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# A Local Wisdom-Based Sustainable Palm Oil Governance Model to Enhance Community Welfare in West Pasaman Regency

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**Abstract**

West Pasaman Regency in West Sumatra is among Indonesia's oldest and most productive smallholder oil palm landscapes, yet its growers remain largely outside the country's formal sustainability governance architecture. This study draws on field findings from six oil palm smallholders in West Pasaman to examine how Good Management Practices (GMP), local wisdom, socio-economic conditions, environmental awareness, and certification aspirations interact at the household level, and uses these findings to design a local wisdom-based governance model for sustainable palm oil. A qualitative descriptive case-study approach was used; structured interview data were analyzed thematically and triangulated with the broader literature on Indonesian Sustainable Palm Oil (ISPO) certification, collaborative governance theory, and smallholder institutional arrangements in West Sumatra. The findings show that while smallholders have benefited substantially from palm oil cultivation in terms of household income, their understanding of GMP remains largely conceptual rather than practical because of minimal formal training, and none of the respondents hold ISPO or RSPO certification. At the same time, customary practices such as the prohibition on land-burning, mutual-aid labor (*gotong royong*), and adat-based conflict resolution remain active and are perceived by farmers as more legitimate than formal regulation alone. Building on these findings and on collaborative governance theory, this study proposes a six-actor, three-pillar governance model, termed Local Wisdom-Based Sustainable Palm Oil Governance (LW-SPOG), that positions customary institutions as co-equal governance actors alongside farmers, cooperatives, partner mills, local government, and environmental NGOs. The model offers a contextually grounded complement to technocratic certification schemes and provides a practical reference for policymakers, cooperatives, and companies seeking to reconcile productivity, environmental stewardship, and cultural legitimacy in Indonesia's smallholder palm oil sector.

**Keywords**

Sustainable Palm Oil; Local Wisdom; Smallholder Governance; Community Welfare; West Pasaman; Collaborative Governance

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## 1. INTRODUCTON

Indonesia is the world's largest producer and exporter of palm oil, an industry that has become a central pillar of the country's rural economy while simultaneously generating some of its most contested governance challenges. Smallholders cultivate a substantial share of the national oil palm estate, and in

several regions they have proven capable of matching or exceeding the productivity of large corporate plantations when supported by strong farmer organizations. West Sumatra Province, and West Pasaman Regency in particular, occupies a distinctive place in this history: the Ophir smallholder plantation in West Pasaman has been documented as outperforming its own nucleus estate for more than two decades through a robust cooperative-based institutional arrangement (Jelsma, Slingerland, Giller, & Bijman, 2017; Jelsma, 2024). West Pasaman is therefore not a marginal or newly opened oil palm frontier, but one of the country's most institutionally seasoned smallholder landscapes.

Despite this institutional history, the regency's smallholders remain largely disconnected from Indonesia's formal sustainability governance architecture. The Indonesian Sustainable Palm Oil (ISPO) certification scheme has been mandatory since 2011, yet by 2025 only about one percent of the country's 2.5 million smallholder farmers had obtained certification (Palm Oil Magazine, 2025b). Persistent barriers documented across Sumatra and Kalimantan include the high cost of certification, limited technical assistance, unclear land legality, and a shortage of certified high-yield seedlings (Hutabarat, 2018; Denashurya, Nurliza, Dolorosa, Kurniati, & Suswati, 2023). Even before certification is considered, a more basic problem persists at the farm level: many smallholders have only a conceptual familiarity with Good Management Practices (GMP) and have received little or no formal training in applying them, a gap that data-envelopment analyses suggest could otherwise unlock yield increases of well over half of current output through better pruning, weeding, and seed quality alone (Soliman, Lim, Lee, & Carrasco, 2016).

A second, less frequently examined dimension of this governance gap is cultural. ISPO and the voluntary Roundtable on Sustainable Palm Oil (RSPO) scheme are technocratic instruments built around standardized documentation, audits, and traceability requirements that travel poorly into the social fabric of rural Minangkabau communities such as those in West Pasaman.

Indonesian environmental law formally recognizes the contribution of local wisdom to natural resource management, yet implementation studies consistently find that customary knowledge is marginalized in practice by modernization pressures, competing commercial interests, and weak local government backing (Aldyan, Asmanda, Akbar, & Alasttal, 2024). In the specific context of palm oil partnerships, empirical evidence from Southeast Sulawesi shows that local wisdom and social solidarity contribute positively to the sustainability of farmer-company institutional arrangements even when conventional indicators of social capital, such as generalized trust and formal social networks, do not (Baka, Rianse, & la Zulfikar, 2024). This suggests that local wisdom functions as an active governance resource rather than a passive cultural backdrop, yet it is rarely treated as a structural pillar in the governance models that are actually proposed for the sector.

This article addresses that gap directly. Most existing studies of Indonesian palm oil governance either evaluate certification economics in isolation or document customary law as a separate field of legal anthropology; few combine field-level smallholder data with a governance model that formally integrates local wisdom alongside economic and environmental sustainability as a co-equal pillar. Using primary field findings from six oil palm smallholders in West Pasaman Regency, triangulated with the wider literature on Indonesian smallholder palm oil, this study pursues two objectives: first, to map how Good Management Practices, local wisdom, socio-economic conditions, environmental awareness, and certification aspirations actually manifest among smallholders in this setting; and second, to design and propose a governance model—termed Local Wisdom-Based Sustainable Palm Oil Governance (LW-SPOG)—that uses these findings, together with collaborative governance theory, to position customary institutions as structural governance actors capable of enhancing community welfare.

The remainder of the article is organized as follows. Section 2 reviews the literature on sustainable palm oil governance, collaborative governance theory, local wisdom, and smallholder institutional arrangements in West Sumatra. Section 3 describes the qualitative case-study methodology. Section 4 presents and discusses the field findings across six thematic domains. Section 5 develops the proposed governance model, including its pillars, actors, process flow, and a conceptual diagram. Section 6 concludes with recommendations for policymakers, cooperatives, companies, and customary institutions, alongside a discussion of the study's limitations.

Literatur Review

This section situates the study within four interrelated bodies of scholarship: the governance of sustainable palm oil certification in Indonesia, collaborative and multi-stakeholder governance theory, the role of local wisdom as a governance resource, and the documented institutional arrangements of West Sumatran smallholders, including the customary (adat) institutions that are distinctive to the Minangkabau cultural area in which West Pasaman is located.

**Sustainable Palm Oil Governance and the ISPO/RSPO Regime**

The Indonesian government introduced the ISPO certification scheme in 2011 to bring smallholders and corporate plantations alike into compliance with sustainability principles, later reinforced through successive ministerial and presidential regulations and, more recently, a mandatory compliance timeline for smallholders (Hutabarat, 2018). The voluntary RSPO scheme operates in parallel and is more closely tied to international buyer requirements. In May 2022, RSPO and the Indonesian government signed a memorandum of understanding explicitly designed to leverage ISPO's regulatory reach to support independent smallholders toward certification, recognizing that structural barriers, not merely farmer willingness, have constrained smallholder participation (Roundtable on Sustainable Palm Oil [RSPO], 2022). Even so, by mid-2025 industry monitoring reported that only roughly one

percent of Indonesia's 2.5 million smallholder farmers, managing some 6.9 million hectares, had achieved ISPO certification (Palm Oil Magazine, 2025b), underscoring how wide the gap remains between policy intent and field-level uptake.

Research on the drivers of certification adoption converges on a consistent set of explanations. Hutabarat (2018) found that smallholders in Riau Province faced a substantial gap between their current cultivation practices and ISPO standards, with limited capacity to close that gap unaided. Building on the Theory of Planned Behavior and Rogers' diffusion-of-innovation framework, Denashurya et al. (2023) showed that farmers' attitudes, subjective norms, and perceived behavioral control, together with the relative advantage and compatibility of sustainable practices, significantly shape adoption intentions, while the perceived complexity of certification requirements suppresses it. At the agronomic level, Soliman et al. (2016) demonstrated through data-envelopment analysis of Indonesian smallholders that average yield increases of around 65 percent were technically achievable simply by adopting industry-supported scheme management, higher-quality seedlings, and more disciplined pruning and weeding, with excessive and inefficient fertilizer and herbicide use identified as a parallel inefficiency. Taken together, this literature indicates that the certification gap is not primarily a matter of farmer reluctance, but of insufficient institutional scaffolding: training, financing, seed supply, and simplified pathways to compliance.

**Collaborative and Multi-Stakeholder Governance Theory**

To move beyond a purely technocratic reading of certification, this study draws on collaborative governance theory. Ansell and Gash (2008) define collaborative governance as an arrangement in which public and private stakeholders engage collectively in consensus-oriented decision-making, contrasting it with adversarial or unilateral, top-down regulation; they identify starting conditions, facilitative leadership, institutional design, and an iterative collaborative process as the key determinants of whether such arrangements succeed. This framework is directly applicable to palm oil governance, where farmers, cooperatives, companies, government agencies, and civil society organizations must coordinate around a shared but contested resource.

A complementary body of work on multistakeholder platforms (MSPs) for natural resource governance reinforces this view. In a comparative analysis of eight landscape-level cases across seven countries, Ratner et al. (2022) found that the effectiveness of an MSP depends heavily on its fit with the local institutional and ecological context, and on sustained attention to the design and adaptive management of the platform over time, rather than on the mere presence of multiple stakeholders at the table. This lesson is particularly relevant for palm oil governance models, which often default to generic multi-actor templates without adapting them to the specific customary, ecological, and economic

conditions of the locality in question—precisely the adaptation this study seeks to make for West Pasaman.

**Local Wisdom as a Structural Governance Resource**

Local wisdom (*kearifan lokal*) refers to the body of knowledge, values, and practices that a community develops over generations through direct engagement with its environment, and which often proves more context-appropriate than externally imported management standards. Indonesian environmental legislation, including Law No. 32/2009 on Environmental Protection and Management and Law No. 5/1990 on Conservation, formally acknowledges the contribution of customary knowledge to natural resource stewardship. Yet a normative-legal review by Aldyan et al. (2024) found that, in practice, the recognition of local wisdom in environmental policy is undermined by modernization, divergent commercial interests, and insufficient local government backing, with implementation remaining inconsistent and at times counterproductive to the communities it is meant to protect.

Direct evidence from the palm oil sector itself supports treating local wisdom as more than a symbolic gesture. In their study of farmer-company partnerships in North Konawe, Southeast Sulawesi, Baka et al. (2024) found that conventional social-capital indicators—trust, social networks, and active participation—exerted a negative or, at best, neutral influence on partnership sustainability when companies behaved inconsistently or opaquely, whereas local wisdom and social solidarity consistently exerted a positive influence on institutional strengthening and on community welfare outcomes. This finding is significant for the present study because it suggests that local wisdom can compensate for, and not merely supplement, weaknesses in formal trust-building mechanisms between farmers and companies—precisely the kind of structural role this study assigns to customary institutions in the proposed governance model.

**Smallholder Institutional Arrangements: Lessons from West Pasaman's Ophir Plantation**

West Pasaman is not merely a setting for this study but a documented case of institutional success in the international literature on smallholder oil palm. Jelsma et al. (2017) analyzed the Ophir smallholder plantation in West Pasaman and found that, through a strong farmer-organization structure built on collective-action design principles, smallholders combined the productivity advantages of plantation-scale management with the flexibility of independent farming, consistently achieving yields above the national average for over 25 years and outperforming the area's own corporate nucleus estate. A follow-up study extending the analysis to 40 years of operation found that this collective-action arrangement also proved resilient through the disruptive replanting cycle, a period that typically threatens smallholder livelihoods through years of lost income (Jelsma, 2024). These findings matter for the present study because they demonstrate that West Pasaman already possesses a proven local template for productive, well-organized smallholder governance; the LW-SPOG model

proposed in Section 5 is therefore not a purely external import but an extension of an institutional capacity that has already been demonstrated to work in this specific regency, augmented with an explicit role for customary and environmental actors that the original Ophir model did not formally include.

**Minangkabau Customary Institutions and Natural Resource Governance**

West Pasaman lies within the Minangkabau cultural area of West Sumatra, where the *nagari*, a village-level customary polity, and the *ninik mamak*, its body of clan elders, have historically exercised authority over communal land (*tanah ulayat*), resource-use prohibitions (*larangan adat*), and the resolution of land and inheritance disputes through deliberative consensus rather than adversarial litigation. Following Indonesia's post-Suharto decentralization, West Sumatra took the distinctive path of reviving the *nagari* as the basic unit of village government, reintegrating customary authority into the formal administrative structure in a way that few other Indonesian regions attempted. In the palm oil sector specifically, this customary infrastructure intersects directly with the contractual plasma-nucleus partnerships that have shaped West Pasaman since large-scale company plantings began in the area in the early 1990s, including disputes over land that was pledged under customary agreements but not always honored as promised by partner companies. This combination of a still-functioning customary authority structure and a long, sometimes contentious history of company-smallholder partnership makes West Pasaman a particularly apt setting in which to test whether customary institutions can be formally incorporated into palm oil governance rather than treated as an informal or residual consideration.

**Community Welfare as the Intended Governance Outcome**

Ultimately, governance arrangements are judged by their capacity to enhance the welfare of the communities they govern, commonly understood as encompassing not only household income but also access to education and services, social participation, and a sense of security and belonging. For oil palm smallholders, the literature reviewed above suggests that welfare gains are most durable when they rest on more than commodity income alone: strong farmer organization (Jelsma et al., 2017), genuine local-wisdom-based solidarity (Baka et al., 2024), and a governance design that fits the local institutional context (Ratner et al., 2022) together provide a more resilient foundation than certification compliance pursued as an isolated, externally imposed objective. This synthesis directly informs the three-pillar structure of the governance model developed in Section 5.

## 2. METHOD

This study employs a qualitative descriptive case-study design, appropriate for an exploratory inquiry into the lived governance experience of a small, well-defined group of smallholders rather than

for statistical generalization across the broader smallholder population.

**Research Location**

The study was conducted in West Pasaman Regency, West Sumatra Province, one of Indonesia's earliest and most institutionally mature smallholder oil palm landscapes. Large-scale oil palm cultivation in the regency dates to plasma-nucleus partnerships established in the early 1990s, and the regency's Ophir plantation has been documented internationally as a long-running example of productive smallholder collective action (Jelsma et al., 2017; Jelsma, 2024). West Pasaman's regional government has, in recent years, also implemented a smallholder replanting program covering more than 2,000 hectares of aging plantations, reflecting the regency's continued reliance on oil palm as its principal agricultural commodity (Palm Oil Magazine, 2025a).

**Participants**

Six male oil palm smallholders aged between 40 and 72 years participated in the study, reflecting the area's predominantly senior farming population. Five respondents were plasma farmers operating under partnership arrangements with a partner mill, and one was an independent (*swadaya*) farmer. Landholding size was approximately two hectares for five respondents, consistent with the typical smallholder plot size in the regency; the sixth respondent reported a substantially larger landholding of 1,680 hectares, which, given the scale involved, is interpreted in this study as reflecting an institutional or cooperative-leadership position rather than a conventional household plot, and his responses are read accordingly as providing an organizational rather than a purely household-level perspective. None of the six respondents held ISPO or RSPO certification at the time of the study, consistent with the broader national pattern in which fewer than two percent of smallholders nationally have achieved certification (Palm Oil Magazine, 2025b).

**Data Collection**

Data were collected through structured, in-person interviews using a questionnaire organized around six thematic domains: (1) respondent identity and farm profile; (2) awareness and implementation of Good Management Practices; (3) the integration of local wisdom into farming and conflict-resolution practices; (4) the perceived social and economic impact of oil palm cultivation; (5) the perceived environmental impact of cultivation and mitigation efforts; and (6) strategies and aspirations for improving competitiveness, including certification interest. This thematic structure allows the findings to be read both as a stand-alone household-level account and as direct inputs into the governance-model design presented in Section 5.

**Data Analysis**

Responses were analyzed using descriptive thematic analysis: responses within each of the six domains were grouped, summarized, and interpreted against the patterns reported in the wider

literature on Indonesian smallholder palm oil governance reviewed in Section 2, allowing field-level findings to be triangulated against, rather than read in isolation from, the broader empirical record for West Sumatra and Indonesia as a whole. This triangulation step is what allows a six-respondent qualitative inquiry to support a governance-model proposal: the model draws its structural logic from patterns that are independently corroborated across the larger literature (e.g., the certification gap, the productivity gains available through better practice, and the documented role of local wisdom in partnership sustainability), while the field data ground that structure in the lived particulars of West Pasaman.

**Limitations**

As an exploratory study based on six respondents in a single regency, the findings reported in Section 4 should be read as illustrative of patterns documented more broadly in the literature rather than as statistically representative of all West Pasaman smallholders. Data are self-reported and cross-sectional, which limits the ability to assess change over time or to verify claims, such as the extent of GMP implementation, against independent field observation. The governance model proposed in Section 5 should accordingly be treated as a conceptual contribution requiring empirical piloting and validation, a point returned to in the concluding section.

## 3. FINDING AND DISCUSSION

This section presents the field findings across the six thematic domains described in Section 3, discussing each in relation to the literature reviewed in Section 2 before turning, in Section 5, to the governance model that synthesizes them.

**Respondent Profile and the Structural Context of West Pasaman**

The dominance of plasma farmers among the respondents (five of six) mirrors the historical pattern of plasma-nucleus partnership through which large-scale oil palm cultivation was introduced to West Pasaman in the early 1990s, when companies developed smallholder plots alongside their own nucleus estates under agreements with local communities. The near-uniform landholding size of approximately two hectares among the household-level respondents is consistent with the standard plasma allocation documented for the period, while the single large-landholding respondent most plausibly represents a cooperative or farmer-group leadership position rather than a typical household. The complete absence of ISPO or RSPO certification among respondents is consistent with the national picture, in which industry monitoring places certified smallholders at only about one percent of the 2.5 million-strong national smallholder population (Palm Oil Magazine, 2025b). Read together, these profile data confirm that the respondents are broadly representative of the structural position that smallholders occupy nationally: economically embedded in the sector, organizationally linked to a partner mill, and

almost entirely outside the formal certification regime.

**The GMP Implementation Gap**

All six respondents reported having heard of Good Management Practices, most commonly through agricultural extension workers, the local plantation cooperative (KPPS), or farmer groups, yet formal training in GMP was almost entirely absent, and most respondents could not describe specific GMP techniques in any operational detail. This pattern echoes the broader literature closely: Jelsma et al. (2017) similarly found that knowledge transfer on good oil palm cultivation practices has been limited in West Sumatra and South Sumatra alike, with farmers receiving very little formal training and instead drawing most of their practical knowledge from input suppliers and from other farmers. The consequence, as Soliman et al. (2016) demonstrate through efficiency analysis of Indonesian smallholders, is that a substantial share of attainable yield, on the order of 65 percent, is left unrealized through suboptimal pruning, weeding, and fertilizer use that better training could correct. The gap reported by respondents in this study is therefore not an isolated household-level shortcoming but a structural feature of the extension system as it currently reaches West Pasaman's smallholders, with direct consequences for both productivity and certification readiness, since GMP competence is itself a prerequisite for ISPO and RSPO compliance.

**Local Wisdom Still Embedded in Smallholder Practice**

Several respondents reported continuing to follow farming practices passed down across generations, together with an adat-based prohibition (*larangan adat*) against clearing land by burning. Mutual-aid labor, *gotong royong*, remains an active practice in plot maintenance and broader community life, and a number of respondents indicated that land-related conflicts continue to be resolved, at least in part, through customary mechanisms that they perceive as carrying greater social legitimacy than formal regulatory channels. These findings align closely with the empirical literature on local wisdom in Indonesian palm oil settings: Baka et al. (2024) found that local wisdom and social solidarity positively influenced the institutional strengthening of farmer-company partnerships in Southeast Sulawesi even where conventional trust and networking indicators did not, while Aldyan et al. (2024) caution that such customary knowledge remains formally under-recognized and vulnerable to marginalization by modernization and weak local institutional backing despite its legal recognition.

In the specific cultural setting of West Pasaman, this customary infrastructure is embodied in the *nagari* system and the authority of *ninik mamak* clan elders, who have historically mediated land disputes and upheld resource-use prohibitions with a degree of social legitimacy that formal regulation alone has struggled to match. The persistence of these practices among respondents, despite decades of company-led plantation development, indicates that local wisdom in West Pasaman functions as a living governance resource rather than a residual cultural memory, and therefore as a credible

foundation on which a structural governance role can be built.

**Socio-Economic Impacts: Welfare Gains Amid Persistent Volatility**

All respondents reported that oil palm cultivation had substantially improved household income and that they felt more economically secure since taking up palm oil farming. A particularly notable finding is that none of the respondents reported continued dependence on independent middlemen (*tengkulak*); harvests are instead sold through the cooperative, through direct partnership with the mill, or through other formal marketing arrangements, a shift that respondents associated with fairer and more transparent pricing. At the same time, respondents reported persistent instability in harvest outcomes, attributed to weather variability, delays in fertilizer supply, and price fluctuation. This combination of structural welfare gain alongside operational volatility is consistent with the Ophir case documented by Jelsma et al. (2017) and Jelsma (2024), in which strong farmer-organization arrangements were shown to stabilize and enhance smallholder outcomes over decades, including through the disruptive replanting cycle; it suggests that the cooperative channel already functioning in West Pasaman is a genuine asset that a governance model should reinforce rather than bypass, particularly with respect to buffering farmers against the climate and price shocks they continue to report.

**Environmental Awareness: Partial and Uninstitutionalized**

Respondents reported perceiving environmental effects from oil palm cultivation, principally wildlife disturbance and changes to the surrounding ecosystem. Mitigation efforts described by respondents were limited and uneven: some reported reducing herbicide use, while others reported taking no specific mitigating action. Awareness of formal environmental regulation was similarly partial, with some respondents aware of relevant rules and others not. This pattern is consistent with the wider finding that, although Indonesian law formally recognizes the contribution of local and customary knowledge to environmental stewardship, its practical institutionalization remains inconsistent, particularly where local government support and follow-through are weak (Aldyan et al., 2024). For West Pasaman specifically, this suggests an opportunity rather than only a deficiency: the customary prohibition on land-burning already documented among respondents in Section 4.3 demonstrates that locally legitimate environmental norms already exist and are followed; the governance challenge is therefore less about introducing environmental awareness from outside than about formally connecting and extending the environmental norms that already command local legitimacy, a task for which NGOs and environmental advocacy groups, working alongside customary institutions, are well positioned.

**Competitiveness Strategy: Certification Aspiration Versus Capacity Gap**

Despite holding no certification, every respondent expressed strong interest in obtaining ISPO or RSPO certification, citing the desire for long-term business sustainability, higher prices for fresh fruit bunches, and greater clarity over land tenure and seedling quality as their principal motivations. Respondents identified the support they most needed as affordable fertilizer, access to genuine high-yield seedlings, government technical coaching, and easier market access, rather than concerns about market demand itself, since prices are already governed by reference rates set by the local plantation agency or partner company. This pattern closely mirrors national-level findings: Hutabarat (2018) documented a substantial gap between current smallholder practice and ISPO requirements in Riau, while Denashurya et al. (2023) found that the perceived complexity of certification requirements suppresses adoption even where attitudes toward sustainability are favorable, and the 2022 RSPO-ISPO memorandum of understanding was itself designed explicitly to address the structural barriers, rather than farmer reluctance, that have constrained smallholder certification nationally (RSPO, 2022). The respondents' aspiration for certification is therefore genuine and well-grounded, but it risks remaining aspirational without a structural bridge connecting that aspiration to the training, financing, and seedling-supply support that respondents themselves identify as missing; supplying that bridge is the central purpose of the governance model developed in the next section.

**The Local Wisdom-Based Sustainable Palm Oil Governance Model (LW-SPOG)**

The findings presented in Section 4 point consistently toward a single conclusion: West Pasaman's smallholders already possess two of the three resources a sustainable governance arrangement requires, namely a functioning cooperative-marketing channel and a still-active body of local wisdom, but lack the third, a structured mechanism for converting GMP knowledge and certification aspiration into practice. Building on collaborative governance theory (Ansell & Gash, 2008) and on the design-fit lesson that multistakeholder platforms succeed only when adapted to local institutional conditions (Ratner et al., 2022), this section proposes a six-actor, three-pillar model, Local Wisdom-Based Sustainable Palm Oil Governance (LW-SPOG), that formally elevates customary institutions to the same governance standing as farmers, cooperatives, the partner mill, local government, and environmental NGOs.

**Three Pillars of Sustainability**

The model rests on three interdependent pillars, each directly traceable to a thematic finding in Section 4.

1. *Economic sustainability*: stabilizing smallholder income through collective marketing, fair pricing, and a structured pathway toward ISPO/RSPO certification that converts the

certification aspiration documented in Section 4.6 into an achievable process rather than an unattainable ideal.

2. *Environmental sustainability*: extending the customary prohibition on land-burning documented in Section 4.3, together with reduced agrochemical use, biodiversity conservation, and formal environmental education, into an institutionalized practice rather than the partial, individually variable mitigation reported in Section 4.5.
3. *Socio-cultural sustainability*: formally integrating *gotong royong*, inherited cropping norms, and adat-based conflict resolution into the governance process, rather than allowing them to operate informally alongside, but disconnected from, formal plantation management.

These three pillars are not sequential phases but concurrent and mutually reinforcing dimensions of the same governance cycle: certification (economic pillar) depends on demonstrable environmental compliance (environmental pillar), which in turn depends on the social legitimacy that only customary institutions can confer (socio-cultural pillar).

**Actors and Their Roles**

Operationalizing the three pillars requires six actors, each carrying a distinct and complementary mandate, summarized in Table 1.

**Table 1.** Governance actors and their roles in the LW-SPOG model.

| Actor | Primary role in the governance cycle |
|---|---|
| Smallholder farmers (plasma & swadaya) | Cultivate fresh fruit bunches (TBS) following GMP and local-wisdom-based practices; participate in cooperative decision-making; supply labor for *gotong royong* plot maintenance. |
| Farmer cooperative / farmer group | Aggregates TBS for collective marketing to avoid *tengkulak* dependency; channels GMP and certification training; represents farmers in negotiations with the mill and government. |
| Partner company (palm oil mill / PKS) | Guarantees a fair TBS purchase price; supplies superior seedlings and environmentally sound fertilizer technology; funds corporate social-responsibility programs for environmental and social initiatives. |
| Local government / plantation agency | Provides technical coaching on GMP and environmental compliance; subsidizes fertilizer and certified seedlings; facilitates and partially funds ISPO/RSPO certification and replanting programs. |
| Customary institution (*nagari* and *ninik mamak*) | Upholds the adat prohibition on land-burning and inherited cropping norms; mediates land and inheritance disputes with social legitimacy that often exceeds that of formal regulation; safeguards *gotong royong* as a cooperative norm. |
| NGOs / environmental advocacy groups | Provides independent environmental education and monitoring; supports biodiversity conservation initiatives; helps farmers access sustainable-market information and grievance channels. |

**Governance Process Flow**

The model operates as a continuous cycle rather than a linear sequence, comprising five interlocking stages.

1. *Production at farm level*: smallholders cultivate using GMP combined with local-wisdom-based practices, with plot maintenance organized collectively through *gotong royong*, and land-clearing constrained by the customary prohibition on burning.
2. *Capacity building*: the cooperative, partner mill, and local government jointly deliver structured, recurring GMP and certification training, directly addressing the conceptual-versus-practical knowledge gap documented in Section 4.2.
3. *Collective marketing*: TBS is sold through the cooperative or directly to the partner mill, sustaining the shift away from middleman dependence already achieved by respondents in Section 4.4, and using collective volume to negotiate more stable pricing against climate and market shocks.
4. *Certification and standardization*: government and cooperative jointly subsidize and technically support the ISPO/RSPO certification pathway, converting respondents' stated aspiration (Section 4.6) into a concrete, resourced process rather than an unfunded ambition.

*Social and environmental management*: the customary institution mediates land and social conflicts using adat mechanisms that respondents already regard as legitimate (Section 4.3), while NGOs and the partner company jointly extend environmental education, monitoring, and biodiversity initiatives building on the existing burning prohibition (Section 4.5).

The cumulative output of this cycle, as the diagram in Figure 1 illustrates, is enhanced community welfare, understood as the combination of stabilized income, a more resilient environment, and strengthened social legitimacy for the governance arrangement itself. A feedback loop returns welfare gains into the customary and cooperative institutions that produced them, reinforcing rather than depleting the local wisdom on which the model depends.

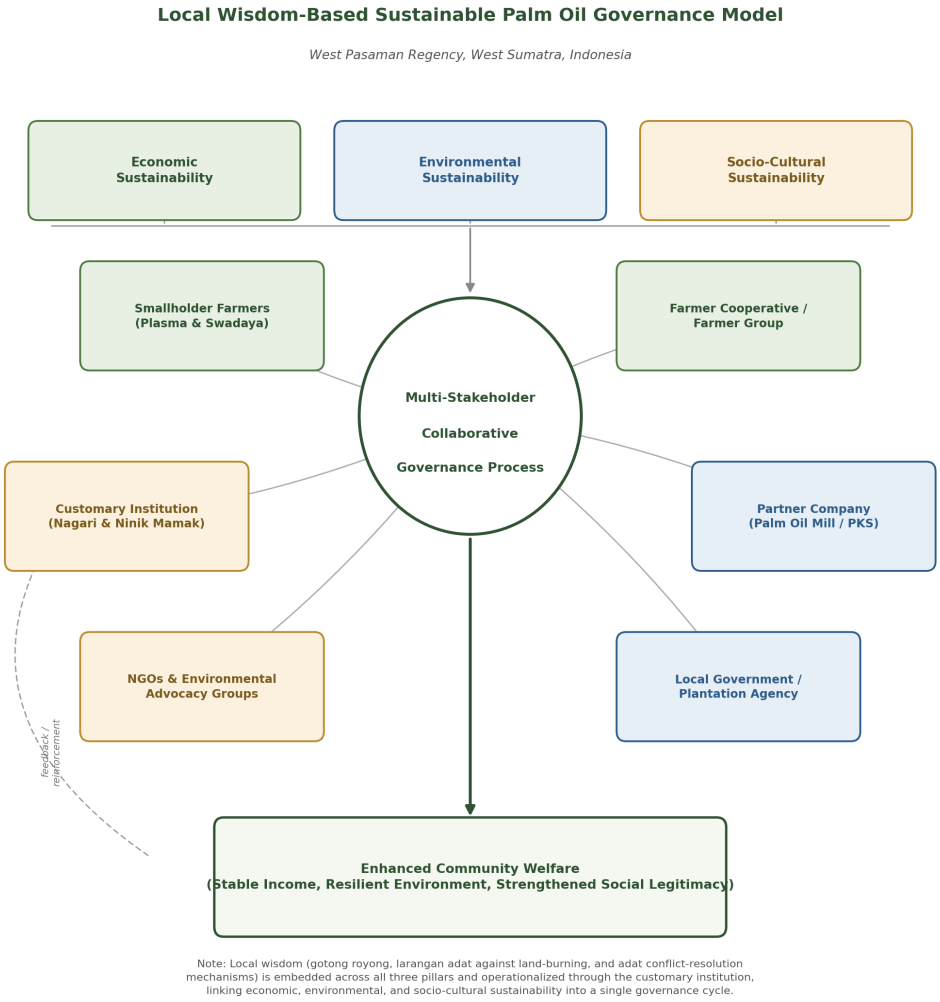


**Figure 1**. Local Wisdom-Based Sustainable Palm Oil Governance Model (LW-SPOG) for West Pasaman Regency.

**Positioning the Model Relative to Existing Frameworks**

The LW-SPOG model is best understood as a complement to, rather than a substitute for, ISPO and RSPO certification. Certification provides the external, standardized benchmark and market access that smallholders in this study clearly want; what the model supplies is the institutional readiness, organization, training delivery, and social legitimacy, that the literature consistently identifies as the missing precondition for certification uptake (Hutabarat, 2018; Denashurya et al., 2023; RSPO, 2022). In Ansell and Gash's (2008) terms, the model deliberately strengthens the starting conditions and institutional design of collaborative governance in West Pasaman by giving the customary institution, an actor entirely absent from the ISPO/RSPO architecture itself, a formal seat in the governance process. In doing so, it also responds directly to Ratner et al.'s (2022) caution that multistakeholder platforms succeed only when fitted to local institutional context: rather than importing a generic multi-actor

template, LW-SPOG is built outward from the specific cooperative strength already documented at West Pasaman's Ophir plantation (Jelsma et al., 2017; Jelsma, 2024) and from the specific customary authority of the *nagari* and *ninik mamak* that already governs land and conflict in this particular regency

## 4. CONCLUSION

This study set out to map how Good Management Practices, local wisdom, socio-economic conditions, environmental awareness, and certification aspirations manifest among oil palm smallholders in West Pasaman Regency, and to use these findings to design a governance model capable of enhancing community welfare. The field findings show a community that has gained real and substantial economic benefit from oil palm cultivation and has largely escaped dependence on middlemen through cooperative and partnership marketing channels, yet remains held back from both higher productivity and formal sustainability certification by a persistent gap between conceptual awareness and practical training in Good Management Practices. At the same time, local wisdom, expressed through the customary prohibition on land-burning, *gotong royong*, inherited cropping patterns, and adat-based conflict resolution, remains an active and socially legitimate force in farm management, one that the literature on Indonesian palm oil partnerships independently confirms can strengthen institutional sustainability where conventional trust and networking mechanisms alone fall short.

The Local Wisdom-Based Sustainable Palm Oil Governance (LW-SPOG) model proposed in Section 5 responds to these findings by formally elevating customary institutions, the *nagari* and its *ninik mamak* elders, to the same governance standing as farmers, cooperatives, the partner mill, local government, and environmental NGOs, organized around three concurrent pillars of economic, environmental, and socio-cultural sustainability. Rather than displacing ISPO and RSPO certification, the model is designed to supply the institutional readiness, organized training, stable marketing, and social legitimacy, that the wider literature identifies as the actual precondition for certification uptake, building outward from the documented strength of West Pasaman's own Ophir cooperative tradition rather than importing a generic governance template.

Several practical recommendations follow directly from this analysis.

1. For local government and the plantation agency: formalize a recurring, practice-based GMP training program delivered jointly with cooperatives, and channel existing replanting and certification subsidy programs through this same cooperative structure to reduce the cost and complexity barriers identified by respondents.
2. For cooperatives and farmer groups: strengthen their role as the primary aggregator for both marketing and training delivery, building directly on the collective-action template already

demonstrated at the Ophir plantation.

3. For partner companies: commit to transparent, long-term pricing and seedling-supply arrangements, and direct corporate social-responsibility funding toward environmental education and biodiversity initiatives coordinated with, rather than separate from, customary and NGO actors.
4. For customary institutions (*nagari* and *ninik mamak*): formalize their existing, informally exercised role in land-conflict mediation and environmental norm-setting as a recognized component of the cooperative's governance structure, rather than leaving this role entirely outside the plantation management system.
5. For NGOs and environmental advocacy groups: prioritize extending and monitoring the customary burning prohibition and other locally legitimate environmental norms, rather than introducing parallel environmental standards disconnected from existing local practice.

This study is subject to clear limitations. The sample of six respondents in a single regency does not support statistical generalization, and the data are self-reported and cross-sectional. The LW-SPOG model itself has not yet been empirically piloted, and its actual effect on certification uptake, productivity, and welfare outcomes remains to be tested. Future research should accordingly pursue a larger, stratified sample across multiple nagari within West Pasaman and comparable regencies elsewhere in West Sumatra, employ longitudinal designs capable of tracking welfare and certification outcomes over a full replanting cycle, and, where possible, pilot specific components of the LW-SPOG model, such as formalized cooperative-led GMP training or a structured role for customary mediation in plantation governance, to generate the empirical evidence needed to refine the model before broader policy adoption is considered.

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