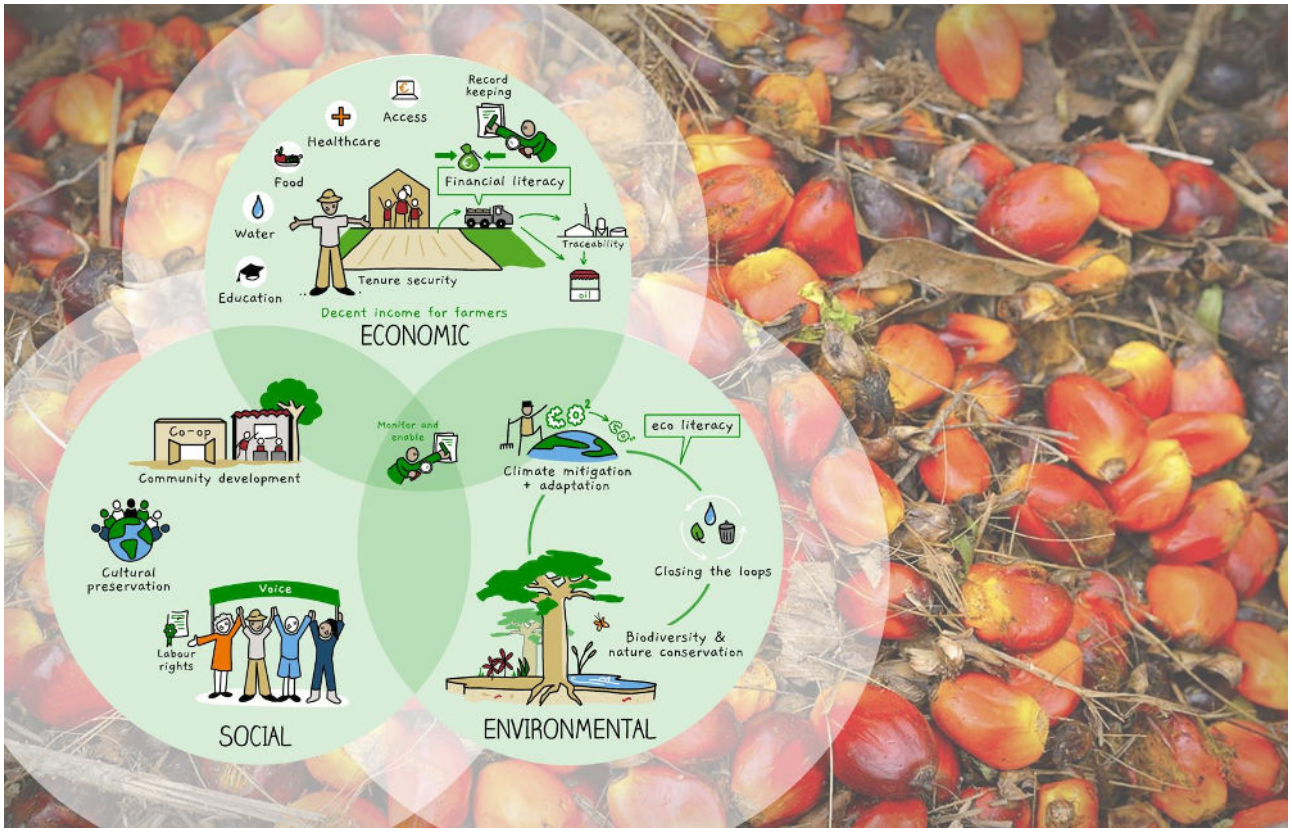

Investing in Oil Palm: Balancing Investor Objectives and Concerns

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Should investors and others concerned with supporting Sustainable Development Goals engage with oil palm cultivation, and if so, how? Voluntary Sustainability Standards (VSS) have played a pivotal role in improving social and environmental sustainability in the sector. However, risks and opportunities vary across regions, making their implementation challenging. Despite their importance in the oil palm sector, integrating and developing smallholder farmers within the supply chain remains difficult. Financial and other constraints make certification unattainable for most smallholders, requiring more scalable and flexible solutions guided by the principles underlying VSS. Investors must be aware of local realities and limitations, invest in safeguards, build local capacities, and enhance information flows and dialogue among sector stakeholders.

In this report, we aim to guide the financial sector in identifying roles for palm oil development within their portfolios, with a focus on Africa and the Americas. The report draws on scientific and grey literature, as well as stakeholder inputs, to highlight the sector's responses to global concerns and to examine investment challenges and opportunities. It evaluates the effectiveness of VSS in addressing investor concerns, includes a case study on sustainable smallholder production, and concludes with recommendations for refining ESG policies. While not a comprehensive overview, it summarises key sectoral responses and provides insights into supporting sustainability in the palm oil sector.

The palm oil sector faces the dual challenge of meeting rising global demand for vegetable oils while fostering economic development in producer countries, particularly in Southeast Asia, Africa, and the Americas. Although economically beneficial, palm oil production raises significant environmental and social concerns, including deforestation, biodiversity loss, and social conflicts. Despite these challenges, VSS have played a pivotal role in promoting more sustainable practices. However, the high costs of certification and stringent criteria can be particularly burdensome for smallholder farmers, limiting their participation and restricting broader sustainability and inclusion in the value chain.

The risks and opportunities associated with palm oil production vary across regions, with impacts often shaped more by production practices than by the crop itself. Many producers, particularly in Africa and the Americas, operate outside formal certification systems, posing environmental, social, and governance (ESG) risks. Therefore, scalable and flexible mechanisms that balance environmental goals with the financial realities of smallholders are essential for achieving inclusivity and broad-based sustainability.

No framework can guarantee completely sustainable and inclusive practices across the value chain. Thus, recognising the risks of unsustainable and unjust practices—such as deforestation, dependence on cash crops, land rights abuses, elite capture, and unequal benefit distribution—is crucial for fostering positive change. Investments in capacity-development initiatives throughout the supply chain, robust safeguards, context-specific solutions, and stronger collaboration with local partners are essential for mitigating risks.

Communicating the potential social and environmental benefits of palm oil investments to investors is challenging. Integrating ESG concerns into investment decisions is crucial, and open dialogue between investors and sector stakeholders is essential. A case study in this report highlights a dialogue organised between a financial service provider, its investors, scientists, and sector sustainability stakeholders. The aim was to exchange knowledge, perspectives, concerns, and priorities on current trends, challenges, opportunities, and criteria for supporting smallholder oil palm farmers in Africa and the Americas.

Structured around economic, social, and environmental dimensions, the dialogue underscored the importance of open communication in fostering mutual understanding and making informed investment decisions.

1. Introduction

Palm oil is a valuable commodity used worldwide in a wide range of products, including food (68%), industrial applications such as cosmetics and cleaning agents (27%), and bioenergy for transport, electricity, or heat (5%) (Ritchie and Roser 2020). Efforts to reduce greenhouse gas (GHG) emissions from fossil fuels have led to the promotion and increased use of biofuels, including palm oil.Global palm oil production increased from 2 million tonnes to 80 million tonnes over the past 50 years (H. Ritchie 2021). This growth is also reflected in the expansion of land dedicated to oil palm cultivation, increasing from 4 million to 30 million hectares over the same period (ibid). Despite this, oil palm accounts for only 6% of the total land used for vegetable oil crops, yet it produces 36% of total global vegetable oil. In contrast, crops such as soybean, rapeseed, and sunflower contribute 28%, 12%, and 9% of global vegetable oil production, respectively (FAOSTAT 2021). Oil palm yields approximately four times more vegetable oil per hectare than other crops, averaging around 2.84 tonnes per hectare (Meijaard and Sheil 2019, Ritchie and Roser 2020).

Southeast Asia is currently the world's leading producer of palm oil, with oil palm predominantly cultivated on large-scale commercial plantations. However, smallholder production has expanded significantly and now accounts for approximately half of the total global area under cultivation. There is considerable variation among countries: in Indonesia, smallholders manage 40% of oil palm-growing land, while in Thailand, this figure is 13% (Indonesia Investments 2024, Abubakar and Ishak 2022). In Africa and the Americas, most oil palm is cultivated by smallholder farmers, though variations exist between countries.

Oil palm is a powerful driver of economic development in tropical producer countries. It generates income, creates employment opportunities, and supports rural development and economic growth (Ayompe, Schaafsma and Egoh 2021, Jelsma, et al. 2017, Euler, et al. 2017). On the other hand, palm oil production is also associated with widely publicised environmental and social issues. These include deforestation, biodiversity loss, forest fragmentation, air and water pollution, and greenhouse gas (GHG) emissions from deforestation and peatland drainage in Southeast Asia. Social concerns such as land grabbing, inadequate labour rights, poor working conditions, and social conflicts are also significant challenges (Ayompe, Schaafsma and Egoh 2021, Jelsma, et al. 2017, Ritchie and Roser 2020). The negative impacts of oil palm cultivation have been, and remain, the subject of global debate and controversy (Meijaard and Sheil 2019), leading to widespread calls for more sustainable production. This, in turn, has driven public and private sector initiatives at national and international levels.

Due to the growing global demand for vegetable oils and the controversy often associated with palm oil production in Southeast Asia, companies and investors are exploring opportunities in Africa, Central, and South America. Palm oil production (both volume and area) outside Southeast Asia has been growing since the 1980s.

Currently, African countries—including Nigeria, the Democratic Republic of Congo, Ghana, Côte d'Ivoire, and Cameroon, among others—contribute approximately 3.5% of global palm oil production, a figure expected to rise in the near future (Ritchie and Roser 2020). American countries such as Colombia (the fourth-largest global producer), Guatemala, Ecuador, and Honduras are also becoming significant contributors, currently accounting for 5.2% of total global production (ibid). Improvements in yields have been limited, particularly in Africa, where yields remain the lowest globally. The production increases observed over the past three decades have largely been achieved through area expansion (Figure 1). This has raised new concerns about the potential environmental and social impacts, including increased deforestation, forest degradation, land grabbing, and conflicts over local people's rights to forest, water, and land (Oxfam International 2022).

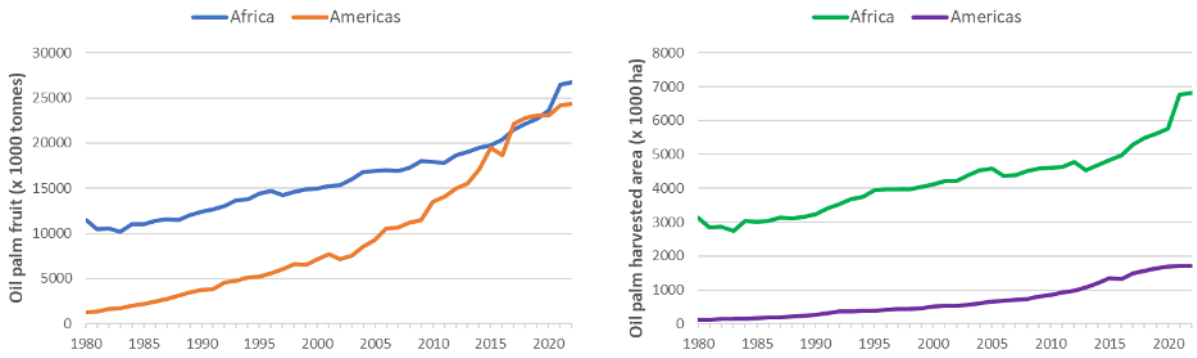


Figure 1 Estimated production of oil palm fruit and harvested area of oil palm in Africa and the Americas since 1980 (source: FAOSTAT)

Palm oil is likely to remain the world's leading vegetable oil for the foreseeable future. First, due to its remarkably high productivity and low cost of production compared to other oil crops; second, due to the versatility of its composition; and third, due to the growing global demand for vegetable oils (Sayer, et al. 2012). It is therefore unlikely that replacing oil palm with other oil crops will effectively address the environmental impacts of unsustainable oil palm production (IDH- Sustainable Trade Initiative 2016). The key question is: how can we improve the sustainability of oil palm production? In particular, how can investment in the oil palm sector in Africa and the Americas support sustainable development, and how can existing tools help meet environmental and social concerns?

For investors, the negative impacts associated with oil palm can lead to reputational damage, regulatory challenges (e.g., changing regulations), market-related risks (such as the EU closing its market to unsustainable palm oil), and litigation costs. Investment opportunities and risks vary depending on the region or country where the palm oil is produced and the type of producers (small, medium, or large). Sustainable investing, also known as responsible investing, is becoming the new norm for companies and investors. It is based on a set of environmental, social, and governance (ESG) criteria that influence strategy and investment decisions (Potts, van der Meer and Daitchman 2010). The IISD classifies sustainable investment strategies into *negative* and *positive screening*, *ESG investing*, *sustainability-themed investing*, and *impact investing*. The first seeks to avoid situations that harm society and/or the environment, while positive screening is used to select situations that may provide an advantage over competitors. Sustainability and impact investments support and promote solutions that drive positive social and environmental impacts (IISD 2022).

Oil palm is grown in two main sectors: the agro-industrial sector, which includes large-scale plantations and associated industrial mills, and smallholder farming. There are two types of oil palm smallholders: "scheme smallholders," who have contracts to supply to the agro-industry, and independent producers, who are not associated with a particular mill. Independent smallholders dominate production in Africa and the Americas, meaning that investments in smallholder oil palm producers can offer significant development benefits in regions where food security and employment opportunities are limited. However, smallholders are often among the most vulnerable and least powerful stakeholders in tropical commodity supply chains. The Forest Peoples Programme highlights the critical role financial institutions in the palm oil sector play in human rights protection, offering key recommendations for companies and financial institutions in its report *Identifying the Human Rights Impacts of Palm Oil"*[1].

The Taskforce on Nature-related Financial Disclosure (TNFD) stresses that risks and impacts should be considered not only in terms of investments and reputations but also with regard to people and the environment (Almas-Smith, et al. 2022). To shift from merely avoiding harm to actively doing good, companies must adopt sustainability practices and conduct thorough human rights impact assessments of their interventions.

[1] Identifying the Human Rights Impacts of Palm Oil: Guidance for Financial Institutions and Downstream Companies | FPP (forestpeoples.org)

High scores on sustainability assessment platforms may provide a competitive edge for producers and traders seeking investment. However, these platforms often rely on public disclosure and self-reporting rather than actual on-the-ground impacts, which may limit their effectiveness as true risk-mitigation tools (IISD 2022, Almas-Smith, et al. 2022). Similarly, VSS are often regarded as tools for promoting sustainable social and environmental investment policies in the private and financial sectors, as their implementation is seen as a means to reduce ESG risks. However, Meijaard et al. (2024) find that most financial institutions lack comprehensive ESG scorecards, and their investment policies often perform poorly in addressing deforestation and human rights violations. Moreover, despite three decades of VSS implementation efforts, compliance among smallholder farmers remains low, accounting for less than 10% of the global certified volume (RSPO 2024).

Investors have both objectives and reservations when considering investments in oil palm, particularly when grown by smallholder farmers. Investment opportunities and risks vary depending on the region or country where the oil palm is grown and the type of producer (small, medium, or large). A key challenge lies not only in understanding the investment context but also in comprehending the perspectives of investors, financial institutions, and other stakeholders. Bridging the gap between scientific knowledge and local realities is essential for fostering a more sustainable sector.

This report aims to support current efforts by investors and the broader financial sector to identify a role for oil palm-related developments in their investment portfolios. It is based on a targeted review of existing scientific and grey literature, as well as input gathered from stakeholders involved in supporting sustainability within the sector. While it does not provide a comprehensive overview of all aspects related to sustainability and sustainable investment in the sector, it offers a summarised overview of the major sectoral responses to global concerns, the current context, and the potential challenges and opportunities for investing in oil palm—focusing on Africa and the Americas.

The report also considers the coverage of Voluntary Sustainability Standards in the palm oil sector and assesses whether they address investor concerns. Additionally, it presents a case study where investors and other stakeholders discussed priorities and challenges to support sustainable smallholder oil palm production. The report concludes with a set of recommendations to guide the review and development of ESG policies by investors in the sector.

2. Sector responses to sustainability concerns

2.1. VSS in the oil palm sector

The Roundtable on Sustainable Palm Oil (RSPO) was established in 2004 in response to consumer concerns and to support the standardisation of best practices to protect the environment, local communities, and the labour force in palm oil production. Since then, principles and criteria for the production of sustainable palm oil have been progressively adopted across seven sectors: producers, processors, traders, manufacturers, retailers, banks/investors, and environmental and social non-governmental organisations (NGOs) (RSPO 2022). However, RSPO has faced criticism for doing little to limit deforestation, particularly in Indonesia and Malaysia (Carlson, et al. 2018, Barthel, et al. 2018). On the other hand, other studies suggest that RSPO-certified producers have caused the lowest environmental impacts due to the implementation of good agricultural practices in Thailand and Colombia (Saswattecha, et al. 2014, Furumo, et al. 2020).

RSPO's credibility has also been affected by its underdeveloped social guidelines, the lack of transparency in the mass balance system (where RSPO-certified and non-certified palm oil are mixed during transport or production of the end product), and the still immature inclusion of smallholder farmers in the certification scheme. However, the implementation of the Free, Prior and Informed Consent (FPIC) requirement in RSPO certification, the development of a separate standard exclusively for independent smallholders (launched in 2018) with a simplified High Conservation Values (HCV) approach, and the public platform for complaints

and conflict resolution (Dispute Settlement Facility - DSF)[2] indicate RSPO's willingness to improve the social dimension of their standard (Meijaard and Sheil 2019, RSPO 2022).

RSPO recognizes and partially addresses its weaknesses and challenges through the revision of the standard every five years[3], promoting continuous improvement. Although not perfect, the RSPO Principles and Criteria provide a useful starting point for guiding good agricultural practices (personal communication with Charlotte Opal, Executive Director of the Forest Conservation Fund[4]). Given the importance of the palm oil sector and the impact of VSS, organisations such as the Rainforest Alliance have joined forces with RSPO to develop and manage the RSPO Palm Trace system. This platform allows independent producers to earn premiums for RSPO credits and trace the origin of certified oil palm[5]. Both standards implement FPIC and HCV criteria, offering an additional layer of protection for forests, biodiversity, and indigenous/local communities. While not flawless, these standards play a crucial role in addressing sustainability challenges within the palm oil sector.

The governments of Indonesia and Malaysia have established *moratoriums* on forest clearing for oil palm and introduced programmes to reforest oil palm plots that were illegally established in High Conservation Areas and protected forests. They have also developed their own national sustainability certification systems: Indonesian Sustainable Palm Oil (ISPO) and Malaysian Sustainable Palm Oil (MSPO). Unlike RSPO, these certifications are mandatory. However, while the standards are not publicly available, studies show a reduction in tree cover and primary forest loss, as well as decreased emissions from 2017 to 2021, which may have been supported by these policies and zero-deforestation commitments. Despite this, deforestation persists, likely due to weak monitoring and leakage to less discerning markets(Groom, Palmer and Sileci 2022, Rahman, et al. 2023).

In 2020, the largest palm oil traders sourced 33.6 million tonnes (Mt) of palm oil, while manufacturers sourced 3.1 Mt, with traders handling 46% of total production. Of this, 3.3 Mt and 2.8 Mt were VSS-compliant for traders and manufacturers, respectively. VSS compliance accounted for 10% of traders' and 90% of manufacturers' purchases (Voora, et al. 2023). This highlights the industry's significant influence on the palm oil sector.

Commitments to purchase certified palm oil are increasing in many European countries. In 2020, 90% of the EU's imports were certified. However, globally, only 24% of production areas (4.8 million hectares) were certified, with 18.9% under RSPO (RSPO 2022, IDH-Sustainable Trade Initiative 2021). Furthermore, the European Union has agreed on a new law to prevent the importation of commodities, including palm oil, linked to deforestation, as part of the European Green Deal policy (European Commission 2021)[6]. These efforts are supported by the UN Principles for Responsible Investment (PRI), which includes a list of possible actions for incorporation into investors' environmental, social, and governance (ESG) frameworks, as well as the FAO Principles for Responsible Investment in Agriculture and Food Systems (RAI), the public-private New York Declaration on Forests (2014), the private-sector-led Zero-Deforestation Movement (2015), and more (Amsterdam Declarations Parthenship 2018).

2.2. The case of smallholder farmers

To establish a more sustainable palm oil sector that promotes both socio-economic development and environmental protection, the inclusion and support of oil palm smallholders are essential. Smallholder yields tend to be relatively low due to various challenges, including the use of low-quality planting materials, limited fertilizer application, inefficient plantation design, irregular harvesting, water availability issues, and variations in climatic and soil conditions (de Vos, et al. 2021, Khatun, et al. 2020). Furthermore, smallholders who are not affiliated with mills face difficulties in accessing markets. Their Fresh Fruit Bunches (FFB) may be rejected by mills due to low quality, overproduction, or mill saturation (ibid).

[2] https://rspo.org/dispute-settlement-facility
[3] Standards Review 2022 – 2024 - Roundtable on Sustainable Palm Oil (RSPO)
[4] https://www.fundforests.org/team
[5] https://www.rainforest-alliance.org/in-the-field/join-us-on-the-journey-to-sustainable-palm-oil/
[6] See also the new European law signed in 2022, to ensure products causing deforestation are not sold in the EU, available at https://www.europarl.europa.eu/news/en/press-room/20221205IPR60607/deal-on-new-law-to-ensure-products-causing-deforestation-are-not-sold-in-the-eu. Accessed 06-12-2022.

In Africa, smallholder production systems offer advantages such as the efficient use of family labour, a high level of farmer commitment, and regular monitoring of individual trees, which helps to ensure that fruit bunches are harvested at optimal ripeness (Jelsma, et al. 2017, Sayer, et al. 2012). In contrast, in Indonesia, smallholders often rely on supply chain actors to collect and transport fruits to mills, leading to longer harvest intervals and reduced ripeness and yield (de Vos, et al. 2023)

Voluntary certification standards aim to reduce environmental impacts, enhance socio-economic conditions, and ensure access to markets, among other benefits. However, many smallholders face challenges such as strict land legality requirements, limited knowledge, high costs, and insufficient capital, which limit their ability to achieve certification or maintain it (de Vos, et al. 2021). To address these issues, RSPO introduced a more inclusive standard in 2019, offering partial premiums for milestones before full certification. As of 2022, RSPO has certified over 165,000 smallholders, including nearly 23,500 independent smallholders and 142,000 scheme smallholders, representing 10.4% of the globally certified area (RSPO 2022). These figures highlight the potential for investing in smallholders through Voluntary Sustainability Standards, such as RSPO and Rainforest Alliance, to promote a more sustainable palm oil sector.

3. Do VSS meet the investor community's (and broader?) concerns regarding sustainability in the oil palm sector?

When considering investments in sustainable oil palm production, investors may turn to existing standards. Different VSS place emphasis on varying dimensions and may include different criteria for sustainability within those areas. To assist potential investors in navigating these options, we summarize existing reviews of the criteria covered by VSS relevant to oil palm and assess how well they align with the values expressed by financial service providers.

3.1. A Comparison of current certification standards for oil palm

In response to the growing number of certification standards, the International Trade Centre (ITC Standards Map 2021) offers a comprehensive comparison of VSS across economic, social, and environmental dimensions. The standards are evaluated based on their coverage of these criteria. The Rainforest Alliance (RA) standard covers 78% of a total of 382 criteria considered, followed by the Roundtable on Sustainable Palm Oil (RSPO) at 67%, and Organic EU certification, which covers 26% of the criteria (Figure 2).

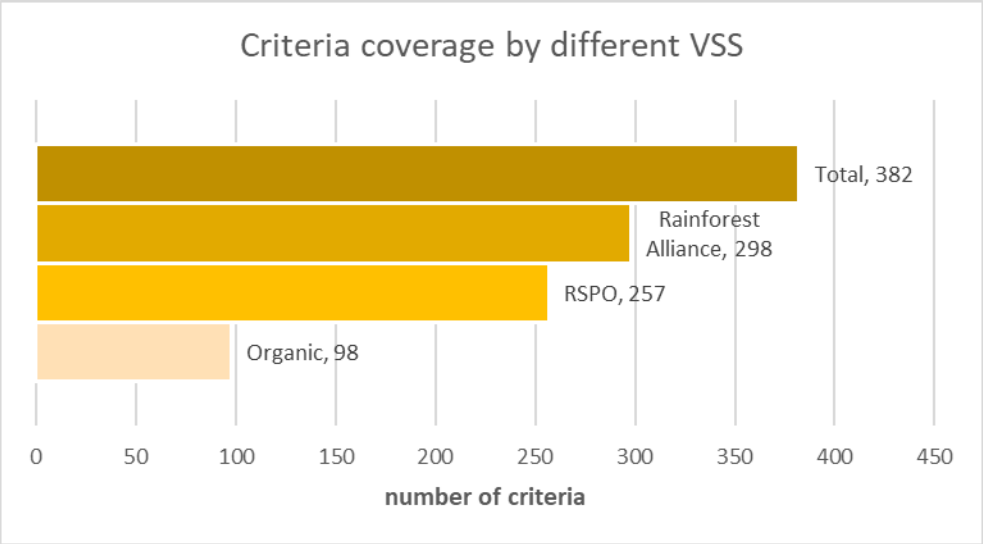


Figure 2 Number of Criteria Covered by RSPO, Rainforest Alliance, and Organic EU Standards Based on the ITC Standards Map (2021)

The relative coverage and number of criteria per dimension vary across standards. Notably, social criteria make up 49% of RSPO's total 257 criteria, although in absolute terms, this is fewer than those included by Rainforest Alliance. In contrast, the Organic EU standard does not include any social criteria (see Figure 3 and Appendix 1 - Table 1). The environmental dimension is represented in 34% or more of the total criteria for all standards (Figure 3). However, the total number of criteria addressing environmental aspects varies: Rainforest Alliance leads with 113 criteria, followed by RSPO and Organic EU (see Appendix 1 - Table 1).

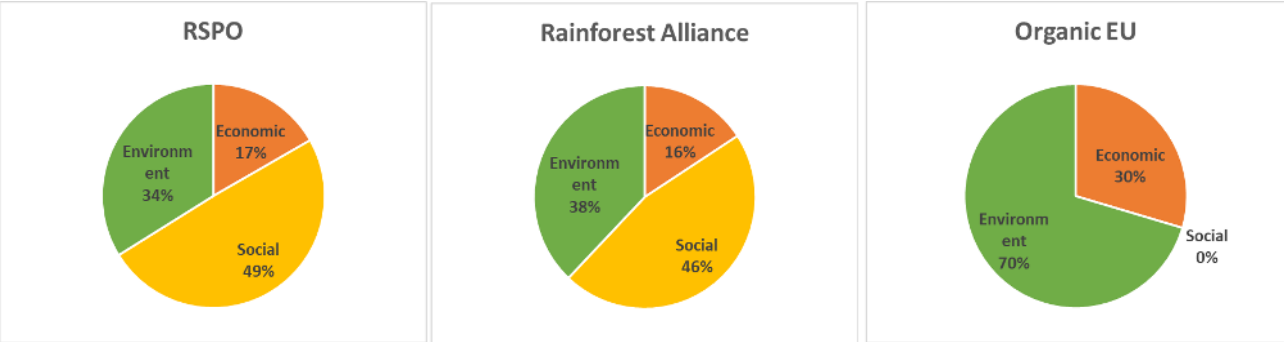


Figure 3 Criteria coverage for the economic, social, and environmental dimensions by four different standards. Data adapted from the ITC Standards Map (2021)

According to the ITC Standards Map (2021), VSS certified 2.9 million hectares, representing 15.3% of the global production area of palm oil. In 2019, nearly 94% of the certified area was certified by RSPO, 3.5% by RA, and 0.3% by Organic EU. These percentages suggest an opportunity for standards such as RA to expand their certified area.

3.2. Financial service providers' perceptions on economic, social, and environmental dimensions

Recently, the International Institute for Sustainable Development (IISD) published a review document titled *"State of Sustainability Initiatives: Standards and Investments in Sustainable Agriculture"* (IISD 2022). This report provides a comprehensive benchmarking analysis of 13 VSS and examines the perceptions of 51 financial service providers (FSPs) regarding the importance of various VSS criteria in reducing investment risks and promoting sustainable development.

Given that each VSS operates with distinct objectives and within different contexts, the IISD (2022) developed a scoring system to enable a fair comparison between various standards. In this report, we filter the information from the IISD's review to focus on VSS relevant to oil palm production systems, specifically analyzing the RSPO, Rainforest Alliance, and Organic EU standards across economic, social, and environmental dimensions. Additionally, we utilized the IISD's 2019 survey of 51 financial service providers (FSPs) to understand investor perceptions of the criteria covered by each VSS. The surveyed agricultural investors were primarily composed of impact-first social investors (21%), development financial institutions (17%), commercial financial institutions (15%), private sector value chain actors (9.8%), foundations (8%), large investment managers (6%), and other stakeholders.

- ### *Economic dimension*

In the economic dimension, investors primarily assess the viability of the production system. Meanwhile, VSSs establish criteria to enhance governance and management practices, aiming to mitigate potential financial risks for investors. Effective governance systems contribute to legal compliance, prevent corruption, and promote transparency. Additionally, strong management practices are crucial for ensuring the long-term economic sustainability of the production system. Key factors in this regard include economic viability, quality control, record-keeping, supply chain management, planning, and traceability (Figure 4).

IISD (2022) found that, for most aspects, the average degree of criteria coverage by the three VSS reviewed (RSPO, Rainforest Alliance, and Organic EU) either met or fell below the level of importance perceived by financial service providers (FSP). For instance, on average, 50% of the criteria addressed legal compliance, whereas investors considered this aspect to be approximately 65% important (Figure 4). The gap remained significant for aspects such as corruption & bribery, transparency, economic viability, quality systems, record-keeping, and supply chain management when compared to investors' perceptions. However, the criteria related to sustainability plan management and traceability closely aligned with investors' expectations (Figure 4).

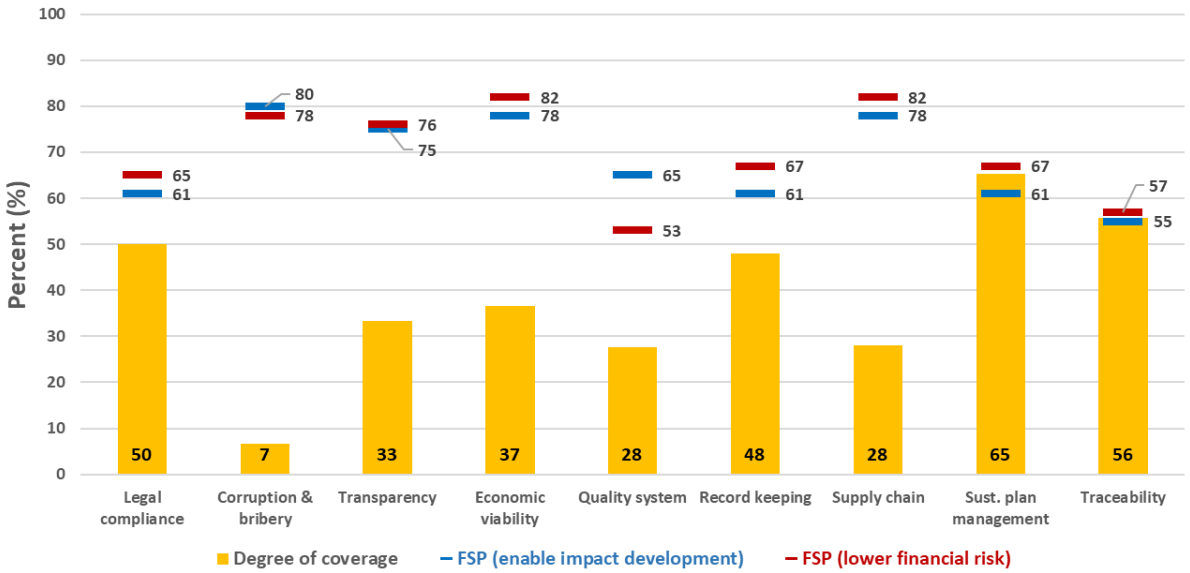


Figure 4 Average degree of criteria coverage for RSPO, RA, and Organic EU standards in governance and business management practices, compared with the perceived importance assigned by financial service providers (FSP). Adapted from Standards and Investments in Sustainable Agriculture (IISD 2022).

When analyzing the coverage of individual VSS related to oil palm production, the Rainforest Alliance (RA) standard includes a greater number of criteria in the economic dimension compared to RSPO and Organic EU standards (Table 2). Financial Service Providers (FSP) consider these criteria essential for fostering sustainable development and mitigating financial risks, making the RA standard more aligned with their priorities. However, corruption and bribery—identified as important concerns by FSPs—are not addressed by either the RA or Organic EU standards.

Table 2 Scores for economic dimension criteria in RSPO, RA, and Organic EU standards, as defined by the VSS themselves and as perceived by financial service providers (FSP). Adapted from Standards and Investments in Sustainable Agriculture (IISD 2022).

	Dimension	Criteria	RSPO	Rainforest Alliance	Organic EU	Investors perception	
						Enable Impact	Lower Financial Risk
			Percentage (%)			Percentage (%)	
Economic	**Governance**	Legal compliance	50	83	17	61	65
		Corruption & bribery	20	0	0	80	78
		Transparency	50	50	0	75	76
	Business Management	Economic viability	50	60	0	78	82
		Quality system	0	33	50	65	53
		Record keeping	47	80	17	61	67
		Supply chain	20	64	0	78	82
		Sust. plan management	80	96	20	61	67
		Traceability	0	67	100	55	57
		Average	35	59	23	68	70

Social dimension

The social dimension within VSS is often aligned with International Labour Organization (ILO) conventions on working conditions, aiming to promote equitable, secure, and dignified opportunities for workers. Many VSS emphasize social responsibility as a key foundation for fostering collaborative and productive relationships, preventing conflicts, and enhancing the reputation of both producers and investors. The International Institute for Sustainable Development (IISD) identifies issues into two categories: 1)Community development, which includes aspects such as gender equity, cultural preservation, and indigenous rights. 2)Working conditions, which cover employer practices, gender equity, labor rights, and worker health and safety.

Most VSS requirements related to working conditions exceed investor expectations. However, there is a significant gap in criteria addressing local community development. Investors consider aspects such as cultural preservation, indigenous rights, and broader community development as highly important for both mitigating financial risks and creating economic impact (see blue lines in Figure 5). As a result, current VSS coverage for local community development does not fully meet investor expectations.

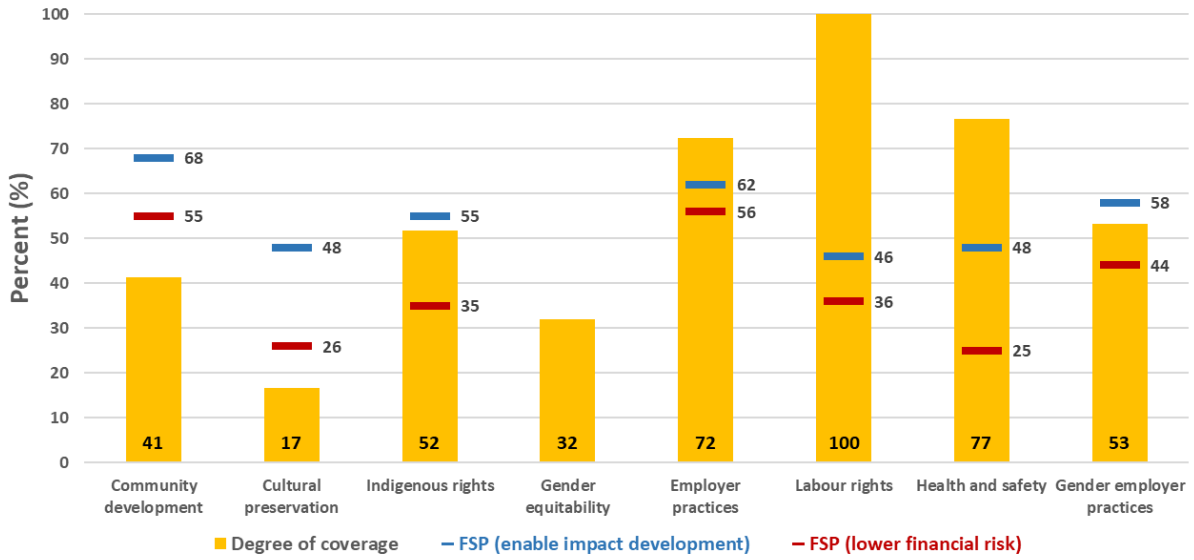


Figure 5 Average coverage of RSPO, RA, and Organic EU standards regarding local communities and working conditions, compared to the perceptions of financial service providers (FSP). Adapted from Standards and Investments in Sustainable Agriculture (IISD 2022).

Under the local communities sub-dimension, most RSPO and RA criteria fall below investor expectations, except for indigenous rights. The Organic EU standard has very low coverage in this area (averaging 6%), creating a larger gap with investor perceptions (Table 3). However, in terms of working conditions, the criteria set by RSPO, RA, and Organic EU all exceed investor expectations, aligning with the broader findings from the IISD analysis of 13 Voluntary Sustainability Standards (VSS) (Table 3). The weaker alignment of the Organic EU standard with local community development may be attributed to its primary application in regions suited for annual cropping—where indigenous populations have historically been displaced—whereas oil palm cultivation typically occurs in ecological zones where indigenous communities remain present.

Table 3 Scores for RSPO, RA, and Organic EU criteria in the Social dimension, as defined by the VSS and as perceived by Financial Service Providers (FSP).

	Dimension	Criteria	RSPO	Rainforest Alliance	Organic EU	Investors perception	
						Enable Impact	Lower Financial Risk
			Percentage (%)			Percentage (%)	
Social	**Local communities**	Community development	77	40	7	68	55
		Cultural preservation	0	50	0	48	26
		Indigenous rights	75	75	5	55	35
		Gender equitability	60	36	0		
	Working conditions	Employer practices	67	83	67	62	56
		Labour rights	100	100	100	46	36
		Health and Safety	80	100	50	48	25
		Gender employer practices	90	70	0	58	44
		Average	69	69	29	55	40

- *Environmental dimension*

The environmental dimension involves evaluating climate change, pollution prevention, and biodiversity & natural resources management subdimensions.

Climate change has made agricultural practices contributing to both adaptation and mitigation increasingly relevant, particularly in the face of extreme weather events like droughts or heavy rainfall. When comparing the requirements of VSS on climate adaptation (11%) and mitigation (45%) with investors' perceptions about enabling positive environmental impact (67% and 64%, respectively) and reducing financial risks (65% and 47%, respectively), there is potential for VSS to incorporate more requirements that promote resilience to climate change (Figure 6).

RSPO and RA are specifically focused on climate mitigation (77% and 37%, respectively), while climate adaptation is not covered by RSPO or Organic EU. Rainforest Alliance has requirements for both climate adaptation (33%) and mitigation (37%) (Table 4). The three standards for oil palm are far from meeting investors' expectations in terms of criteria covering climate change. On the other hand, the three VSS do include separate criteria that contribute to climate change adaptation and mitigation, such as soil conservation, and forest and biodiversity conservation, though these are not explicitly labelled as such.

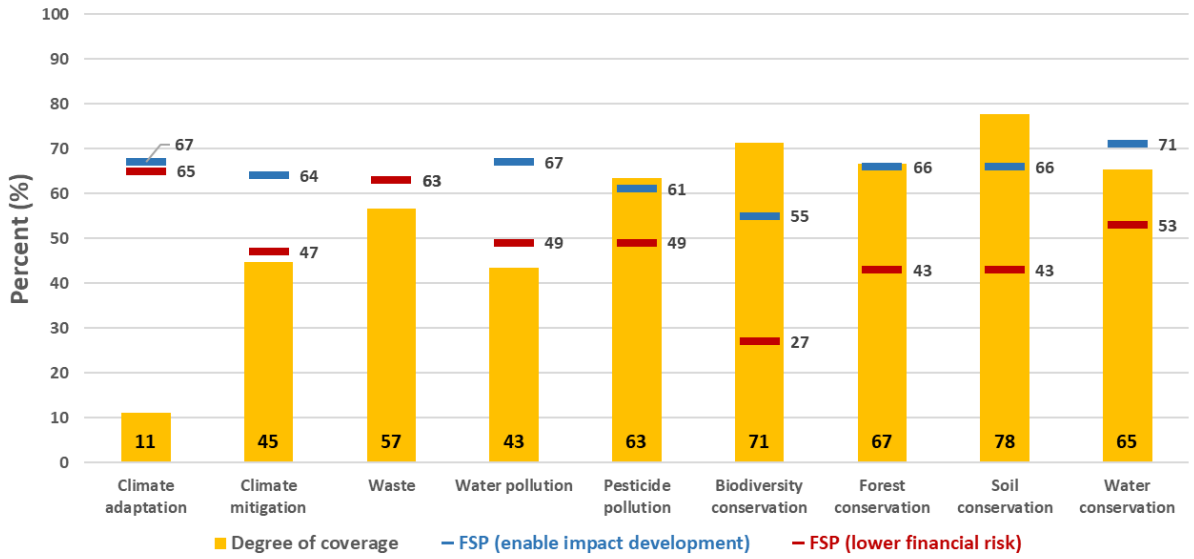


Figure 6 Average degree of coverage for RSPO, RA, and Organic EU on climate change, pollution prevention, and biodiversity & natural resource management, compared with the perception of financial service providers (FSP). Adapted from "Standards and Investments in Sustainable Agriculture" (IISD 2022).

Pollution prevention in this context involves measures to reduce *waste*, prevent *water pollution* from farming operations, and minimise or eliminate *pesticide use*. When comparing the requirements of most VSS on reducing waste (57%), water pollution (43%), and pesticide pollution (63%) with investors' perceptions about enabling positive environmental impact (63%, 67%, and 61%, respectively) and reducing financial risks (63%, 49%, and 49%, respectively), there is potential for VSS to enhance requirements for water pollution to align more closely with investors' expectations (Figure 6). RSPO has the lowest average coverage for pollution prevention (43%), followed by Organic EU (51%) and RA (69%). The three standards for oil palm show limited effectiveness in reducing investment risk or addressing pollution issues, indicating room for improvement in VSS (Table 4).

Table 4 Scores for criteria of RSPO, RA, and Organic EU criteria in the Environmental dimension, as defined by the VSS and as perceived by Financial Service Providers (FSP).

	Dimension	Criteria	RSPO	Rainforest Alliance	Organic EU	Investors perception	
						Enable Impact	Lower Financial Risk
			Percentage (%)			Percentage (%)	
Environment	**Climate change**	Climate adaptations	0	33	0	67	65
		Climate mitigation	77	37	20	64	47
	Pollution prevention	Waste	43	77	50	63	63
		Water pollution	30	67	33	67	49
		Pesticide pollution	60	60	70	61	49
	Biodiversity & Natural Resource Management	Biodiversity conservation	67	80	67	55	27
		Forest conservation	100	100	0	66	43
		Soil conservation	50	100	83	66	43
		Water conservation	52	64	80	71	53
		Average	53	69	45	64	49

Biodiversity & natural resource management play a crucial role in the resilience of a production system, addressing challenges such as nutrient deficiencies, drought, and pest outbreaks. Practices related to *biodiversity, forest, soil, and water* management contribute significantly to the system's productivity and profitability and are increasingly recognised by investors. These practices also contribute to climate change adaptation and mitigation.

The criteria coverage for reducing biodiversity loss (71%), preventing deforestation (67%), addressing soil degradation (78%), and limiting freshwater exploitation (65%) surpasses investors' expectations for enabling environmental impact and reducing financial risks (Figure 6). The Rainforest Alliance exhibits extensive coverage of conservation criteria (69% on average), followed by RSPO (53% on average) and Organic EU (45% on average), as shown in Table 4.

3.3. Synthesis

The overall average scores for each dimension indicate that investors perceive the economic dimension as the most important, both for enabling sustainable development impact and for reducing financial risk (68% and 70%, respectively). The environmental dimension follows as the second most important (with investors' perceptions at 64% and 49%, respectively). Lastly, the expectations for enabling impact (55%) and reducing financial risk (41%) are lowest in the social dimension (Table 5).

Rainforest Alliance leads in criteria coverage (69%), exceeding general investors' expectations for both enabling development impact and reducing financial risk. RSPO is close to meeting investors' perceptions in terms of criteria to reduce financial risk, with a coverage of 53%, while Organic EU falls significantly short of most expectations, with only 32%.

Table 5 General scores for criteria of RSPO, RA, and Organic EU criteria in the Economic, Social and Environmental dimension. Adapted from "Standards and Investments in Sustainable Agriculture" (IISD 2022).

Dimension	RSPO	Rainforest Alliance	Organic EU	Investors perception	
				Enable Impact	Lower Financial Risk
	Percentage (%)			Percentage (%)	
Economic	35	59	23	68	70
Social	69	69	29	55	40
Environment	53	69	45	64	49
Average	52	66	32	63	53

For a more detailed description of the principles and criteria specific to oil palm under different voluntary sustainability standards, please refer to Appendix 2. These are presented in the three main dimensions (economic, social, and environmental), describing the criteria that smallholders must meet to obtain certification.

4. Challenges and opportunities in Africa and the Americas

4.1. Africa

In the African context, sustainable investment opportunities face several challenges. Most oil palm is cultivated by smallholders with relatively small farms (less than 5 hectares), within diversified production systems, primarily for local or regional consumption, as Africa remains a net importer of palm oil. Smallholder farmers often supply fresh fruit bunches unevenly, which limits their access to industrial mills, with much of their produce processed in artisanal mills (Meijaard, Garcia-Ulloa, et al. 2018, Tening, et al. 2023). These farmers are frequently excluded from sectoral development plans, lacking access to critical resources such as knowledge, capital (e.g., fertilisers, quality seeds), markets, and certification. This exclusion disproportionately affects female market intermediaries (Khatun, et al. 2020, Tening, et al. 2023). According to Khatun et al. (2020), RSPO initiatives often position smallholders as mere suppliers to industrial mills, reinforcing agro-industrial dependence while overlooking the diversity of oil palm production systems. Investing in infrastructure to support diverse local supply chains could significantly improve smallholders' market access.

Land grabbing for commodity crop development exacerbates insecure land tenure. Encouraging collaborations between communities and companies could help resolve land tenure conflicts. However, pluralistic land tenure systems may also serve as a safeguard against land grabbing by promoting access to resources such as capital, markets, technology, knowledge, and land rights (Khatun, et al. 2020). Gender disparities in land access, with women typically having less access than men, may limit their opportunities in oil palm production. Yet, women play key roles as intermediaries in fruit collection, artisanal processing, and the sale of red palm oil in domestic markets (Tening, et al. 2023). This crucial role may diminish as fruit production increasingly shifts to larger mills and African palm oil integrates into global markets (Khatun, et al. 2020).

Export-oriented expansion is growing in Africa (Ordway, Asner en Lambin 2017). Oil palm cultivation is being actively promoted in highly forested countries such as Liberia, Sierra Leone, Gabon, and other Congo Basin nations. This expansion is also occurring in countries where significant forest areas have already been cleared for agriculture, such as Côte d'Ivoire, and may involve replacing other commodity crops like cocoa. Although large-scale foreign investments in oil palm plantations remain limited, the expansion of commodity crops in Africa is primarily driven by smallholder farmers (Ordway, Asner en Lambin 2017).

Enhancing the yield of existing producers by promoting good agricultural practices is essential for strengthening the resilience of smallholder farmers. By adopting improved farming techniques and

optimizing local processing practices—such as efficient water use, mill capacity optimization, and precise control over fermentation, boiling duration, and temperature—farmers can significantly increase oil yield. These enhancements not only help smallholders reduce production costs and increase revenue but also mitigate the need for further expansion of oil palm plantations, supporting more sustainable land use and environmental conservation (Tening, et al. 2023, L. Ayompe, et al. 2021). Initiatives like the Sustainable West African Oil Palm Program (SWAPP) are working with various stakeholders to scale up sustainable intensification and processing. This effort includes the rigorous implementation of best management practices at both farms and mills, fostering local entrepreneurship by providing services along the palm oil value chain and increasing access to finance for small and medium enterprises (SMEs) in the oil palm sector (Solidaridad 2022). Certification could also support such efforts, but high certification costs make this unrealistic for smallholder farmers (L. M. Ayompe, et al. 2023).

4.2. Americas

Oil palm cultivation is rapidly expanding across the Americas. Brazil, Colombia, Ecuador, and Honduras already have extensive areas dedicated to oil palm, while more recent expansions are occurring in countries like Costa Rica, Guatemala, Mexico, and Peru (Lesage, Cifuentes-Espinosa and Feintrenie 2021). Different government policies, market structures, and institutional arrangements in the region contribute to varying development trajectories and the dominance of either smallholder or large-scale agribusiness models (Castellanos-Navarrete, de Castro and Pacheco 2021).

Lesage et. al. (2021) review 25 public policies implemented across the Americas to promote the expansion of the palm oil sector. These policies have integrated smallholders into the value chain through various approaches, categorized as follows: 1) "independent smallholders," who sell Fresh Fruit Bunches (FFB) to mills without any contractual agreement; 2) "organized smallholders," who form associations and secure collective commercial agreements with mills; and 3) "contract smallholders," who sell FFB to corporate mills through contractual arrangements, often benefiting from secure access to markets, inputs, and technical assistance (Castellanos-Navarrete, de Castro and Pacheco 2021).

The average oil palm area owned by smallholders in the region ranges from less than 10 to 22 hectares, while medium to large-scale plantations span between 240 and 15,000 hectares. Mexico and Honduras have a significant representation of smallholder farmers, who account for 53% and 61% of the oil palm area, respectively (Castellanos-Navarrete, de Castro and Pacheco 2021). In Peru, smallholders represent around 30% of the oil palm area, while in the other countries, smallholders represent a smaller proportion of oil palm producers.

Regardless of the country, oil palm expansion has diverse implications for smallholders, rural workers, and "forest-dependent communities" in the Americas. Smallholders, often migrant settlers, typically support expansion, while forest-dependent communities—mainly Indigenous and Afro-descendant populations—are often excluded from oil palm production. Their customary collective land tenure makes them ineligible for sectoral program support (Castellanos-Navarrete, de Castro and Pacheco 2021). Tensions between these groups have escalated, particularly when governmental or private sector programs promote palm oil expansion and smallholder inclusion, indirectly or directly leading to land grabbing and the displacement of local forest-dependent communities (Potter 2020, Lesage, Cifuentes-Espinosa and Feintrenie 2021).

In Colombia, the leading palm oil producer in the Americas, elites have utilized palm oil as a tool for land control under the premise of "modernizing the countryside through agroindustry" (Potter 2020, Pacheco 2012). In regions of Colombia, northern Honduras, Peru, and Mexico, paramilitary groups and drug traffickers have been linked to oil palm cultivation, which has been associated with displacement and used to legitimize property rights (Potter 2020, Grajales 2013, Castellanos-Navarrete, de Castro and Pacheco 2021). In response, the Colombian and Peruvian governments have implemented inclusion policies for smallholder settlers, encouraging them to cultivate oil palm as an alternative to coca.

In other areas of Colombia and the Americas, efforts to promote sustainable palm oil cultivation are yielding encouraging results. Organizations such as the RSPO and NGOs like Solidaridad are driving positive impacts

on smallholder farmers in Guatemala, Honduras, and Nicaragua, particularly through the approval of the RSPO National Interpretations and initiatives like the MesoAmerican Palm Oil Alliance (MAPA)[7].

Initiatives promoting zero deforestation by regional governments and private sector actors in the supply chain (adhering to REDD+[8]) aim to reduce greenhouse gas (GHG) emissions (Furmuro en Lambin 2020). In the past, Colombia committed to achieving zero deforestation by 2020 in the palm oil supply chain, implementing expansion policies on unproductive land formerly dominated by cattle ranching in the savannas of the Orinoquia region. Between 2002 and 2008, the oil palm area in the Orinoquia grew primarily at the expense of pastures (58%) and savannas (11%) (Castiblanco, Etter en Aide 2013). While the impacts of oil palm expansion in forests are relatively well studied, its effects on other natural ecosystems—such as tropical savannas, shrublands, and grasslands (areas previously cleared for cattle ranching)—remain less understood (Meijaard, Garcia-Ulloa, et al. 2018).

In 2020, the Colombian Barometer of Sustainable Palm Oil was released, highlighting "*Pioneering initiatives such as the Zero Deforestation Agreement, signed in 2017 under the flag of the Tropical Forest Alliance (TFA), and the National Sustainable Palm Oil Program (APSCO), led by sector organization Fedepalma since 2019, now pave the way for the completion of the sustainable sector transformation in this decade*" by Solidaridad (2020). Such efforts have contributed to positioning palm oil from Colombia as an environmentally friendly option, with relatively low impacts on deforestation. Consequently, this has led to the consolidation and promotion of its position in biodiesel markets.

To summarize, the economic, social, and environmental threats and opportunities of the palm oil sector, particularly in the African and American contexts, are outlined in Table 7.

Table 7 Threats and opportunities for the palm oil sectior in Africa and the Americas.

OIL PALM CONTEXT FOR AFRICA AND THE AMERICAS- the good and the bad			
	Governance	**Social- rural livelihoods**	**Environmental**
Threats	• Monopoly of large producers • High initial investment to secure high productivity • High costs of certification	• Displacement/land grabbing • Threatens culture • Food provision ->Reduced capacity to cultivate or collect wild foods • Destroy traditional livelihoods • Others: intra-household gender inequality, harassment	• Deforestation and forest degradation • Habitat and biodiversity loss • Disruption of food chains • Air and water pollution • Fire and increase of GHG's • Soil erosion
Opportunities	• Poverty alleviation ->Improve livelihoods of smallholder farmers • Creates jobs for landless rural families • High productivity -> mitigate land expansion • Credit facilities	• General concern to support smallholder farmers livelihoods • Economic opportunities along the chain • Training eco/financial literacy • Others: improved housing conditions, market infrastructure, rural development and urbanization	• Replanting on areas with low carbon stock • A greener option than other oil crops • Alternative to extensive cattle production • Investments to support smallholder farmers to become more environmentally sustainable • Erosion prevention • Raw material provision

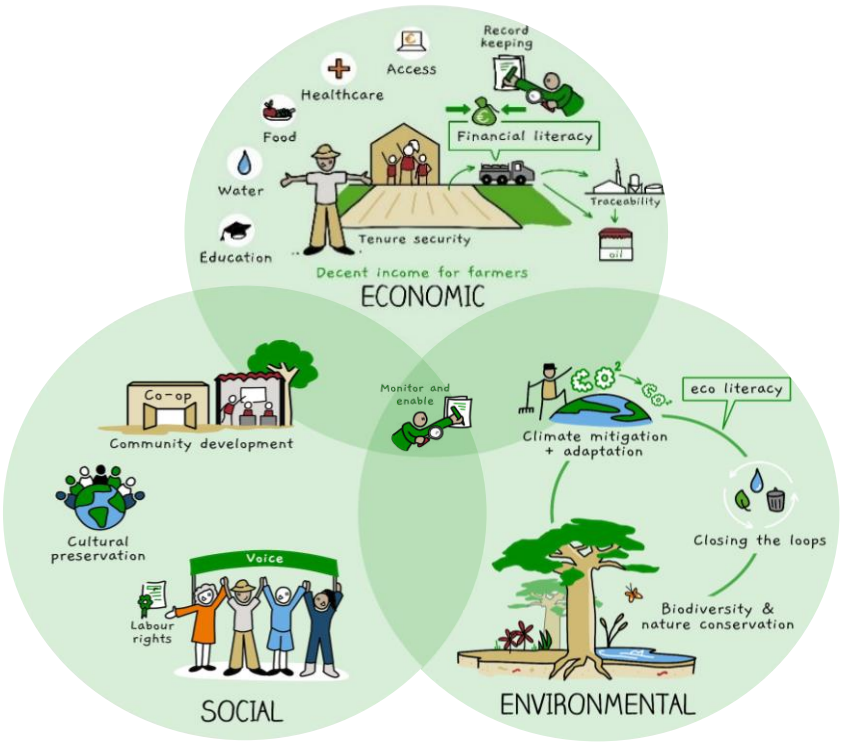
(Castellanos-Navarrete, de Castro and Pacheco 2021, Bernet and van den Berge 2019)

[7] https://www.solidaridadnetwork.org/mesoamerican-palm-oil-alliance/
[8] https://redd.unfccc.int/

5. Case Study: Dialogue between an investor cooperative, sector stakeholders and scientists

Palm oil is a controversial sector, and fostering dialogue between investors, investment managers, and other stakeholders can be a valuable tool for bridging the gap between scientific knowledge and the perspectives of various stakeholders. In this case study, a dialogue was organised between a financial service provider (a sustainable investment cooperative), its investors, scientists, and sector sustainability stakeholders. The objective was to share knowledge, perspectives, concerns, and priorities regarding current trends, challenges, opportunities, and criteria for sustainable investments aimed at supporting smallholder palm oil farmers in Africa and the Americas. The dialogue was structured around the objectives and reservations of participants across three dimensions: economic, social, and environmental.

Most stakeholders viewed investing in oil palm production in Africa and Latin America, particularly by smallholder farmers, as an opportunity for ***economic*** development. They felt it was crucial to retain a larger share of the profit within the producing countries (e.g., by supporting local processing). However, challenges related to local contexts and facilitating investments across different parts of the value chain—such as production, processing (mills), and infrastructure—were also identified.



In the ***social*** dimension, contributions to providing a decent income for smallholder farmers and empowering women farmers were identified as key priorities. Investors expressed a strong interest in involving smallholder farmers in cooperatives to facilitate targeting them as a group. Additionally, NGO representatives highlighted their role and capacity in bridging the gap between investors and local communities, with a particular focus on vulnerable target groups

Investors viewed increasing yield alongside the enforcement of forest protection as a key opportunity in the ***environmental*** dimension to prevent further deforestation. However, the question remains: Can smallholder farmers achieve genuine environmental responsibility? Monitoring and capacity building are essential to promote good agricultural practices, protect biodiversity, and prevent deforestation among smallholder farmers. Intercropping, cattle-oil palm integration, and payments for ecosystem services were identified as potential opportunities to achieve these goals.

Overall, investors expressed a desire to gain a better understanding of the broader impact of their investments beyond just the financial returns. Market access, financial literacy, certification, and monitoring were recurring themes in the discussions.

The market: It was acknowledged that competing with large plantations presents significant challenges for smallholder farmers. To level the playing field, improving market access—through better roads, FFB (fresh fruit bunch) collection centres, and mills—was seen as crucial. Identifying niche markets that add value (such as red palm oil) and enhancing processing equipment (e.g., improved stoves) would result in fairer prices, higher profitability, and reduced waste, thereby contributing to greater sustainability. Additionally, assessing oil extraction rates (OER) from FFBs for individual smallholders is challenging but necessary to ensure fair pricing and optimize production. Encouraging smallholders to form cooperatives could facilitate collective OER assessments, as mills

prefer to evaluate cooperatives due to their larger, more consistent deliveries, unlike the smaller, irregular quantities from individual farmers, which often result in a lower assumed OER.

Financial literacy is vital for helping smallholder farmers view their land as an investment opportunity with profitable returns, rather than just low-productivity land. By distinguishing between a 'decent' income and a 'living' income, participants in the dialogue gained a clearer understanding of the potential impact of their investments.

Eco-literacy, though new to many participants, is also essential for understanding key concepts like climate mitigation, sustainable agriculture, biodiversity, and conservation. For smallholder farmers, being eco-literate provides the knowledge necessary to implement sustainable practices and adapt to environmental challenges.

Certification was acknowledged as a significant hurdle for smallholder farmers to obtain. However, participants recognized the progress made by certification systems, particularly improvements in labour rights, which could serve as a starting point for financial service providers in developing their own criteria—potentially including labour rights—to support smallholder farmers in achieving sustainability.

Monitoring emerged as a central theme, connecting all dimensions of sustainability. It supports traceability, human rights protection, land tenure security, and forest conservation. The consensus was that investing in robust monitoring systems is crucial for achieving sustainable impact.

6. Conclusions

Acknowledging the four "truths" of oil palm, as outlined by Sayer et al., (2012)—1) *demand will continue to grow due to a rising global population*; 2) *it is one of the most profitable land uses*; 3) *its plantations store more carbon than alternative agricultural land uses*; 4) *native biodiversity in oil palm plantations is far lower than in the natural forests they often replace*—can help steer meaningful debates towards finding solutions. While some criticisms of the industry are valid, others may be oversimplifications.

What benefits the environment may harm farmers, what is good for the present may harm future generations, and what is important locally may not align with broader concerns. These complexities inevitably lead to controversies and moral dilemmas. As such, understanding the specific environmental, social, and governance contexts—along with their associated risks and opportunities—is essential for informed decision-making (Meijaard and Sheil 2019). In the palm oil sector, polarized narratives have created mistrust across the supply chain. Therefore, ***transparency***—through traceability, visibility, certification, and real-time information—emerges as a crucial component for reconciliation, helping to ease disputes and foster more collaborative efforts (ibid.).

Open dialogues, such as the one illustrated in Section 5, are powerful tools for enhancing understanding and exchanging values and perspectives. Based on the literature review and dialogue, conclusions and recommendations were developed to guide Financial Enterprises in building an integrated, sustainable, and inclusive investment portfolio in the palm oil sector.

Conclusion 1: Opportunities and risks for oil palm development are context specific.

The palm oil sector in both Africa and the Americas presents distinct challenges and opportunities due to the varying contexts of smallholder production, market dynamics, and environmental considerations. As outlined in the introduction and Sections 2 and 4, the negative impacts of palm oil production are not inherent to the crop itself, but rather the result of how it is produced. Palm oil is a highly profitable crop with the potential to bring significant development benefits to producer countries where such opportunities are otherwise scarce.

Rather than avoiding palm oil, the focus should be on investing in its production in ways that promote sustainability, inclusivity, and long-term benefits. The specific environmental, social, and governance contexts at both national and local levels will dictate the balance between risks and opportunities, guiding informed investment decisions. While Africa and the Americas face different challenges, both regions hold potential for sustainable growth within the palm oil sector. Tailoring solutions to suit local conditions, fostering collaboration, and ensuring that the benefits of oil palm production are widely distributed will be

essential in unlocking these opportunities while mitigating associated risks. Therefore, a deep understanding of these local contexts is critical, often best achieved through strategic partnerships with local stakeholders.

Conclusion 2: The role of certification and standards in the smallholder context.

Global standards, such as the RSPO Principles and Criteria, along with other VSS like Rainforest Alliance and FAO VGGT[9], provide valuable tools and frameworks for promoting more responsible and sustainable practices within the palm oil sector. These standards address key environmental, social, and governance (ESG) aspects, incorporating vital principles such as Free, Prior, and Informed Consent (FPIC) and High Conservation Value (HCV) criteria, which safeguard forests, biodiversity, and the rights of indigenous and local communities.

However, the costs associated with certification, along with the need for meticulous record-keeping and regular audits, present significant barriers for smallholder farmers. These challenges limit their access to markets and hinder the inclusivity of sustainability efforts. While initiatives aimed at providing financial incentives to support smallholders are a positive development, the need for more scalable and flexible solutions remains. To achieve widespread sustainability, it is crucial to develop alternative mechanisms that can balance environmental objectives with the financial constraints that smallholders face.

Conclusion 3: The need to invest in building development across the supply chain.

Most producers in Africa, Southeast Asia and the Americas operate outside formal certification schemes, making it challenging to assess and mitigate ESG risks associated with investments in these regions. Smallholder farmers, particularly in Africa and the Americas, often supply local markets that do not demand sustainability standards. They face barriers such as limited access to capital, high certification costs, and a lack of knowledge about sustainable farming practices.

Investing in capacity development initiatives is vital to empower smallholders with the skills, resources, and knowledge needed to adopt sustainable practices. The low certification rates among smallholders reflect the complexity and the limited perceived benefits of certification, making it an impractical sole objective.

Rather than focusing solely on certification, efforts should prioritize rewarding sustainable practices and creating an enabling environment for good practices across the entire supply chain. This could involve supporting farmers' cooperatives and associations with financial literacy, landscape-level development, land-use planning capabilities, and promoting active participation from women and youth. To effectively address risks and unlock opportunities for positive impact, it is essential to invest not only in smallholder producers (through associations or cooperatives) but also in the surrounding infrastructure, such as mills, transport, and input providers—what can be termed as 'enabling investments'. Equally important are investments in eco-literacy and environmental best practices at all levels.

Conclusion 4: Be aware of limitations, invest in safeguards, information flows and local capacities.

Even the most well-established scorecards and frameworks cannot guarantee 100% sustainability and inclusivity in practice. Unsustainable, non-inclusive, and unjust practices can emerge at any point in the production process and throughout the value chain. Local and international NGOs possess valuable insights into potential issues such as elite capture, the dependence of farmers on cash crops at the expense of food crops, abuse of informal land rights, unequal distribution of benefits, leakage, and other challenges.

Acknowledging these undesirable practices and impacts, even those beyond immediate control, is a crucial first step in fostering positive change. To mitigate these risks, it is necessary to invest in robust safeguards, clear information flows, and capacity development for all stakeholders across the supply chain. However, these efforts will only be effective if they are developed and implemented in collaboration with local actors, producer organizations, and NGOs who have a deep understanding of the realities on the ground.

[9] Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security

Conclusion 5: The need for open dialogue

Agricultural investors are generally not opposed to investing in palm oil, but some may face challenges justifying such investments within their own networks. They often struggle to communicate how palm oil investments can enhance the social and environmental impact of the production areas and improve local livelihoods. This concern is valid and should be addressed.

Integrating ESG concerns into decision-making is a fundamental aspect of responsible investment processes. Open dialogue and clear communication between the investment community and sector stakeholders—where all parties actively seek to understand each other's needs, priorities, and concerns—can facilitate a collective decision on whether to invest in palm oil and under what conditions. By understanding context-specific risks and opportunities and learning from experiences with contested issues, crops, and investment choices, investors can make informed decisions that generate meaningful impact.

Initiatives such as the European Sustainable Palm Oil Dialogue[10], which brings together decision-makers, academics, and NGOs, exemplify the value of such discussions. These dialogues are crucial for driving positive change, fostering collaborative solutions, and taking concrete actions to achieve sustainability.

[10] European Sustainable Palm Oil Dialogue steps up commitment with Manifesto - Roundtable on Sustainable Palm Oil (RSPO)

References

Abubakar, Ahmed, and Mohd Yusoff Ishak. 2022. "An Overview of the Role of Smallholders in Oil Palm Production Systems in." *Nature Environment and Pollution Technology* 21 (5): 2055-2071. doi:https://doi.org/10.46488/NEPT.2022.v21i05.004 .

Almas-Smith, Oda, Helen Newing, Marcus Colchester, Angus MacInnes, and Lan Mei. 2022. *Identifying the Human Rights Impacts of Palm Oil: Guidance for Financial Institutions and Downstream Companies.* Anderten, Netherlands: Forest Peoples Programme. https://www.forestpeoples.org/en/report/07-2022/human-rights-impacts-palm-oil-guidance.

Amsterdam Declarations Parthenship. 2018. *Palm oil.* Accessed September 2022 . https://ad-partnership.org/commodities/palm-oil/.

Ayompe, L M, M Schaafsma, and B N Egoh. 2021. "Towards sustainable palm oil production: The positive and negative." *Journal of Cleaner Production* 1-11. doi:https://doi.org/10.1016/j.jclepro.2020.123914.

Ayompe, Lacour Mody, Raymond Ndip Nkongho, Lionel M. Wandum, Bessem O. Orang, Komi K. M. Fiaboe, Emmanuel E. Tambasi, Marianne Kettunen, and Benis N. Egoh. 2023. "Complexities of sustainable palm oil production by smallholders in sub-Saharan Africa." *Sustainable Development* 32 (1). doi:https://doi.org/10.1002/sd.2674.

Ayompe, LM, RN Nkongho, C Masso, and BN Egoh. 2021. "Does investment in palm oil trade alleviate smallholders from poverty in Africa? Investigating profitability from a biodiversity hotspot, Cameroon." *PLoS ONE* 16 (9): e0256498. doi:https://doi.org/10.1371/journal.pone.0256498.

Barthel, M, St Jennings, W Schreiber, R Sheane, S Royston, J Fry, Y Leng Khor, and J McGill. 2018. *Study on the environmental impact of palm oil consumption and on existing sustainability standards.* European Commission, DG Environment. https://ec.europa.eu/environment/forests/pdf/palm_oil_study_kh0218208enn_new.pdf.

Bernet, Thomas, and Paul van den Berge. 2019. *Organic and Fair Palm Oil Production – Assessment Project.* Public Synthesis Report, Frick- Switzerland: Research Institute of Organic Agroculture FiBL, 45. https://www.fibl.org/en/themes/projectdatabase/projectitem/project/1476.

Carlson, K, R Heilmayra, H Gibbs, P Noojipadyg, D Burns, D Morton, N Walker, G Paolij, and C Kremenk. 2018. "Effect of oil palm sustainability certification on deforestation and fire in Indonesia." *Proceedings of the National Academy of Sciences (PNAS).* 121-126. doi:10.1073/pnas.1704728114.

Castellanos-Navarrete, A, F de Castro, and P Pacheco. 2021. "The impact of oil palm on rural livelihoods and tropical forest landscapes in Latin America." *Journal of Rural Studies* 81: 294-304. doi:https://doi.org/10.1016/j.jrurstud.2020.10.047.

Castiblanco, C, A Etter, and M Aide. 2013. "Oil palm plantations in Colombia: a model of future expansion." *Environmental Science & Policy* 27: 172-183.

de Vos, Rosanne E, Aritta Suwarno, Maja Slingerland, Peter J van der Meer, and Jennifer M Lucey. 2021. "Independent oil palm smallholder management practices and yields: can RSPO certification make a difference?" *Environmental Research Letters* 16 (6). doi:https://doi.org/10.1088/1748-9326/ac018d.

de Vos, Rosanne, Lisa Nurfalah, Fatima Tenorio, Ya Li Lim, Juan P Monzon, Christopher R Donough, Hendra Sugianto, et al. 2023. "Shortening harvest interval, reaping benefits? A study on harvest practices in oil palm smallholder farming systems in Indonesia." *Agricultural Systems* 211 (103753). doi:https://doi.org/10.1016/j.agsy.2023.103753.

Euler, Michael, Vijesh Krishna, Stefan Schwarze, Hermanto Siregar, and Matin Qaim. 2017. "Oil Palm Adoption, Household Welfare, and Nutrition Among Smallholder Farmers in Indonesia." *World Development* 93: 219-235. doi:https://doi.org/10.1016/j.worlddev.2016.12.019.

European Commission. 2021. *Questions and answers on new rules for deforestation-free products.* 17 November. Accessed September 6, 2022. https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/698925/EPRS_BRI(2022)698925_EN.pdf.

FAOSTAT. 2021. *FAO- Statistical yearbook 2021.* Accessed 07 2022. https://www.fao.org/3/cb4477en/online/cb4477en.html#chapter-2_1.

Furmuro, P R, and E F Lambin. 2020. "Scaling up zero-deforestation initiatives through public-private partnerships: A loop inside post-conflict Colombia." *Global Environmental Change* 62: 102055. doi:https://doi.org/10.1016/j.gloenvcha.2020.102055.

Furumo, P R, X Rueda, J S Rodriguez, and I K Perez-Ramos. 2020. "Field evidence for positive certification outcomes on oil palm smallholder management practices in Colombia." *Journal of Cleaner Production* 245: 118891. doi:https://doi.org/10.1016/j.jclepro.2019.118891.

Grajales, Jacobo. 2013. "State Involvement, Land Grabbing and Counter-Insurency in Colombia." *Development and Change* 2 (44): 211-232. doi: https://doi.org/10.1111/dech.12019.

Groom, Ben, Charles Palmer, and Lorenzo Sileci. 2022. "Carbon emissions reductions from Indonesia's moratorium on forest concessions are cost-effective yet contribute little to Paris pledges." *Proc. Natl. Acad. Sci. U.S.A.* 119 (5). doi:https://doi.org/10.1073/pnas.2102613119.

IDH- Sustainable Trade Initiative. 2016. *No palm oil is no solution- sustainable palm oil is.* 7 October. Accessed September 2022. https://www.idhsustainabletrade.com/news/no-palm-oil-no-solution-tackle-environmental-health-issues-sustainable-palm-oil/.

IDH-Sustainable Trade Initiative. 2021. *Report- State of play Role of Europe in Driving Sustainable Palm Oil.* 9 November. Accessed September 6, 2022. https://www.idhsustainabletrade.com/uploaded/2021/11/2021-Palm-Oil-Report-21.6-Small.pdf.

IISD. 2022. "Standards and Investments in Sustainable Agriculture." *International Institute of Sustainable Development- State of Sustainable Initiatives.* Vivek Voora, Cristina Larrea, Gabriel Huppé and Francesca Nugnes. Accessed April 7, 2022. https://www.iisd.org/ssi/reviews/.

Indonesia Investments. 2024. *Indonesia Investments.* September. https://www.indonesia-investments.com/business/commodities/palm-oil/item166?

International Trade Centre. 2021. *ITC Standards Map.* Accessed May 3, 2022. https://www.standardsmap.org.

Jelsma, I, M Slingerland, K E Giller, and J Bijman. 2017. "Collective action in a smallholder oil palm production system in Indonesia: The key to sustainable and inclusive smallholder palm oil?" *Journal for Rural Studies* 198-210. doi:https://doi.org/10.1016/j.jrurstud.2017.06.005.

Khatun, Kaysara, Victoria Alice Maguire-Rajpaul, Elizabeth Asiedua Asante, and Constance L McDermott. 2020. "From Agroforestry to Agroindustry: Smallholder Access to Benefits from Oil Palm in Ghana and the Implications for Sustainability Certification." (Frontiers in Sustainable Food Systems) 4 (29). doi:doi: 10.3389/fsufs.2020.00029.

Lesage, Colombine, Jaime Cifuentes-Espinosa, and Laurène Feintrenie. 2021. "Oil palm cultivation in the Americas: review of the social, economic and environmental conditions of its expansion." *Cahiers Agrocultures* 30 (27): 12.

Meijaard, E, J Garcia-Ulloa, D Sheil, S A Wich, K M Karlson, D Juffe-Bignoli, and T M Brooks. 2018. *Oil palm and biodiversity : a situation analysis by the IUCN Oil Palm Task Force.* Gland: IUCN. doi:https://doi.org/10.2305/IUCN.CH.2018.11.en.

Meijaard, E, M Virah-Sawmy, H.S. Newing, V Ingram, M.J.M. Holle, T Pasmans, S Omar, et al. 2024. *Exploring the future of vegetable oils. Oil crop implications – Fats, forests, forecasts, and futures.* Gland, Switzerland: IUCN, and SNSB. doi:https://doi.org/10.2305/KFJA1910.

Meijaard, Erik, and Douglas Sheil. 2019. "The Moral Minefield of Ethical Oil Palm and Sustainable Development." *Frontiers in Forests and Global Change* 2. doi:https://doi.org/10.3389/ffgc.2019.00022.

Ordway, Elsa M, Gregory P Asner, and Eric F Lambin. 2017. "Deforestation risk due to commodity crop expansion in sub Saharan Africa." (Environmental Research Letters) 12 (044015). doi:https://doi.org/10.1088/1748-9326/aa6509.

Oxfam International. 2022. *Oxfam International.* Accessed 07 20, 2022. https://www.oxfam.org/en/search?keys=oil+palm.

Pacheco, P. 2012. *Soybean and Oil Palm Expansion in South America: A Review of Main Trends and Implications.* Center for International Forestry Reseach. http://www.jstor.org/stable/resrep02321.1.

Potter, Lesley. 2020. "Colombia's oil palm development in times of war and 'peace': Myths, enablers amd the disparate reality of land control." *Hournal of Rural Studies* 78: 491-502. doi:https://doi.org/10.1016/j.jrurstud.2019.10.035.

Potts, Jason, Jessica van der Meer, and Jaclyn Daitchman. 2010. *The state of sustainability initiatives review 2010: Sustainability and transparency.* International Institute for Sustainable Development. https://epe.lac-bac.gc.ca/100/200/300/iisd/2010/ssi_sustainability_review_2010.pdf.

Rahman, Md. Habibur, Daisuke Naito, Moira Moeliono, Yohei Mitani, and Andres I Susaeta. 2023. "Oil palm and rubber-driven deforestation in Indonesia and Malaysia (2000-2021) and efforts toward zero deforestation commitments." *Research Square.* doi:https://doi.org/10.21203/rs.3.rs-2945587/v1.

Ritchie , H, and M Roser. 2020. *Palm Oil.* Our World in Data. June. Accessed June 21, 2022. https://ourworldindata.org/forests-and-deforestation.

Ritchie, Hannah. 2021. *Palm Oil.* Accessed 09 13, 2024. https://ourworldindata.org/palm-oil.

RSPO. 2024. *As a smallholder: Gaining certificantion changes everything.* 07. Accessed 09 13, 2024. https://rspo.org/as-a-smallholder/.

—. 2022. *RSPO Impact.* Accessed July 1, 2022. https://rspo.org/impact.

Saswattecha, K, C Kroeze, W Jawjit, and L Hein. 2014. "Assessing the environmental impact of palm oil produced in Thailand." (100): 150-169. doi:http://dx.doi.org/10.1016/j.jclepro.2015.03.037.

Sayer, J, J Ghazoul, P Nelson, and A K Boedhihartono. 2012. "Oil palm expansion transforms tropical landscapes and livelihoods." *Global Food Security* 1 (2): 114-119. doi:https://doi.org/10.1016/j.gfs.2012.10.003.

Solidaridad. 2020. "Barometer on Sustainable Palm Oil Production and Trade- Solidaridad, Colombia 2020." https://www.solidaridadsouthamerica.org/publications/barometro-palma-colombia-2020/.

—. 2022. *Solidaridad.* Accessed 07 15, 2022. https://www.solidaridadnetwork.org/story/creating-significant-community-impacts-with-microcredits-in-oil-palm/.

Tening, Aaron, Takeshi Fujino, Lawrence Ndam, Godswill Azinwie Asongwe, Raymond Nkongho, Kanneth Mbene, Valantine Tellen, Emmanuel Ndi, and Jun_Jun Ma. 2023. "Smallholder palm production sector in African countries: State of the art, practices, constraint, and oportunities in Cameroon." *Preprints.* doi:https://doi.org/10.20944/preprints202307.1144.v1.

Voora, Vivek, Steffany Bermúdez, Johanna Joy-Farrell, Cristina Larrea, and Erika Luna. 2023. *Global Market Report: Palm oil prices and sutainability.* International Institute for Sustainable Development, IISD-

SSI. Accessed 09 13, 2024. https://www.iisd.org/system/files/2023-06/2023-global-market-report-palm-oil.pdf.

Appendix 1. Overview of criteria in RSPO, RA and Organic EU standards

Table 1 Overview of the different criteria in RSPO, RA, and Organic EU standards. Adapted from ITC Standards Map (International Trade Centre 2021)

Dimension	Criteria	RSPO	Rainforest Alliance	Organic EU
Economic	Economic viability	4	5	0
	Sustainability management	14	12	2
	Supply chain responsibilities	9	12	8
	Ethics	16	7	3
	Product/service quality	0	2	9
	Food/feed management systems	0	9	7
	Subtotal	**43**	**47**	**29**
Social	Human rights	5	9	0
	Labour rights	96	112	0
	Local communities	26	17	0
	Subtotal	**127**	**138**	**0**
Environment	Soil	9	10	10
	Water	10	12	8
	Biodiversity	21	32	20
	Forest	10	8	1
	Input	16	26	17
	Waste	11	12	8
	Energy	3	6	3
	Climate	7	6	1
	Animals	0	1	1
	Subtotal	**87**	**113**	**69**
	TOTAL	**257**	**298**	**98**

Appendix 2. Overview of international VSS requirements for palm oil

OVERVIEW OF INTERNATIONAL STANDARD REQUIREMENTS THAT GIVE AN ADDITIONAL VALUE WHEN COMPARED TO RSPO in regards to the smallholders

RSPO	RSPO- ISH	Rainforest Alliance	Fair Trade	Organic EU
OUTLINE OF GOALS, PRINCIPLES AND CRITERIA				
The RSPO principles and criteria for the certification of sustainable palm oil is summarized in 7 principles that are integrated into 3 impact goals: **G1. PROSPERITY:** Competitive, resilient and sustainable sector **P1.** Behave ethically and transparently **P2.** Operate legally and respect rights **P3.** Optimise productivity, efficiency, positive impacts and resilience **G2. PEOPLE:** Sustainable livelihoods and poverty reduction **P4.** Respect community and HR and deliver benefits **P5.** Support smallholder inclusion **P6.** Respect workers' rights and conditions **G3. PLANET:** Conserved, protected and enhanced ecosystems that provide for the next generation **P7.** Protect, conserve and enhance ecosystems and the environment	*This RSPO ISH Standard is only applicable to those smallholders that:"* -Are NOT a scheme smallholder -The total size of their oil palm production area is smaller than or equal to 50ha, or according to National interpretation (Indonesia <25ha; Ecuador <75 ha) -They have the enforceable decision-making power on the operation of the land and production practices. -They have the freedom to choose how they utilise the land. The ISH-RSPO standard is summarized in 3 goals-4 principles-23 criteria and 58 indicators: **G1. PROSPERITY:** Competitive, resilient and sustainable sector **P1.** Implement professional and transparent operations to secure sustainable livelihood improvements **G2. PEOPLE:** Sustainable livelihoods and poverty reduction. Human rights protected, respected & remedied **P2.** Legality, Respect for Land Rights and Community Wellbeing **P3.** Respect human rights, including workers' rights and conditions **G3. PLANET:** Conserved, protected and enhanced ecosystems that provide for the next generation **P4.** Protect, conserve and enhance ecosystems and the environment	RA certification standard is organized in 6 chapters that involve 37 farm requirements: **CH1. Management**: admin, risk assessment, internal inspection, grievance mechanism, gender equality, young farmers. **CH2. Traceability**: traceability **CH3. Income & shared responsibility**: production costs, living income, differential, investments **CH4. Farming**: planting and rotation, renovation, GMO's, soil fertility, IPM, agrochemicals, harvest practices. **CH5. Social**: child labor, forced labor, discrimination, harassment, freedom of association, wages, working conditions, health and safety, communities **CH6. Environment**: forests & protected areas, conservation, riparian, wildlife & biodiversity, management of water, waste, energy, greenhouse gases reduction	FT standard is organized in 6 charters that involve 30 farm requirements: **CH1. Policy**: policy, ethical sourcing **CH2. Social responsibility**: forced and child labor, freedom of association, equality, disciplinary practices, health and safety, working conditions, wages, social benefits **CH3. Environment:** water conservation, energy and climate change, waste management, biodiversity, packaging **CH4. Local impact**: rights, use of biodiversity and local knowledge, local development. **CH5. Supply chain**: payment, pricing **CH6. Empowerment**: group representations and support	

OVERVIEW OF INTERNATIONAL STANDARD REQUIREMENTS THAT GIVE AN ADDITIONAL VALUE WHEN COMPARED TO RSPO in regards to the smallholders

RSPO	RSPO- ISH	Rainforest Alliance	Fair Trade	Organic EU
A. ECONOMIC CONTEXT - BUSINESS MANAGEMENT				
A1. Monitoring system: up-to-date records of group members and service providers with legal requirements (trading licenses, contracts with third parties, labour contractors, subcontractors, intermediaries).				
• Management records and documents to be publicly available (P1) • Consultation and communication procedures are documented/recorded (P1) • A policy for ethical conduct is in place and implemented in all business operations (P1)	Group manager and group members: • **(E)** [11], **(MsA)**[12]**:** Have an internal control system with training on oil palm pricing mechanisms, financial management, and best practices for smallholder organisations. • **(MsA):** complete training on farm business operations, monitoring and planning and capacity building on record keeping for production. • **(MsB)**[13]**:** are operating in accordance to best management practices. They maintain records of production and transaction data of all FFB sales.	• Management structure: up-to-date register of group members, permanent and temporary workers • Records for certification purposes and compliance are kept for at least four years. • Management conducts a Risk Assessment and a management plan in relation to the requirements in this standard • An internal inspection system is in place to assess compliance of group members	• Diagnosis: identification of its key stakeholders (interaction and exchange with members and staff might be sufficient) • Policy signed by top management covering: national labour laws, For Life certification requirements; rights and responsibilities, conditions of employment, basic services, occupational health and safety, and training opportunities • Ethical sourcing policy	
A2. Geolocation data (map): size of the production zones, buildings, natural ecosystems, riparian buffer, agroforestry systems, protected areas				
• For all directly sourced FFB, the mill requires information on geo-location of FFB origins (P2)	• **(E):** SH provide the coordinates or maps of their plots and evidence of ownership, or rights to use the land	• Geolocation data (a sketch or map): production zones, buildings, natural ecosystems, riparian buffer, agroforestry systems, protected areas		
A3. Harvest and traceability: An accurate estimation, segregation and documentation of the production is in place to improve the traceability. logistics of transportation, harvest at the right time, minimize damage, respect for the maximal residue levels, selection and storage of the Fresh Fruit Brunch (FFB)				
• CPO[14] mills has to verify the volumes and sources of certified FFB entering the mill. If there is no physical separation of certified and uncertified FFB, then only Mass Balance (MB) Module is applicable (P3). • Mass Balance: the mill can claim only the volume of oil palm products produced from processing of the certified FFB as MB (P3). • The mill shall have documented procedures for receiving, processing, transport and storage of	• **(E):** Up to 40% of FFB can be sold as RSPO Smallholder Credits. • **(MsA):** Up to 70% of FFB can be sold as RSPO Smallholder • **(MsB):** 100% FFB can be sold as certified to a certified mill through any physical supply chain models (IP[15], SG[16] or MB[17]) • **(E, MsA):** The FFB produced cannot be sold through the physical supply chain (IP or SG).	• An accurate estimation, segregation and documentation of the production is in place to improve the traceability • All transactions are recorded in the RA traceability platform • Group members keep sales receipts, including name of group member, group member ID, date, product type, and volume. • Volumes sold as certified are recorded in the Rainforest Alliance traceability platform		

[11] E: Eligibility or entry level of the ISH certification phase
[12] MsA (Milestone A): continual improvement and progress phase. Groups can demonstrate MsA indicators within a maximum of two-years from being certified at the Eligibility phase
[13] MsB (Milestone B): continual improvement and full compliance of the ISH certification
[14] COP: Certified Oil Palm
[15] Identity Preserved
[16] SG: Segregated
[17] MS: Mass Balance

OVERVIEW OF INTERNATIONAL STANDARD REQUIREMENTS THAT GIVE AN ADDITIONAL VALUE WHEN COMPARED TO RSPO in regards to the smallholders

RSPO	RSPO- ISH	Rainforest Alliance	Fair Trade	Organic EU
certified and non-certified FFBs + internal audits (P3). • The oil extraction rate(OER) and the kernel extraction rate(KER) shall be applied to provide a reliable estimate of the amount of certified CPO from the associated inputs. Mill shall determine and set their own extraction rates based upon past experience (P3)		• Mass balance: the volume of product sold as mass balance is 100% covered by volumes purchased as certified with information of origin • Harvest at the right time, minimize damage, avoid contamination by agrochemicals, pests, humidity. There is a respect to the max. residue levels		
B. ECONOMIC CONTEXT- GOVERNANCE				
B1. Legally: legal ownership or lease. New lands will not be acquired as a result of expropriations, or in areas inhabited by communities in voluntary isolation. Land conflict is not present in the area of the unit of certification.				
• The unit of certification complies with applicable legal requirements (P2) • Track changes to the law (listing and evidence of legal due diligence of all contracted third parties, recruitment agencies, service providers and labour contractors) (P2) • All contracts, including FFB suppliers, contain specific clauses on meeting applicable legal requirements, and this can be demonstrated by the third party (P2) • All FFB supplies from outside the unit of certification are from legal sources: proof of the ownership status or the right/claim to the land by the grower/smallholder, trading license (P2) • FPIC[18]: Documents showing legal ownership or lease, or authorised use of customary land authorised by customary landowners through a FPIC (P4) • Plantations should not be established on indigenous peoples' lands without recognition of their prior rights and of their right to control what happens on that land (P4).	Smallholders establish a legal entity that has the organisational capacity • **(E)**: Legal formation • **(E)**: fair and transparent decision making • **(E)**: Every smallholder need to sign a Smallholder Declaration to ensure they understand their commitments and benefits Smallholders have legal or customary rights: • **(E):** Evidence of ownership • **(MsA):** SH can demonstrate legal ownership and/or customary rights to use the land or demonstrate that they are in the process of legalization • **(MsB):** SH plots are clearly and visibly demarcated and maintained, and they are operating only within these boundaries. • SH have not acquired lands from indigenous peoples, local communities or other users without their free, prior and informed consent (FPIC) • SH plots are located outside of areas classified as national parks or protected area	• Service providers comply with RA: (subcontractors, intermediaries, group members) • A grievance mechanism is in place that enables individuals, workers, communities, and/or civil society, including whistle-blowers to raise their complaints of being negatively affected by specific business activities and/or operations of any nature, including technical, social, or economic nature. If the dispute involves indigenous peoples and local communities, large farms and individually certified farms follow an FPIC process	• Farm holds valid, legal and undisputed land use and tenure rights • From 1st June 2020 onwards, before undertaking operations on land legally or customarily owned and/or used by indigenous peoples and/or local communities, a binding agreement, including compensation modalities, shall be concluded with the parties through a FPIC process. At least one relevant third party organization (non-governmental and non-profit) shall be included in the process. • If there are any disputes, they are documented and handled responsibly. If compensation measures are necessary, they are mutually agreed with the affected parties and implemented in a timely manner • There are no unresolved disputes related to the commercial use of biodiversity and traditional knowledge	

[18] FPIC (Free, Prior and Informed Consent): The right of indigenous peoples and other local communities to give or to withhold their consent to any project affecting their lands, livelihoods and environment. This consent should be given or withheld freely, meaning without coercion, intimidation or manipulation, and through communities' own freely chosen representatives such as their customary or other institutions. It should be sought prior to the project going ahead, meaning sufficiently in advance of any authorisation or commencement of activities and respecting the time requirements of indigenous consultation processes. It should be informed, meaning that communities must have access to and be provided with comprehensive and impartial information on the project, including the nature and purpose of the project, its scale and location, duration, reversibility, and scope; all possible economic, social, cultural and environmental impacts, including potential risks and benefits, resulting from the project and that the costs and benefits of alternative development options can be considered by the community with, or offered by, any other parties who wish to do so, with whom the community is free to engage. Key to respecting consent are iterative processes of collective consultation, the demonstration of good faith in negotiations, transparent and mutually respectful dialogue, broad and equitable participation, and free decision by the community to give or withhold consent, reached through its self-chosen mode of decision making.

OVERVIEW OF INTERNATIONAL STANDARD REQUIREMENTS THAT GIVE AN ADDITIONAL VALUE WHEN COMPARED TO RSPO in regards to the smallholders

RSPO	RSPO- ISH	Rainforest Alliance	Fair Trade	Organic EU
• New lands will not be acquired for plantations and mills after 15 November 2018 as a result of recent (2005 or later) expropriations, or in areas inhabited by communities in voluntary isolation (P4) • Land conflict is not present in the area of the unit of certification. Where land conflict exists, acceptable conflict resolution are implemented and accepted by the parties involved (P4).	• For new planting, smallholders do not clear or acquire any land without obtaining FPIC of indigenous peoples **Disputes:** • **(E):** SH declare any existing disputes on the land, commit to resolving said disputes and provide information on the current status of those disputes • **(MsA, MsB):** There is an absence of disputes among indigenous peoples, local communities or other users, regarding land, resource-use and access rights.		OR all such disputes have been resolved in a transparent and mutually beneficial way	
B2. Shared Responsibility: farmers, workers and their families have an improved standard of living (toward a fair living wage or pricing)				
• The action plan for continuous improvement is implemented, based on main social and environmental impacts and opportunities of the unit of certification (P3). • The unit of certification deals fairly and transparently with all smallholders (Independent and Scheme): fair pricing is explained, weighing equipment is verified (P5). • The unit of certification supports improved livelihoods of smallholders and their inclusion in sustainable palm oil value chains (P5)		• Shared Responsibility: farmers, workers and their families have an improved standard of living [toward the Living Wage or living income level]	• Time and reliable payment (payment records) • Transparent pricing rules • Producer prices: cover at least basic costs of production and allow producers to continue production, are in line with existing market and local prices	
B3. Profitability: Transfers premium price differential to group members.				
• A business or management plan (minimum three years) is documented that includes a jointly developed business case for Scheme Smallholders (P3)	• The group (of SH) has a business plan prepared with the participation and contributions of all group members • Incentives the smallholders can receive through the sales of certified FFB as RSPO Credits or through the physical supply chain models (IP, SG, or MB). • Buyers are able to purchase certified oil from smallholders and communicate externally about their sources.	• Net income of group members is assessed against the Living Income benchmark Data on costs of production costs are collected to calculate income • Group management transfers the sustainability differential in cash to group members. Farm management uses the sustainability differential to benefit workers		
B4. Boosting productivity (and better farm management): Farmers and workers are more knowledgeable about sustainability issues and practices				
• Standard Operating Procedures (SOPs) for the unit of certification are in place (P3)		• Management provides group members with services based on the management plan (training, technical assistance, support in record keeping, access to inputs (e.g., seedlings), awareness-raising activities)		

OVERVIEW OF INTERNATIONAL STANDARD REQUIREMENTS THAT GIVE AN ADDITIONAL VALUE WHEN COMPARED TO RSPO in regards to the smallholders

RSPO	RSPO- ISH	Rainforest Alliance	Fair Trade	Organic EU
• All staff, workers, Scheme Smallholders, out growers, and contract workers are appropriately trained (P3)		• There is training, technical assistance and support, awareness-raising activities		
C. SOCIAL CONTEXT				
C1. Local development: Contribution to livelihoods of smallholders, social and cultural projects, use of traditional knowledge				
• Contributions to community development that are based on the results of consultation with local communities are demonstrated (P4).			• commercial use of traditional knowledge is recognized, promoted and adequately compensated. • Provision of significant job opportunities for people from nearby local areas • BONUS: employment to marginalised groups, social and cultural projects, environmental projects, awareness on Social Responsibility • overall activities and efforts in the local community are in line with sustainable principles, and do not have a negative impact on local / indigenous communities, on the environment or on local sustainable development	
C2. Smallholders inclusion: strengthen production systems and smallholder organizations in supply chains. Group management provides services and support improvement based on group member's needs and risks.				
• In new plantings or operations including mills, an independent SEIA[19], undertaken through a participatory methodinvolving the affected stakeholders, and including the impacts of any smallholder/ out grower scheme is documented (P3) • All parties, including women and independent representative organisations assisting smallholders are involved in decision-making processes and understand the contracts (P5). • Evidence exists that the unit of certification trains Scheme Smallholders on pesticide handling (P5).	• **(E):** Financial support for the first audit to assess eligibility • **(MsA):** Training and support for smallholders and group managers are in modules through the Smallholder Trainer Academy. • The RSPO Smallholder Support Fund (RSSF) provides financial support to group/members in the form of technical capacity and the provision of tools and guidance. • Source of training materials are available at the RSPO platform		• Appropriate programs are set up to improve the social and economic position of women Producers within the Producer operation or of any disadvantaged / discriminated groups in the local community	

[19] SEIA: Social and Environmental Impact Assessment

OVERVIEW OF INTERNATIONAL STANDARD REQUIREMENTS THAT GIVE AN ADDITIONAL VALUE WHEN COMPARED TO RSPO in regards to the smallholders

RSPO	RSPO- ISH	Rainforest Alliance	Fair Trade	Organic EU
C3. Human rights & equality: Child labor, forced labor, discrimination, violence, harassment are effectively assessed, prevented and remediated. There is protection of female and young workers/farmers while strengthening their position and capacities.				
• Policy to respect human rights: no retaliation, intimidation or harassment (P4) • There is a mutually agreed and documented system for dealing with complaints and grievances (P4) • Any form of discrimination is prohibited: equality on hiring, promotion, payment, no pregnancy testing (P6) • There is not forced or child labour: contracts of young workers include a clause for their protection (P6) • There is no harassment or abuse in the workplace, and reproductive rights are protected. (P6)	• Provision of equal rights, responsibilities and opportunities for all regardless of gender, sexual orientation and gender identity (apply to all smallholders and group managers in relation to labour practices) • There is no use of forced labour: workers on the farm, including their families, have unrestricted access to their identity documents, have freedom of movement and can declare that their employment is freely chosen. • Children are not employed or exploited. Work by children is acceptable on family farms, under adult supervision and when not interfering with education programmes (>15 years). Children are not exposed to hazardous working conditions • There is no discrimination, harassment, or abuse on the farm	• Gender equality: women's empowerment • Promotion of young farmers and workers (<35 years) • Farms and farm groups take measures to assess-and address discrimination, forced labor, child labor, workplace harassment and violence • Rights of local communities are respected	• There is no forced or bonded labour, in line with ILO Convention 29 and 105. • Children are not employed and young workers are protected (15-18 years old). • No discrimination, sexual harassment, pregnancy/parents protection, flexible working conditions, special opportunities for disadvantage groups • Disciplinary measures are fair, adequate and do not violate human rights. • Where there is a producer representation organization with democratic structure already in place	
C4. Labor conditions: wage, social security, benefits, working hours, paid leaves, safety, working conditions, freedom of association and collective bargaining meet legal standards				
• A system of managing HR is in place (hiring, promotion, retirement, termination of contracts) (P3) • An occupational health & safety plan is implemented (P3) • Pay and conditions for workers and contract workers always meet legal minimum standards (decent living wages), working hours, sanitation facilities (P6) • Working conditions are safe: Personal protective equipment, medical care and insurances, training (P6) • Respects freedom of association and right to collective bargaining (P6)	• Workers receive payments as expected and agreed in accordance with at least the legal minimum wage rate (excluding overtime premiums) and without discrimination against vulnerable groups, including women • Workers understand their rights and freedom to file a complaint/grievance to group manager or relevant third parties, including RSPO. • Working conditions and facilities are safe and meet minimum legal requirements	• Management complies with applicable laws and collective bargaining agreements (CBA) within the scope of the RA Sustainable Agriculture Standard. • Freedom of association and collective bargaining agreements (CBA): Applicable when >5 hired workers • Wages and contracts: Total remuneration of workers is increased towards a Living Wage according to the 8 working hours per day (48h/week) • Workers´ rights regarding working hours are respected • Workers have safe working conditions and access to basic health services • Workers and their families have safe housing and living conditions	• Workers are free to organize themselves and bargain collectively. • A safe and hygienic working environment is provided • Pregnant women, nursing mothers and young persons are excluded from potentially hazardous work • There is provisions on PPE and safe storage of chemicals • There is access to drinking water, toilet • Wages and contracts: job position, wage, applicable social benefits, working times, leave entitlement, housing are available • Wage according to law: the salary ratio between the highest and the lowest paid worker is 12:1 or lower	

OVERVIEW OF INTERNATIONAL STANDARD REQUIREMENTS THAT GIVE AN ADDITIONAL VALUE WHEN COMPARED TO RSPO in regards to the smallholders

RSPO	RSPO- ISH	Rainforest Alliance	Fair Trade	Organic EU
			• Payments are done regularly, including paid leaves • Working hours 48 max., overtime is voluntary • When migrant workers are recruited, there is a prior written agreement that specifies the terms of employment	
D. ENVIRONMENTAL CONTEXT: water, air, soil, energy and biodiversity				
D1. Farm resilience: climate change adaptation, diversification, use of resistant varieties, no GMO, diversification and intercropping				
• Efficient use of fossil use and optimize renewable energy (P7) • Plans to reduce pollution and emissions, including greenhouse gases (GHG), are developed, implemented and monitored (P7). • Fire is not used for preparing land and is prevented in the managed area (P7).		• planting and rotation practices (resistant varieties, diversification and intercropping) • Erosion by water and wind is reduced through practices such as re-vegetation of steep areas and terracing. • No-GMO • Farmers have optimized crop productivity, input use efficiency, and profitability	• Energy consumption is monitored • Adequate fuel saving practices are implemented • propagation materials (seeds or planting stocks) used on the farms are not genetically modified, including those used for animal fodder.	• No GMO • only organic seed and propagating material • minimize use of non-renewable resources • Appropriate design and management of biological processes
D2. Soil quality & erosion: Its ecosystems services are maintained or enhanced through the increase of soil organic matter, cover crops, Good Agricultural Practices (GAP), periodic soil sampling, input use efficiency, record of fertilize and amendments inputs. No planting on steep terrain (more than 25 degrees) or peat to avoid erosion.				
• Practices maintain soil fertility: soil GAP, periodic soil sampling, nutrient recycle strategy, record of fertilize inputs (P7). • Minimize erosion: no planting on steep terrain (> 25 degrees) (P7) • No new planting on peat (from 2018)/ previous plantations on peat need drain assessment (P7)	• GAP **(E)**: SH commit to implement GAP **(MsA):** SH complete training on GAP **(MsB):** SH adopted GAP • New planting are not on steep slopes (>25 degrees) • New planting are not on peat areas of any depth • Where smallholder plots exist on peat: the group's action plan is implemented based on BMP[20]s, including fire and water management, and monitoring of subsidence rate for existing planting on peat	• Soil fertility, water resources, and other ecosystem services are maintained or enhanced • When available, producers use by-products including organic fertilizers produced on the farm first. If more nutrients are needed, these are supplemented where possible by other organic fertilizers, or by inorganic fertilizer • Management conducts a soil assessment for a representative sample of areas, and updates this at least once every three years.	• Training about the implementation of soil conservation techniques (soil management, groundcover, application of fertilizers, building/maintaining soil fertility and crop rotation) • Synthetic fertilisers are not used as the sole measure for maintaining soil fertility • Soil conservation: practices for erosion control and conservation (crop rotation, use of leguminous crops, observation of soil life and structure)	• maintenance and enhancement of soil life, fertility and properties • Restriction of the use of external inputs (mineral fertilizers)

[20] BMP: Best management practices

OVERVIEW OF INTERNATIONAL STANDARD REQUIREMENTS THAT GIVE AN ADDITIONAL VALUE WHEN COMPARED TO RSPO in regards to the smallholders

RSPO	RSPO- ISH	Rainforest Alliance	Fair Trade	Organic EU
	• Plots on peat are replanted only on areas with low risk of flooding or saline intrusion as demonstrated by a risk assessment			
D3. Pesticides: Reduce environmental and health risks from pesticides (MIP, restrictions from a list of active ingredients according to the WHO, no aerial spraying, training for applications. Organic certifications have a specific list of pesticides that is attached to a reduction plan.				
• Pests, diseases, weeds and invasive introduced species are managed using IPM techniques (P7). • Pesticides use according to the WHO- Rotterdam and Stockholm conventions (P7): Paraquat not used unless outbreak; No aerial spraying; Training for applications; Medical surveillance for pesticide operators; Storage according to best practices	• SH maximise use of IPM approaches to minimise use of pesticides and herbicides on their farm • SH implement BMPS for all pesticide use, including prohibiting use of pesticides by pregnant and breastfeeding women and young workers. • Exclusion of paraquat and pesticides that are categorised as WHO Class 1A or 1B, or those listed by the Stockholm or Rotterdam Conventions, unless when authorised by relevant authorities for pest outbreaks	• Reduced environmental and health risks from pesticides by IPM, as well as rotate with allowed agrochemicals • producers regularly monitor pests and their principal natural enemies • For pest prevention and control, producers use biological, physical, and other non-chemical control methods first • No agrochemicals are used that are: on the Rainforest Alliance List of Prohibited Pesticides or List of Obsolete Pesticides/ Prohibited by applicable law/ Not legally registered in the country where the farm is located • Persons handling pesticides are skilled, receive annual training, use Personal Protective Equipment (PPE) • No aerial applications	• There is an up-to-date list of Agrochemicals and postharvest treatments (incl. insecticides, herbicides, fungicides etc.). • Technical and practical knowledge about the implementation of IPM.	• MIP and restriction on agrochemicals • Appropriate crop rotations, mechanical and physical methods and the protection of natural enemies of pests
D4. Water and waste: Ecosystems services are maintained or enhanced by promoting use efficiency, maintenance and protection of wetlands. Waste (water or solid) is reduced, recycled and disposed in an environmentally/socially responsible manner (no fire).				
• Waste management: reduction, recycling, disposal in an environmentally/socially responsible manner (no fire for waste) (P7). • Water management plan to promote efficient use and continued availability of water sources (P7).	•	• Water management: irrigation and water distribution systems are maintained to optimize crop productivity while minimizing water waste, erosion, and salinization. • Waste is stored, treated, and disposed of in ways that do not pose health or safety risks to people or natural ecosystems, not burn waste • Producers maintain the following additional safeguards for the protection of drinking water in case the farm is located closer than 50m from a body water: riparian buffer that is at least 10m wide, 20m non-application zone	• Adequate water use practices and rational use of water during processing • The farms knows at least roughly the source and quantity of all surface and ground water directly and / or indirectly used. • Waste water is treated in an appropriate manner • Smallholders may be accepted for a less detailed analysis of the waste water quality, as long as there is no indication that state of natural water bodies is decreasing • For Smallholder, waste management strategies may be implemented on a collective level.	• recycling of wastes and by-products of plant and animal origin

OVERVIEW OF INTERNATIONAL STANDARD REQUIREMENTS THAT GIVE AN ADDITIONAL VALUE WHEN COMPARED TO RSPO in regards to the smallholders

RSPO	RSPO- ISH	Rainforest Alliance	Fair Trade	Organic EU
			• Adequate efforts for composting, recycling and waste reduction	
D5. Forest: natural forests and other natural ecosystems have not been converted into agricultural production or other land uses. Fire is not used for preparing land				
• Land clearing (P7): No damage of primary forest or HCV[21] or HCS[22] forest (a historic land use change analysis is conducted). -The HVV and HCS identified forest (from 2018) is protected and/or enhanced. • Where there has been land clearing without prior HCV assessment since November 2005, or without prior HCV-HCSA assessment since 15 November 2018, the Remediation and Compensation Procedure (RaCP) applies • A historic Land Use Change Analysis (LUCA) is conducted prior to any new land clearing, in accordance with the RSPO LUCA guidance document • The unit of certification engages with adjacent stakeholders on fire prevention and control measures	• New planting (since November 2019) do not replace any HCVs or HCS forests as defined by the simplified combined HCV-HCS approach • Where the existing smallholder plot has been planted and cleared after November 2005 (or is on an area identified as HCS forest after November 2019 up to the eligibility period), a RaCP process appropriate for smallholders based on Land Use Change Analysis (LUCA) will be implemented • SH do not use fire for land preparation, waste management or pest control on the farm. For pest control, fire may be used only in exceptional circumstances i.e. where no other effective measures exist and with prior approval of relevant authority.	• From January 1st, 2014, onward, natural forests and other natural ecosystems have not been converted into agricultural production or other land uses • Farms maintain/increase natural vegetation and optimal shade coverage • Farms maintain/establish riparian buffers, all remnant forest trees (except when these pose hazards to people or infrastructure) • Production or processing does not occur in protected areas or their officially designated buffer zones, except where it complies with applicable law. • Fire is not used for preparing or cleaning fields, except when specifically justified in the IPM plan.	• No destruction or clearing of primary or secondary forest. Any land which was made cultivable by clearing primary or secondary forests up to 10 years prior to application can only be accepted for certified production • No engage in destruction or conversion of other valuable natural or semi-natural ecosystems OR has taken sufficient compensatory ecosystem conservation action (the preceding 5 years) • before the application must be compensated by adequate ecosystem conservation practices • Farm has established buffer zones: Protected areas, Water bodies	
D6. Biodiversity: Farms maintain/increase natural vegetation and optimal shade coverage and riparian buffers areas. There is not fire, hunting/captivity of wildlife.				
• All rare, threatened or endangered (RTE) species are protected, whether or not they are identified in an HCV assessment • Water courses and wetlands are protected (maintaining and restoring appropriate riparian and other buffer zones) (P7)	• Smallholders implement precautionary practices and manage and maintain RTE[23] species, HCVs and HCS forests, where applicable. • Riparian buffer zones are identified and managed to ensure they are maintained and/or enhanced	• Farms maintain existing riparian buffers adjacent to aquatic ecosystems • Threatened animals and plants are not hunted, killed, fished, collected, or trafficked. • Producers do not intentionally introduce or release invasive species • Producers do not use wildlife for processing or harvesting of any crop	• Biodiversity diagnosis: overview of the habitats, existing flora and fauna, threatened species • No evidence of negative impacts on threatened species • Measures are taken to maintain or, wherever possible, increase, biodiversity	

[21] HCV: High conservation values
[22] HCS: High carbon stock
[23] RTE: Threatened and Endangered species

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