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Harnessing Political Economy and Global Green Trade to Increase Indonesia's Palm Oil Sustainability

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Key messages

- The palm oil sector is a key contributor to the Indonesian economy; however, its negative environmental and social impacts are of growing concern at national and global levels.
- The green movement and global trade flows provide tangible opportunities to sustainably restructure palm oil development in Indonesia.
- Our research suggests that sustainability in the palm oil sector is dependent on the provision of continued employment and the eradication of deforestation.
- This brief recommends strengthening key institutions and structures in the sector, together with influencing key actors and green consumer behaviour to improve palm oil sustainability.
- This brief identifies the Indonesian Government as the actor with the most direct influence on palm oil sustainability in the country.
- This brief notes that trade, political economy and technical economy scenarios to improve palm oil sustainability are available and should be better understood and implemented by key actors in the sector.

Introduction

Limited fossil fuel reserves in Indonesia position the country as a net importer of petroleum. Consequently, the government spends billions of dollars to fulfil Indonesia's energy requirements. Palm oil-based biodiesel is an alternative energy source that has the potential to partially offset Indonesia's petroleum dependency. The palm oil economy employs 16 million people nationally (BPDPKS 2018), provides livelihoods for smallholder farmers and profits for companies. It further shows resilience even during periods of economic downturn – in the midst of the Covid-19 pandemic, the palm oil sector supported exports of USD 17 billion in a year (UN Comtrade 2022). In this context, development of the palm oi l economy can be a key pathway to poverty reduction in the country. However, there is growing national and international awareness of the negative environmental impacts of palm oil development, including deforestation in peatlands and forests, carbon loss, greenhouse gas emissions, and biodiversity loss.

The Indonesian Government has committed to reducing the environmental impacts of the palm oil economy and ensuring the availability of sustainable products for consumers globally. In 2014, the Ministry of Agriculture and its partners launched the Indonesian Sustainable Palm Oil Forum (FoKSBI) to coordinate all sectors and initiatives focused on sustainable palm oil development (FoKSBI 2022). Indonesia and Malaysia developed certification schemes, including Indonesian Sustainable Palm Oil and Malaysian Sustainable Palm Oil. However, the role of political economy and trade in palm oil sustainability has yet to be understood. Furthermore, there is limited evidence on the key factors affecting palm oil sustainability and livelihoods. These factors include the following:

- Structural factors (e.g., demographics and geopolitics)
- Institutional factors (e.g., regulation, law enforcement at different levels and corruption)
- Actors (e.g., government, private sector, non-government organizations (NGOs) and civil society organizations (CSOs), academia and local communities)
- Trade (value chains, domestic and global markets and consumers)

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Ensuring a clear and quantitative relationship between political economy and trade and palm oil sustainability will support policymakers and relevant stakeholders to develop more effective interventions, with the outcome of achieving sustainable palm oil production and livelihoods in Indonesia.

Understanding the political economy and trade impacts of palm oil

To understand the role of political economy and trade in the Indonesian palm oil economy, we constructed the Palm Oil Political Economy and Trade Structural Equation Model (POPETS). POPETS comprises the latent variables of Structure, Trade, Institution, Actor, Technical Economy, Sustainability, and Livelihoods, as detailed in Table 1. The latent variables were measured by several observed variables. The initial observed variables were obtained through a systematic review of scientific publications, which analysed more than 200 articles to establish the initial model. Questionnaires were distributed online across Indonesia with the aim of soliciting answers from the respondents on the relationship between latent and its observed variables, as well as among latent variables. The observed variables that significantly correlate with latent variables are detailed in Table 1, with the strongest relationships highlighted in bold. Trade is indicated primarily by 'green consumer behaviour', Structure by 'less climate change and disaster', Technical Economy by 'extension services and technical guidance', Institution by 'Governance and rules of the game', Actor by 'National government', Sustainability by 'Employment' and 'No deforestation' almost equally, and Livelihoods by 'Household income'.

Palm oil sustainability is influenced by political economy and trade factors (Figure 1). 'Livelihoods' of people in the palm oil sector is connected to palm oil 'Sustainability'. 'Livelihoods' is primarily influenced by 'Technical Economy' factors, such as extension services. 'Sustainability' is influenced by 'Actors', of which the national government is the dominant actor. 'Structure', which is dominated by 'Financial capacity of farmers', influences 'Technical Economy', and 'Actor'. 'Structure' is also indicated by 'Climate change and natural disaster'. 'Actor' behaviour and action is affected by 'Institution', which is primarily 'Governance and rules of the game'. 'Trade', in which 'Green consumer behaviour' is the strongest variable, influences 'Structure' and 'Institution'.

Table 1. Significant relations and correlation coefficients (CC) between latent and observed variables in the POPETS model

Latent variables	Observed variables	p-value	CC
Trade (Exogenous variable)	International demand	***	0.45
	Competition	***	0.36
	Supply	***	0.51
	Supply chain governance	***	0.64
	Green consumer behaviour	***	0.73
Structure (Mediating variable)	Financial capacity of farmers	***	0.52
	Less climate change and natural disasters	***	0.57
Technical Economy (Mediating variable)	Technology and infrastructure	***	0.55
	Extension services and technical guidance	***	0.73
Institution (Mediating variable)	Sub-national initiatives	***	0.69
	Mandatory sustainability standards	***	0.73
	Governance and rules of the game	***	0.83
	No corruption	***	0.44
Actor (Mediating variable)	National government	***	0.76
	CSO/NGO	***	0.49
	Political figure	***	0.65
Sustainability (Endogenous variable)	No deforestation	***	0.52
	Employment	***	0.53
Livelihoods (Endogenous variable)	Household income	***	0.99
	Financial assets	***	0.67

Note: *** indicates < 0.05

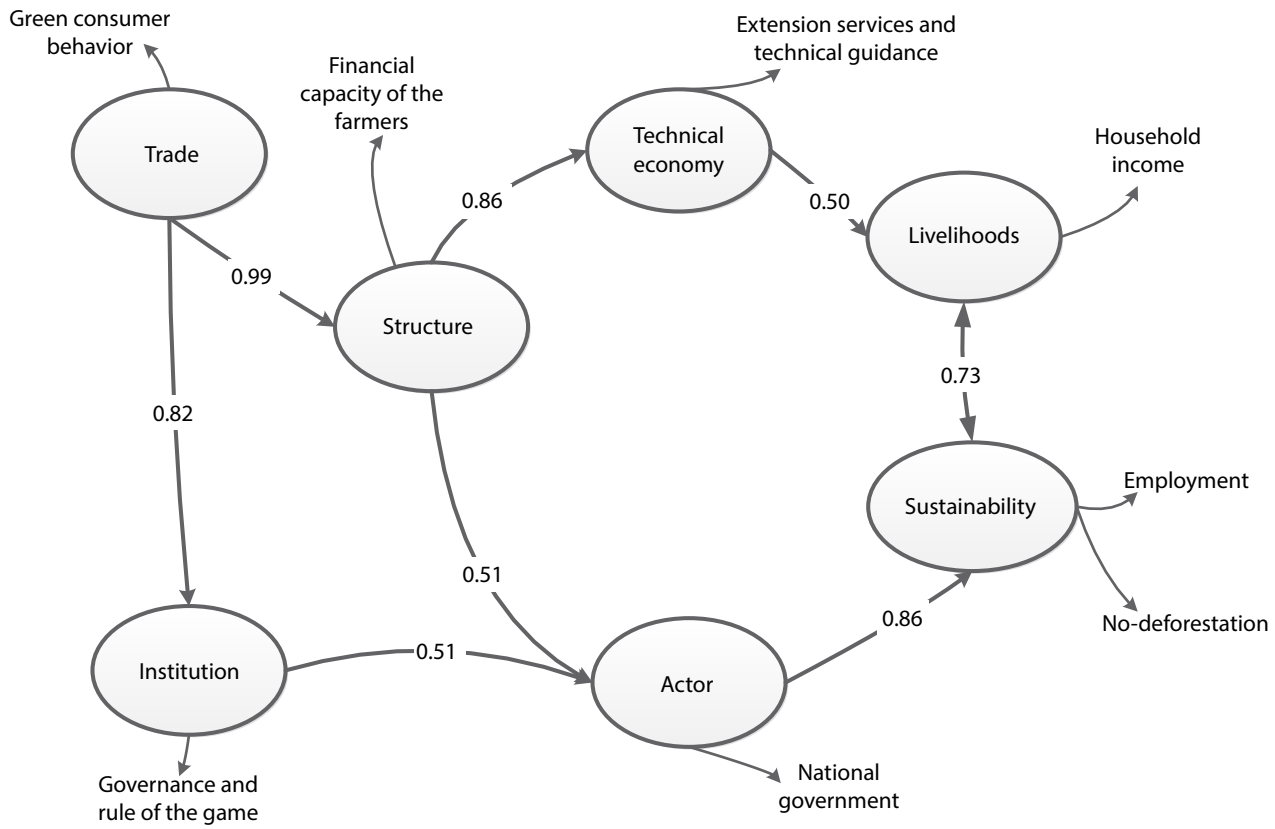

Figure 1. POPETS and its factors and key variables

Scenarios to improve palm oil sustainability

Based on POPETS, there are three scenarios to improve sustainability and livelihoods in Indonesia's palm oil sector (Table 2) as follows:

1. Trade Scenario – This scenario focuses on how trade interventions can better improve sustainability and livelihoods. 'Trade' interventions will increase palm oil 'Structure' and 'Institution'. Increasing the 'Structure' will increase 'Technical Economy' and enable 'Livelihoods'; and 'Actor' will improve the 'Sustainability' of palm oil. 'Trade' interventions also work through 'Institution'. This particular intervention will increase 'Actor' capacity to achieve palm oil 'Sustainability'. Improving 'Livelihoods' will result in improved 'Household Income', while improving 'Sustainability' will result in increased employment and 'Reducing Deforestation'. Therefore, sustainability improvements will result in livelihood improvements and, conversely, livelihood improvements will boost sustainability.
2. Technical Economy Scenario – This scenario focuses on technical economy interventions through improvements in technology and infrastructure, as well as the provision of more intensive extension services and technical guidance. The 'Technical Economy' intervention will directly improve 'Livelihoods' for actors along the palm oil value chain. Due to the correlation between 'Livelihoods' and 'Sustainability' there is a possibility that this intervention will indirectly affect sustainability. This is confirmed by Herdiansyah et al. (2020), who indicate that appropriate technical treatment and good planting management are important contributors to farmer prosperity and welfare. However, improved farmer knowledge and practices will require support from all relevant stakeholders.
3. Political Economy Scenario – This scenario focuses on various interventions on 'Structure', 'Institution', and 'Actor'. 'Structural' interventions such as improving financial capacity for farmers or smallholders, as well as mitigation and adaptation to climate change and natural disasters, will improve 'Technical Economy'. This will lead to 'Livelihood' improvement, as well as 'Actor' strengthening. This will also lead to the increased 'Sustainability' of palm oil. Sub-national initiatives through the application of various landscape and jurisdictional approaches, mandatory certification schemes, i.e., Indonesian Sustainable Palm Oil, strengthening governance and rules of the game, and anti-corruption activities will strengthen the 'Institution' of palm oil. Strengthened 'Institution' will lead to improved 'Actor' capacity, which will result

in improved 'Sustainability'. 'Actor' has the most direct influence on the 'Sustainability' of palm oil. Strengthening key actors, including the national government, CSOs and NGOs, and the engagement of key political figures who support environment and community will lead to 'Sustainability'. The role of the national government in this scenario is to develop and endorse national policies to be implemented by sub-national governments, local communities and the private sector. CSO and NGO movements that represent the interest and voice of civil society and communities will also need capacity support. The political economy scenario may be particularly suited to the palm oil economy in Indonesia, as the sector requires solutions beyond technical practice. For example, this scenario can address issues of legality, such as the more than 3 million ha of plantations that encroach on state forest areas (CMoEA 2021). This encroachment is illegal under Indonesian law and is the primary constraint to fulfilling both mandatory and voluntary standards (CMoEA 2021).

Policy reform

In 2014, the Indonesian Ministry of Agriculture launched FoKSBI, a multi-stakeholder dialogue forum, with the support of the United Nations Development Programme. The aim of this forum is to coordinate all sectors and initiatives that focus on sustainable palm oil in the country. POPETS's research findings will benefit FoKSBI dialogue and supplement implementation of the national action plan by supporting efforts to address challenges in the palm oil economy that require solutions beyond technical practices, particularly legal challenges. Furthermore, POPETS's research findings can be applied to identify the key pathways towards achieving the Sustainable Development Goals (SDGs) in Indonesia's palm oil sector.

Table 2. Scenarios and interventions in the POPETS model and their effects on palm oil sustainability and livelihoods

Intervention	Direct effect	Indirect effect	Effect of goal	Total effect on goal
Trade scenario				
Trade: • International demand • Competition • Supply • Supply chain governance • Green consumer behaviour	Structure (0.99)	Technical Economy (0.86)	Livelihoods (0.50)	0.43
		Actor (0.51)	Sustainability (0.86)	0.79
	Institution (0.82)	Actor (0.51)	Sustainability (0.86)	
Technical economy scenario				
Technical Economy: • Technology and infrastructure • Extension services and technical guidance			Livelihoods (0.50)	0.50
Political economy scenario				
Structure: • Financial capacity of farmers	Technical Economy (0.86)		Livelihoods (0.50)	0.43
• (Mitigating and adapting) climate change and natural disasters	Actor (0.51)		Sustainability (0.86)	0.44
Institution: • Sub-national initiatives • Mandatory sustainability standards • Governance and rules of the game • No corruption	Actor (0.51)		Sustainability (0.86)	0.44
Actor: • National government • CSO/NGO • Political figures			Sustainability (0.86)	0.86

A study by Pacheco et al. (2018) indicates the importance of the STIA (Structures, Trade, Institutions and Actors) factor in governing sustainable palm oil, in particular the role of institutions and actor interactions. Increasing the technical economy of palm oil will improve livelihoods rather than sustainability, although these two factors are correlated. Therefore, a technical economy approach alone cannot be applied to improve sustainability in the palm oil economy.

This is aligned with POPETS's findings, which indicate there is a strong correlation between green consumer behaviour in the UK and Europe and national efforts to reduce deforestation due to palm oil plantations. At the national level, 'Actor' is the primary driver of palm oil sustainability, particularly the national government, CSOs, NGOs, and key political figures.

Forest-risk commodity trade and the Sustainable Development Goals

At the international level, POPETS can contribute towards green deals and G20 discussions. Trade is a critical sector for green deals, as it can positively impact climate change and other social and economic aims, including employment and income generation. Through its modelling scenarios, POPETS can provide a clear framework for connecting global trade with no deforestation and job creation. Key elements of trade have been modelled through POPETS to study the impact of these interventions. For example, POPETS highlights green consumer behaviour as a key driver in supporting consumer-driven demand for products that address climate change issues. POPETS's findings can promote improved understanding of key factors and interventions that will benefit G20 discussions (Figure 2).

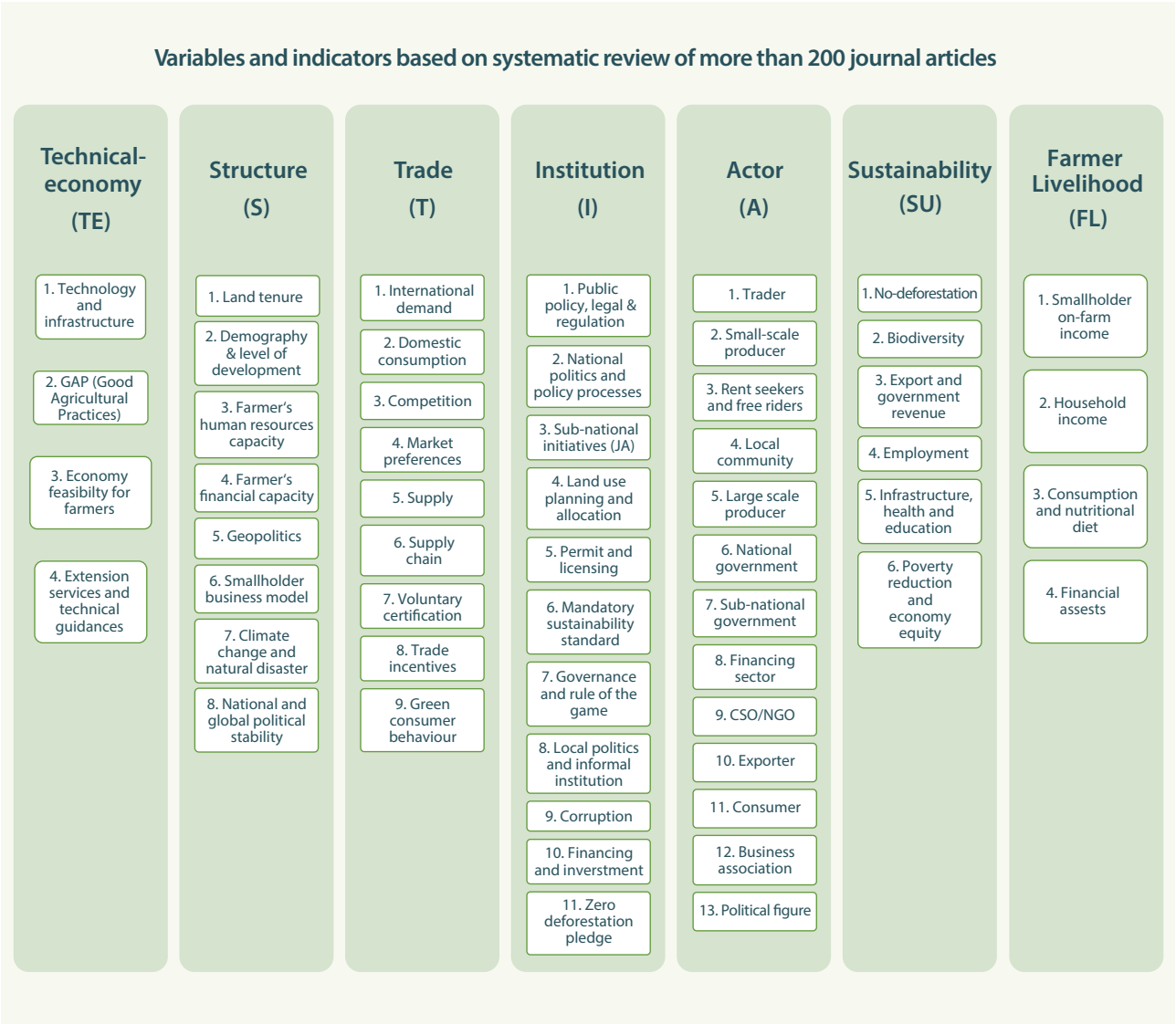

Figure 2. List of indicators of STIA variables. Significant variables are in bold green

POPETS can also contribute to the development of interventions that will improve palm oil sustainability and lead to the advancement of SDG 13 (Climate Action) and SDG 14 (Life on Land). With regards to livelihoods, POPETS can contribute to the advancement of farmer livelihoods, which in turn will contribute SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth). Trade and political economy factors and their observed variables can be further explored to achieve and harmonize these SDGs.

Recommendations

This policy brief makes three key recommendations as follows:

- All stakeholders in the palm oil sector must build linkages between increased sustainability, improved employment opportunities and reduction of deforestation.
- All stakeholders in Indonesia's palm oil sector must influence and contest their ideas with the national government, which is the most powerful national actor, to support increased palm oil sustainability. Other key actors who can impact sustainability in the sector are CSOs, NGOs and political figures.
- Global traders can leverage their engagement with green consumers to increase palm oil sustainability and livelihoods. Trade will influence the structures and institutions that affect actors' influence on sustainability. Global green deals initiated by the UK and the EU can also be leveraged by stakeholders to support increased sustainability in the palm oil sector.

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References

CMoEA [Coordinating Ministry of Economic Affairs]. 2021. 10-Year Reflection of ISPO: Accelerating ISPO Certification and its Support. (Presented by Dr. Musdhalifah Machmud on 22 September 2021).

BPDPKS [The Indonesia Oil Palm Plantations Fund Management Agency]. 2018. https://www.bpdp.or.id/Industri-Kelapa-Sawit-Indonesia-Serap-16-2-Juta-Pekerja (accessed 10 January 2022).

FoKSBI [Forum Kelapa Sawit Berkelanjutan Indonesia]. 2022. https://www.foksbi.id/en/home (Accessed 10 March 2022).

Pacheco P, Schoneveld G, Dermawan A, Komarudin H, Djama M. 2018. Governing sustainable palm oil supply: disconnects, complementarities and antagonisms between state regulations and private standards. *Regulation & Governance* 14(3): 568-598. https://doi.org/10.1111/rego.12220

UN Comtrade. 2021. https://comtrade.un.org/data/ (Accessed 10 January 2022).