INTERNATIONAL JOURNAL of OIL PALM

ISSN: 2599-3496 print
ISSN: 2614-2376 online

Volume 5, Number 1, 2022
Page 1-15
DOI: https://doi.org/10.35876/ijop.v5i1.69

Impact of the European Union Regulations on Indonesian Oil Palm Smallholder Farmers

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ABSTRACT

In 2020 Indonesian smallholder farmers produced around 35 % of the total palm oil production, the most traded vegetable oil. Smallholders play an essential role in developing country economies – most strikingly due to their success at reducing poverty and improving social benefits. The cultivation of palm oil has proven benefits for the smallholders themselves and the local community. However, oil palm smallholders are at risk of being cut out of global supply chains by European union (EU) regulations. The EU's discrimination against palm oil smallholders is wide-ranging, including the EU Renewable Energy Directive II and the forthcoming Due Diligence Regulation imposing restrictions designed to undermine Indonesian palm oil in the global marketplace. This paper elaborates on how palm oil smallholders contribute to desirable economic and social goals and how the approach of the EU is deliberately undermining those goals.

Key words: *due diligence, global standards, plantation, poverty, sustainability*

INTRODUCTION

Roundtable Sustainable Palm Oil (RSPO) estimates that more than seven million smallholders make a living from palm oil, and they collectively contribute almost half of total global palm oil production. Smallholders are a significant factor in major producing countries such as Indonesia and Malaysia, which represent 85% of the global palm oil supply (Rahman 2020). In Indonesia, the total number of smallholders were 2,685,353 farmers, accounting for about 38% of palm oil producers nationwide. In 2020 the total production of crude palm oil was approximately 49 million tons, of which 17 million tons or 35% was produced by smallholders (DG Estate Crops, Ministry of Agriculture Indonesia 2019). Across all producing countries, smallholders are disproportionately located in poorer and rural districts (Lowder *et al.* 2016), meaning that the impact on poverty alleviation and community development is even more pronounced in a positive sense.

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Figure 1 shows the the selected palm oil producer countries that have a significant percentage of smallholder farmers involvement in producing palm oil.

In the recent years European Union (EU) has issued various regulations restricting palm oil trade which implicate to the smallholder farmers. The EU's Renewable Energy Directive (REDII) and proposed regulations such as EU Due Diligence regulation and EU climate taxonomy have consistently demonstrated systematic discrimination against Indonesia's palm oil industry, and most importantly, Indonesia's smallholders. The exclusion of many smallholders from the narrow definition proposed by the EU will likely result in reduced access to the global market place. This uneven playing field will further weaken smallholders' bargaining power as they are already at a disadvantage within the supply chain compared to the major conglomerates and the competitor oilseed majors from Europe.

This paper is aimed at analyzing the impact of various EU regulations on Indonesian oil palm smallholder farmers and organized as follows. Following the introduction, the second section discusses definition of oil palm smallholder farmers as what it means by smallholder farmers vary across countries. The third section of this paper analyzes contribution of oil palm smallholders with respect to the welfare, local economy and environment. The fourth section elaborates various EU regulations and its impact on smallholder farmers, and some conclusions presented in the last section.

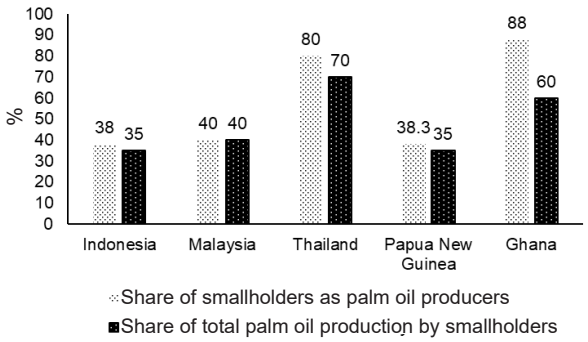

Figure 1 overview of smallholders in palm oil producing countries. Source: Indonesian Statistics of Palm Oil, MPOB, and RSPO (processed).

MATERIAL AND METHODE

This study employs descriptive analysis using secondary data, considering this allows capturing the actual meaning of the subject and encourages finding explanations of rationales on the specific subject. Focusing on qualitative research, we use case studies to elaborate our research questions as it allows us to analyze the phenomenon in a real-life context from multiple aspects (Roome and Louche 2016).

What is an Oil Palm Smallholder?

Global Definition of Smallholder. The definition of smallholder agriculture varies significantly across countries. The categorization depends on various factors, including living standards, land ownership, access to assets and agricultural resources, and share of family labor (UN FAO 2017). Moreover, the typology of smallholders should be contextual, reflecting each country's historical and institutional system, and more importantly, their contribution to national and local economic development.

The Food and Agriculture Organization (FAO) argues that a general and operational definition of small-scale food producers remains inconclusive as it often overlaps and is still used interchangeably with other terms such as "small-scale farmer", "family farmer", "low-input farmer", and "low-income farmer".

Although not directly focused on the definition of smallholders, the framework of the World Agricultural Watch (WAW), run by the UN FAO, is working towards elaborating an international typology of agricultural holdings and is preparing country level guidelines for the identification of farm typologies. Meanwhile, the World Bank defines smallholdings as farms "with a low asset base and operating in less than two ha of cropland" (Table 1).

At a country level, different typologies are presented depending on various factors, including the size of the plantation area and the share of family labor (Cramb and McCarthy 2016). In Malaysia, a smallholder is defined as "a person who owns 100 acres of land or less than 40.46ha" (Senawi *et al.* 2019). Smallholders are categorized as either independent or organized smallholders, defined as "smallholders under FELDA or other government agencies that support oil palm and rubber smallholders through resettlement and crop conversions schemes or other assistance". Moreover, smallholders in Malaysia are often family-owned estates that are highly dependent on family and migrant labor. These definitions follow the adoption of definitions by the RSPO Principles and Criteria for Sustainable Palm Oil Production, which defines smallholders as "farmers growing oil palm, sometimes along with subsistence production of other crops, where the family provides the majority of labor, and the farm provides the principal source of income and where the planted area of oil palm is usually below 50 ha" (RSPO).

Table 1 Summary of global definition of smallholders

Institution	Definition
UN FAO	The term 'smallholder' refers to their limited resource endowments relative to other farmers in the sector. Thus, the definition of smallholders differs between countries and between agro-ecological zones (UN FAO 2017).
World Bank	Smallholders have a low asset base operating less than 2 ha of cropland (World Bank 2013).
The EU	Farms with 2-20 ha of utilized agriculture area. The EU defines a 'small farm' as less than 8 ESU or "European Size Units". ESUs are calculated by taking gross margin and dividing this number by EUR1200 (Eurostat 2018).
US	Small farm as an operation with gross cash farm income (GCFI) under $250,000 (USDA 2021).
The UK	Small farms have a standard output of fewer than 50,000 euros (Department for Environmental Food & Rural Affairs 2015).
RSPO	Smallholders are who withholdings under 50ha (Roundtable on Sustainable Palm Oil).
CIRAD	A CIRAD project noted that the margin for Indonesian smallholders could range from IDR2,000,000/Ha (EUR125) to 15,000,000/Ha (EUR930). A 5 Ha holding at the lower end would imply a gross margin of EUR625, roughly translating to 0.5 ESU. Using a low margin, a 'small' farm would be up to 80 Ha if calculated using ESUs (ABSys 2021).

Source: Compiled by authors.

The definition of below 50 ha is widely recognized internationally and should be the standard definition for smallholders globally.

Overview of Different Smallholder Models in Indonesia. The DG of Estate Crops, Ministry of Agriculture Indonesia and the Indonesian Bureau of Statistics categorize palm oil producers into three categories: private (large) estate companies, government-owned estates, and smallholders (BPS-Statistics Indonesia 2020). In 2019 the Indonesian palm oil sector comprised 40.79% smallholder producers, supplying about 31.68% of palm oil to the total production (Direktorat Jenderal Perkebunan Kementerian Pertanian Indonesia 2020). Figure 2 depicts the contribution of each producer category to the sector as a percentage of oil palm plantation area and palm oil production. Table 2 shows the characteristics of smallholders in the ten largest palm oil-producing regions in Indonesia.

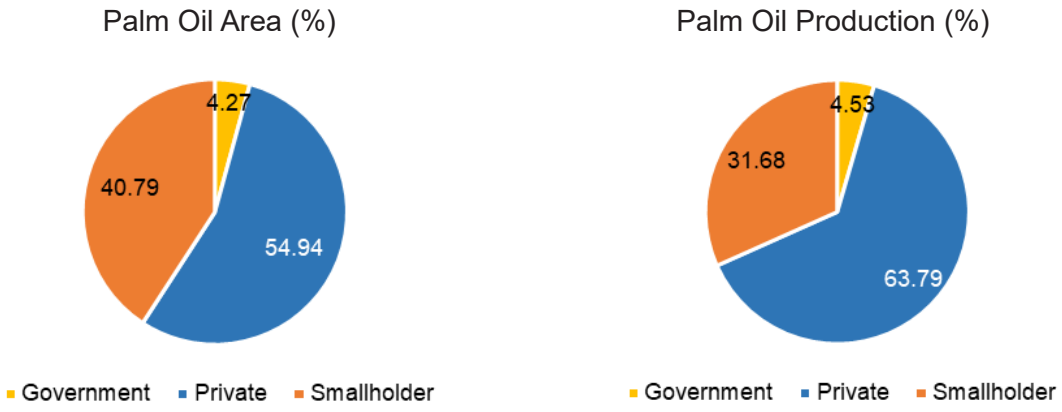

Figure 2 Overview of palm oil by producer 2019 (Source: BPS-Statistics Indonesia (2021).

Table 2 Palm oil area, production, and productivity of smallholders by top 10 provinces in 2019

Province	Production (Ton)	Area (ha)	Productivity Yield (kg/ha)
Aceh	550,103	238,238	2,780
North Sumatera	2,539,764	723,798	3,994
West Sumatera	567,930	221,670	3,132
Riau	5,145,213	1,815,010	3,359
Jambi	1,578,869	682,175	3,114
South Sumatera	2,507,039	667,483	1,694
West Kalimantan	781,221	441,831	2,201
Central Kalimantan	279,220	170,248	2,704
East Kalimantan	246,252	288,193	3,146
West Sulawesi	508,685	113,675	3,336

Source: Direktorat Jenderal Perkebunan Kementerian Pertanian Indonesia (2020).

In Indonesia, smallholders are defined as farmers who hold plantation areas below 25 ha. By Indonesian law, any farmer with a plantation area larger than 25 ha is required to have a Plantation Permit, which declassifies him/her as a smallholder. Indonesian smallholders fall under two broad categories - plasma and independent smallholders. Plasma smallholders typically are linked with large private companies and receive financial and technical support for harvesting. Under this scheme, smallholders distribute their harvest to the company at a set price.

One example of this plasma scheme is the Plasma Transmigration Program by the company Asian Agri Indonesia. The program consists of smallholders from rural parts of Indonesia who were relocated and provided two ha of land for oil palm plantation and an additional 0.5 ha for housing and growing crops. While managing the land, smallholders pay installments using the proceeds from their oil palm plantation, and once it is paid off, smallholders will obtain the land title (Asian Agri 2018).

On the other hand, independent smallholders are smallholders who are not associated to any private or government-owned estates. In most cases, independent smallholders do not participate in any scheme, do not receive technical and financial assistance from companies, and typically are eligible for government assistance.

The categorization of smallholders in Indonesia also differs from region to region. Smallholders vary widely in size, organizational structure, productivity, access to market, financial assistance, and inputs (Glenday and Paoli 2015). A report by Daemeter categorized smallholders in Indonesia into: (a) small-scale independent farmers linked to supply chains via local agents; (b) larger-scale independent farmers linked to supply chains via local traders or mills; (c) farmer groups or farmer-managed cooperatives that trade directly with mills; (d) smallholder farmer-managed plots linked with company plasma schemes; and (e) company-managed, smallholder-owned plantations (leased community-lands).

Economic and Social Contributions of Oil Palm Smallholders

Economic Contribution. Palm oil is a crucial contributor to the national and regional economic and social development in Indonesia. As the primary export commodity, palm oil contributed approximately USD 22.9 billion, which accounted for 11% of total export value and approximately US$ 5.13 billion in foreign exchange revenue in 2020 (Gabungan Pengusaha Kelapa Sawit Indonesia 2021). The oil palm industry has also become a significant source of employment, with approximately 16.2 million labourers – 4 million direct farmers and 14.2 million indirect labourers – within the industry (World Bank 2019). In the context of regional and national development, palm oil has continued to play a central role in raising incomes, alleviating rural poverty, and reducing inequality between Java and the outer islands of Indonesia (Zen *et al.* 2015). To fully realize the economic and social benefits of oil palm development, it is important to assess the direct impact on smallholders as well as the indirect impact on local communities, including non-farm workers in rural regions where palm oil production is prevalent.

On Smallholders

Studies have consistently shown that smallholder farmers benefit significantly from cultivating oil palm through income gains and improved living standards (Qaim *et al.* 2020). In addition to direct income gains, the development of oil palm supports the livelihood of smallholders by providing access to agriculture resources, inputs, and technology (Cramb and McCarthy 2016). Moreover, smallholders also benefit from acquiring agricultural and entrepreneurial skills by learning how to grow cash crops to increase family income and provide better food security and self-sufficiency. As smallholders gain additional income from growing different crops, intercropping also creates jobs for laborers with no access to land, which is also a source of income for non-farmers/ rural laborers (Krishna *et al.* 2017).

In districts where oil palm is prevalent, there is no distinction of the benefits between independent and plasma smallholders or Nucleus Estate Smallholders (NES), who are under partnership programs with government or private companies. For example, smallholders under the Asian Agri Plasma scheme reported an annual income of 6,000 USD, significantly higher than nonpalm oil farmers who earn an average annual income of 800 USD (Asian Agri n.d.).

Oil palm expansion has resulted in a higher regional gross domestic product (GRDP) and a lower rural poverty rate at the regional level. For example, in Riau province – one of the key palm oil-producing provinces- rural poverty has decreased from 21% to 10% in five years. Similarly, in other regions such as Jambi and Kalimantan, as seen in Table 3.

Table 3 Comparison of GRDP and rural poverty rate by key production province

Provinces	Rural Poverty Rate (%)			GRDP per Capita (in billion Rupiah)			Production (Ton)		
	2008	2015	2020	2011	2015	2020	2008	2015	2020
Riau	12.16	9.95	7.47	71,638	70,770	68,743	4,466,975	7,333,610	9,775,672
North Sumatera	12.29	11.06	9.02	26,711	31,637	36,301	3,870,781	5,099,246	6,601,399
South Sumatera	17.01	14.47	13.25	27,158	31,549	36,782	1,786,469	3,034,697	4,365,004
Jambi	7.43	7.82	6.4	30,857	36,754	40,363	1,283,511	1,947,048	3,096,621
West Kalimantan	11.49	9.51	8.57	20,227	23,457	26,241	1,258,813	1,594,295	3,551,825
West Sumatera	11.91	7.35	7.83	22,639	27,081	30,818	3,870,781	1,002,920	1,390,199
Aceh	25.3	19.56	17.96	22,705	22,524	24,100	744,174	1,030,877	1,158,631
West Sulawesi	18.03	12.7	11.89	16,023	20,251	22,834	303,716	312,524	444,381
Central Kalimantan	10.2	6.02	5.5	26,589	31,619	35,735	782,288	3,424,937	2,298,584
East Kalimantan	15.47	10.13	9.98	20,227	23,457	26,241	334,134	1,526,227	4,331,930

Source: Direktorat Jenderal Perkebunan Kementerian Pertanian Indonesia (2020) (processed).

One study examined the impact of Indonesia's oil palm development on poverty rates and monthly per capita household expenditure at the district level. The study found that a 10-percentage point increase in the share of district area under oil palm plantations corresponded to an additional 5.36 percentage point poverty reduction and 8% faster consumption growth when compared to districts with less or no oil palm cultivation at all (Edwards 2018). The direct income effect was attributed to increased household expenditure on health, education, and good durable expenditures.

On Local Economic Community

In rural areas, oil palm development benefits smallholder farmers who work in the palm oil community and non-farm households. One study assessed the effect of land-use change on income inequality in villages in the province of Jambi and showed positive economic gains (Dib *et al.* 2018). Smallholder farmer households have a significantly higher income than non-farmer households who work as regular labourers in plantations. Smallholder and non-farmer households are better off in villages with a large share of the land under oil palm than in villages where rubber and other crops are prevalent. Data showed the poverty rate in villages with dominant land use type was approximately 8%, which was lower than villages with rubber as the dominant land use. Moreover, over half of the rate in villages with few rubbers or oil palm land use have poverty rates at 14% and 20%, respectively. The associated gains in income were significant as non-farmer households typically belong to the poorest population segments in rural Jambi.

Another indirect economic impact of palm oil relates to the local government, particularly public revenues and expenditures (ibid). Since demand for public services is likely lower with rising consumption and falling poverty, the fiscal surplus may be directed to more productive public investment and expenditure. Districts that expanded land area for oil palm plantations showed improvements in electrification and provided public infrastructure and facilities such as marketplaces, schools, health clinics, and places of worship. Studies have shown that smallholders directly benefit from palm oil in Indonesia despite the headwinds such as a lack of technical support and poor agricultural practices. Given smallholders' varying characteristics - from farm size to land ownership and management systems - the increasing number of smallholders highlights the growing complexity of the palm oil sector in the future.

Social Outcomes. Palm oil has also facilitated improvement in other social outcomes such as health and education. The development of oil palm in rural areas provides smallholders and their children opportunities to obtain better education and a future of off-farm activities. Using the National Socio-Economic Survey (Susenas) household data, one study examined the impact of palm oil on education at the district level and observed a positive relationship between palm oil production and education attainment level (Rafi 2018). The study showed that an increase of 1 ton per person of palm oil production corresponded to an 8% increase in net enrolment ratio in a given district. Similarly, an increase in the average school year by 0.27 years (ibid).

Unicef (2016) also reported the role of oil palm development in children's education in which private companies often provide commuting transport for palm oil workers' children to attend schools, which contributed to higher rates of child attendance in secondary education relative to their rural counterparts in Indonesia (Unicef 2016).

While studies on outcomes of palm oil smallholders and families remain limited, smallholders and non-farm households whose families benefited from palm oil work exhibited an increase in per capita monthly household expenditure on health spending (Edwards 2018). In terms of local government expenditure, village data (PODES) reported that the district where palm oil development took place is associated with increased public spending, particularly on education and health infrastructures such as school buildings and health clinics (ibid). New public goods were provided through in-kind transfers or new infrastructure projects, demonstrating the multiplier effect of palm oil development to the broader local community. The impact of palm oil on socio-economic development, including the betterment of intergenerational education and health outcomes among smallholders, cannot be overemphasized enough.

Oil Palm Smallholder and the Environment

In Indonesia, there are currently 2.6 million smallholders who contribute approximately 31.68% of palm oil production and manage 40.79% of the total oil palm plantation area (BPS-Statistics Indonesia 2021). A study by CIFOR estimated that smallholders are likely to grow more rapidly than government and private estates, with an estimated 200% increase from their current agricultural capacity by 2030, making them essential players in achieving sustainability in the palm oil sector (Mosnier *et al.* 2017). Thus, ensuring smallholders have the resources and endowment to increase productivity while at the same time adopting sustainable agriculture practices is vital and will require action from all stakeholders along the supply chain.

There are two main ways smallholders can improve sustainability. First is the intensification of palm oil production. Currently, Indonesian smallholders produce only 2-3 tons per hectare per year, which is lower than smallholders in other countries such as Malaysia (Julianto 2017). Most of the current smallholding area is planted with low-yielding palms haphazardly without terracing or fertilizer applications (Tanuwidjaja 2020). Through intensification, smallholders can increase their potential palm oil yields without expanding the land for cultivation: this is a substantial environmental achievement, which also translates into an additional estimated total of 25.6 million tons of crude palm oil per year for food, fuel and other important resources (Saleh *et al.* 2018). Under fully fertilized production, this can supply up to 71% of Indonesia's current palm oil production and 43% of projected production in 2045.

Second, in most cases, smallholders, particularly independent smallholders, are less productive, averaging 35-40% lower yields, and consequently generate lower profit compared to farmers in plasma schemes and private estates (Lee *et al.* 2014). A study conducted by the UN FAO on forest restoration and poverty showed a positive relationship between rising income, reductions in deforestation, and farmers' ability and willingness to conserve nature (FAO 2020). Supporting smallholders by providing technical and financial support through certification

schemes can help ensure compliance with higher sustainability standards while at the same time helping smallholders increase their productivity. Sustainability components required by certification schemes such as ISPO and RSPO will help reduce the costs and improve sustainable agriculture practices. This can take the form of training from different government agencies/ministries and private companies on subjects including good farming practices and occupational health and safety protocols (Suhada *et al.* 2018).

At the international level, RSPO is also committed to increasing smallholder inclusion in sustainable palm oil development through RSPO's Smallholder Engagement Platform. The initiative aims to improve smallholders' capacity by providing better access to high-quality training and resources and connecting smallholders with potential project partners (The Jakarta Post 2021).

Smallholders have proven to be pivotal in improving rural economic and social development through poverty alleviation and farmer resilience. Given their rapid growth, smallholders are key to improving sustainable environmental outcomes in Indonesia's palm oil sector. However, this is often hindered by capital constraints, lack of access to resources, training, and support from the government, which can be overcome through collaborative actions between the government, private sector, and international community.

Impact of the EU Regulations: Barriers to "Global Smallholders"

There are existing and proposed regulations in EU that have significant impact on palm oil industry, in particular oil palm smallholder farmers. Below is an overview of current EU policy barriers.

EU RED II. Under the Directive, the EU plans to phase out Indonesia's palm oil exports for biofuels usage by 2030, and perhaps earlier if certain anti-palm oil EU officials get their way. Looking at the implication on smallholders, advocating for this trade barrier to benefit EU biofuel producers at the expense of regressive socio-economic development of smallholders in developing countries does not reflect fair trade practices or international development principles. Indonesia is currently challenging the RED II at the WTO. The issuance of the final report on the dispute is expected to be released after the second quarter of 2022 (World Trade Organization 2020).
EU Deforestation Regulation and Due Diligence. The EU Commission proposed regulations to limit demand-side pressures for commodities that it considers linked to deforestation. Possible instruments could include mandatory labelling, voluntary commitments and labelling, due diligence, verification schemes and other methods (European Commission, n.d.).
EU Taxonomy. The EU Commission's latest "Climate Taxonomy" is a new set of regulations included in the comprehensive package of measures that aims to reorient investment flows towards more sustainable technologies and businesses (Europe Commission 2021).

Over the last decade, the development of oil palm has resulted in the improvement of the lives of many smallholders through poverty reduction and improvement of economic and social outcomes. Smallholders represent many holdings in many developing countries, and their numbers have increased in the last two decades (Khalil *et al.* 2017). The increasing role of smallholders in the industry reflects their importance for achieving the UN SDGs. Enabling their participation in

the global supply chain would benefit from expanding opportunities that could lead to substantial socio-economic and environmental benefits in the long term.

However, the European Union seems to be systematic and continual discrimination against palm oil-producing countries whose regulatory approach is undermining palm oil- producing countries by excluding smallholder farmers. Under the EU's RED II Delegated Act, smallholders are defined as "farmers independently conducting an agricultural activity on a holding with an agricultural area of less than 2–5 ha for which they hold ownership or lease rights". This qualification of smallholders is arbitrary and, most importantly, inconsistent with international standards such as the RSPO, which defines smallholders as those withholdings below 50 Ha. Moreover, the UN FAO conducted a study that assessed 122 countries' statistical definitions for smallholders. The report shows that of 71 countries that adopt land size criteria, only 31 countries use a definition of fewer than two ha.

Meanwhile, the remaining 40 – 11 African countries, 9 Asian Pacific countries, and 14 Latin American countries – use the definition over two ha. Suppose we look more closely at palm oil-producing countries. The definition of farmers varies from fewer than two ha in Nigeria, fewer than five ha in Honduras, to fewer than 20 ha in Colombia. Meanwhile, in Malaysia and Indonesia, the definition depends on government regulations. For example, according to Law 19 of 2013 concerning Protection and Empowerment of Farmers, in Indonesia, government protection is eligible for food crop farmers with a landholding of fewer than 2 ha (FAO 2013).

How smallholders are defined varies significantly across countries given their characteristics and therefore cannot be confined into one single definition. As reiterated in the academic literature, which is categorized as a smallholder largely depends on numerous factors such as share of family labor, production inputs, land ownership, and access to assets and resources, and profitability. Moreover, it should also be contextual and consider smallholders' role in the economic and social development in respective regions (Jelsmaa *et al.* 2017). For example, a CIRAD project estimated the size of oil palm plantations based on gross margin and found that gross margin for Indonesian smallholders can range from IDR2,000,000/ha (EUR125) to 15,000,000/ha (EUR930). A 5-ha holding at the lower end would imply a gross margin of EUR625, translating to approximately 0.5 ESU. Using a low margin, a 'smallholder' would be up to 80 ha if calculated using ESUs (ABSys 2021).

The proposed EU definition of smallholder is demonstrably short-sighted given its potential repercussion on smallholders, national palm oil sustainability efforts, and UN SDG commitments. Suppose the EU is going to define "smallholders". In that case, it should do so with a clear rationale and take into account the complexities and differences recognized internationally. The EU should also reflect on how its current definition would undermine the UN SDGs, particularly SDGs 1 and 2 (IFAD n.d.). Failure to properly account for the heterogeneity of smallholders in the palm oil industry will undermine the effectiveness and scalability of sustainability initiatives.

To summarize, the role of smallholders in advancing rural economic development in developing countries is irrefutable. So, it raises the question of why the EU is not supporting this and the main motivation behind the EU's legislative barriers against palm oil.

One possible explanation is trade protectionism aimed at protecting EU-based producers of rapeseed and sunflower oils. Studies have shown palm oil is a highly productive crop and requires less land and fertilizer to produce, and a ban on palm oil will only lead to increased land use in other vegetable oils. However, banning palm oil from entering the market also means less competition, higher market share, and more profit for wealthy EU farmers and producers. Not only does this undermine free trade principles, but it will also hurt European and global consumers through higher prices in the long term.

Thus, the EU's Renewable Energy Directive (REDII) and proposed regulations such as EU Due Diligence regulation and EU climate taxonomy have consistently demonstrated systematic discrimination against Indonesia's palm oil industry, and most importantly, Indonesia's smallholders. The exclusion of many smallholders from the narrow definition proposed by the EU will likely result in reduced access to the global marketplace. This uneven playing field will further weaken smallholders' bargaining power as they are already at a disadvantage within the supply chain compared to the major conglomerates and the competitor oilseed majors from Europe. Moreover, local communities will also suffer if other sectors whose growth is facilitated by palm oil development, such as manufacturing, transport, and logistics, is harmed by a downturn in palm oil exports. Potential adverse impacts would be seen in employment, the flow of investment to the local economy, and human development in these local regions. The EU cannot escape its share of responsibility if these negative consequences come to pass.

In addition, companies will be required to disclose information about the sustainability of their investments based on the EU criteria. The EU climate taxonomy definitions will probably be drawn narrowly to ensure that competitors such as Indonesian smallholder palm oil are not considered sufficiently sustainable for investment purposes. This narrow view of sustainability is entirely at odds with the working definitions and practical evidence from the United Nations, World Bank, Food & Agriculture Organization, and many more.

CONCLUSION

Oil palm smallholder farmers play significant roles in improving community welfare and directly and indirectly contribute to the local economy. While their role in the environment is debatable, providing technical and financial supports through certification schemes can help ensure compliance with higher sustainability standards.

How smallholders are defined varies significantly across countries, given their characteristics, and cannot be confined to one single definition. Unfortunately, the EU makes the definition of smallholder arbitrary, short-sighted, and discriminated against oil palm smallholder farmers. Millions of oil palm smallholder will be excluded from the global supply chain with this definition. Failure to properly account for the heterogeneity of smallholders in the palm oil industry will also undermine the effectiveness and scalability of sustainability initiatives.

The implication is that, instead of supporting policy objective of the EU in combatting deforestation and environmental degradation, this regulation, in particular

on how the EU define smallholder, will end up in the opposite result. Thus, an optimal approach would be for the EU to show flexibility for each country to ensure the interpretation does not exclude smallholders in the global supply chain.

REFERENCES

Asian Agri. 2015. Building Partnerships with Farmers is a Central Part of our Business. [Online]. Available at: https://www.asianagri.com/page/about-us/smallholder-partnership/. [Accessed 1 September 2021].

Asian Agri. 2018. Indonesia's Plasma Farmer Scheme Explained. [Online]. Available at: https://www.asianagri.com/page/media-publications/articles/indonesia-s-plasma-farmer-scheme-explained/. [Accessed 1 September 2021].

Ayodele T, Sotola O, Damilola O, Hegarty K, Obe I. 2015. Nigeria: a smallholder case study. Consulting study 13 of the high carbon stock science study. pp.41

Bennett A, Ravikumar A, McDermott C, Malhi Y. 2019. Smallholder oil palm production in the peruvian amazon: rethinking the promise of associations and partnerships for economically sustainable livelihoods. Front Glob Change. 2:14

BPS-Statistics Indonesia. 2021. Indonesia Oil Palm Statistics 2020. Retrieved March 2022, from https://www.bps.go.id/publication/download.html?nrbvfeve=NWEzZDA0NDgxMjJiYzY3NTNjOTUzNTMz&xzmn=aHR0cHM6Ly93d3cuYnBzLmdvLmlkL3B1YmxpY2F0aW9uLzIwMjEvMTEvMzAvNWEzZDA0NDgxMjJiYzY3NTNjOTUzNTMzL3N0YXRpc3Rpay1rZWxhcGEtc2F3aXQtaW5kb25lc2lhL-TIwMjAuaHRtbA%3D%3D&twoadfnoarfeauf=MjAyMi0wNC0wNCAxMzozNzozMw%3D%3D.

Cramb R, McCarthy JF. 2016. The oil palm complex: smallholders, agribusiness and the state in Indonesia and Malaysia. JSAE. 34(2): 430-431.

Department for Environment Food & Rural Affairs the United Kingdom. 2015. Farm structure survey 2013: focus on agricultural labour in England and the United Kingdom. London (UK): National Statistics.

Dib JB, Alamsyah Z, Qaim M. 2018. Land-use change and income inequality in rural Indonesia. For Policy Econ. 94:55-66.

Direktorat Jenderal Perkebunan. 2019. Statistik Perkebunan Indonesia Kelapa Sawit 2018-2020. Direktorat Jenderal Perkebunan. Jakarta (ID).

DoCampo I. 2021. Evaluating how root capital's client businesses impact smallholder livelihoods: oil palm in Ghana. Cambridge (UK): Root Capital

Economic Research Service USDA. 2021. Farm structure and contracting. [Online]. Available at: https://www.ers.usda.gov/topics/farm-economy/farm-structure-and-organization/farm-structure-and-contracting/. [Accessed 21 October 2021].

Edwards RB. 2018. Export agriculture and regional development: evidence from Indonesia. Hanover: US. Dartmouge College.

European Commission. 2020. Deforestation and forest degradation – reducing the impact of products placed on the EU market. [Online]. Available at: https://ec.europa.eu/info/law/better-regulation/have-your-say/

initiatives/12137-Deforestation-and-forest-degradation-reducing-the-impact-of-products-placed-on-the-EU-market_en. [Accessed 21 October 2021].

European Commission. 2021. Annex to the commission delegated regulation (EU) and supplementing regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity. [Online]. Available at: https://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf. [Accessed 1 October 2021].

European Commission. 2021. Sustainable Finance and EU Taxonomy: Commission takes further steps to channel money towards sustainable activities. [Online]. Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_21_1804. [Accessed 1 October 2021].

Eurostat Statistics. 2018. Archive:Small and large farms in the EU - statistics from the farm structure survey. [Online]. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Small_and_large_farms_in_the_EU_-_statistics_from_the_farm_structure_survey&oldid=406560#Further_Eurostat_information. [Accessed 10 October 2021].

Food and Agriculture Organization of the United Nations. 2013. FAOLEX Database. [Online]. Available at: https://www.fao.org/faolex/results/details/en/c/LEX-FAOC169497/. [Accessed 21 October 2021].

UNEP, FAO. 2020. The State of the World's Forests 2020. Forests, Biodiversity and People. Roma (ITA): FAO.

Gabungan Pengusaha Kelapa Sawit Indonesia. 2021. Refleksi industri sawit 2020 dan prospek 2021. [Online]. Available at: https://gapki.id/news/18768/refleksi-industri-sawit-2020-prospek-2021. [Accessed 1 October 2021].

GAR Agribusiness and Food. 2016. Vlog: Smallholder Farmers and Innovative Financing. [Online]. Available at: https://www.goldenagri.com.sg/vlog-smallholder-farmers-innovative-financing/. [Accessed 1 September 2021].

Glenday S, Paoli G. 2015. Indonesian Oil Palm Smallholder Farmers: a Typology of Organizational Models, Needs, and Investment Opportunities. Bogor (ID): Daemeter consulting.

IFAD. 2015. Investing in rural people. [Online]. Available at: https://www.ifad.org/documents/38714170/40255850/Investing+in+Rural+People.pdf/4d963a48-440b-4a2a-8dce-5fbdc674334f. [Accessed 21 October 2021].

Jelsma I, Schoneveld GC, Zoomers A, Westen AV. 2017. Unpacking Indonesia's independent oil palm smallholders: an actor-disaggregated approach to identifying environmental and social performance challenges. Land Use Policy. 69:281-297.

Julianto PA. 2017. Produktivitas sawit Indonesia masih kalah dari Malaysia artikel ini telah tayang di kompas.com dengan judul "produktivitas sawit Indonesia masih kalah dari Malaysia". [Online]. Available at: https://money.kompas.com/read/2017/06/20/131900726/produktivitas.sawit.indonesia.masih.kalah.dari.malaysia.

[Accessed 1 October 2021].
Kementerian Pertanian Direktorat Jenderal Perkebunan. 2020. Laporan tahunan. [Online]. Available at: https://ditjenbun.pertanian.go.id/info-publik/laporan-tahunan/. [Accessed 20 October 2021].
Khalil CA, Confort P, Ergin I, Gennari P. 2017. Defining small scale food producers to monitor target 2.3. of the 2030 agenda for sustainable development. Roma: (IT). FAO.
Krishna V, Euler M, Siregar H, Qaim M. 2017. Differential livelihood impacts of oil palm expansion in Indonesia. Agr Econom. 48(5):639-653.
Lee, J. S. H., Ghazoul, J., Obidzinski, K. & Koh, L. P., 2013. Oil palm smallholder yields and incomes constrained by harvesting practices and type of smallholder management in Indonesia. Agron Sustain Dev. 34: 501-513.
Mosnier A. 2017. Brief Info. [Online]. Available at: https://www.cifor.org/publications/pdf_files/infobrief/6468-infobrief.pdf. [Accessed 20 October 2021].
Norwana AABD. 2011. Working Paper. [Online]. Available at: https://www.cifor.org/publications/pdf_files/WPapers/WP-78Andriani.pdf. [Accessed 21 October 2021].
Ofosu-Budu K, Sarpong D. 2013. Oil palm industry growth in Africa: a value chain and smallholders study for Ghana. In: Rebuilding West Africa's Food Potential. Elbehri A (ed.). Roma (IT). FAO/IFAD.
PISAgro. 2018. Working Group - Palm Oil. [Online]. Available at: https://www.pisagro.org/working-groups/palm-oil/ [Accessed 21 October 2021].
Prabowo G. 2021. Sustainability, productivity go hand in hand: how indonesian smallholders are leading the way. [Online]. Available at: https://jakartaglobe.id/opinion/sustainability-productivity-go-hand-in-hand-how-indonesian-smallholders-are-leading-the-way. [Accessed 21 October 2021].
Qaim M, Sibhatu KT, Siregar H, Grass I. 2020. Environmental, economic, and social consequences of the oil palm boom. Annual Rev Res Econom. 12:321-344.
Rahman S. 2020. Malaysian independent oil palm smallholders and their struggle to survive 2020. [Online]. Available at: https://www.iseas.edu.sg/wp-content/uploads/2020/12/ISEAS_Perspective_2020_144.pdf. [Accessed 21 October 2021].
Rafi J. 2018. Oil palm plantations and long-term impact on the people: evidence from Indonesia.
Roome N, Louche C. 2016. Journeying toward business models for sustainability: a conceptual model found inside the black box of organisational transformation. Sage J. 29(1):11-35.
RSPO. 2010. RSPO Smallholders. [Online]. Available at: https://rspo.org/smallholders. [Accessed 21 October 2021].
RSPO. 2010. RSPO principles and criterai for sustainable palm oil production guidance for independent smallholders under group certification. [online]. Available at: https://www.rspo.org/file/5_11-en_RSPO-Principles-and-Criteria-for-Sustainable-Palm-Oil-Production-2010.pdf. [Accessed 21 October 2021].

Saleh S. Bagja B. Suhada TA. Widyapratami H. 2018. Intensification by smallholder farmers is key to achieving indonesia's palm oil targets. [Online]. Available at: https://wri-indonesia.org/en/blog/intensification-smallholder-farmers-key-achieving-indonesia%E2%80%99s-palm-oil-targets. [Accessed 21 October 2021].

Senawi R, Rahman NK, Mansor N, Kuntom A. 2019. Transformation of oil palm independent smallholders through Malaysian sustainable palm oil. J Oil Palm Res. 351-362.

Suhada TA, Bagja B, Saleh S. 2018. Smallholder farmers are key to making the palm oil industry sustainable. [Online]. Available at: https://wri-indonesia.org/en/blog/smallholder-farmers-are-key-making-palm-oil-industry-sustainable. [Accessed 21 October 2021].

Tanuwidjaja F. 2020. a guide to palm oil in indonesia: institutions and their effects on independent smallholder farmers. [Online]. Available at: https://dspace.mit.edu/bitstream/handle/1721.1/127598/1193556320-MIT.pdf?sequence=1&isAllowed=y. [Accessed 21 October 2021].

The Jakarta Post. 2021. Local community involvement key to success of sustainable palm oil. [Online]. Available at: https://www.thejakartapost.com/adv/2021/04/28/local-community-involvement-key-to-success-of-sustainable-palm-oil.html. [Accessed 1 October 2021].

Unicef. 2016. Palm oil and children in indonesia. [Online]. Available at: https://www.unicef.org/indonesia/media/4391/file. [Accessed 21 October 2021].

World Bank. 2003. Reaching the rural poor : a renewed strategy for rural development. [Online]. Available at: https://openknowledge.worldbank.org/handle/10986/14084. [Accessed 21 October 2021].

World Bank. 2019. Indonesia Economic Quarterly Investing in People. Washington DC (US): The World Bank.

World Trade Organization. 2020. European union certain measures concerning palm oil and oil palm crop-based biofuels. [Online]. Available at: https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds593_e.htm. [Accessed 21 October 2021].

Zen Z, McCarthy JF, Chalil D, Sitorus H, Shahputra M. 2015. Consulting study 14; case study of Indonesian oil palm impact on socio-economic aspects of high carbon stocks (HCS). Project High Carbon Stock (HCS). p. 55.