

THE EFFECTIVENESS AND IMPACT OF RSPO CERTIFICATIONS ON SUSTAINABILITY PRACTISES IN THE PALM OIL INDUSTRY: A CASE STUDY IN PT XYZ

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Abstract

This research examines the effectiveness and impact of RSPO (Roundtable on Sustainable Palm Oil) certification on sustainability practices in the palm oil industry, focusing on PT XYZ as a case study. As a downstream company utilizing the RSPO Supply Chain Certification with the Mass Balance model, PT XYZ sources Certified Sustainable Palm Oil (CSPO) and Certified Sustainable Palm Kernel Oil (CSPKO) from growers, aiming to align its business operations with global sustainability standards. The research analyzes the extent to which RSPO certification has promoted sustainable practices, contributed to environmental protection, and supported business growth within the context of Indonesia's palm oil sector. The findings indicate that RSPO certification has enabled PT XYZ to enhance supply chain transparency, access premium international markets, and support the broader adoption of sustainable palm oil. Industry wide evidence shows RSPO certified supply chains contribute to reduced greenhouse gas emissions, improved peatland conservation, and lower fire risk. However, challenges remain regarding full traceability and the inclusion of smallholders. The study concludes that while RSPO certification is an effective mechanism for advancing sustainability in the palm oil industry, continuous improvement, stakeholder collaboration, and enhanced transparency are essential for maximizing its impact.

Keywords: *Sustainability, Palm Oil, RSPO, Certification.*

INTRODUCTION

RSPO (Roundtable on Sustainable Palm Oil) is a global certification scheme established in 2004 to promote the sustainable production and use of palm oil. By adopting RSPO certifications, the palm oil industry can address environmental and social challenges, improve market access, and meet the growing demand for sustainable products. The palm oil industry is a vital part of Indonesia's economy, but it has faced significant global warning due to its environmental and social impacts, such as deforestation, loss of biodiversity, greenhouse gas emissions, and poor labor conditions. Managing these issues, the Roundtable on Sustainable Palm Oil (RSPO) certification was introduced to encourage sustainable practices in palm oil production.

The author would like to focus analyzing the effectiveness and the impact of the RSPO Certification in PT XYZ, a key player in the downstream palm oil sector, to explore how effective RSPO certification in promoting sustainability. By examining the period from the implementation of RSPO standards globally in 2009 to the present year 2024, this research aims to assess how PT XYZ's Supply Chain processes align with these standards. The research will explore the extent to which RSPO certification has mitigated environmental harm, improved social conditions, and provided economic benefits within the local context of Indonesia's palm oil industry. The insights gained from this research will give further explanation to the real-world of the impact of RSPO certifications and its role in driving a more sustainable palm oil industry. The products gained from RSPO process will be universally accepted worldwide and proven environmentally safe.

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Sustainability is crucial for the health of Planet Earth and the well being of human as well as other living things on the planet for the present and future generations. By practicing sustainability might involving the responsible and balance use of the planet's resources. Which includes actions either large and small that could help support the long term health of the world's ecosystem and the species that live within. By embracing sustainable practices, the individuals and business alike might help to mitigate the climate change risks, to support economic innovation, as well as foster individual and collective well being. At its core, sustainability allows individual and business to address pressing environmental challenges such as climate change, pollution, and the resource depletion. The climate change, which driven primarily by human activities such as burning fossil fuels and deforestation, created a significant threat to the ecosystems, biodiversity and human societies worldwide (Forest Stewardship Council., 2024).

Doing sustainability in business could means integrating environmental, social and economic considerations into organizational practices and everyday operations, the goal itself could be related to meet the needs of the present without compromising future generation's ability to meet their own needs. The sustainability practices in business can be possible achieved through various practices, including but not limited to finding ways to cut emissions to the implementations of transparent supply chain in creating a circular economy. In general there are three key components to achieve sustainability in business: 1) Economic Sustainability, 2) Environmental Sustainability, 3) Social Sustainability. In nowadays situation, almost 80% investors planned to incorporate sustainability into their investment decisions and 50% customers said sustainability is very or extremely important. The sustainability in business also means the business entity aware and must consider their business operations responsibly impact to the environmental, social and economic factors and the business can thrive long term (Forest Stewardship Council., 2024).

Palm oil is a versatile and widely used ingredient across various industries, from food and personal care to textiles, cleaning products, and renewable energy. Its high yield and functional properties such as a high smoke point, solid texture at room temperature, and rich content of vitamins and fatty acids make it an essential commodity in the global market. The global demand for palm oil has significantly increased, rising by over 31% in less than a decade, driven by growing populations, urbanization, the need for transfat alternatives, and the rise of the oleochemical industry. However, this surge in demand has led to a parallel rise in production, which has resulted in severe environmental degradation, including deforestation, habitat loss, and climate change due to greenhouse gas emissions from peatland destruction. Social issues such as labor exploitation and displacement of Indigenous communities have also emerged.

In response, certification programs such as the Roundtable on Sustainable Palm Oil (RSPO) have been developed to promote responsible and sustainable palm oil production. RSPO aims to transform the sector by involving all stakeholders and implementing global sustainability standards. Positive impacts from RSPO certification include significant reductions in greenhouse gas emissions, protection and rehabilitation of peatlands, improved water management, and conservation of high biodiversity areas. By adopting these sustainable practices, the palm oil industry can mitigate environmental harm while supporting livelihoods, making a balanced and inclusive approach crucial for long-term sustainability.

As global efforts to achieve net-zero emissions, adopt science-based targets, and ensure NDPE (No Deforestation, No Peat, No Exploitation) compliance accelerate, the business landscape is rapidly evolving. Market expectations now demand demonstrable alignment with sustainability practices to gain or maintain competitive advantage. Simultaneously, governments and regulators are intensifying sustainability policies, shifting compliance from voluntary to mandatory (RSPO, 2024). In this environment, becoming a member of the Roundtable on Sustainable Palm Oil (RSPO) and utilizing RSPO Certified supply chains has become a critical step. Certification by an independent third party assures stakeholders that organizations producing or handling RSPO Certified products meet established sustainability standards (RSPO, 2024).

To achieve and maintain RSPO certification, companies must comply with applicable RSPO Standards through a thorough and continuous verification process, including systematic annual audits (RSPO, 2024). Certification applies across the supply chain: oil palm plantations and smallholders are certified under the RSPO Principles and Criteria (P&C) or the Independent Smallholder Standard (ISH),

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while certified Fresh Fruit Bunches (FFB) are processed into Certified Sustainable Palm Oil (CSPO), Palm Kernel Oil (CSPKO), and Palm Kernel Expeller (CSPKE) (RSPO, 2024). These certified products are traded through RSPO-approved supply chain models Mass Balance (MB), Segregated (SG), and Identity Preserved (IP) each offering different levels of traceability. Alternatively, companies can purchase RSPO Credits to support certified sustainable production while offsetting conventional sourcing (RSPO, 2024). Every supply chain actor plays a vital role in preserving the integrity of certification, ensuring sustainability from plantation to final product.

The RSPO Supply Chain Book and Claim (BC) model serves as an accessible entry point for organizations exploring sustainable sourcing. By purchasing RSPO Credits, companies can offset their use of conventional palm oil without physically sourcing certified materials, directly supporting certified producers such as independent smallholders, outgrowers, mills, and crushers (RSPO, 2024). This model does not require supply chain certification but mandates adherence to RSPO's communication and claims rules (Nature, 2025). Alternatively, the Mass Balance (MB) model widely used across industries allows mixing certified and non-certified palm oil while maintaining control of certified volumes at each site (RSPO, 2024). Though MB does not guarantee the presence of certified palm oil in every final product, it supports the transition toward sustainability and contributes to the broader impact of certified production. It requires RSPO Supply Chain Certification and record-keeping, but no major investment in infrastructure, making it a scalable and practical solution (RSPO, 2024).

More stringent models such as Segregated (SG) and Identity Preserved (IP) maintain strict separation of certified palm oil throughout the supply chain (RSPO, 2024). SG allows mixing of certified products from different sources, while IP ensures traceability to a single certified mill. However, PT XYZ has adopted the Mass Balance model, given its flexibility and scalability. Despite RSPO's intended role in ensuring sustainable and responsible palm oil production, PT XYZ and the broader Indonesian palm oil sector face ongoing challenges such as high certification costs, inconsistent compliance, and enforcement issues which undermine the certification's effectiveness (RSPO, 2024). The industry must address these issues while meeting the increasing global demand for sustainable products.

By implementing the Mass Balance model, PT XYZ benefits from reduced logistics costs, increased access to international markets, and enhanced consumer trust through RSPO labeling (RSPO, 2024). The model also enables smallholders to participate in certified supply chains, offering shared sustainability gains. Nonetheless, PT XYZ must focus on improving compliance and transparency to ensure that RSPO certification drives meaningful, verifiable sustainability improvements in response to environmental and social concerns such as deforestation, emissions, and labor conditions (RSPO, 2024).

LITERATURE REVIEW

Definition of New Terms

The Roundtable on Sustainable Palm Oil (RSPO), established in 2004, is a global multi-stakeholder initiative that promotes the sustainable production and use of palm oil. Its members include plantation companies, processors, traders, consumer goods manufacturers, retailers, financial institutions, environmental and social NGOs from palm oil-producing and consuming countries (RSPO, 2024). The RSPO aims to bring diverse stakeholders together to encourage sustainable practices across the entire palm oil supply chain.

Several underlying theories support the analysis of RSPO's effectiveness:

- Sustainability Theory, helps evaluate the environmental, social, and economic impacts of business practices (Carlson et al., 2018)
- Stakeholder Analysis Theory, is used to assess the roles and interests of those affected by or involved in business operations (Brandi et al., 2015)
- Supply Chain Management Theory, examines the efficiency and effectiveness of supply chain flows (Schouten & Glasbergen, 2011)
- Resource-Based View Theory, identifies strategic resources that provide competitive advantage (Barney et al., 2021), and

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- Social Impact Theory, assesses the effects of corporate activities on local communities (Lee et al., 2016).

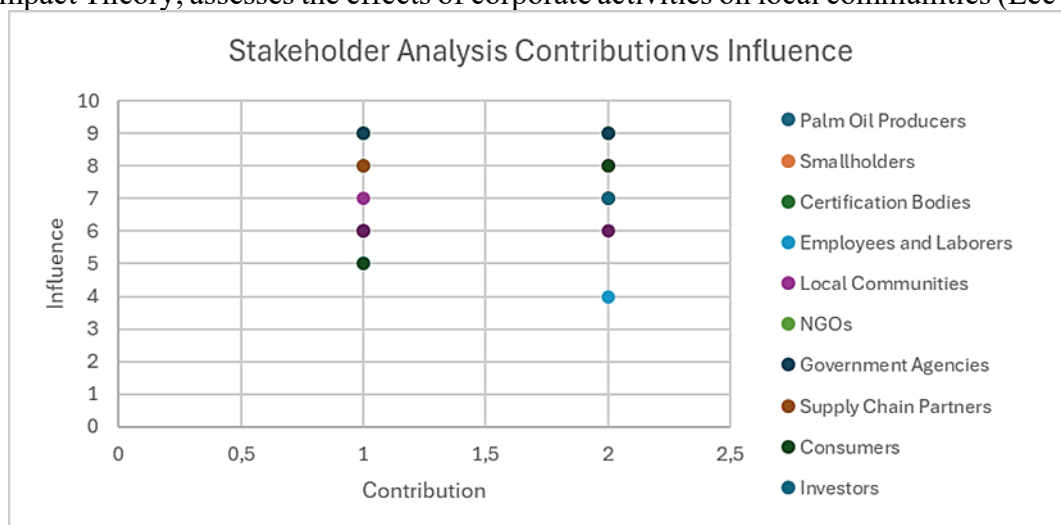


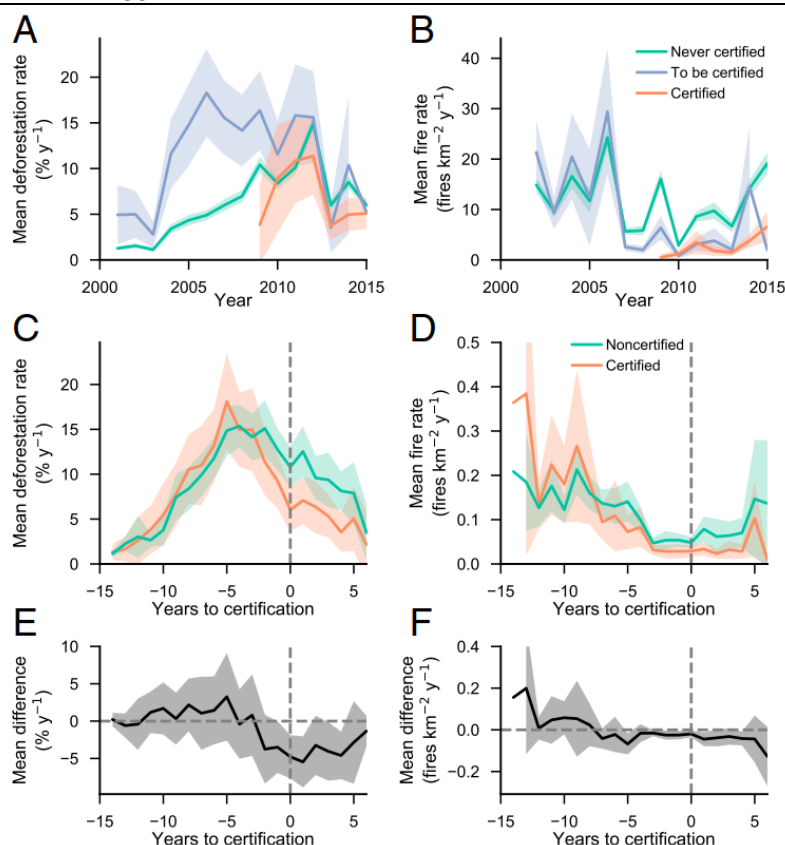
Figure 1. Stakeholders Analysis

Based on Figure 1 Stakeholders Analysis;

- PT XYZ, NGOs, and the Indonesian Government, are identified as the key players in the effectiveness of RSPO certification implementation due to their high levels of influence and contribution.
- PT XYZ, bears direct responsibility for adopting and implementing RSPO standards, especially those related to environmental sustainability, in response to both regulatory requirements and global market demand. This places the company at the core of operational execution in achieving sustainability goals.
- NGOs, play a crucial role through advocacy, monitoring, and promoting transparency. Their influence as watchdogs helps to ensure that stakeholders remain accountable and compliant with RSPO guidelines.
- The Indonesian Government, holds significant power through the establishment and enforcement of environmental regulations and policies. It serves as a bridge between domestic practices and international sustainability standards, facilitating broader acceptance and compliance.
- Other stakeholders such as smallholders and local communities, while having moderate influence and contribution, remain vital to the successful implementation of RSPO standards. Their involvement ensures grassroots engagement and practical application of sustainability practices within the supply chain. Ensuring their inclusion and support can significantly enhance the legitimacy and effectiveness of RSPO certification at the company level (RSPO, 2024).

Table 1. Gap Analysis

Issue	Gaps	Solutions	Tools
Deforestation	Monitoring and Law Enforcement	Enhance Satellite Monitoring	Global Forest Watch/ AI Drive surveillance
Labor Rights	Unfair labor practises	Improve Company Policy and Employee Management	HRIS System, Employee Survey, Gap Analysis
Community Segregation	Limited community benefits	Improve Community Relations Management	Community Relations Department
Economic Feasibility	RSPO Compliance cost wise	Incentive Mechanism	Tax Break, Cost Benefit Analyses



Source: Carlson et al. (2018)

Figure 2. Temporal Trends in Deforestation and Fire within Indonesia Palm Oil

Based on the Stakeholder gaps analysis above and Fig. 2, most deforestation and fire in plantations occurred before certification (Carlson et al., 2018). Hypotheses:

- H1: RSPO certification significantly improves environmental sustainability in the palm oil industry.
- H2: RSPO certification provides economic benefits to certified producers, such as better market access and price premiums.
- H3: RSPO certification enhances social outcomes, including improved labor conditions and community relations.

Conceptual Framework

The conceptual framework illustration showing the relationships between key concepts and models relevant to the research. This framework supported by literature and other relevant references, providing a visual representation of how the study will address the business issue (Maxwell, 2013).

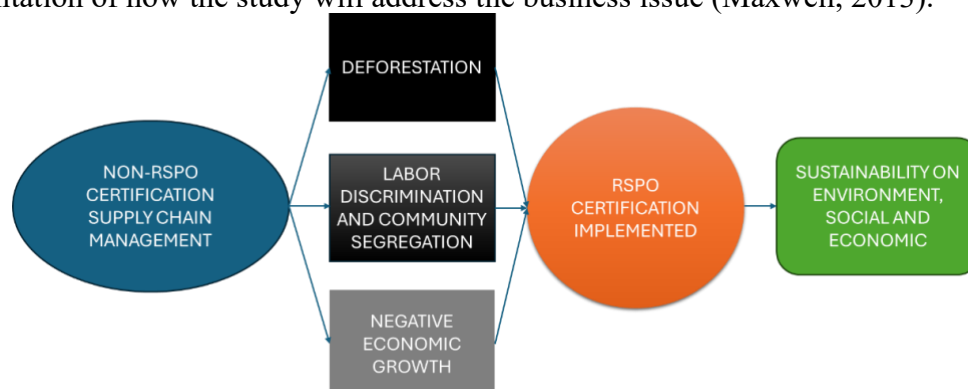


Figure 3. Conceptual Framework

Figure 3 illustrates the transition from a non-RSPO-certified supply chain often associated with deforestation, labor discrimination, community exclusion, and limited economic growth to an RSPO-

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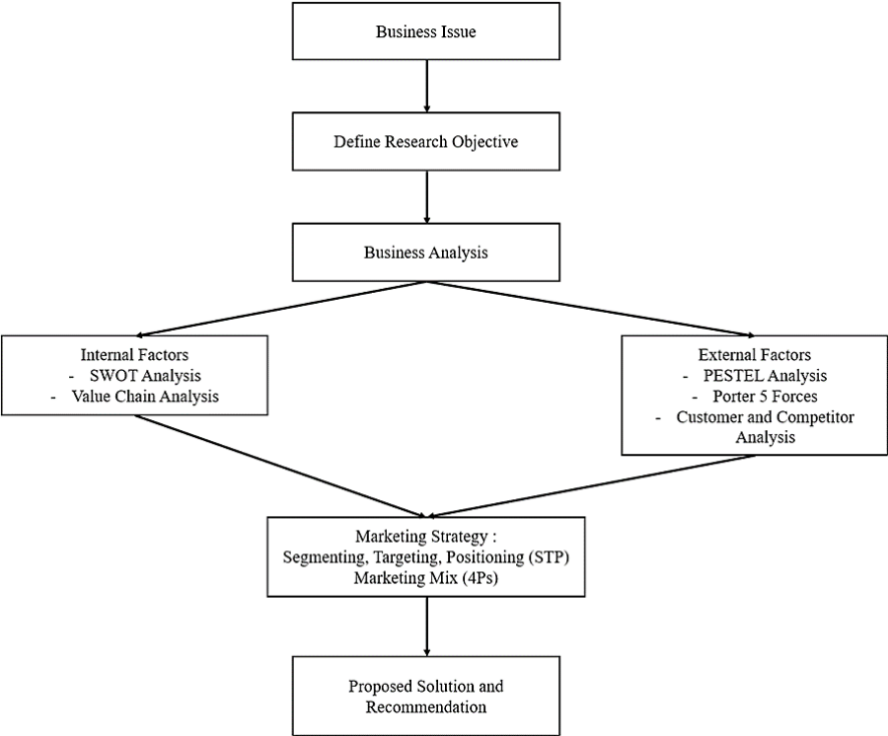
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certified model that promotes sustainability. Through RSPO certification, businesses adopt environmentally responsible practices, improve labor conditions, and enhance community engagement. This shift helps reduce environmental damage, support social equity, and secure long-term economic benefits within the palm oil industry (RSPO, 2024).

METHOD

This the research methodology used to examine the key characteristics of Indonesia’s palm oil industry and evaluate the effectiveness and impact of RSPO certification on sustainability practices at PT XYZ. Employing a qualitative approach and relying on secondary data, the study focuses on research design, participant selection, data collection and analysis methods, and relevant supporting references. It also addresses potential limitations of the research (Creswell, 2017).

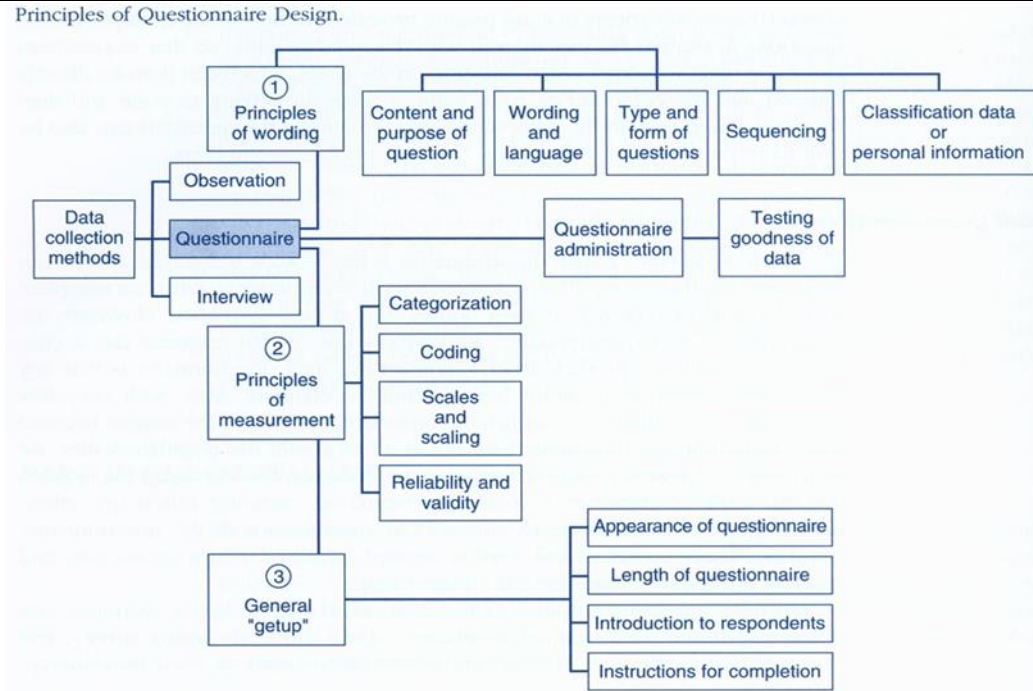
This research adopts a qualitative framework to evaluate the effectiveness and impact of RSPO certification on sustainability practices at PT XYZ, with a focus on environmental, social, and economic dimensions. Secondary data, including academic literature, media articles, regulations, and reports from various stakeholders, is complemented by primary data gathered through semi-structured interviews and questionnaires involving PT XYZ management, RSPO experts, and auditors (Creswell, 2017). The research methodology, as outlined in a flow diagram (Fig. 3), ensures a systematic and rigorous evaluation process.



Source: Creswell J. W. (2017)

Figure 4. Diagram of Research Methodology

The design of the questionnaires will include close and open-ended questions so the data can capture qualitative insights.



Source: Sunitiyoso, Y. (2024)

Figure 5. Principles of Questionnaire Design

The respondents were known and identified after several discussion with experts in sustainable palm oil certification industry, which then they recommended other respondent candidates that could be believed might have valuable input and information details to this research.

The secondary data collection drew from a wide range of sources to complement the primary data, including PT XYZ’s 2024 Global Sustainability Report, RSPO ACOP reports from 2020 and 2023, industry publications, and government regulatory documents (Heaton, 2008). These resources provided valuable insights into PT XYZ’s sustainability efforts, achievements, and ongoing challenges related to RSPO certification, reinforcing the analysis with credible, evidence-based information. Additionally, market data helped assess consumer demand for sustainable palm oil and the economic implications for PT XYZ’s market access and competitive advantage. Regulatory documents such as Presidential Instruction No. 6/2019, Presidential Regulation No. 44/2020, and Minister of Agriculture Regulation No. 38/2020 offered a framework for analyzing policy compliance and government support for sustainable palm oil practices in Indonesia.

Qualitative content analysis, particularly thematic analysis, is used to identify five core themes through iterative coding: drivers of RSPO implementation, regional effectiveness, multidimensional impacts, challenges, and quality assurance. This approach facilitates a nuanced understanding of stakeholder behavior and sustainability practices (Creswell, 2009; Braun, 2006). Ethical considerations are maintained by securing informed consent and ensuring confidentiality, upholding the integrity of the research process.

RESULTS AND DISCUSSION

Primary Data Analysis

The analysis of primary data in this study centers on the insights gathered from semi-structured interviews and questionnaires conducted with key stakeholders involved in the RSPO certification process, including PT XYZ’s Quality Assurance Manager, a senior RSPO Lead Auditor with over 30 years of experience, a researcher specializing in RSPO, a Quality Assurance Manager from PT Palm Grower, and a Sales Manager from PT Tank Storage. These interviews aimed to provide a comprehensive view of the effectiveness and impact of RSPO certification on sustainability practices, especially within PT XYZ. The qualitative case study, focusing on the period between 2009 and 2024, applies thematic analysis to both

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primary and secondary data to understand the RSPO's influence on environmental sustainability, social responsibility, and economic growth within the company.

Using thematic analysis, the interview data were systematically coded through open and axial coding to identify recurring patterns and themes. The open coding phase revealed numerous themes, ranging from government support and global customer perspectives to challenges in certification processes and internal systems management. Key themes included the external audit process, legality challenges, audit results and follow-up, procurement and communication flows, adaptability, customer trust, and geopolitical influences. Thematic elements also highlighted global pressure to adopt sustainable practices, the importance of maintaining market access, supply chain management challenges, pricing concerns, and the strategic significance of RSPO certification for business growth and environmental stewardship. Through this thematic analysis, the research offers a nuanced understanding of how RSPO certification influences both operational and strategic dimensions of sustainability in PT XYZ and the broader palm oil industry.

Author using NVIVO input the codings to gather and categorized the codings into nodes to find the alignment, as seen in below Figure 6.

Nodes						
Name	Files	References	Created On	Created By	Modified On	Modified By
Management supply chain in RSPO certificate		1	8 14/05/2025 13:16	DP	15/05/2025 21:48	DP
Global challenges about RSPO		1	6 14/05/2025 14:27	DP	14/05/2025 15:55	DP
Social aspect for certification		1	5 14/05/2025 16:00	DP	15/05/2025 22:38	DP
Challenges about price to implement RSPO certificate		1	5 14/05/2025 20:14	DP	15/05/2025 22:31	DP
Internal audit process		1	4 13/05/2025 11:12	DP	15/05/2025 21:59	DP
Reason for business growth		1	4 13/05/2025 12:06	DP	14/05/2025 20:43	DP
Follow up on audit results		1	4 14/05/2025 14:52	DP	15/05/2025 22:43	DP
Problem management		1	4 14/05/2025 15:34	DP	14/05/2025 16:02	DP
Environmental Aspect of certification		1	4 14/05/2025 16:00	DP	15/05/2025 22:39	DP
Requirement from global client		1	3 12/05/2025 21:26	DP	15/05/2025 19:24	DP
Place of the corporate that implement of RSPO		1	3 12/05/2025 21:35	DP	15/05/2025 22:47	DP
Promote sustainable		1	3 12/05/2025 21:56	DP	15/05/2025 19:41	DP
Business growth		1	3 13/05/2025 12:05	DP	15/05/2025 19:42	DP
way to handle complainment		1	3 13/05/2025 12:38	DP	15/05/2025 22:36	DP
Requirement of raw material from vendor		1	3 14/05/2025 13:13	DP	14/05/2025 13:14	DP
Audit results		1	3 14/05/2025 14:50	DP	15/05/2025 22:42	DP
Reason to keep market access		1	3 14/05/2025 15:50	DP	14/05/2025 20:44	DP
Training Needed		1	3 14/05/2025 16:05	DP	14/05/2025 20:45	DP
Have sustain team		1	2 12/05/2025 21:36	DP	12/05/2025 21:37	DP
Effectivity in Eropa		1	2 13/05/2025 11:13	DP	13/05/2025 11:14	DP
Impact from government		1	2 13/05/2025 12:09	DP	15/05/2025 22:41	DP
Strategi for Rejected item		1	2 14/05/2025 13:08	DP	14/05/2025 13:10	DP
Weakness of problem with other site		1	2 14/05/2025 15:30	DP	14/05/2025 16:05	DP
pressure from global organizational		1	2 14/05/2025 15:48	DP	14/05/2025 15:50	DP
Impact from glbal organizational pressure		1	2 14/05/2025 15:51	DP	14/05/2025 15:51	DP
Impact RSPO		1	2 14/05/2025 20:10	DP	14/05/2025 20:48	DP
Challenges to have procedure tracking		1	2 14/05/2025 20:12	DP	14/05/2025 20:45	DP
Country of customer		1	1 12/05/2025 21:25	DP	12/05/2025 21:25	DP
Price cuz the premium raw material		1	1 12/05/2025 21:27	DP	12/05/2025 21:27	DP
Can Adapt		1	1 12/05/2025 21:27	DP	12/05/2025 21:27	DP
Flow how to communicate		1	1 12/05/2025 21:54	DP	12/05/2025 21:54	DP
Modul General RSPO		1	1 13/05/2025 11:10	DP	13/05/2025 11:11	DP
Modul procerument call		1	1 13/05/2025 11:10	DP	13/05/2025 11:10	DP
Modul CSD and Sales		1	1 13/05/2025 11:11	DP	13/05/2025 11:11	DP
Effectivity in Asia Pasific		1	1 13/05/2025 11:12	DP	13/05/2025 11:12	DP
Perspective customer about RSPO		1	1 13/05/2025 12:07	DP	13/05/2025 12:07	DP
Presentation export		1	1 13/05/2025 12:35	DP	13/05/2025 12:35	DP
Factor MB to costwise		1	1 13/05/2025 12:37	DP	13/05/2025 12:37	DP
Product Personal Care		1	1 14/05/2025 12:24	DP	14/05/2025 12:24	DP
Weakness of request indonesian client		1	1 14/05/2025 12:58	DP	14/05/2025 12:58	DP
No problem from customer		1	1 14/05/2025 13:03	DP	14/05/2025 13:04	DP
Upgrade product		1	1 14/05/2025 14:17	DP	14/05/2025 14:17	DP
Weakness		1	1 14/05/2025 15:33	DP	14/05/2025 15:33	DP

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Upgrade product	1	1	14/05/2025 14:17	DP	14/05/2025 14:17	DP
Weakness	1	1	14/05/2025 15:33	DP	14/05/2025 15:33	DP
Country has regulation about RSPO	1	1	14/05/2025 15:44	DP	14/05/2025 15:44	DP
Impact of geopolitik	1	1	14/05/2025 15:52	DP	14/05/2025 15:52	DP
Produsen perspective	1	1	14/05/2025 15:52	DP	14/05/2025 15:52	DP
Public leadership to support the RSPO	1	1	14/05/2025 15:57	DP	14/05/2025 15:57	DP
Reason to be unique	1	1	14/05/2025 20:09	DP	14/05/2025 20:09	DP
Get trust from customer	1	1	14/05/2025 20:11	DP	14/05/2025 20:11	DP
Challenges to use different tools	1	1	14/05/2025 20:12	DP	14/05/2025 20:12	DP
Way to solve the challenges	1	1	14/05/2025 20:47	DP	14/05/2025 20:47	DP
Challenge about Legality	1	1	15/05/2025 19:44	DP	15/05/2025 22:23	DP
External audit process	1	1	15/05/2025 22:15	DP	15/05/2025 22:15	DP
Support Indonesian government	1	1	15/05/2025 22:40	DP	15/05/2025 22:40	DP

Figure 6. NVIVO thematic transcript coding

Axial Coding and Thematic Categorization

The open codes were then grouped into categories through axial coding, which were further refined into selective coding or thematic analysis. The following themes emerged can be seen in below categorization nodes, Figure 7.

Nodes			
Name	Files	References	
Way to solve the challenges		1	1
Strengthen of Management		1	5
Making a Policy from government		1	1
Effectivity RSPO		0	0
Effectivity in Asia Pasific		1	2
Effectivity in Eropa and America		1	2
Impact of RSPO		0	0
Bussines growth impact of RSPO		1	9
Social impact of RSPO		1	7
Environmental impact of RSPO		1	5
Factor Causing RSPO Certification		0	0
pressure from global organizational		1	2
Impact of geopolitik		1	1
Reasons for company to join RSPO		0	0
Requirement from global client		1	4
Reason to keep market access		1	3
Place of the corporate that implement of RSPO		1	3
Reason to be unique		1	1
Get trust from customer		1	1

Nodes			
Name	Files	References	
RSPO Implementation Challenges		0	0
Challenge about management		1	10
Challenges about head of government local and global		1	8
Challenges about price to implement RSPO certificate		1	7
Quality assurance RSPO		0	0
Management supply chain in RSPO certificate		1	10
Internal audit process		1	4
Follow up on audit results		1	4
Audit results		1	3
External audit process		1	1
Perspective about RSPO		0	0
Perspective customer about RSPO		1	1
Produsen prespective		1	1

Figure 7. Axial Coding and Thematic Categorization

Secondary Data Analysis

The ACOP (Annual Communication of Progress) reports from 2019 to 2023 show a clear upward trend in PT XYZ’s uptake of RSPO-certified palm oil, indicating the company’s increasing commitment to sustainable sourcing. In 2019, PT XYZ sourced a total of 98,499 tonnes of crude palm oil and palm kernel oil, with only 9.61% certified sustainable under the RSPO Supply Chain Mass Balance model (Clariant, RSPO ACOP 2019). By 2020, total sourcing increased to 104,001 tonnes, with 10.14% certified (Clariant, RSPO ACOP 2020). Although total volumes declined slightly in subsequent years, the share of certified sustainable palm oil continued to rise reaching 16.28% of 92,223 tonnes in 2022 (Clariant, RSPO ACOP 2022), and 21.25% of 87,761 tonnes in 2023 (Clariant, RSPO ACOP 2023).

PT XYZ’s own 2024 Global Sustainability Report also highlights the progress made in sourcing certified palm oil, confirming the inclusion of up to 16% RSPO Supply Chain Mass Balance content in 2022 (Clariant, Company, 2025). Over a four-year period, PT XYZ more than doubled its share of certified sustainable palm oil from 9.6% to 21.3%, reflecting a clear and accelerating transition toward sustainable palm oil production and consumption in line with RSPO principles.

Table 2. PT XYZ uptake CSPO 2019-2023

Year	Total Volume (tonnes)	Certified Volume (tonnes)	CSPO Uptake (%)
2019	98,50	9,47	9,6%
2020	104,00	10,54	10,1%
2021	102,40	10,67	10,4%
2022	92,22	15,01	16,3%
2023	87,76	18,65	21,3%

Source: Clariant, RSPO Annual Communication of Progress (ACOP) (2019, up to ACOP 2023)

Table 3. PT XYZ Overview of RSPO Certification Status 2020 & 2023

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Parameter	2020		2023		Trend
	CSPO (in Tonnes)	CSPKO (in Tonnes)	CSPO (in Tonnes)	CSPKO (in Tonnes)	
Total Palm Derived Volume	104,001		87,761		▼ Decreased
Total RSPO Certified Volume	5,837	4706	3,507	15,144	▲ Increased
Certified Uptake %	10.14%		21.25%		▲ Doubled
Independent Smallholder Credits	None		None	1070	▲ New initiative
Target for 100% Certified Sourcing	2025		2025		

Source: Clariant, RSPO Annual Communication of Progress (ACOP) 2020 & 2023

Between 2020 and 2023, PT XYZ significantly increased its share of RSPO-certified palm-based raw materials, with the certified volume approximately doubling during this period. This growth was primarily driven by a substantial rise in certified sustainable palm kernel oil (CSPKO), while certified sustainable palm oil (CSPO) saw a decline. Notably, in 2023, PT XYZ sourced 1,070 tonnes of certified CSPKO from smallholders an improvement from zero smallholder-sourced volumes reported in 2020 (Clariant, RSPO ACOP 2020; Clariant, RSPO ACOP 2023).

This shift indicates that PT XYZ has actively ramped up its RSPO-certified sourcing, particularly for palm kernel oil, and is progressing toward its 2025 target of achieving 100% RSPO-certified or equivalent sourcing for all palm-based raw materials (Clariant, RSPO ACOP 2023). The company's RSPO reports align with its public commitment to a No Deforestation, No Peat, No Exploitation (NDPE) policy and a firm deadline for full certification by 2025, as outlined in its corporate sustainability strategy (Clariant, Company, 2025). While the increase from roughly 10% to over 21% RSPO-certified uptake reflects meaningful progress, it also underscores the need for continued efforts to meet the 2025 goal.

Table 4. PT XYZ Overview of Procurement Effectiveness Status 2020 & 2023

Effectiveness Indicator	2020	2023	Change Trend
Uptake % (Total Certified / Total Volume)	10.14%	21.25%	▲ Significant improvement
CSPO Uptake	5,837 t	3,507 t	▼ Declined slightly
CSPKO Uptake	4,706 t	15,144 t (including 1,070 t credits)	▲ Tripled
Regional Focus (Europe – PT XYZ Global Office core)	Not detailed	42.4% uptake for PT XYZ core	▲ Targeted improvement
Subsidiary Comparison	Not available	Global Amines 9.68%, PT XYZ Global Office 42.4%	▲ Focused implementation

Source: Clariant, RSPO Annual Communication of Progress (ACOP) 2020 & 2023

PT XYZ has demonstrated a significant integration of RSPO certification into its core business operations, particularly through increased uptake of certified sustainable palm kernel oil (CSPKO) and regional progress, with certified volumes more than doubling by 2023 (Clariant, RSPO ACOP 2023). The company's 2023 ACOP Report confirms its ongoing 2025 target for 100% RSPO-certified sourcing (points 3.3 and 3.4), and shows full compliance with RSPO's Shared Responsibility requirements affirming commitments to public policies, ethics, grievance mechanisms, FPIC, and smallholder inclusion (Clariant, RSPO ACOP 2023). Additionally, both the 2020 and 2023 ACOPs highlight PT XYZ's active participation in the Action for Sustainable Derivatives (ASD), aimed at promoting certified sustainable palm oil (Clariant, RSPO ACOP 2023). PT XYZ's sustainability strategy emphasizes transparency, NDPE compliance, and collaboration with RSPO/ASD to enhance smallholder participation (Clariant, Company,

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2025). Since 2016, all production sites have held RSPO Supply Chain Mass Balance certification, supporting its goal of delivering certified products (Clariant, Company, 2025). The company's rising certified uptake and community engagement initiatives, such as outreach and education programs outlined in its 2020 ACOP, demonstrate a proactive approach to achieving its sustainability goals (Clariant, RSPO ACOP 2023).

Table 5. PT XYZ Policy & Governance Integration 2020 & 2023

Governance Variable	2020	2023	Trend
NDPE Aligned Palm Policy	✓ Yes	✓ Yes	→ Consistent
Public Timebound Commitment (2025)	✓ Yes	✓ Yes	→ Consistent
RSPO Chain of Custody Certification	✓ Active since ~2016	✓ Maintained	→ Maintained
Shared Responsibility Policy Coverage	Partial	Full (28/28 criteria met)	▲ Expanded & matured
Membership in ASD	✓ Yes	✓ Yes	→ Continued

Source: Clariant, RSPO Annual Communication of Progress (ACOP) 2020 & 2023

Hence, by the year 2023, PT XYZ's planned actions were far broader, the report ticks off supporting independent smallholders, funding trainer academies and smallholder certification projects, investing in landscape / jurisdictional approaches, conservation / restoration projects, and even contributing to the RSPO's Remediation and Compensation (RaCP) process (Clariant, RSPO Annual Communication of Progress (ACOP), 2023).

Table 6. PT XYZ Environmental & Social Contributions 2020 & 2023

Impact Indicator	2020	2023	Trend
Independent Smallholder Support	Not reported	✓ 1,070 t CSPKO via smallholder credits	▲ Initiated
Smallholder Training Programs (e.g. SPOTS)	✓ Referenced	✓ + Contribution to RSPO Academy & Smallholder Fund	▲ Expanded
Landscape / Jurisdictional Support	Not reported	✓ Yes, via investments	▲ New initiative
Conservation / Restoration Projects	Not specified	✓ Funded under RSPO programs	▲ Strengthened
Contributions to RSPO RaCP	Not mentioned	✓ Yes	▲ Added
Transparency, Traceability Systems	✓ Public materials	✓ Improved + management documents, grievance platform	▲ More formalized
Policy Integration into ESG Framework	Partial	✓ Strong links to NDPE, climate & biodiversity commitments	▲ Deepened

Source: Clariant, RSPO Annual Communication of Progress (ACOP) 2020 & 2023

From the year 2019 to 2023, PT XYZ evolved from limited outreach into direct environmental and social engagement particularly through support for smallholders, conservation finance, and jurisdictional sustainability initiatives and the company full alignment with RSPO's Shared Responsibility criteria by 2023 demonstrates improved internal policy maturity (Clariant, RSPO Annual Communication of Progress (ACOP) 2023, 2023). PT XYZ has demonstrated significant progress in aligning its operations with the Indonesian Sustainable Palm Oil (ISPO) standards and the nation's sustainability objectives between 2019 and 2023. This alignment is evident when comparing PT XYZ's initiatives with the key requirements outlined in Indonesia's regulatory framework:

- Presidential Instruction No. 6/2019 on the National Action Plan for Sustainable Palm Oil 2019–2024 (Indonesia., Presidential Instruction No. 6/2019 on the National Action Plan for Sustainable Palm Oil 2019–2024, 2019)

The alignment for Presidential Instruction No. 6/2019 and PT XYZ's progress can be shown here in Table 7:

Table 7. Alignment with Presidential Instruction No. 6/2019 (National Action Plan)

Alignment with Presidential Instruction No. 6/2019 (National Action Plan)		PT XYZ's Progress (2020–2023)	Alignment Level
Articles	Clauses		
Section B.2	Increase smallholder productivity through institutional support	Support for SPOTS, smallholder credits, RSPO Academy	✓ Strong
Section B.3	Capacity building for sustainable practices	Outreach, smallholder training, industry workshops	✓ Strong
Section B.5	Promote transparency and data disclosure	Grievance platform, RSPO reporting	✓ Strong
Section B.6	Encourage synergy between stakeholders and institutions	Membership in ASD and RSPO governance bodies	✓ Strong
Section C	Coordinated implementation by ministries and private actors	Works through RSPO and market-based tools	✓ Strong

Key Findings

Based on data analysis and interviews, RSPO certification at PT XYZ has yielded positive impacts across environmental, social, and business dimensions. Environmentally, PT XYZ has aligned its operations with RSPO's no-deforestation and peatland conservation standards, contributing to global outcomes such as CO₂ emission reductions and lower fire risk. Socially, the certification has improved labor practices, gender equality, and engagement with smallholders. On the business side, RSPO certification enhances PT XYZ's market access, particularly in regions with strict sustainability requirements, and strengthens customer trust through verified compliance with global sustainability standards.

Implementation of RSPO is driven by external pressures from NGOs and international markets, as well as internal motivations like market competitiveness and environmental responsibility. Despite these benefits, challenges such as internal management coordination, high certification costs, and regulatory complexity remain. However, ongoing government support, digital tracking systems, and regular audits both internal and external help ensure continuous improvement. Quality assurance practices, including cross-audits and third-party verifications, indicate strong institutional commitment to maintaining RSPO standards.

Summary of Finding

The analysis confirms that RSPO certification has positively influenced sustainable palm oil practices at PT XYZ, demonstrating the company's long-term commitment to environmental protection and responsible supply chain management. Over 15 years, PT XYZ's adherence to RSPO standards has aligned with global best practices, contributing to broader environmental benefits such as reduced emissions, peatland conservation, and fire risk reduction. Additionally, certification has supported business growth by enhancing market access and strengthening the company's reputation. Despite some limitations in PT XYZ-specific data, the evidence indicates that RSPO certification effectively advances both sustainability and commercial goals, with ongoing transparency key to assessing future impact.

CONCLUSION

This study concludes that the RSPO Supply Chain Mass Balance certification has effectively advanced PT XYZ's sustainability efforts by promoting responsible sourcing, enhancing supply chain transparency, and supporting environmental, social, and business outcomes. Since 2016, PT XYZ has traced portions of its palm oil and palm kernel oil to certified sources, allowing sustainability to be embedded in business processes without the need for costly infrastructure (Clariant, 2025; Clariant, 2021). Environmentally, PT XYZ's certified operations achieved 42% lower GHG emissions per ton of crude palm oil compared to the national average and contributed to broader RSPO-led environmental benefits such as peatland conservation and fire risk reduction (Clariant, 2023; RSPO, 2024). Socially, the

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certification framework helped improve labor practices, eliminate restricted pesticide use, and fund remediation and smallholder development programs (RSPO, 2024; Kumaragita, 2024). Business-wise, RSPO certification has boosted PT XYZ's access to premium markets and increased its uptake of certified raw materials from 9.6% in 2019 to 21.3% in 2023, supporting both profitability and brand reputation (Clariant, 2023; FSC, 2025). However, challenges persist, including the Mass Balance model's limitation in ensuring full traceability and systemic issues such as landscape-level deforestation and smallholder inclusion (RSPO, 2024; Greenpeace, 2023; WWF Australia, 2025). Overall, while RSPO certification has had a significant positive impact, ongoing progress will require enhanced transparency, innovation, and cross-sector collaboration.

Based on the findings, several key recommendations are proposed to strengthen PT XYZ's sustainability performance and support broader improvements in the palm oil sector. PT XYZ is encouraged to transition to more traceable RSPO models like Segregated or Identity Preserved, while adopting digital traceability tools such as satellite monitoring to enhance compliance and transparency (RSPO, 2024; WWF Australia, 2025; Global Forest Watch, 2024). Regular public reporting on certified volumes, emissions, and social impacts will improve accountability and market confidence (RSPO, 2024; Carlson et al., 2018). Integrating smallholders into certified supply chains through training and simplified certification is essential for inclusive and ethical sourcing, following the lead of firms like Unilever and Nestlé (Voora et al., 2023; RSPO, 2024; Unilever, 2023). PT XYZ should also leverage RSPO certification for marketing by targeting sustainability-conscious consumers and consider participating in additional schemes like ISCC or Rainforest Alliance to increase differentiation (FSC, 2024; Kumaragita, 2024). Finally, active engagement in multi-stakeholder platforms involving communities, NGOs, and regulators is vital to ensure fair benefit distribution and policy alignment with global standards (Greenpeace, 2023; RSPO, 2024; ISPO, 2024).

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