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Original Article

Regulating Standalone Oil Palm Mills in Indonesia: A Review

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ABSTRACT: *Indonesia's palm oil sector depends on the rapid movement of fresh fruit bunches from farms to mills, which makes milling capacity central to farmer welfare, industrial efficiency, and sustainability governance. Yet policy controversy has intensified around oil palm mills that operate without owning or directly controlling plantations. This article offers a qualitative literature review of how such mills should be regulated in Indonesia. Drawing on recent peer-reviewed studies, official regulations, certification issues, and statistics, the article argues that standalone mills are neither inherently harmful nor inherently desirable. Their effects depend on location, sourcing arrangements, and the institutional quality of supervision. On the positive side, these mills can widen market access for independent smallholders, reduce fruit-queue losses, stimulate local investment, and weaken localised monopsony. On the negative side, they can disrupt long-established plasma relationships, intensify opportunistic competition for oil palm fresh fruit bunches, weaken traceability, and create incentives for informal ramp-based procurement or legality gaps. The review finds that an outright ban would be too blunt and potentially exclusionary, while laissez-faire tolerance would be too risky for sustainability and the integrity of partnerships. The most appropriate policy is a conditional governance model that recognises standalone mills as lawful but subjects them to spatial feasibility tests, mandatory smallholder partnerships, transparent pricing rules, digital traceability, registered loading ramps, phased ISPO integration, and differentiated enforcement for remote and underserved districts. Such a model would better align farmer inclusion, industrial order, and sustainability in Indonesia's palm oil ecosystem.*

KEYWORDS: *Palm Oil Governance, Standalone Oil Palm Mills, Indonesia, Independent Smallholders, Fresh Fruit Bunch Markets, Partnerships, Traceability, ISPO, Mill Licensing, Sustainable Agribusiness.*

1. INTRODUCTION

Indonesia's palm oil economy is too large, too spatially dispersed, and too operationally time-sensitive for milling policy to be treated as a secondary administrative issue. Official Indonesian policy documents describe plantation development as a vehicle for improving welfare, employment, export earnings, value addition, and domestic raw-material supply. In contrast, official statistics and sectoral releases confirm that oil palm remains one of the country's most important agricultural-industrial systems. The scale of this ecosystem is one reason why the governance of palm oil mills matters well beyond the firm level: a licensing rule for mills affects farm-gate prices, transport networks, the viability of replanting, quality losses after harvest, and the credibility of sustainability claims in domestic and export markets [1], [2], [3].

The material role of mills is especially acute because fresh fruit bunches are perishable. Under the current ISPO-era regulatory language, fresh fruit bunches from smallholders are defined as a product that must be received by a palm oil processing mill within 24 hours after harvest. That temporal constraint creates a structural dependence on nearby and reliable processing capacity. It also explains why localised shortages of mill access can weaken farmers' bargaining power, while localised oversupply of mills can intensify opportunistic procurement and undermine integrated sourcing relations. The policy debate over standalone mills is therefore rooted not only in law, but in the biology and logistics of the crop itself [4], [5], [6], [7], [8], [9], [10].

The controversy has sharpened because the current regulatory environment is a mix of recognition and ambiguity. On the one hand, Indonesia's 2024 regulation on the purchase of fresh fruit bunches from partner smallholders explicitly defines a palm oil mill as a mill that may be integrated with a plantation or operate without one. On the other hand, longstanding licensing norms in plantation administration reflected a preference for mills to secure at least part of their own raw material base from self-cultivated plantations, with the remainder obtained through sustainable processing partnerships. Meanwhile, the 2025 ISPO framework extends sustainability obligations well beyond cultivation to the downstream industry and bioenergy, signalling a future in which traceability and sourcing discipline will matter even more for all actors, including mills that do not own plantations [11], [12], [13], [14].

That tension has generated polarised narratives. In the literature, pro-farmer voices argue that mills without plantations keep the fresh fruit bunch market competitive, give independent smallholders an alternative buyer, reduce queues at integrated mills,

and help support prices in areas where farmers otherwise face weak bargaining power. GAPKI and the Minister of Agriculture emphasise a different risk structure: mills without plantations may appropriate fruit from farmers that other companies nurtured, erode plasma discipline, and create room for loosely governed procurement networks. The literature shows that these arguments are not new; similar claims about farmer access, partnership disruption, raw-material competition, and traceability concerns have circulated for nearly two decades [12], [15], [16].

This article asks three linked questions. First, what do recent academic and policy sources suggest about the functional role of mills in the palm oil ecosystem? Second, what are the main benefits and risks associated with standalone mills in Indonesia? Third, what policy design is most defensible if the objective is to maintain a palm oil ecosystem that is productive, inclusive, traceable, and sustainable? The answer proposed here is deliberately moderate: neither blanket prohibition nor laissez-faire tolerance is appropriate. What Indonesia needs is a governance model that allows standalone mills where they solve real access problems, but only under enforceable rules that protect partnership integrity, legality, and transparency [5].

2. LITERATURE REVIEW

2.1. CONCEPTUAL AND THEORETICAL FOUNDATIONS

At a conceptual level, palm oil milling sits at the intersection of three governance logics: industrial coordination, smallholder market access, and sustainability control. From an agro-industrial perspective, mills are the indispensable bridge between cultivation and value-added processing. The literature already framed this integration logic clearly, stressing that the perishability of fruit makes coordination between on-farm production and off-farm processing a structural requirement rather than a mere business preference. More recent Indonesian regulation preserves the same logic, even while opening regulatory space for mills that are not vertically integrated with plantations [17], [18], [19], [20].

From a transaction-cost and industrial-organisation perspective, vertically integrated mills and standalone mills solve different problems. Integrated mills can stabilise raw-material supply, internalise quality control, and support long-term relationships with plasma farmers. Standalone mills, by contrast, can reduce localised buyer power, create additional outlets for independent producers, and expand processing access where integrated mills are absent, overloaded, or strategically selective. The challenge is that these efficiency gains and market-access gains do not automatically align. The same standalone mill that improves local competition may also weaken the incentives for long-horizon investment in farmer assistance if it relies primarily on opportunistic spot-market procurement [21].

The sustainability-governance literature adds a third layer. Research on Indonesian palm oil governance repeatedly shows that the sector is shaped by complex interactions between public regulation, private certification, and corporate sourcing commitments. Brandi's work on public-private interaction in palm oil standards argues that RSPO and ISPO have become mutually entangled parts of a broader governance regime, while Grabs and Garrett show that goal-based private governance in Indonesia's palm oil sector produces paradoxes between environmental, social, and economic objectives, as well as between cooperation and competition among firms. That literature is highly relevant here: a mill governance framework that focuses only on competition may neglect sustainability and traceability. In contrast, one that focuses only on control may exclude independent smallholders from improved markets [22].

Recent palm oil research also provides a more nuanced baseline for a neutral-to-positive reading of the sector. Oil palm remains a highly productive oil crop relative to many alternatives, and several recent studies emphasise that the central sustainability question is often not whether palm oil exists, but how production is organised, intensified, and governed. Nature Sustainability's work on climate-smart intensification finds large exploitable yield gaps in Indonesia, especially among smallholders, implying that more output can be generated from existing land under better management. A 2024 PNAS article similarly argues that oil palm in Indonesia involves real trade-offs, but that economic and ecological outcomes vary across production systems and management practices. These findings support a policy stance that aims to improve existing institutions mills included rather than treating the sector as uniformly problematic [23], [24], [25].

2.2. EVOLUTION OF THE STANDALONE MILL PHENOMENON

The literature shows that the phenomenon of mills without plantations is longstanding, not an entirely new product of the post-2020 regulatory environment. Even in the mid-2000s, Indonesian analysts described a dual reality. In districts with growing smallholder production and insufficient processing capacity, such mills could absorb fruit, shorten delays, and strengthen farmer bargaining power. Yet those same mills were also seen as capable of disrupting nucleus-plasma relations, competing aggressively for fresh fruit bunches, and accepting fruit with weak documentation or unclear origin if supervision was poor. The literature debate is therefore best understood as a recurring governance problem whose underlying economic mechanisms have changed less than the legal framing around them [23], [24], [25], [26], [27]

The literature shows how those older themes have resurfaced in contemporary language. Apkasindo's position is that commercial oil palm mills without plantations improve price competition, reduce queues, and protect independent smallholders from excessive dependence on integrated mills [28], [29]. GAPKI's position is not a blanket rejection, but a call for tighter

structuring so that such oil palm mills do not undermine companies that have already invested in long-term farmer partnerships [30], [31]. The Minister of Agriculture's remarks, also reproduced in the literature, go even further by warning that oil palm mills without plantations can "damage" the plasma system when they source fruit from farmers who were trained or supported by other firms [32]. This narrative is valuable as direct input on the current policy dispute and the vocabulary of the stakeholders who are shaping it.

Academic work since 2020 adds stronger empirical grounding. Watts and colleagues show that independent smallholders face major obstacles in attaining sustainability certification and are unlikely to achieve it at scale without sustained support from government and non-government actors. Raharja and co-authors argue that institutional strengthening for independent smallholders requires a model linking farmer groups, cooperatives, mills, regulators, financiers, and input providers. The implication for mill policy is straightforward: if many smallholders remain weakly organised, then mill governance cannot be separated from institution-building on the farmer side. Standalone oil palm mills are more likely to be beneficial when embedded in formalised farmer organisations than when they depend on fragmented, informal, and hard-to-trace sourcing networks [5], [33], [34], [35], [36].

The most important post-2020 mill-specific contribution comes from the study of certified palm oil mill markets in Indonesia [5]. The authors find that independent smallholders without exclusive contracts with mills were substantially underrepresented in certified mill supply. They conclude that the problem is not mainly active expulsion after certification, but passive exclusion driven by market structure, geography, legality, and sourcing behaviour. For present purposes, that finding matters in two ways. First, it shows that mill governance strongly shapes whether smallholders gain access to higher-standard markets. Second, it suggests that if standalone mills are excluded and no workable alternatives exist, the burden may fall disproportionately on independent farmers who are already weakly connected to formalised procurement channels [5].

2.3. CURRENT POLICY AND REGULATORY ARCHITECTURE

The current Indonesian regulatory picture is best described as a **hybrid architecture** with four layers: a foundational plantation law; sectoral rules on fresh fruit bunch purchasing and farmer partnerships; risk-based business licensing and industrial classification; and a strengthened sustainability-certification framework. Law No. 39 of 2014 designates plantations as a welfare, industrial, and sustainability sector, and its official summary indicates that it remains in force, albeit amended by subsequent omnibus legislation. Longstanding ministerial licensing guidance, particularly Permentan 98/2013 as amended by Permentan 21/2017, also reflected a policy preference that processing firms maintain a meaningful raw-material base from self-cultivated plantations while using partnerships to secure the remainder[12], [37], [38], [39], [40].

A major contemporary shift came with Permentan No. 13 of 2024 on the purchase of fresh fruit bunches from partner smallholders. That regulation explicitly defines a palm oil mill as a company-owned mill that may process fruit "both integrated with plantations and without plantations," and its recital emphasises transparency, fairness, good competition, and sustainable palm oil development. In other words, current agricultural regulation no longer pretends that mills without plantations do not exist. Instead, it brings them into a rulebook focused on pricing, partnership procedures, and reporting obligations [5], [41], [42].

The sustainability framework has also widened. Perpres No. 16 of 2025 replaced the 2020 presidential regulation and expanded ISPO beyond plantation cultivation to cover plantation processing, the downstream palm oil industry, and palm-based bioenergy. The official text snippet indicates that plantation businesses subject to mandatory ISPO include cultivation, processing of plantation products, and integrated cultivation-processing operations, while the downstream industry and bioenergy are also covered under principles that include traceability. This is a significant development because it provides a legal basis for moving the standalone mill question out of a narrow licensing frame and into a broader traceability-and-certification frame [18], [43], [44], [45], [46].

Business licensing classifications reflect the same reality. Indonesia's OSS system identifies crude palm oil milling under KBLI 10431, classifying it as the processing of oil palm into crude palm oil that still requires further refining and is commonly used by other industries. In practical terms, the industrial activity itself is clearly recognised. The unresolved question is therefore not whether crude palm oil processing is a lawful business category, but how the state differentiates between well-governed, area-appropriate mills and mills that intensify disorder in already crowded supply zones [47], [48], [49], [50]. Table 1 summarises the present regulation architecture.

TABLE 1 Architecture of Present Regulation

Regulatory Layer	Core Instrument	Relevance to Standalone Mills	Policy Signal
Foundational Plantation Law	Law No. 39/2014	Frames plantations around welfare, value addition, raw material, sustainability, and oversight	Mills should be governed as part of an integrated plantation

			ecosystem.
Historical Licensing Norm	Permentan 98/2013 as amended by Permentan 21/2017	Required a meaningful raw material base from its own cultivated estate, and the rest through sustainable processing partnerships	Strong preference for supply security plus partnership
Current TBS Purchasing Rule	Permentan 13/2024	Explicitly recognises PKS with plantations and PKS without plantations; regulates partner-smallholder purchasing and reporting.	Standalone mills are recognised, but within a fairness-and-reporting framework.
Industrial Licensing Classification	OSS KBLI 10431	Classifies crude palm oil milling as a recognised industrial activity	Standalone processing can be licensed as an industrial activity
Sustainability Framework	Perpres 16/2025 and implementing rules	Broadens mandatory ISPO logic to plantation processing, the downstream industry, and bioenergy, including traceability principles	Standalone mills should be pulled into audit and traceability disciplines.

Sources: Author's synthesis

Taken together, these rules reveal the real policy problem: Indonesia already has the legal ingredients to regulate standalone mills, but it does not yet have a fully coherent operational model that integrates permitting, spatial feasibility, farmer partnerships, price compliance, ramp registration, and traceability into one enforceable chain. That gap is where policy design now matters most.

3. METHODS

This manuscript employs a qualitative literature review design rather than a systematic one. The distinction is deliberate. The purpose here is not to exhaustively identify every publication on oil palm mills, but to synthesise the most policy-relevant concepts, findings, and regulatory developments needed to answer a concrete institutional question: how Indonesia should govern mills without their own plantations. A qualitative review is appropriate because the underlying evidence is heterogeneous. It includes legal texts, official statistics, certification standards, policy studies, literature analyses, contemporary stakeholder statements, and recent peer-reviewed research that do not always study the precise legal category under debate but do illuminate adjacent issues such as mill sourcing, smallholder certification, traceability, and governance [51].

The review discussed three source classes. First, primary official sources were used to establish the current legal and policy context, including Law No. 39/2014, Permentan No. 13/2024, Perpres No. 16/2025, current OSS business classifications, and supporting ministerial rules on ISPO, smallholder facilitation, and palm oil fund-supported upgrading. Second, academic literature was used to evaluate thematic claims concerning smallholder inclusion, mill procurement, institutional strengthening, certification barriers, intensification, and the broader governance of Indonesian palm oil. Third, various literature was used as contextual materials to capture both the literature roots of the debate and the stakeholder positions circulating in the industry.

The review is thematic rather than statistical. It organises the evidence into three analytical clusters: benefits, risks, and governance options. Benefits refer to how standalone mills may help the ecosystem, particularly through market access and competition. Risks refer to harms associated with traceability, partnership erosion, pricing distortions, or raw-material insecurity. Governance options refer to institutional choices available to the Indonesian state, including prohibition, laissez-faire tolerance, and conditional recognition under stricter licensing and monitoring. This style of thematic synthesis is consistent with qualitative review practice and is especially useful when the policy category at stake is evolving faster than the narrow academic literature around it [51].

The review has four important limitations. First, the scholarly literature specifically targeting "standalone mills without plantations" remains more limited than the literature on palm oil smallholders, certification, or general governance. Second, several contemporary regulatory changes are very recent, especially the 2025 ISPO reforms, so implementation evidence remains incomplete. Third, the literature contains stakeholder claims that are valuable for identifying controversy but not a substitute for official statistics. Fourth, because the objective is policy design rather than formal causal identification, some recommendations are inferential syntheses built from multiple source streams rather than direct one-to-one translations from any single study. These limitations do not invalidate the analysis, but they do require transparency about the evidentiary status of different claims [5], [16], [52], [53], [54].

4. RESULTS

4.1. THEMATIC FINDINGS ON THE BENEFITS OF STANDALONE MILLS

The first major finding is that standalone mills can generate **real ecosystem benefits**, especially in places where integrated mills are too few, too distant, too selective, or too congested. The literature explicitly states that such mills can absorb fruit from smallholders, reduce the burden of long queues during peak harvest periods, and improve farmers' bargaining position in

fresh fruit bunch marketing. The literature repeats these same themes in contemporary language, with Apkasindo arguing that mills without plantations keep pricing more competitive and provide a practical outlet for independent producers who are otherwise secondary in the procurement priorities of integrated mills. In areas where farmers' fruit would otherwise suffer quality losses because of waiting times and distance, those benefits are economically meaningful [6], [55], [56], [57].

That claim is compatible with the recent academic literature. Studies on smallholder livelihoods and resilience emphasise that oil palm remains an important income source for rural households in Indonesia and that farmer welfare depends heavily on the stability of market access, organisational support, and the ability to respond to shocks such as price fluctuations, ageing trees, or negative market sentiment. If farmers face only one or two realistic buyers within the harvest-to-processing time window, then local buyer power becomes a serious risk. Under those conditions, additional lawful milling capacity can perform a socially useful competition function even when it is not vertically integrated [58].

A second benefit is that standalone mills may improve the inclusion prospects of independent smallholders in parts of the supply chain that remain only weakly formalised. The 2025 study of certified mill markets shows that independent smallholders are underrepresented in certified mill sourcing, and that this underrepresentation stems in part from structural access and buyer behaviour rather than simply from farmers' unwillingness. That finding suggests that the presence of additional mills can matter for inclusion, but only if those mills are linked to institutional pathways—cooperatives, contracts, training, legality assistance, and traceability systems—that allow independent farmers to move beyond peripheral spot sales. Standalone mills are therefore best seen as a potential inclusion platform, not an inclusion guarantee [5].

A third benefit is local economic dynamism. The literature describes employment creation, local investment, and more active money circulation in producing districts where standalone mills are located. While those statements are contextual rather than econometric, the broader literature supports the idea that oil palm activity can significantly influence rural livelihoods and village-level development outcomes, especially when the institutional environment channels gains into local opportunity rather than conflict. In that sense, the policy goal should not be to preserve a static industrial structure, but to ensure that additional mills improve local welfare without degrading governance quality [59].

4.2. THEMATIC FINDINGS ON THE RISKS AND LOSSES ASSOCIATED WITH STANDALONE MILLS

The second major finding is that standalone mills can also generate serious systemic risks. The most prominent is the potential erosion of existing plantation-plasma partnerships. The Minister of Agriculture argues that mills without plantations can undermine firms that have invested in training and supporting plasma farmers when newly established mills source fruit from those same farmers without bearing the costs of long-term cultivation support. GAPKI's position is broadly similar: it does not categorically reject such mills, but insists that they must be managed so as not to disadvantage companies that have already built partnership commitments. That concern is also present in the literature, which describes the disruption of nucleus-plasma relations as one of the most important negative externalities associated with poorly governed mills without their own plantations [27], [60], [61], [62], [63].

A second risk is traceability weakness and opportunistic procurement. The literature warned that oil palm mills without plantations could rely on sourcing networks in which fruit origin was not always well documented, increasing the risk of undocumented or even stolen oil palm fruit entering the chain. Contemporary debate uses different language—registered versus unregistered ramps, documented versus undocumented fruit, partnership-backed versus opportunistic procurement—but the basic governance problem is similar: oil palm mills that do not own estates must procure externally, and external procurement is only as clean as the transaction records, organisational intermediation, and enforcement systems that surround it. The stronger the role of informal ramps and cash-based middlemen, the weaker the chain-of-custody integrity is likely to be [5], [6], [64], [65], [66], [67].

The 2025 mill-market study reinforces this point from a different angle. Independent smallholders in Indonesia are often located in areas that face structural barriers to participation in higher-standard supply chains, including land-legality constraints and uneven market access relative to industrial producers. This means that unless standalone mills are tied to legality upgrading and traceability systems, they may become comfortable destinations for exactly the fruit that has the weakest documentation, thereby creating a two-track market in which formal mills and informal mills specialise in different risk profiles. That is undesirable both for governance and for the long-run competitiveness of Indonesian palm oil [5].

A third risk is raw-material insecurity and unhealthy competition. The literature repeatedly described "unhealthy" competition for fresh fruit bunches, where mills compete aggressively to fill capacity without a stable supply base. Contemporary stakeholder language is softer, but the same concern is present: if permits are issued without spatial feasibility analysis, too many mills may compete for the same fruit in the same supply shed. That can produce volatile pricing, underutilised capacity, pressure to accept low-documentation fruit, or opportunistic poaching from farmers already bound in support relationships. Industrial activity is lawful, but oversupply of uncoordinated processing capacity is not automatically welfare-enhancing [9], [68], [69], [70], [71].

A fourth risk is that standalone mills may weaken the incentive structure for long-term farmer upgrading. Watts et al. show that independent smallholders face deep structural barriers to certification and require persistent support from public and private actors. Raharja et al. similarly argue for institutional strengthening models in which mills are embedded in cooperative and regulatory support networks. If a mill can remain profitable through arm's-length spot procurement without investing in farmer organisation, legality, training, or replanting support, then the ecosystem may drift toward short-horizon extraction rather than long-horizon productivity and sustainability upgrading. That risk is especially relevant in light of the large exploitable yield gaps documented for Indonesian oil palm [33].

The following table summarises the main stakeholder positions on oil palm mills issues.

TABLE 2 The Main Stakeholders' Positions on Standalone Oil Palm Mills

Stakeholder	Main Interest	Potential Benefit from Standalone Mills	Main Concern
Independent Smallholders	Secure buyers, fair prices, low waiting time	More buyer options, stronger bargaining position, reduced queue losses	Informal channels may not guarantee legality support, quality incentives, or access to certified markets
Plasma Farmers	Stable partnership returns	Additional outlet in constrained locations	Partnership discipline may weaken if the fruit is diverted from supporting firms.
Integrated Plantation-Mill Companies	Stable supply, asset utilisation, return on partnership investments	Supplemental procurement in deficit periods	Poaching of fruit, undercutting of long-term support, and reduced supply predictability
Standalone Mills	External procurement flexibility	Access to underserved supply zones and independent farmers	Exposure to stricter traceability, partnership, and legality rules
Central and Local Government	Farmer welfare, industrial order, legality, export credibility	Better local absorption where access is limited	Informality, ramp opacity, permit oversupply, and enforcement burden
Certifiers and Downstream Buyers	Traceable, legal, standard-compliant supply	Opportunity to widen inclusion if sourcing is formalised	Passive exclusion or informal sourcing if governance remains weak

Sources: Author's synthesis.

4.3. THEMATIC FINDINGS ON POLICY OPTIONS

Three broad policy options emerge from the literature and the regulatory context, as summarised in Table 3.

TABLE 3 Policy Options on Standalone Oil Palm Mills

Policy Option	Main Logic	Main Advantages	Main Disadvantages	Overall Assessment
Ban or Phase Out Standalone Mills	Preserve integrated plantation-mill-plasma structure	Strongest response to poaching, informal ramps, and traceability risks	Risks excluding independent smallholders in underserved areas; may re-concentrate local buyer power; hard to justify where the law already recognises such mills	Too blunt
Laissez-Faire Recognition	Let market competition sort outcomes	Maximises entry and short-run buyer competition	High risk of opacity, oversupply, weak traceability, and partnership erosion	Too permissive
Conditional Recognition with Tight Governance	Permit standalone mills only under enforceable conditions for sourcing, partnership, traceability, and spatial feasibility.	Balances farmer access with sustainability and industrial order	Requires stronger administrative coordination and monitoring capacity	Preferred

Sources: Author's synthesis.

The review, therefore, consistently points to conditional recognition as the most defensible policy path. That option best fits the legal reality that current regulation already recognises mills without plantations, the empirical reality that independent smallholders need accessible buyers, and the governance reality that spot-market procurement without traceability rules creates system-wide risks [5], [72], [73], [74].

5. DISCUSSION AND POLICY RECOMMENDATIONS

The core analytical conclusion is that Indonesia should regulate standalone mills according to a **supply-shed governance logic** rather than a binary ownership logic. Whether a mill owns a plantation is relevant, but it should not be the sole determinant of legality. The more important question is whether the mill can demonstrate a lawful, traceable, partnership-based, and spatially justifiable sourcing model in the district or province where it seeks to operate. This move from ownership-based reasoning to sourcing-based reasoning is also more consistent with the direction of the 2025 ISPO framework, which places increasing weight on traceability and on sustainability across the wider palm oil chain [12].

The real issue is not simply oil palm mill ownership, but the institutional quality of the links between oil palm farmers, intermediaries, mills, regulators, and certification systems. That is precisely where policy should intervene [5], [16], [75], [76].

5.1. RECOMMENDED POLICY PILLARS

The first pillar is a distinct legal category for standalone mills within plantation and industrial governance. Indonesian regulations already recognise mills, with or without plantations, in the TBS-purchase context, and OSS already classifies crude palm oil milling as a legitimate industrial activity. The next step should be to formalise a subcategory administratively if not legislatively that makes the governing obligations of a standalone mill more explicit than they are now. This would reduce the ambiguity that currently allows the same facility to be seen either as a legitimate industrial actor or as a disruptive loophole, depending on who is speaking [77], [78].

The second pillar is a spatial feasibility test before licensing. Before a permit is issued or renewed, provincial and district authorities should assess whether the proposed mill serves a real access gap or merely adds excess capacity to an already crowded supply shed. This test should examine existing processing capacity, average travel time from farms, seasonal fruit congestion, the presence of integrated mills and plasma obligations, and expected smallholder supply. The literature already noted that the consequences of mills without plantations varied with regional shortages or surpluses of processing capacity. A formalised feasibility test would update that insight for the current licensing era [79].

The third pillar is a mandatory farmer-partnership floor. Standalone mills should not be allowed to operate predominantly through opaque spot procurement. Instead, they should be required to source a meaningful minimum share of fresh fruit bunches through written partnerships with registered independent smallholder groups, cooperatives, or plasma-linked producers. The precise percentage can be debated, but a policy floor of at least 20 per cent direct farmer-linked sourcing is defensible for two reasons. First, the 20 per cent figure is deeply embedded in Indonesian plantation-policy discourse through longstanding licensing norms that required self-supplied raw material plus partnership sourcing. Second, the same percentage recurs in the 2026 stakeholder debate as a minimum smallholder-linkage obligation proposed for commercial mills without plantations. A transitional 20 per cent floor should be treated as a floor, not an endpoint, with higher requirements possible in mature supply zones [5], [80].

The fourth pillar is registered loading ramp governance. One of the most persistent fault lines in the Indonesian debate is not only the oil palm mill itself, but the procurement architecture around it, especially ramps and intermediary aggregators. Every ramp supplying a standalone oil palm mill should therefore be licensed, geo-referenced, digitally connected to the receiving mill, and required to issue standardised electronic records of source farm, farmer group, quantity, date, and quality indicators. An oil palm mill should be jointly liable for the conduct of the ramps from which it sources. Without this rule, traceability obligations at the mill gate will remain weaker than they appear on paper [67], [81], [82], [83].

The fifth pillar is price discipline aligned with provincial TBS governance. Permentan 13/2024 was adopted in part to improve transparency and fairness and to avoid unhealthy competition in TBS purchasing from partner smallholders. Standalone mills should therefore be required to purchase directly contracted fruit using the provincial pricing framework or a transparently disclosed formula derived from it, including explicit quality discounts. This would preserve the pro-competition function of additional buyers while reducing the risk that competition becomes a euphemism for opaque and unstable pricing outside the recognised pricing system. Monthly mill reporting under the 2024 rule provides a ready administrative entry point for that obligation [84], [85].

The sixth pillar is supply-shed traceability and legality upgrading. The 2025 certified-mill study shows that many independent smallholders remain structurally disadvantaged, including because of legal constraints. If standalone mills are to be part of a sustainable ecosystem, they must be required to map their sourcing radii, disclose the farmer categories they buy from, and participate in phased legality upgrading for those suppliers. That includes assistance for registration, group formation, and alignment with ISPO's plantation and processing requirements. It also aligns with the broader direction of Perpres 16/2025 and Permentan 33/2025, which make traceability and sustainability governance more central to the Indonesian palm oil chain [5].

The seventh pillar is public support for farmer organisations and replanting. Policy cannot ask mills to source from well-organised, legality-compliant smallholders if the state invests too little in making such smallholders visible and viable. Here,

Permentan 18/2021 on community-plantation facilitation and Permentan 05/2025 on palm oil fund-supported human resource development, replanting, and infrastructure are directly relevant. Those instruments should be targeted more explicitly toward areas where standalone mills are allowed, so that independent smallholders in those supply sheds are upgraded rather than merely used as flexible raw-material reserves. Evidence from the literature also suggests that certification uptake improves when farmers are offered training and financial incentives, reinforcing the argument for coupling mill governance with farmer support [86], [87], [88], [89].

The eighth pillar is graduated sanctions and differentiated territorial treatment. A mill that fails to meet partnership, traceability, or reporting obligations should face escalating sanctions, including fines, temporary procurement restrictions, and permit non-renewal. At the same time, Indonesia should avoid one-size-fits-all rules. Remote or newly developing districts with weak mill access may justifiably receive transitional flexibility, while mature districts with dense processing capacity and established plasma systems should face stricter permit tests. This territorial differentiation is more consistent with the supply-shed logic of palm fruit perishability and with the history of regional variation described in the literature [5].

This policy flow illustrates the article's preferred sequencing: entry should depend on area need, operation should depend on traceable partnerships, and renewal should depend on measurable compliance. That is a more defensible architecture than either unrestricted entry or blanket prohibition.

TABLE 4 Implementation Timeline

Time Horizon	Priority Actions
First 12 months	Formally classify standalone mills in administrative guidance; require mill and ramp registration; begin district-level supply-shed mapping; standardise monthly reporting under existing TBS purchasing rules.
Year 1 to Year 2	Introduce spatial feasibility test for new permits and renewals; mandate written farmer partnerships; integrate digital transaction records with provincial oversight.
Year 2 to Year 3	Link standalone mills to phased ISPO/traceability compliance; target palm fund-supported farmer organisation, legality support, and replanting in their supply sheds
Year 3 to Year 5	Shift from transitional tolerance to full performance-based renewal; apply differentiated sanctions and close persistently non-compliant mills or ramps.

Sources: Author's synthesis

5.2. OPEN QUESTIONS AND LIMITATIONS

Two unresolved questions remain particularly important. The first is how future ministerial coordination between agriculture and industry will operationalise permit recommendations for mills without plantations in practice; the 2026 stakeholder debate suggests movement in that direction, but a consolidated, fully transparent operational rule was not yet clearly visible in the accessible official text reviewed here. The second is how far the 20 per cent partnership floor should be treated as a transitional benchmark rather than a permanent minimum, because that number is anchored in longstanding Indonesian policy discourse and current stakeholder proposals, yet may require regional differentiation in practice [62], [90], [91].

6. CONCLUSION AND FUTURE RESEARCH

6.1. CONCLUSION

The substantive conclusion of this review is clear. Indonesia should regulate mills without their own plantations as conditionally legitimate actors within the palm oil ecosystem, not as automatically benign or automatically unlawful actors. The evidence reviewed here shows that standalone mills can provide genuine benefits to independent smallholders by improving access, shortening queues, widening buyer options, and increasing local competition. It also shows that, if poorly governed, they can damage plasma-based coordination, undermine traceability, intensify raw-material insecurity, and reward opportunistic procurement over long-term farmer upgrading. The decisive variable is therefore not mill ownership alone, but the institutional design of sourcing, monitoring, and accountability.

For Indonesian policy, the most robust answer is a conditional licensing model organised around supply sheds, partnerships, traceability, and price transparency. In practical terms, that means: recognizing standalone mills in law and administration; subjecting them to a stricter feasibility test than ordinary mill licensing; obliging them to maintain a meaningful base of directly linked smallholder supply; registering and monitoring ramps; aligning procurement with provincial pricing disciplines; integrating them into ISPO-era traceability and audit systems; and using public palm-oil funds to strengthen the smallholder organizations that make clean sourcing possible. This is not a compromise in the weak sense. It is a deliberately structured model that protects the competitive function of additional mills only when they also contribute to a more orderly and sustainable ecosystem.

A neutral-to-positive assessment of palm oil supports this policy direction. Oil palm remains a strategically important and relatively land-efficient crop. The key challenge is not to treat the sector as ungovernable, but to build institutions that reconcile farmer welfare, industrial viability, and credibility in sustainability. In that setting, mills without plantations should be treated neither as a threat to be erased nor as a loophole to be ignored. They should be treated as an institutional form that requires more careful governance than Indonesia has provided so far.

6.2. FUTURE RESEARCH

Future research should move in four directions. First, district-level empirical studies should compare farmer prices, waiting times, and fruit-quality losses in areas dominated by integrated mills versus mixed areas that include standalone mills. Second, licensing research should map where Indonesia actually has excess processing capacity and where it has real access deficits. Third, traceability studies should examine how registered versus unregistered ramps affect legality and document quality in fresh fruit bunch procurement. Fourth, policy evaluation should measure whether the new ISPO architecture after 2025 improves the governance of processing nodes as effectively as it aims to improve plantations and downstream industrial actors.

CONFLICTS OF INTEREST

The author declares that there is no conflict of interest concerning the publication of this paper.

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