder implementation. Observations reveal that farmers perceive CSR programs as significantly beneficial to their communities, citing improved access to healthcare, education, and infrastructure. While they recognize the importance of CSR initiatives, challenges such as budget constraints and low community participation hinder effective implementation. Ultimately, developing CSR programs proves to be an effective strategy for smallholder farmers aiming for RSPO certification, fostering stronger ties with local communities while meeting certification requirements.

Research indicates that 15% of independent palm oil farmers have adopted RSPO certification by focusing on access to sustainable technology, recognizing its critical role in enhancing agricultural practices and meeting certification standards. Farmers can improve productivity, lower production costs, and increase incomes by utilizing soil sensors and drip irrigation technologies while minimizing environmental impacts like soil degradation and greenhouse gas emissions. These innovations also help farmers adapt to climate change challenges. Abideen et al. (2023) emphasize that accessible, affordable technologies can support smallholders in achieving RSPO standards, although many face challenges in accessing and using these tools. Observations and in-depth interviews with farmers reveal their recognition of technology's potential to boost productivity and

enhance crop quality, as they express interest in specific tools like drip irrigation systems. However, they face challenges accessing and utilizing these technologies, indicating a need for more intensive training and support. Ultimately, facilitating access to sustainable technology is crucial for empowering smallholder palm oil farmers to achieve RSPO certification, improve productivity, reduce environmental impacts, and satisfy increasing market demands.

Data shows that 13.33% of independent palm oil farmers prioritize enhancing their green skills as a critical strategy for adopting RSPO certification, reflecting their awareness of the importance of knowledge in sustainable agriculture. By improving skills in areas like soil conservation, water management, and integrated pest control, farmers can effectively implement sustainable practices and adapt to environmental changes. Additionally, 10% of farmers recognize the need for simple record-keeping systems to manage data, vital for compliance with RSPO standards. Research by Pramudya et al. (2022) emphasizes the importance of training programs in developing these green skills. Innocenti and Oosterveer (2020) highlight that proper documentation enhances transparency and facilitates decision-making. Observations reveal that farmers find green skills training beneficial for gaining new insights. At the same time, effective record-keeping helps them organize data and make informed decisions, though they face challenges maintaining consistency. Overall, enhancing green skills and implementing straightforward documentation systems are crucial for farmers aiming to adopt RSPO certification effectively.

Data shows that 6.67% of independent palm oil farmers prioritize strengthening farmer groups to adopt RSPO certification, recognizing the importance of collaboration in addressing certification challenges. These groups offer collective training on sustainable practices that align with RSPO standards and facilitate sharing information on certification, agricultural technology, and market opportunities. They also provide access to essential resources like credit and farming equipment. Additionally, 5% of farmers focus on providing financial incentives as a primary strategy, emphasizing that financial motivation is crucial for encouraging sustainable cultivation practices. Research by Firmansyah and Umami (2021) highlights that these farmer groups enhance certification adoption, while Berenschot et al. (2022) underscore the role of incentives in improving market access and supporting farmers' commitment to sustainability. Observations reveal that farmers value these groups' social and emotional support while needing more concrete and sustainable incentives to shift their farming practices. Thus, reinforcing farmer groups and offering incentives are complementary strategies for promoting RSPO certification, dependent on robust support and strategic planning from various stakeholders.

Data reveals that 5% of independent palm oil farmers adopt targeted strategies focusing on financial aspects (1.67%), training (1.67%), and certification procedures (1.67%), indicating their awareness of the technical and administrative challenges in the RSPO certification process. Farmers prefer flexible financing options like soft loans or staggered payments to overcome financial barriers, enabling them to invest in organic fertilizers and eco-friendly equipment necessary for certification. Additionally, tailored training is essential for equipping farmers with the skills to implement sustainable practices and understand RSPO requirements. The desire to simplify certification procedures reflects concerns about bureaucratic complexities that hinder adoption; streamlining these processes could significantly reduce administrative burdens. Research by Kato and Soda (2020) and Napitupulu et al. (2018) emphasizes how financial support

and training can enhance certification accessibility, while Bishop and Carlson (2022) highlight the importance of simplifying procedures to encourage more farmers to pursue certification. Observations reveal that farmers struggle to access funding for initial investments, desire more relevant training, and find certification processes overly complicated. Despite the small percentage of farmers utilizing these strategies, their diverse needs highlight the importance of developing effective programs to support their sustainability goals.

### **Conclusions**

In conclusion, this research highlights significant barriers and challenges independent oil palm smallholders face in the RSPO certification process. Key barriers include high costs, lack of knowledge, limited resources, difficulties tracking production yields, and challenges meeting social requirements. Additionally, smallholders encounter challenges such as adapting cultivation practices, accessing markets, maintaining consistency and commitment, capacity building, and navigating bureaucratic processes. Several strategies can be implemented to overcome these obstacles and enhance the success of RSPO certification. These include market development initiatives, Corporate Social Responsibility (CSR) programs, and facilitating access to sustainable technologies. Furthermore, improving green skills, establishing simplified record-keeping systems, and reinforcing farmer groups are essential. Providing incentives for farmers, offering soft loans or staggered payment plans, and delivering tailored training can significantly support their efforts. Lastly, streamlining certification procedures will reduce administrative burdens and help smallholders achieve sustainable practices more effectively. By addressing these barriers proactively, stakeholders can foster a more equitable and sustainable palm oil sector. This research suggests that policymakers should prioritize support programs for independent oil palm smallholders, focusing on reducing certification costs and enhancing access to training and resources. Implementing targeted CSR initiatives and leveraging technology can facilitate market access and streamline certification processes. Furthermore, fostering farmer collaboration can strengthen their negotiating power and share best practices. Future research opportunities include investigating the long-term impacts of CSR programs on smallholder livelihoods and sustainability outcomes and exploring innovative financing models that support smallholders through soft loans or payment plans. Additionally, studies could examine the effectiveness of digital tools in enhancing traceability and record-keeping among smallholders, contributing to better compliance with RSPO standards and improving overall market access.

### **Reference**

- Abideen, A. Z., Sundram, V. P. K., & Sorooshian, S. (2023). Scope for Sustainable Development of Small Holder Farmers in the Palm Oil Supply Chain—A Systematic Literature Review and Thematic Scientific Mapping. *Logistics*, 7(1), 6. <https://doi.org/10.3390/logistics7010006>
- Apriani, E., Kim, Y.-S., Fisher, L. A., & Baral, H. (2020). Non-state certification of smallholders for sustainable palm oil in Sumatra, Indonesia. *Land Use Policy*, 99, 105112. <https://doi.org/10.1016/j.landusepol.2020.105112>
- Berenschot, W., Dhiaulhaq, A., Afrizal, Hospes, O., Adriana, R., & Poetry, E. (2022). Anti-Corporate Activism and Collusion: The Contentious Politics of Palm Oil

- Expansion in Indonesia. *Geoforum*, 131, 39–49. <https://doi.org/10.1016/j.geoforum.2022.03.002>
- Bishop, K. J., & Carlson, K. M. (2022). The role of third-party audits in ensuring producer compliance with the Roundtable on Sustainable Palm Oil (RSPO) certification system. *Environmental Research Letters*, 17(9), 094038. <https://doi.org/10.1088/1748-9326/ac8b96>
- BPDP. (2018). Indonesia's Palm Oil Export Rose in August, The highest in 2018. BPDP.or.Id. <https://www.bpdp.or.id/en/indonesia-s-palm-oil-export-rose-in-august-the-highest-in-2018>
- Chandra, A., Garrett, R. D., Carlson, K. M., Heilmayr, R., Stigler, M., Benedict, J. J., & Grabs, J. (2024). How well does the implementation of corporate zero-deforestation commitments in Indonesia align with aims to halt deforestation and include smallholders? *Environmental Research Letters*, 19(4), 044054. <https://doi.org/10.1088/1748-9326/ad33d1>
- Choiruzzad, S. A. B., Tyson, A., & Varkkey, H. (2021). The ambiguities of Indonesian Sustainable Palm Oil certification: internal incoherence, governance rescaling and state transformation. *Asia Europe Journal*, 19(2), 189–208. <https://doi.org/10.1007/s10308-020-00593-0>
- de Vos, R. E., Suwarno, A., Slingerland, M., van der Meer, P. J., & Lucey, J. M. (2023). Pre-certification conditions of independent oil palm smallholders in Indonesia. Assessing prospects for RSPO certification. *Land Use Policy*, 130, 106660. <https://doi.org/10.1016/j.landusepol.2023.106660>
- Dharmawan, A. H., Mardiyansih, D. I., Rahmadian, F., Yulian, B. E., Komarudin, H., Pacheco, P., Ghazoul, J., & Amalia, R. (2021). The Agrarian, Structural and Cultural Constraints of Smallholders' Readiness for Sustainability Standards Implementation: The Case of Indonesian Sustainable Palm Oil in East Kalimantan. *Sustainability*, 13(5), 2611. <https://doi.org/10.3390/su13052611>
- Firmansyah, E., & Umami, A. (2021). Potential of Intercropping of Oil Palm (*E. guineensis* Jacq.) and Liberica Coffee (*C. liberica* L.): A Case Study in Smallholder Plantation. *Journal of Applied Agricultural Science and Technology*, 5(2), 106–116. <https://doi.org/10.32530/jaast.v5i2.22>
- Grabs, J., & Garrett, R. D. (2023). Goal-Based Private Sustainability Governance and Its Paradoxes in the Indonesian Palm Oil Sector. *Journal of Business Ethics*, 188(3), 467–507. <https://doi.org/10.1007/s10551-023-05377-1>
- Hariani, E., Widyawati, R. F., & Ginting, A. L. (2021). Palm Oil Exports Become The Main Contributor Of Export Growth In Helping Indonesia's Economic Recovery Due To The Covid 19 Pandemic. *Proceeding of The International Seminar on Business, Economics, Social Science and Technology (ISBEST)*, 1. <https://doi.org/10.33830/isbest.v1i.610>
- Hou, T. M., Tamunaidu, P., Padfield, R., & Huzir, N. M. (2024). "Smile even if your burdens are heavy": Smallholder challenges and the Sabah sustainable palm oil initiative. *Sustainable Development*. <https://doi.org/10.1002/sd.2973>
- Innocenti, E. D., & Oosterveer, P. (2020). Opportunities and bottlenecks for upstream learning within RSPO certified palm oil value chains: A comparative analysis between Indonesia and Thailand. *Journal of Rural Studies*, 78, 426–437. <https://doi.org/10.1016/j.jrurstud.2020.07.004>

- Kato, Y., & Soda, R. (2020). The Impact of RSPO Certification on Oil Palm Smallholdings in Sarawak. In *Advances in Asian Human-Environmental Research* (pp. 337–356). [https://doi.org/10.1007/978-981-13-7513-2\\_16](https://doi.org/10.1007/978-981-13-7513-2_16)
- Lee, Y. S. (2024). Qualitative and mixed methods. In *Translational Orthopedics* (pp. 229–232). Elsevier. <https://doi.org/10.1016/B978-0-323-85663-8.00010-6>
- Limaho, H., Sugiarto, Pramono, R., & Christiawan, R. (2022). The Need for Global Green Marketing for the Palm Oil Industry in Indonesia. *Sustainability*, 14(14), 8621. <https://doi.org/10.3390/su14148621>
- Napitupulu, D. M., Rosyani, N., HD, E., & Rafiq, R. (2018). RSPO Certification Impacts on Oil Palm Smallholders' Welfare in Jambi Province. *Analisis Kebijakan Pertanian*, 15(2), 127. <https://doi.org/10.21082/akp.v15n2.2017.127-136>
- Novita, N. (2024). Socialization of Indonesia Sustainable Palm Oil (ISPO) Certification Obligations for Smallholders Palm Oil Plantation in West Pasaman District. *Asian Journal of Community Services*, 3(2), 245–262. <https://doi.org/10.55927/ajcs.v3i2.8021>
- Npueng, S., Oosterveer, P., & Mol, A. P. J. (2023). Global and local sustainable certification systems: Factors influencing RSPO and Thai-GAP adoption by oil palm smallholder farmers in Thailand. *Environment, Development and Sustainability*, 25(7), 6337–6362. <https://doi.org/10.1007/s10668-022-02306-6>
- Oliphant, E., & Simon, A. C. (2022). The cost of sustainable palm oil: Should an Indonesian smallholder pursue RSPO-certification? *World Development Perspectives*, 26, 100432. <https://doi.org/10.1016/j.wdp.2022.100432>
- Pacheco, P., Schoneveld, G., Dermawan, A., Komarudin, H., & Djama, M. (2020). Governing sustainable palm oil supply: Disconnects, complementarities, and antagonisms between state regulations and private standards. *Regulation & Governance*, 14(3), 568–598. <https://doi.org/10.1111/rego.12220>
- Pasaribu, S. I., Vanclay, F., & Zhao, Y. (2020). Challenges to Implementing Socially-Sustainable Community Development in Oil Palm and Forestry Operations in Indonesia. *Land*, 9(3), 61. <https://doi.org/10.3390/land9030061>
- Pramudya, E. P., Wibowo, L. R., Nurfatriani, F., Nawireja, I. K., Kurniasari, D. R., Hutabarat, S., Kadarusman, Y. B., Iswardhani, A. O., & Rafik, R. (2022). Incentives for Palm Oil Smallholders in Mandatory Certification in Indonesia. *Land*, 11(4), 576. <https://doi.org/10.3390/land11040576>
- Raharja, S., Marimin, Machfud, Papilo, P., Safriyana, Massijaya, M. Y., Asrol, M., & Darmawan, M. A. (2020). Institutional strengthening model of oil palm independent smallholder in Riau and Jambi Provinces, Indonesia. *Heliyon*, 6(5), e03875. <https://doi.org/10.1016/j.heliyon.2020.e03875>
- Rodthong, W., Kuwornu, J. K. M., Datta, A., Anal, A. K., & Tsusaka, T. W. (2020). Factors Influencing the Intensity of Adoption of the Roundtable on Sustainable Palm Oil Practices by Smallholder Farmers in Thailand. *Environmental Management*, 66(3), 377–394. <https://doi.org/10.1007/s00267-020-01323-3>
- Sakai, K., Hassan, M. A., Vairappan, C. S., & Shirai, Y. (2022). Promotion of a green economy with the palm oil industry for biodiversity conservation: A touchstone toward a sustainable bioindustry. *Journal of Bioscience and Bioengineering*, 133(5), 414–424. <https://doi.org/10.1016/j.jbiosc.2022.01.001>
- Saputra, B., & Sulistiyandari, R. (2024). Indonesia accounts for 54% of global palm oil exports: minister. [Antaranews.Com](https://www.antaranews.com).

What are The Major Barriers and Challenges Faced by Independent Oil Palm  
Smallholder Farmers in RSPO Certification?

<https://en.antaranews.com/news/309540/indonesia-accounts-for-54-of-global-palm-oil-exports-minister>

- Schoneveld, G. C., Van Der Haar, S., Ekowati, D., Andrianto, A., Komarudin, H., Okarda, B., Jelsma, I., & Pacheco, P. (2019). Certification, good agricultural practice and smallholder heterogeneity: Differentiated pathways for resolving compliance gaps in the Indonesian oil palm sector. *Global Environmental Change*, 57, 101933.
- Veriasa, T. O., Nurrunisa, M., & Fadhli, N. (2024). Revisiting the Implications of RSPO Smallholder Certification Relative to Farm Productivity in Riau, Indonesia. *Forest and Society*, 8(1), 123–139. <https://doi.org/10.24259/fs.v8i1.26964>
- Watts, J. D., Pasaribu, K., Irawan, S., Tacconi, L., Martanila, H., Wiratama, C. G. W., Musthofa, F. K., Sugiarto, B. S., & Manvi, U. P. (2021). Challenges faced by smallholders in achieving sustainable palm oil certification in Indonesia. *World Development*, 146, 105565. <https://doi.org/10.1016/j.worlddev.2021.105565>