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The Limits of Sustainable Palm Oil: Agrarian Culture and The Politics of Good Agriculture Practice Implementation in North Aceh

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A B S T R A C T

This study examines the implementation of Good Agricultural Practices (GAP) within the framework of Roundtable Sustainable Palm Oil (RSPO) and Indonesian Sustainable Palm Oil (ISPO) certification, highlighting the tension between global standards and local agrarian realities. While GAP is promoted as a technical tool to enhance productivity and sustainability, its application often follows a top-down approach that overlooks local socio-cultural contexts. Using a qualitative ethnographic method, this research uses North Aceh as a case study. Data were collected through field observations, in-depth interviews with smallholders, customary leaders, and local actors, as well as analysis of RSPO and ISPO policy documents. An anthropological perspective is employed to understand power relations, cultural meanings, and community responses to technocratic standards. Findings show that GAP implementation faces key challenges, including unclear land tenure, limited access to technology and training, and low trust toward government and plantation companies. GAP standards often conflict with customary systems and local knowledge, leading smallholders to perceive them as administrative and economic burdens. However, adaptive strategies such as agroforestry and locally grounded sustainable practices demonstrate farmers' capacity to negotiate these demands. The study concludes that effective GAP implementation requires integrating local cultural values and strengthening the role of customary institutions as mediators between global standards and local practices.

A. INTRODUCTION

Palm oil production has become one of the most controversial issues in the global debate on sustainable development, the environment, and social justice. On the one hand, palm oil is seen as a strategic commodity that supports economic growth, provides jobs, and contributes to energy and food security. On the other hand, the expansion of palm oil plantations is often associated with deforestation, environmental degradation, land conflicts, and the marginalization of local communities. This complexity has led to the emergence of various sustainability certification schemes aimed at regulating palm oil production practices

to align with global sustainability standards (Azhar et al., 2023; Dharmawan et al., 2021; Glasbergen, 2018; Hansen et al., 2015)

Various studies emphasize that the palm oil sector cannot be understood solely as a matter of technical production, but rather as a system composed of a network of actors, capital flows, power relations, and intertwined socio-cultural configurations (Hospes et al., 2017). However, the global palm oil sustainability research landscape still reflects an imbalance inequality, with greater attention given to technical and biophysical aspects—such as greenhouse gas emissions, biodiversity, and production efficiency—than to the social and cultural dynamics of producer communities at the local level (Hansen et al.,

2015). As a result, local knowledge, customary systems, and agrarian practices rooted in local wisdom are often marginalized in the formulation and implementation of sustainability policies.

A number of studies have shown significant environmental impacts of the expansion of palm oil plantations, ranging from changes in forest landscapes, degradation of water quality, to increased greenhouse gas emissions, both on mineral and peat lands (Reijnders & Huijbregts, 2008; Meijaard et al., 2020; Nishina et al., 2023). Other studies highlight the limited effectiveness of global certification schemes such as the RSPO in preventing deforestation and ecosystem degradation, even in certified concessions (Cazzolla Gatti et al., 2019). These findings indicate that sustainability certification has not been able to fully address the structural problems inherent in the palm oil industry.

At the social level, research on smallholders shows that sustainability certification often presents serious challenges, particularly related to land tenure insecurity, limited access to capital, technology, and mentoring, and high administrative burdens (Ogahara et al., 2022; de Vos et al., 2023). Certification tends to be more accessible to smallholders who are organized, possess clear land legality, and are facilitated by external actors, while independent smallholders with a strong socio-customary base are more vulnerable. This situation demonstrates how technocratic sustainability standards have the potential to reproduce social inequalities at the local level.

The concept of Good Agricultural Practices (GAP) has developed globally since the late 1990s in response to growing global concern for food safety, environmental sustainability, worker welfare, and traceability of agricultural products in international trade chains. Over time, GAP has become the foundation for various global commodity certification schemes, including those in the palm oil sector. In the palm oil industry, concerns about deforestation, land conflicts, and international market pressures led to the birth of the Roundtable on Sustainable Palm Oil in 2004. RSPO certification emphasizes the principles of environmental sustainability, protection of workers' rights, transparency, and respect for the rights of local and indigenous communities. In practice, the RSPO has become a highly influential standard in the international palm oil trade, as many global companies require the supply of RSPO-certified palm oil as part of their sustainability commitments (Head et al., 2024; Practices, 2004).

In the Indonesian context, the government has responded to global sustainability pressures by developing the Indonesian Sustainable Palm Oil (ISPO) certification as a mandatory national policy instrument, in contrast to the voluntary RSPO. However, studies show that ISPO implementation remains largely top-down, positioning the state and corporations as primary actors while treating the local communities as objects of policy. This approach often overlooks the socio-cultural realities of rural communities, particularly customary systems of land and resource management (Hidayat et al., 2018; Joviani et al., 2025).

In North Aceh, agrarian practices are shaped by a unique cultural context in which land ownership is governed not only by formal law but also by customary norms, kinship relations, and historical control over space. When ISPO standards are applied without recognizing these systems, tensions emerge between formal regulations and local practices. Smallholders often perceive certification as an external intervention that may threatens their autonomy and traditional agrarian ways of life (Abidin, 2023; Intan et al., 2022; Mawardi et al., 2022; Policy et al., 2023).

In this context, access theory serves as the primary foundation for analysis. Access is understood not merely as formal ownership, but rather as the ability to derive benefits from things. This approach shifts the analysis from the legality of land ownership to the social, political, and cultural processes that determine who can access, control, and utilize agrarian resources (Peluso & Lund, 2011; Lund, 2011). Thus, access is produced through relationships among actors, not solely determined by legal status or ownership rights.

Access theory also emphasizes that an actor's ability to obtain benefits is determined not only by property ownership, but also by various other mechanisms such as social position, institutional relations, symbolic legitimacy, and networks of power. In practice, smallholders often have to negotiate with various actors—the state, companies, and local institutions—to maintain access to land and resources. These negotiations do not occur in a vacuum, but are shaped by historical and dynamic power relations (Ribot & Larson, 2005). Therefore, access is always temporary, subject to expansion or contraction, depending on the prevailing power configuration.

This approach is relevant to understanding the implementation of ISPO in North Aceh, where state certification standards interact with long-standing customary systems governing land tenure and land use. In many cases, certification creates mechanisms for controlling and maintaining access that benefit certain actors, while smallholders face limitations in meeting technocratic requirements that are not fully aligned with local practices. Using access theory, this article explores how sustainability standards become instruments of power that have the potential to limit or redefine smallholders' access to land and to the economic benefits of palm oil plantations.

On the other hand, the discourse on palm oil sustainability is often associated with the green growth approach, which emphasizes the integration of economic, social, and environmental sustainability. This model promotes increased productivity through technological innovation, efficient resource use, and strengthening transparent and sustainable supply chains (Tan et al., 2009; RSPO, 2022). In policy practice, this approach is often assumed to create a win-win situation between economic growth and environmental protection.

This article critically examines green growth, particularly when applied without regard to local socio-cultural contexts. While green growth emphasizes technical

efficiency, capital, and managerial solutions, sustainability for smallholders in North Aceh is deeply rooted in customary land relations, social legitimacy, and cultural values. Ignoring these dimensions risks transforming green growth into an exclusionary framework that limits local access to benefits. Using an anthropological lens, this study adopts an inclusive green growth perspective, framing sustainability as a negotiated social process involving access, distribution, and recognition of local knowledge. By integrating access theory with critiques of green growth, this article argues that global standards such as ISPO must adapt to local agrarian systems. From this perspective, certification becomes a political-cultural arena, with smallholders positioned as active agents rather than passive recipients of policy.

B. METHODS

This research used a qualitative approach with ethnographic methods to examine the configuration of local agrarian culture and the challenges in implementing Good Agricultural Practices (GAP) through Roundtable Sustainable Palm Oil (RSPO) and Indonesian Sustainable Palm Oil (ISPO) certification. An ethnographic approach is particularly suited to this study, as it allows social reality to be understood as a lived process in which practices, meanings and power relations are embedded in everyday life. Rather than treating social phenomena as isolated variables, this approach situates sustainability as a socially negotiated process shaped by local knowledge, institutional arrangements and broader political-economic forces (Koentjaraningrat, 1991; Tan, 2009; Faisal, 1989).

The research was conducted in North Aceh Regency with Langkahan District as the primary field site. This area represents a significant palm oil expansion zone while retaining strong customary agrarian structures. The site was selected due to four main considerations. First, it has experienced rapid growth of palm oil plantations and increasing integration with sustainability schemes. Second, it has a long historical trajectory of plantation development, allowing for an analysis of shifting access and power relations overtime. Third, the local communities are positioned as marginal actors within dominant policy narratives. Fourth, local knowledge systems persist in the area, although they often do not align with technocratic agricultural standards (Azizah et al., 2020; Berenschot et al., 2024; Joviani et al., 2025; Muchlis et al., 2025).

In this study, field data collection was conducted through ethnographic methods for 2 month at December 2024, placing researchers directly in the social lives of independent oil palm smallholders in North Aceh, particularly in areas involved in the ISPO/RSPO certification process, such as Cot Girek, Seureuke, and the surrounding areas. A combination of informants was purposively selected to capture the relationship between state certification standards, farmers' economic practices, and local customary legitimacy as a whole. Key informants consisted of cooperative administrators and oil palm smallholder organizations, such as the Chairperson of the Berkah Bunga Damai Cooperative and the North Aceh SPKS, to understand the certification process, the

establishment of the Internal Control System (ICS), and the administrative obstacles faced by farmers. The study also involved independent oil palm smallholders, both those who successfully and unsuccessfully met RSPO and ISPO requirements, to explore concrete experiences related to land legality, market access, certification costs, and changes in daily agricultural practices. To understand the perspectives of the state and formal governance, interviews were conducted with officials from the North Aceh Plantation Office and technical certification actors. Meanwhile, village officials, village officials, and traditional leaders were interviewed to explore customary-based land tenure practices, dispute resolution mechanisms, and the community's position on social legitimacy relative to the state's formal legal standards. Data were obtained through participant observation, in-depth interviews, review of certification documents, and participation in farmers' daily activities and local deliberation forums to understand how sustainability certification is negotiated within the socio-cultural context of Aceh.

Data obtained through participant observation, in-depth interviews, informal discussions, and the search for certification and land legality documents were then analyzed using Creswell's four components of ethnographic data analysis: description, analysis, interpretation, and representation. In the description stage, researchers compiled a detailed picture of the social life of independent oil palm farmers, the RSPO and ISPO certification processes, land tenure practices, and the relations between cooperatives, the state, and customary institutions at the mukim and gampong levels. The analysis stage was conducted by identifying key patterns, categories, and themes such as obstacles to land legality, the bureaucratization of certification, conflicts between formal standards and customary legitimacy, and farmers' adaptation strategies to sustainability market demands. Next, in the interpretation stage, researchers interpreted the social and political meanings of the experiences of field actors to understand how sustainability certification reshapes power relations, economic access, and recognition of local knowledge in Acehnese communities. The representation stage was conducted by presenting research findings in the form of ethnographic narratives that place the voices, experiences, and perspectives of informants as a central part in explaining the social dynamics of oil palm certification in North Aceh (Creswell, 2010).

C. RESULTS

1. The Implementation of Good Agriculture Practice : Stories from Below

The implementation of *Good Agricultural Practices* (GAP) through RSPO and ISPO certification in North Aceh has not merely functioned as a technical process aimed at improving plantation quality, but has also generated complex social experiences for independent smallholder palm oil. At the grassroots level, certification is understood not simply as a matter of applying good cultivation techniques, but also as the ability to fulfill various administrative and formal legal

requirements that have long been unfamiliar to many rural smallholders. In the “Sawit Terampil” program implemented in North Aceh and Langkat, for example, more than 3,000 smallholders from five cooperatives and farmer groups underwent verification processes for RSPO certification. However, only around 520 smallholders from two cooperatives were eventually declared eligible to proceed further in the certification process. Many smallholders failed not because of poor agricultural practices, but because of land legality issues, such as the absence of formal land certificates, plantations located within state forest areas, or the inability to comply with documentation and organizational standards required by certification bodies. In many villages (*gampong*), palm oil plantations have long been socially recognized as belonging to particular families through inherited ownership, customary agreements, and acknowledgment by the *mukim* authority. Yet such social recognition is not always considered valid within certification systems that demand formal legal evidence such as land titles and plantation registration documents (*STD-B*). This situation reveals a clash between local governance systems and the state and global market standards that underpin sustainability certification.

Amid these circumstances, smallholder cooperatives have emerged as important actors bridging local communities with the demands of global certification systems. The experience of the Berkat Bunga Damai Cooperative in Cot Girek demonstrates that the path toward certification is shaped not only through technical training but also through extensive social work at the community level. The cooperative assists smallholders in land mapping, administrative documentation, the establishment of an *Internal Control System* (ICS), and the management of land legality requirements. According to the cooperative chairman, Abubakar AR, most smallholders were previously unfamiliar with recording fertilizer use, documenting harvest outputs, or mapping plantation boundaries as required in RSPO and ISPO audits. In practice, these processes often involve deliberations among smallholders, village authorities, and *mukim* leaders to determine land boundaries based on collective memory and the historical occupation of land before translating them into formal state administrative documents. Thus, the implementation of GAP in North Aceh illustrates that sustainability certification is not merely a technocratic project, but also a social arena where local knowledge, state bureaucracy, and global market demands intersect within the everyday lives of independent palm oil smallholders.

In several areas of North Aceh, the certification process has also generated anxiety among smallholder smallholders as they increasingly realize that access to markets and government programs is becoming dependent upon the legal and administrative status of their plantations. Previously, the buying and selling of fresh fruit bunches (FFB) was largely shaped by social relationships with middlemen, collectors, and nearby mills. However, as certification issues gained prominence, smallholders were confronted with new terminologies such as *traceability*, forest-area legality, environmental audits, and sustainability standards. For many older smallholders, these terms felt distant from their lived

experiences as rural cultivators. They understood land not as an administrative document, but as inherited family property recognized and protected by the surrounding community. Consequently, when their land was categorized as “problematic” administratively because it fell within forest areas or lacked formal certificates, many smallholders felt that their social experiences and historical claims to land were no longer acknowledged within modern certification systems.

In this context, customary practices at the *mukim* and village (*gampong*) levels continue to play an important role as spaces for social negotiation. When disputes arise over plantation boundaries or land claims, the initial resolution is generally conducted through village deliberations involving the village head (*keuchik*), *tuha peut* (village elders), and the *imum mukim* before cases are brought into formal state institutions. For rural communities, social legitimacy is often considered stronger than administrative legality. Agreements reached through customary deliberation possess moral authority because they are grounded in historical land occupation, kinship relations, and the collective knowledge of local society. However, within ISPO and RSPO certification practices, such social mechanisms are not fully recognized as valid legal evidence. As a result, a gap emerges between the way local communities understand land ownership and the way the state and certification institutions define legality. This situation demonstrates that the implementation of GAP in North Aceh is not solely a matter of agricultural techniques, but also involves struggles over knowledge, authority, and recognition of local social systems.

Furthermore, certification implementation has indirectly begun to create new forms of stratification among independent palm oil smallholders. Smallholders who possess access to cooperatives, assistance networks, administrative resources, and formal land legality are more likely to enter certification schemes compared to smallholders operating individually. In several villages, a group of smallholders has gradually come to be regarded as “market-ready” because they possess complete documentation, digital plantation mapping, and access to sustainability training. Meanwhile, other smallholders who are unable to fulfill administrative requirements are becoming increasingly vulnerable to market marginalization. This condition demonstrates that sustainability certification does not necessarily produce equal outcomes for all smallholders. On the one hand, GAP and certification open opportunities for improved market access and stronger plantation governance. On the other hand, these standards may also generate new forms of exclusion when administrative capacity and formal legality become the primary requirements for being recognized as sustainable smallholders.

2. Palm Oil as reconfiguration of Access: Land, Labor and Production Relations

The introduction of palm oil in North Aceh did not simply bring a new commodity, but fundamentally reconfigured patterns of access to land, labor, technology, and economic benefits. Within the customary agrarian system, access to land was primarily determined through labor and social

recognition. Individuals gained and maintained access by clearing, cultivating, and sustaining land within boundaries acknowledged by the *gampong* and *mukim*. In this sense, access was relational and socially embedded rather than formally codified.

As one smallholder explained:

“Kalau dulu, siapa yang buka lahan dan rawat, itu dianggap punya. Tidak perlu surat yang penting orang kampung tahu.”¹

This system allowed relatively broad and flexible access. Smallholders who actively worked the land were socially recognized as legitimate users, while perennial crops such as rubber or fruit trees functioned as markers that stabilized long-term claims. Access to production was also supported by communal labor arrangements and locally embedded knowledge systems.

However, the expansion of palm oil has gradually shifted these mechanisms. Access to land is increasingly mediated through legal-administrative instruments and market valuation. While documents such as *Surat Keterangan Tanah* (SKT) still operate as intermediary forms, formal legality has become more central in determining eligibility for participation in plantation systems and certification schemes. This shift is reflected in the experience of another farmer:

“Sekarang kalau tidak ada sertifikat, susah masuk program apa pun..”²

To illustrate the reconfiguration, Table 1 presents how access mechanism have shifted across key agrarian dimensions:

Table 1. Reconfiguration of Access in Agrarian Transformation

Dimension	Pre-Palm Oil (Customary Agrarian System)	Post-Palm Oil Expansion
Land Tenure	Adat Based recognition	Based on legal and market systems
Meaning of Land	Social-cultural trust	Economic commodity
Production	Subsistence Oriented	Market Oriented
Social Relations	Patron client	Contractual
Technology	Local Knowledge	Capital
Labor	Communal	Flexible
Autonomy	High	Reduced

Source : Data, 2025

¹ Translation: “In the past, whoever cleared the land and maintained the land was considered its owner. No formal document was needed, as long as the people in the village knew”

² Translation: “Now, without a certificate, it is difficult to participate in any program”.

Table 1 demonstrates that agrarian transformation is best understood as a shift in how access is organized and controlled. Access that was previously embedded in social relations is increasingly mediated by legal, economic, and institutional mechanisms.

At the level of labor, access has shifted from communal participation to commodified arrangements. Work opportunities are now structured through harvest schedules and wage systems determined by companies or cooperatives. This reduces the flexibility of local labor systems and ties access to income more closely to external organizational structures. A local informant described this change as follows:

“Dulu kami bergantung pada toke, namun masih ada hubungan kepercayaan. Sekarang semua dihitung, harga, kerja, semua pakai uang.”³

In response, smallholders develop strategies to maintain access under changing conditions. Livelihood diversification—such as combining palm oil cultivation with rubber production or subsistence farming—serves as a way to stabilize access to income. These strategies indicate that access is not passively lost, but is actively negotiated within structural constraints.

At the ideological level, these changes reflect a shift in how access is justified. While customary systems emphasize legitimacy through labor and social recognition, the palm oil system increasingly frames access in terms of efficiency, legality, and productivity. This creates tensions when sustainability standards, such as GAP and ISPO, require forms of access that are not fully compatible with local practices.

3. Good Agricultural Practice as Mechanism of Access Regulation and Negotiation

The implementation of RSPO and ISPO certification in North Aceh operates as a mechanism that reorganizes access to land, knowledge, markets, and institutional support. Rather than functioning solely as technical standards, these frameworks define the conditions under which smallholders may participate in the formal palm oil economy.

RSPO and ISPO introduce specific criteria that determine who can benefit from palm oil production. Requirements such as legal land tenure, administrative documentation, and standardized production practices function as gatekeeping mechanisms that regulate inclusion and exclusion.

Table 2. Interaction between RSPO-ISPO Standards and Local Agrarian Practices

Aspect	GAP-ISPO Framework	Local Practice	Implication for Access
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³ Translation: “We used to rely on the *Toke*, but there was still relationship of trust. Now everything is calculated—prices, labor, everything is measured in money.”

Knowledge	Standardized	Experiential	Technical Translation
Land	Legal Certification	Customary recognition	Restricted Access
Participation	Top-Down	Limited local Involvement	Uneven Access to Certification
Capital	Requires	Unequal Distribution	Emergence of Intermediaries
Compliance	Full	Selective	Conditional Access
Sustainability	Technical	Moral and Social	Competing Access Logics

Source : Data, 2025

Table 2 shows that certification reshapes access by privileging actors who possess legal status, capital, and institutional connections. Smallholders who rely on customary legitimacy often face difficulties in meeting these requirements, not because their practices are unsustainable, but because their forms of access are not recognized within the certification framework.

The certification process also produces new intermediary actors who function as brokers of access. Cooperative leaders, local elites, and company-linked agents play crucial roles in translating technical standards and facilitating administrative processes. Through these roles, they influence which smallholders are able to access certification and its associated benefits.

At the same time, smallholders actively negotiate these constraints. Rather than fully complying with or rejecting the standards, they adopt selective strategies. Certain practices—such as reducing chemical use or maintaining diversified cropping systems—are aligned with GAP principles, while more complex administrative requirements are often minimized or collectively managed through farmer groups.

Customary institutions also remain relevant as informal mechanisms of access. In processes of land verification and conflict resolution, these institutions provide legitimacy that complements or, in some cases, substitutes for formal requirements. However, their role is not always formally recognized, creating a layered system in which access is negotiated across multiple institutional domains.

These dynamics indicate that GAP and ISPO do not simply impose rules, but rather reorganize the structure of access. Participation in sustainability regimes is therefore not merely a matter of compliance, but also navigating overlapping systems of authority, knowledge, and power.

4. Three Layers of Agrarian Transformation Under the GAP and ISPO Regime

Agrarian transformation in the context of palm oil expansion should not be understood merely as economic change, but as a multidimensional process involving simultaneous shifts at the material, institutional, and

epistemic-social levels. To capture the interconnections among these layers, Table 3 provides a synthesis of the direction and character of the transformations taking place.

Table 3. Three Layers of Agrarian Transformation

Type of Transformation	Element of Change	Character of Change
Material	Land	Commodification
	Labor	Individualization
	Production	Profit orientation
Institutional	Production Standards	Standardization of Practice
	Regulation	Formalization
	Governance	Strengthening External Control
Epistemic	Knowledge System	Delegitimization of Local Knowledge
	Legitimacy	Social Exclusion
	Values	Reduction of meaning

Based on Table 3, agrarian transformation in the context of oil palm expansion in North Aceh cannot be understood merely as an economic shift. Rather, it is a multidimensional process involving simultaneous material, institutional, and epistemic reconfigurations. At the material level, oil palm expansion has fundamentally altered how land, labor, and production are organized and valued. Land, which was previously understood as a social and cultural entity embedded in trust, identity, and intergenerational relations, has increasingly been redefined as an economic commodity governed by market logic. As one smallholder explained,

“Dulu tanah itu bukan soal jual beli, tapi soal siapa yang kerja dan jaga. Sekarang orang lihat tanah dari harga sawitnya.”⁴

This shift reshapes not only land use, but also how land is evaluated, exchanged, and contested.

At the same time, labor relations have moved away from communal systems rooted in *gotong royong* toward more individualized and flexible wage arrangements. Social obligations once grounded in reciprocity are increasingly replaced by contractual and transactional relations. A farmer described this change succinctly:

“Kalau dulu kami kerja sama-sama, sekarang semua dihitung upah. Tidak ada lagi kerja tanpa bayaran.”⁵

⁴ Translation: “In the past, land was not about buying and selling, but about who worked and cared for it. Now, people see land in terms of the price of palm oil.”

Production, likewise, has shifted from subsistence practices emphasizing long-term sustainability to market-oriented systems driven by efficiency and profit. While this integration into broader market networks offers new income opportunities, it also exposes farmers to price volatility and external pressures, as reflected in another interview:

“Kalau harga sawit turun, kami langsung terasa. Tidak seperti dulu waktu masih tanam padi atau karet.”⁶

Together, these material changes illustrate a broader restructuring of rural political economy.

These transformations are not spontaneous. They are reinforced by institutional changes, particularly through the introduction of standards such as GAP and ISPO certification. Agriculture is increasingly subject to processes of standardization, formalization, and external control by the state and market actors. Farming practices are no longer guided solely by local knowledge or inherited customs, but by technocratically designed rules legitimized through certification systems. As one farmer noted,

“Sekarang bertani bukan cuma tanam dan panen, tapi juga harus ikut aturan yang kami sendiri kadang tidak paham.”⁷

These standards regulate everything from cultivation techniques and input use to environmental management and documentation, transforming agriculture from a flexible social practice into a structured and measurable system.

However, this institutional shift generates significant tensions at the epistemic and social levels. The technocratic knowledge embedded in GAP and ISPO often clashes with local knowledge systems grounded in experience and *adat*. Farmers find themselves navigating dual frameworks that are not always compatible. As a customary leader explained,

“Kami punya cara sendiri yang sudah lama menjaga tanah, tapi itu tidak dianggap kalau tidak ada kertasnya.”⁸

This reflects a broader process of delegitimizing local knowledge, in which practices that do not conform to standardized metrics are excluded from formal recognition.

Similarly, the basis of land legitimacy is shifting from social recognition under customary systems to formal certification mechanisms that prioritize administrative documentation. This transition creates risks of social exclusion, particularly for farmers who lack access to formal legal processes. A smallholder highlighted this concern:

“Kami sudah kelola tanah ini puluhan tahun, tapi kalau tidak ada sertifikat, dianggap tidak sah.”⁹

In this context, access to land, certification, and market participation is no longer determined solely by labor and social legitimacy, but increasingly by bureaucratic capacity.

Moreover, the shift from moral values to technical indicators reflects a deeper reduction in the meaning of sustainability. Within the GAP and ISPO framework, sustainability is defined through quantifiable measures such as input efficiency and procedural compliance. In contrast, local understandings emphasize balance between humans, nature, and community dimensions that are not easily captured by technical metrics. This divergence produces what can be described as a conflict of meaning. As one farmer put it,

“Bagi kami yang penting tanah tetap subur dan anak cucu bisa pakai. Tapi dalam sertifikasi, itu tidak cukup kalau tidak ada laporan.”¹⁰

Faced with these layered transformations, smallholders do not simply accept or reject external standards. Instead, they engage in selective and pragmatic adaptation, adopting certain elements of GAP and ISPO that align with their needs, such as practices that improve productivity, while modifying or ignoring others. One farmer described this strategy as follows:

“Kami ambil yang bisa kami lakukan, yang terlalu rumit ya kami sesuaikan saja.”¹¹

⁵ Translation: “In the past we worked together, now everything is calculated in wages. There is no longer any work without payment.”

⁶ Translation: “When the price of palm oil falls, we immediately feel the impact. It was not like before, when we still planted rice or rubber.”

⁷ Translation: “Now farming is not just about planting and harvesting, but we also have to follow rules that we sometimes do not understand.”

⁸ Translation: “We have our own long-standing ways of preserving the land, but they are not recognized without formal documents.”

⁹ Translation: “We have managed this land for decades, but without a certificate, it is considered invalid.”

¹⁰ Translation: “For us, the important thing is that the land remains fertile and that our children and grandchildren can use it. But certification is not enough without a report”

This illustrates that agrarian transformation is neither linear nor totalizing, but is shaped by ongoing negotiations between external pressures and local agency.

Taken together, these interconnected layers of transformation reveal that GAP and ISPO operate not only as technical standards but also as a governing regime that restructures agrarian systems, redefines access, and reshapes ways of knowing. While they accelerate the integration of agriculture into global market systems through standardization and formalization, they simultaneously generate epistemic tensions, social exclusion, and diverse forms of local adaptation.

D. DISCUSSION

1. Agrarian Transformation as Reconfiguration of Access

The failure of the agrarian cultural transformation toward sustainable palm oil farming practices in North Aceh cannot be understood solely as a technical production issue or the weak capacity of smallholders to adapt to a new commodity. More than that, this failure reflects a fundamental inconsistency between the global commodity logic of palm oil and the local agricultural cultural configuration that has been formed through a long historical process. Agriculture, in the context of North Aceh's agrarian society, is not simply an economic activity, but a cultural system encompassing local knowledge, social relations, collective values, and how communities interpret their relationships with land and nature. When a commodity transition is forced through a political-economic approach that positions palm oil as a development solution, this cultural configuration is not only displaced but also fails to be reproduced in a meaningful and sustainable way (Li, 2017; Li & Semedi, 2021).

In local agri-food systems, farming practices are closely integrated with the social and ecological rhythms of the community. Determining planting and harvesting times, managing water and land, and dividing labor and production are inseparable from the values of togetherness, solidarity, and respect for nature (Lundz, 1963; Ofstehage, 2023; Murhaini & Achmadi, 2021). Rice farming, for example, not only produces food but also fosters social cohesion through mutual cooperation and collective rituals that strengthen bonds among community members. When communities shift to oil palm, however, these social and symbolic dimensions gradually lose their relevance. Oil palm operates within a production logic that demands individual land ownership, substantial capital investment, and an orientation toward efficiency and market profitability. As a result, agriculture no longer functions as a shared social space but rather as a fragmented and competitive production unit.

The shift to oil palm in North Aceh has significantly disrupted local knowledge systems. Agrarian knowledge that was once transmitted across generations and grounded in ecological experience is no longer sufficient to meet the technical demands of palm oil cultivation. Production now depends on external technological inputs—such as chemical fertilizers, pesticides, and standardized management practices—largely controlled by corporations and global markets. As a result, smallholders are repositioned from knowledge holders into technology users dependent on external actors. This shift weakens their capacity to adapt to environmental change and erodes their cultural identity as agrarian communities with deep epistemic ties to nature.

This transformation also reshapes social relations and local power structures. Traditionally, land was managed collectively under customary norms, and conflicts were resolved through deliberative mechanisms emphasizing social balance. With the expansion of oil palm, land ownership and control have become increasingly concentrated. The involvement of corporations and external investors has reduced local decision-making power, while land grabbing has emerged as a significant issue. Many smallholders have lost access to land and, in some cases, now work as laborers on land they previously controlled. These changes intensify social inequality and generate agrarian conflicts that are difficult to resolve through either customary or formal legal systems.

At the same time, oil palm cultivation has increased smallholders' dependence on volatile global markets. Unlike subsistence-based agriculture, which offers a degree of autonomy, palm oil production relies heavily on international price fluctuations that remain beyond farmers' control. This creates economic vulnerability, as falling prices can directly threaten livelihoods. In response, farmers may adopt practices that prioritize short-term productivity over environmental sustainability.

Ecological consequences further highlight the limitations of this transformation. Forest conversion for plantations has led to biodiversity loss, soil degradation, and disruption of local water systems. Traditional farming methods that once maintained ecological balance have been replaced by more extractive, short-term production models. Ironically, this environmental degradation undermines the long-term viability of agriculture itself, making the economic benefits of palm oil increasingly fragile.

Despite these challenges, smallholders are not entirely without agency. Some develop adaptive strategies, such as integrating oil palm with local crops through agroforestry systems. These efforts show that elements of local knowledge and values can still be negotiated, even under constrained conditions. However, without policy support that recognizes cultural and ecological dimensions, such initiatives remain limited and are unable to counter broader structural pressures.

Overall, this transformation reflects a broader failure to integrate cultural, social, and ecological considerations into processes of agricultural change. Sustainability in oil

¹¹ Translation: "We adopt what we can implement, and adjust what is too complicated."

palm production cannot be achieved through technical solutions alone; it requires recognizing agriculture as a socio-cultural practice. Without aligning global market demands with local agrarian systems, oil palm expansion will continue to reproduce inequality, vulnerability, and environmental degradation, ultimately undermining sustainability itself.

2. Policy Verticalization as Centralization of Access Control

The failure of palm oil sustainability in North Aceh stems from the inability to reproduce local agrarian cultural systems, further reinforced by the state's top-down governance approach. The implementation of ISPO certification reflects a one-directional and technocratic model driven by state and global market interests, with limited engagement with local socio-cultural realities. Instead of bridging global standards and local practices, ISPO functions as a standardization mechanism that separates sustainability as an administrative requirement from its cultural meaning among smallholders. This disconnect highlights how policy design can marginalize local knowledge and practices rather than support genuinely sustainable and context-sensitive agrarian systems.

ISPO is designed with strong normative objectives: to ensure environmentally sound palm oil cultivation, legal compliance, and social justice (Peraturan Presiden Republik Indonesia No. 44 Tahun 2020; Hidayat et al., 2018). However, these objectives are translated into a set of universal indicators and procedures, as if agrarian realities across Indonesia were homogeneous. In the context of North Aceh, this approach encounters a cultural configuration of agriculture that views land, forests, and natural resources not merely as objects of production, but as integral parts of social, customary, and religious order. For local communities, sustainability is not a technical concept measured through documents and audits, but a moral principle enacted through continuous labor, social recognition, and intergenerational responsibility. When ISPO is introduced without acknowledging this value base, state-defined sustainability appears foreign and detached from the lived experiences of smallholders.

The top-down character of ISPO significantly widens the gap between sustainability policy and local realities. Standard-setting, certification, and compliance processes are dominated by state actors, corporations, and technical institutions, while smallholders and customary communities are positioned as passive recipients. This lack of meaningful participation causes sustainability standards to be perceived not as shared needs, but as administrative burdens. The requirement for formal land legality illustrates this tension. In North Aceh, land is traditionally legitimized through customary law, kinship, and community recognition—systems that sustain social and ecological stability but are often undocumented. When ISPO prioritizes formal certification as the only valid proof of land legitimacy, smallholders are marginalized, while companies with stronger administrative capacity are advantaged.

Beyond land tenure, ISPO's technical requirements—such as record-keeping, environmental monitoring, and standardized technologies—reflect structural biases toward actors with capital and institutional access. For smallholders, these demands rarely align with everyday practices rooted in local knowledge. As a result, sustainability is reduced to procedural compliance rather than a lived social process. Instead of strengthening local capacity, ISPO often deepens smallholders' dependence on external actors, such as corporations, consultants, and state agencies.

This imbalance is intensified by ISPO's orientation toward global market demands. International pressure for sustainable palm oil drives the state to secure legitimacy in global markets, often without addressing unequal cost-benefit distribution at the local level. Certification thus functions more as a reputational tool for the state and industry than as a mechanism for improving smallholder welfare. Many farmers bear the costs of compliance but receive limited economic benefits, reinforcing the perception that sustainability serves market interests rather than social justice.

Despite these challenges, smallholder responses are diverse. Some adopt pragmatic strategies, viewing certification as a way to maintain market access. Practices such as agroforestry and reduced chemical use illustrate how global standards are locally negotiated. However, these adaptations remain constrained and often lack institutional support. At the same time, subtle forms of resistance emerge—not against sustainability itself, but against its imposition without recognition of local values and practices.

Customary institutions hold potential as mediators between state policy and community realities, yet their role remains underutilized. Limited involvement of these institutions reflects a broader tendency to prioritize administrative certainty over local authority. Without integrating customary law and local knowledge, ISPO risks lacking social legitimacy at the grassroots level.

Ultimately, the vertical implementation of ISPO reflects a broader failure to understand agriculture as a socio-cultural practice. Rather than bridging global and local sustainability, it reinforces disconnection. Unless sustainability policies shift from one-directional compliance toward more dialogical and inclusive approaches, certification schemes like ISPO will continue to function as tools of market regulation rather than instruments of equitable and sustainable agrarian transformation.

3. Smallholders' Agency in Negotiating Access

The discussion highlights that smallholders in North Aceh are not passive subjects within palm oil policy and sustainability regimes, but active agents who continuously negotiate with state policies, technocratic standards, and market forces. Their agency rarely appears as open resistance; instead, it is expressed through subtle, pragmatic, and adaptive practices that allow them to maintain a degree of autonomy within structural constraints.

For smallholders, plantation policies and sustainability certification are seen as external demands requiring practical negotiation rather than frameworks aligned with local agrarian realities. Land legality, for instance, is understood not solely through formal certification but through a history of labor, sustained management, and social recognition within *gampong* and *mukim* communities. Administrative documents such as *Surat Keterangan Tanah* function as negotiation tools rather than replacements for customary legitimacy.

Similar dynamics occur in the adoption of GAP and ISPO standards. Smallholders tend to implement these selectively, prioritizing elements that offer direct benefits—such as improved productivity or market access—while minimizing compliance with complex administrative requirements. Often, these obligations are managed collectively through farmer groups or cooperatives. This selective compliance reflects rational decision-making shaped by economic and social constraints rather than full acceptance of policy frameworks.

Smallholder agency is also relational, relying on intermediary actors such as farmer group leaders, cooperative managers, and local traders. These actors mediate between policy demands and everyday practices, helping smallholders navigate administrative systems, negotiate prices, and maintain connections with companies and government institutions. Agency, therefore, is not individual but distributed across social networks that support production and marketing activities.

Moral considerations play a crucial role in shaping responses to policy. Smallholders evaluate policies based on fairness, recognition of labor, and their impact on livelihoods and future land access. When policies are perceived as unjust—such as through unequal pricing or disproportionate administrative demands—smallholders typically avoid direct confrontation. Instead, they strengthen adaptive strategies, including diversifying income sources, maintaining rubber as a buffer commodity, and reinforcing kinship and community networks.

These dynamics show that policy implementation in North Aceh is neither linear nor purely top-down. Instead, policies are interpreted, adapted, and sometimes redefined through interactions with local values, social structures, and lived experiences. As a result, policy effectiveness cannot be measured solely by formal compliance, but must also be assessed by how well it aligns with local moral economies and agrarian practices.

E. CONCLUSION

This study shows that the limits of sustainable palm oil in North Aceh lie not in farmers' inability to adapt, but in how GAP and ISPO reorganize access to land, knowledge, and markets through legal and technocratic standards that are misaligned with

locally grounded agrarian systems. By privileging formal legality, capital, and procedural compliance, certification reshapes who can benefit from palm oil while marginalizing forms of access rooted in labor, social recognition, and customary authority. The result is not simply a failure of implementation, but a structural reconfiguration in which sustainability operates as a mechanism of inclusion and exclusion. Within this context, smallholders remain active agents who selectively comply, adapt, and negotiate to maintain access under constraint, revealing that policy outcomes are mediated through everyday practices rather than determined solely by design. These findings imply that sustainability governance, when detached from local socio-cultural configurations, risks deepening inequality while weakening its own legitimacy. Therefore, the effectiveness of palm oil sustainability policies depends on their capacity to engage with existing systems of access, recognize plural forms of legitimacy, and redistribute the conditions through which smallholders can participate in and benefit from agrarian transformation.

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