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RESEARCH ARTICLE

Estate Characteristics and the Effectiveness of SIA-Driven Corrective Measures in Kuala Muda, Kedah

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ABSTRACT

Social Impact Assessment (SIA) is mandatory under Principle 4 of the Malaysian Sustainable Palm Oil (MSPO) standard, yet certification bodies and researchers have paid comparatively little attention to how SIA implementation and corrective outcomes vary once estates differ in workforce composition, location, terrain and stakeholder environment. This comparative case study examined how such operational characteristics shaped SIA implementation and the outcomes of SIA-driven corrective measures across ten MSPO-certified or MSPO-related oil palm estates in the Kuala Muda district of Kedah, Malaysia. Data were drawn from institutional SIA documentation and semi-structured interviews with the ten responsible estate managers, who reported between seventeen and thirty-five years of plantation experience and were analysed through thematic and content analysis with cross-case comparison. Findings showed that all ten estates followed a broadly consistent SIA procedure, yet the substantive issues each estate faced, and the pace at which corrective measures resolved them, varied according to location, terrain, workforce composition and dependence on external agencies. Corrective measures within an estate's direct administrative and financial control, such as housing repair and worker transport, were consistently reported as effective. Measures requiring head office capital approval, sustained worker behavioural change, or cooperation from external government agencies and surrounding communities were slower and only partially resolved. The study concludes that SIA under MSPO functions as a context-sensitive management process rather than a uniform compliance procedure, with implications for how certification bodies, auditors and plantation sustainability departments distinguish internally resolvable issues from those requiring coordinated external action.

1. Introduction

Social sustainability has become an inseparable part of how palm oil production is judged internationally, alongside the more established concerns of deforestation and biodiversity loss. Buyers, regulators and civil society organisations increasingly expect certified producers to demonstrate not only that a social assessment has taken place, but that it has led somewhere. In Malaysia, this expectation is codified through the Malaysian Sustainable Palm Oil (MSPO) certification scheme, which became mandatory for all growers and millers under MS2530:2022. Principle 4 of the standard, Responsible to Social, Health, Safety and Employment, requires certificate holders to conduct a Social Impact Assessment (SIA) intended to prevent or minimise the social impacts of their operations, and to translate the findings of that assessment into a social management plan supported by corrective measures (Malaysian Palm Oil Certification Council, 2022). The existence of a mandatory SIA requirement does not by itself establish that the process delivers a meaningful social outcome. Vanclay (2024), reflecting on five decades of social impact assessment practice internationally, cautioned that the discipline risks becoming a document-driven exercise conducted to satisfy an external requirement rather than a genuinely developmental process oriented toward the people it is meant to serve. A comparable concern has been raised specifically in relation to palm oil certification. Morgans et al. (2018), evaluating the Roundtable on Sustainable Palm Oil, found no significant difference between certified and non-certified plantations across several social impact metrics, a finding that leaves open the question of whether certification-driven social governance produces change on the ground or merely produces paperwork.

A further, and closely related, difficulty concerns the assumption that certification produces broadly uniform social outcomes across the estates it covers. Because MSPO applies a common procedural standard to every certified estate, it is tempting to treat estates operating under the scheme as a relatively homogeneous category when discussing social performance. In practice, oil palm estates within even a single administrative district can differ substantially in workforce size and composition, migrant worker origin, terrain, proximity to villages and schools, road access, and dependence on external government agencies for matters such as wildlife management or utility provision. Whether, and how, these operational differences shape the practical experience of implementing SIA, and the effectiveness of the corrective measures that follow from it, has received little systematic empirical attention. Much of the existing literature on oil palm social sustainability examines the certification scheme or the sector as a whole, or draws on a single estate or case, rather than comparing implementation and outcomes across several estates operating under one certification framework within a shared geography.

Kuala Muda district in Kedah offers a useful setting in which to examine this question. It hosts a concentration of long-established oil palm estates that share a common labour market, a common set of relevant government agencies, and a common certification regime, while nonetheless differing from one another in the operational characteristics described above. Holding the wider institutional and regulatory context broadly constant in this way allows variation in implementation and outcome to be more plausibly attributed to estate-level characteristics than would be possible in a sample of estates drawn from different states or regions.

This study addressed this gap by comparing SIA implementation and outcomes among ten MSPO-certified or MSPO-related oil palm estates in Kuala Muda, estates that differ in workforce composition, location, terrain and stakeholder environment. Rather than compiling a general inventory of the social issues these estates face, the analysis is organised around a single integrated objective, namely to compare the patterns of SIA implementation and outcomes across estates with different operational characteristics, in order to identify shared structural patterns as well as estate-specific challenges and strengths, and to examine how SIA-driven corrective measures have affected the social conditions of workers and surrounding communities.

1.1 Research Objectives

The study pursued one integrated research objective, namely to compare the patterns of Social Impact Assessment implementation and outcomes among MSPO-certified oil palm plantations with different operational characteristics within the Kuala Muda district, in order to identify both shared structural patterns and estate-specific challenges and strengths, while analysing how SIA-driven corrective measures have influenced the social conditions of workers and surrounding communities. In pursuing this objective, the study examined differences and similarities in SIA implementation between estates, the influence of operational characteristics and stakeholder context on those differences, the types of corrective measures implemented and their effect on workers and surrounding communities, and the factors that facilitated or constrained successful implementation.

2. LITERATURE REVIEW

Social impact assessment originated within environmental impact assessment practice in North America during the 1970s and has since developed into an established field applied across infrastructure, extractive and agribusiness sectors. Vanclay (2003) defined it as the process of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions and the social change processes they invoke, a definition broad enough to encompass indirect and cumulative effects rather than the direct effects of an intervention alone. The International Principles for Social Impact Assessment reinforce this developmental orientation, describing effective practice as participatory, transparent and oriented toward the interests of affected people rather than toward the production of compliance documentation alone (International Association for Impact Assessment, 2003). Franks and Vanclay (2013) extended this reasoning through the concept of the social impact management plan, a mechanism through which SIA findings are translated into an ongoing, monitored programme of corrective action across the life of an operation, a structure directly analogous to the social management plans through which MSPO-certified estates are expected to act on their SIA findings.

Within the Malaysian and wider Southeast Asian palm oil sector, SIA has become the principal mechanism through which certification schemes operationalise their social responsibility principles. RSPO's Principle 6 requires growers and millers to consider employees and to affected communities, supported by documentary evidence of stakeholder consultation (Roundtable on Sustainable Palm Oil, 2024). MSPO, developed as Malaysia's own national scheme, was designed from the outset as a mandatory rather than voluntary standard, and its current version, MS2530:2022, situates the SIA obligation within Principle 4, a criterion supported by twenty indicators covering employment conditions, occupational safety and health, and living conditions (Malaysian Palm Oil Certification Council, 2022). Because a substantial share of larger Malaysian estates holds both certifications, SIA methodology at estate level frequently reflects an amalgamation of RSPO and MSPO requirements, producing a broadly standardised procedure across the sector regardless of which specific combination of schemes a given estate holds.

The empirical literature on the social dimension of Malaysian oil palm production has concentrated heavily on the vulnerability associated with a workforce composed substantially of migrant labour. Somiah et al. (2025), examining undocumented Indonesian migrant workers in Sarawak, found that legal, social and economic vulnerabilities combine to create conditions in which exploitation can occur even where formal estate policy prohibits it, a structural condition rooted in the worker's dependency on the employer for accommodation, work permits and continued legal presence. Akmal et al. (2024) similarly identified religious accommodation, freedom of worship and cultural understanding as increasingly recognised, if unevenly addressed, dimensions of migrant worker wellbeing within Malaysian oil palm plantations. At the level of the wider supply chain, Martin et al. (2015) documented the institutional barriers that limit independent smallholders' access to investment and established value chains in Sabah, illustrating a parallel structural vulnerability facing another category of participant in the same sector. Haryati et al. (2025) contributed a validated, indicator-based framework for assessing oil palm worker wellbeing, treating occupational safety, living conditions, and freedom of association as distinct and separately measurable dimensions, an approach consistent with the disaggregated, category-specific treatment of social issues that this study adopts.

Three theoretical perspectives inform the interpretation of implementation variation and corrective action effectiveness in this study. Stakeholder theory (Freeman, 1984) holds that organisations should attend to the interests of the full range of parties affected by their operations rather than to their own interests alone, a proposition that predicts observably different outcomes where the composition of an organisation's stakeholder environment differs, as it does among estates with different proximities to villages, schools and government agencies. Organisational change theory, particularly the concepts of unfreezing, changing and refreezing advanced by Lewin (1947) and elaborated by Kotter (1996), frames lasting change as dependent on the consolidation of new practice into organisational culture rather than on the completion of a single compliance exercise, a lens well suited to distinguishing SIA implementation that estates treat as an embedded management culture from SIA implementation confined to the period preceding an audit. Sustainable development theory, and in particular the treatment of the social pillar as one of three interdependent dimensions of sustainability (Purvis et al., 2019), suggests that social sustainability cannot be secured by an individual estate acting alone, but depends on the parallel and coordinated action of the wider institutional environment within which that estate operates, including government agencies whose resourcing and priorities lie outside the scope of any certification scheme.

Taken together, this literature indicates that the effectiveness of certification-driven social governance is unlikely to be a uniform property of the certification scheme itself.

It is more plausibly a variable outcome that depends on the category of social issue concerned and on the authority relationship between the certified estate and whichever party's cooperation is required for resolution, whether that party is the estate's own head office, its workforce, a government agency, or the surrounding community. What remains comparatively underdeveloped in the literature is systematic, multi-estate evidence of how this variation unfolds among estates that operate under one certification framework within a single, geographically bounded operating cluster. This is the gap the present study addresses.

3. RESEARCH METHODS

3.1 Research Design

This study adopted a qualitative, multiple case comparative design, following the case study logic set out by Yin (2014). A multiple case design was considered appropriate because the research question concerned variation across estates rather than the depth of a single operation, and because replication logic across ten cases allows shared patterns to be distinguished from patterns attributable to the circumstances of an individual estate with greater confidence than a single case design would permit.

3.2 Study Setting and Case Selection

The study was situated within the Kuala Muda district of Kedah, Malaysia, an oil palm operating cluster in which several long-established corporate estates operate within a shared labour market and a shared set of relevant government agencies. Ten oil palm estates operating under MSPO certification or MSPO-related certification arrangements were purposively selected and are referred to throughout this article, in anonymised form, as Estate A through Estate J. The estates were not held under a single corporate umbrella but spanned more than one operating group active within the district, a feature that reduces the extent to which any single finding reflects the practice of one company and strengthens the wider applicability of patterns that recurred consistently across the sample.

3.3 Data Sources

Two categories of data were used. The first was secondary institutional documentation, comprising SIA reports and associated social management or action plan records prepared by internal sustainability departments or, in one instance, by an external consultancy. Coverage of this documentation was not uniform across the sample, with six estates covered by a detailed assessment cycle conducted in 2024, one estate covered by a 2025 cycle, and the remaining three estates covered primarily through interview evidence supplemented by an earlier consultancy report used as background context. The second category was primary qualitative data gathered through semi-structured interviews with the estate manager responsible for each of the ten sampled estates. Respondents reported substantial direct plantation management experience, with reported experience for nine of the ten informants ranging from approximately seventeen to thirty-five years. Interviews were conducted in Bahasa Malaysia and subsequently translated into English for analysis, a process that, however carefully undertaken, involved some degree of interpretive judgement in rendering idiomatic and context-specific expressions.

3.4 Data Analysis

Data were analysed using NVivo 15 (Lumivero, 2025), combining qualitative content analysis of the documentary corpus with thematic analysis of the interview transcripts following the approach described by Braun and Clarke (2006, 2022). Initial codes were generated inductively from both data sources and grouped into broader thematic categories corresponding to the study's analytical objective. Cross-case comparison was then undertaken to distinguish patterns shared across the majority of the ten estates from patterns specific to individual estates, and to examine these patterns in relation to each estate's operational characteristics.

3.5 Trustworthiness and Ethical Considerations

Trustworthiness was addressed through triangulation between the documentary record and the interview accounts, consistent with the naturalistic inquiry criteria described by Lincoln and Guba (1985), and, where available, through comparison against independently prepared institutional audit documentation reflecting external stakeholder feedback. This comparison surfaced at least one area of disconfirming evidence, discussed in the Results and Discussion section, in which estate manager self-assessment of stakeholder engagement quality was more favourable than the assessment recorded in independent audit records. Confidentiality of the estates and respondents was maintained throughout, consistent with the terms under which access to the underlying documentation and interviews was granted, and estates are identified only by an anonymised code.

3.6 Methodological Boundary

A defining boundary of this study is that it did not include direct interviews or surveys with plantation workers or with members of surrounding communities. Worker and community conditions were examined only through documented findings in institutional SIA records and through estate managers' accounts of corrective measures and their observed outcomes. Findings regarding worker and community outcomes are therefore reported as management-reported or documented improvement rather than as evidence of direct worker or community perception, and this boundary is treated as a substantive limitation on the strength of the effectiveness conclusions offered in this article rather than as an incidental caveat.

4. RESULTS AND DISCUSSION

4.1 Comparative Profile of the Sampled Estates

The ten sampled estates shared a common regulatory position, in that all operated under MSPO certification or MSPO-related certification arrangements, and a common labour market and set of external government agencies by virtue of their shared location within Kuala Muda district. Within this common regulatory position, however, the estates differed in several operationally relevant respects. Recorded workforce populations ranged from approximately ninety to more than three hundred workers per operating unit, drawn predominantly from migrant labour sourced from Indonesia, Bangladesh, India, Nepal, Myanmar and Pakistan. Estates also differed in terrain, in proximity to towns, schools and villages, in road access, in the presence or absence of third-party contracted activity within the estate boundary, and in the breadth of the internal consultative structures each estate had established. Table 1 summarises the operationally relevant characteristics that were consistently supported across the documentary and interview evidence.

Table 1: Operationally relevant characteristics of the sampled estates

Characteristic	Documented range or pattern across the sample
Number of estates	Ten, anonymised as Estate A through Estate J
Certification basis	MSPO-certified or MSPO-related for all ten estates, with one estate additionally assessed under a combined MSPO, RSPO and ISCC methodology
Estate manager experience	Approximately seventeen to thirty-five years for nine of the ten informants
Workforce population	Approximately ninety to more than three hundred workers per operating unit, where directly comparable figures were available
Workforce composition	Predominantly migrant labour from Indonesia, Bangladesh, India, Nepal, Myanmar and Pakistan
Location and stakeholder context	Varying proximity to towns, schools, villages and main roads, with some estates bordering third-party contracted activity
Internal consultation architecture	Common grievance channel structure (supervisor, worker representative, complaint box) across the sample, with a Gender Committee or equivalent structure documented at four estates

4.2 Shared Patterns of SIA Implementation

Across all ten estates, SIA was conducted through a broadly similar procedure, involving stakeholder mapping, sampled interviews with internal and external stakeholders, site observation, and the consolidation of findings into a social management or action plan that assigned responsibility and a monitoring status to each identified issue. Every estate manager, independently of one another, converged on the view that SIA becomes meaningful only when treated as an ongoing management culture rather than an activity confined to the period immediately preceding an audit, a convergence that recurred in the closing reflections offered by respondents at Estate A, Estate C, Estate D, Estate F, Estate G, Estate H, Estate I and Estate J. A common grievance architecture built around a supervisor, a worker representative and a complaint box were documented across the sample, as was a shared vulnerability to labour shortage and to budget-related delay in implementing corrective measures that required head office approval.

This combination of procedural consistency and substantive variation is itself an important finding. It indicates that MSPO's mandatory status has succeeded in producing a genuinely standardised assessment procedure across estates operating under more than one corporate group, consistent with the scheme's transition from a voluntary to a mandatory national standard. At the same time, procedural consistency at the level of process did not translate into uniformity at the level of substantive issue profile or corrective outcome, a distinction developed further below.

4.3 Estate-Specific Differences Associated with Operational Characteristics

Beyond these shared patterns, the ten estates differed in ways that were plausibly associated with their individual operational characteristics rather than with the SIA procedure itself. Estate C's documentation and interview record showed a pattern of proactive engagement with named external agencies on matters of road safety, wildlife management and utility infrastructure, issues that recurred as a documented concern across several estates, but that Estate C's management appeared to pursue with unusual persistence. Estate D reported an unusually wide external stakeholder network, consistent with a location and operating history that had brought the estate into contact with a broader set of surrounding parties than most of the other estates in the sample. Estate J's management described a worker transport arrangement specifically tailored to the estate's more remote location, illustrating how a locational characteristic translated directly into a distinct operational response rather than a generic one. Estate F's account indicated that its Gender Committee had recently expanded its programming in direct response to worker and family feedback requesting more joint activities, an example of a comparatively participatory approach to translating SIA feedback into concrete programming. Estate A and Estate G were both described as maintaining a wide internal participation architecture that combined several distinct worker engagement channels, including morning briefings, a Joint Consultative Committee and a dedicated workers' representative mechanism, an internal control choice rather than a response to any single documented issue.

A Gender Committee or equivalent structure was reported as active at Estate A, Estate F, Estate H and Estate J, and was associated in the accounts offered by respondents with health, welfare and family-inclusive programming, suggesting that gender-responsive consultation formed an established, if unevenly distributed, component of the internal stakeholder engagement architecture within this district. At least one estate in the sample described a formalised zero recruitment fee policy governed by a documented group-level procedure, a policy response to the migrant labour vulnerability documented as a shared concern across the sample and one that, where present, addressed that vulnerability more comprehensively than case-by-case remediation would.

These estate-specific differences are best interpreted not as evidence that some estates managed SIA more diligently than others in a general sense, but as evidence that the estates achieving stronger outcomes in each area were those whose social management approach had been adapted to their own particular configuration of stakeholders, terrain and location, rather than those with the greatest resources in an absolute sense.

4.4 Corrective Measures and Their Implementation Conditions

The clearest analytical pattern to emerge from the comparison concerned the relationship between the type of authority relationship a corrective measure depended on and the effectiveness with which it was resolved. Five categories of implementation condition were distinguished for this purpose.

Category A comprised measures within an estate's direct administrative control, such as housing repair, safety training, personal protective equipment provision, grievance management, worker transport and routine welfare improvements. These measures were consistently reported as effective across the sample, in several cases with a documented reduction in related complaints following action, and the independent institutional audit documentation reviewed for this study broadly corroborated this pattern.

Category B comprised measures requiring financial or head office approval, such as major housing repair, electrical infrastructure and other capital-intensive improvements. These measures were reported across several estates as subject to a documentation-to-implementation gap, in which an approved item remained recorded in an action plan for a longer period than a Category A item, pending budget allocation or contractor availability, before eventual completion.

Category C comprised measures requiring sustained worker behavioural change, such as housing area cleanliness, adherence to safe working procedures, and waste management practice. These measures were reported as only partially effective and slower to resolve than either Category A or Category B measures, a pattern consistent with organisational change theory's emphasis on the consolidation, or refreezing, of new practice into culture as the more difficult and time-consuming stage of any change process (Lewin, 1947; Kotter, 1996).

Category D comprised measures dependent on external government agencies, such as wildlife management, road safety enforcement, utility infrastructure provision and foreign worker immigration processes. These measures were consistently reported, across estates and corroborated by the independent audit record, as the least effectively resolved category examined in this study, remaining documented across multiple assessment cycles without full resolution despite being clearly identified through the SIA process.

Category E comprised measures involving surrounding communities and other external stakeholders directly, such as community communication, school-related concerns, and environmental nuisance issues associated with third-party contracted activity within an estate boundary. Documented community concern of this kind, for instance concerning odour and smoke from a third-party contractor's activity at one estate, tended to require estate-initiated, ad hoc engagement rather than a structured escalation pathway, and outcomes in this category were correspondingly variable across the sample.

Table 2 summarises this categorisation together with the pattern of documented outcome associated with each category.

Table 2: SIA-driven corrective measures by implementation condition and documented outcome

Category	Authority relationship	Illustrative measures	Documented pattern of outcome
A	Direct estate administrative and financial control	Housing repair, safety training, PPE provision, grievance management, worker transport	Consistently reported as effective, with documented reduction in related complaints
B	Financial or head office capital approval	Major housing repair, electrical and other infrastructure	Reported documentation-to-implementation gap, eventual completion following budget

Category	Authority relationship	Illustrative measures	Documented pattern of outcome
		improvements	approval
C	Sustained worker behavioural change	Housing cleanliness, safe working procedure compliance, waste management	Only partially effective, slower and less document-friendly than physical measures
D	External government agency cooperation	Wildlife management, road safety enforcement, utility infrastructure, immigration processes	Least effectively resolved category, persisting across multiple assessment cycles
E	Surrounding community and external stakeholder cooperation	Community communication, school-related concerns, third-party activity nuisance	Variable outcomes, dependent on ad hoc rather than structured engagement

4.5 Effects on Worker Conditions

Within Category A and, more slowly, Category B, estate managers reported documented improvement in worker housing conditions, occupational safety practice and access to personal protective equipment, together with a management-reported reduction in worker complaints following corrective action. Migrant worker administration, including recruitment practice, was addressed in at least one estate through a formalised zero recruitment fee policy, a response to the structural dependency that Somiah et al. (2025) identifies as the underlying condition that renders migrant workers vulnerable to exploitation, regardless of the presence of formal estate policy prohibiting it. Because this study did not gather primary data from workers themselves, these findings are reported as management-reported or documented improvement rather than as confirmed worker experience, consistent with the methodological boundary described in Section 3.6. The clearest disconfirming evidence within this favourable overall picture concerned the divergence between estate manager self-rated effectiveness, uniformly high across the sample, and the more measured independent audit documentation, which recorded external stakeholder feedback indicating that grievance channel communication and estate management visibility required improvement at several estates. This divergence is treated in this study as a genuine finding rather than as a challenge to the credibility of the data, since it is consistent with the structurally different vantage point that estate managers occupy relative to external stakeholders.

4.6 Effects on Surrounding Communities

Evidence concerning surrounding communities was comparatively limited, reflecting both the study's data boundary and the smaller share of SIA documentation directed toward external, as opposed to internal, stakeholders. Where documented, community-related corrective measures concerned road safety, wildlife disturbance near estate boundaries and, at one estate, nuisance associated with a third-party contracted activity within the estate boundary. As with worker outcomes, community outcomes are reported here as documented concern and management-reported response rather than as confirmed community perception. The pattern observed, namely that community and externally dependent issues were less consistently resolved than internally controlled issues, is consistent with the wider structural pattern identified across Category D and Category E measures above.

4.7 Factors Associated with Stronger and Weaker Outcomes

Three factors were associated with comparatively stronger outcomes across the sample. The first was the breadth, rather than only the frequency, of internal consultation mechanisms, illustrated by Estate A and Estate G's combination of morning briefings, a Joint Consultative Committee, a Gender Committee and a dedicated workers' representative structure. The second was the degree to which an estate's social management approach had been adapted to its own stakeholder configuration, illustrated by Estate C's sustained engagement with named external agencies and Estate J's transport solution tailored to its remote location, rather than the application of a single undifferentiated approach across a corporate group. The third was the presence of visible follow-through between stakeholder feedback and corrective action, a condition that respondents across several estates identified, independently of one another, as the basis of SIA's perceived legitimacy among workers and communities.

Conversely, three factors were associated with weaker or slower outcomes. The first was dependency on external government agencies whose own priorities and resourcing lay outside the scope of MSPO certification, a structural constraint consistent with the sustainable development theory proposition that the social pillar of sustainability cannot be secured by an individual organisation acting alone (Purvis et al., 2019). The second was the slower, less document-friendly nature of change that depends on sustained worker behavioural adjustment rather than on the provision of physical infrastructure. The third was the documentation-to-implementation gap associated with capital-intensive measures awaiting head office budget approval, a constraint that, while eventually resolved in the cases examined, nonetheless slowed the pace at which documented issues translated into completed action.

4.8 Synthesis

Considered together, these findings support a differentiated rather than a uniform account of SIA effectiveness under MSPO. Procedural consistency across the ten estates examined in this study did not translate into uniform substantive outcomes, and the variation observed was not random but followed a discernible pattern linked to the authority relationship each category of issue depended on for resolution. Where an estate possessed direct administrative and financial control, corrective measures were reported and, where independent audit evidence was available, corroborated as effective. Where resolution depended on head office capital allocation, sustained worker behavioural change, or the cooperation of an external government agency or community stakeholder, outcomes were slower, less complete, or more variable across the sample. This pattern is consistent with, and extends empirically, the theoretical propositions reviewed in Section 2. It offers field-level support for organisational change theory's emphasis on culture embedding as the decisive stage of lasting change (Lewin, 1947; Kotter, 1996), for stakeholder theory's prediction that a differently composed stakeholder environment produces differently composed outcomes (Freeman, 1984), and for sustainable development theory's treatment of social sustainability as dependent on coordinated institutional action beyond any single certified organisation (Purvis et al., 2019). It also offers a more precise answer than either an uncritical view that certification reliably delivers social improvement, or a categorically sceptical view echoing Morgans et al. (2018), by showing that the more useful question is not whether SIA-driven corrective action works in general, but which category of issue is being examined and who holds the authority required to resolve it.

5. CONCLUSION

This study set out to compare the patterns of SIA implementation and outcomes among MSPO-certified oil palm estates with different operational characteristics within the Kuala Muda district of Kedah, in order to identify shared structural patterns and estate-specific challenges and strengths, and to analyse how SIA-driven corrective measures have influenced the social conditions of workers and surrounding communities. The evidence gathered across ten estates showed that SIA operates as a procedurally standardised mechanism whose substantive effectiveness varies systematically with the category of issue concerned and the authority relationship required for its resolution. Corrective measures within an estate's direct administrative and financial control were consistently effective. Measures requiring head office capital approval, sustained worker behavioural change, or cooperation from external government agencies and surrounding communities were slower and only partially resolved, a pattern corroborated where independent institutional audit evidence was available.

The significance of the estate-specific variation identified in this study lies in what it implies for how SIA implementation should be managed within a corporate group operating several estates. The estates that achieved stronger outcomes were not necessarily those with the greatest resources in an absolute sense, but those whose social management approach had been adapted to their own configuration of workforce, terrain, location and external stakeholders. This suggests that SIA under MSPO is better understood as a context-sensitive management process than as a uniform compliance procedure applied identically across every certified estate.

For estate managers and plantation sustainability departments, the findings suggest practical value in distinguishing, within an estate's own social management planning, between issues that can be resolved through the estate's own budget and administrative authority and issues that require sustained external relationship building, since the two categories appear to call for different management approaches rather than the same document-and-monitor cycle applied uniformly. For MSPO auditors and the Malaysian Palm Oil Certification Council, the findings suggest that future guidance could usefully distinguish, within SIA reporting templates, between issues that fall within a certificate holder's own authority and issues that require action from a government agency or utility provider, so that externally dependent issues that remain documented but unresolved across multiple assessment cycles become more visible to auditors rather than remaining implicit within a single aggregate compliance record. The divergence identified between estate manager self-assessment and independent audit evidence of stakeholder engagement quality further suggests that auditor guidance could place additional emphasis on independently verifying external stakeholder perception of grievance channel accessibility, rather than relying primarily on an estate's own account of its engagement practice. For relevant government agencies operating in districts with a concentrated oil palm presence, the persistence of externally dependent issues such as wildlife management and road safety despite their consistent documentation through the SIA process suggests that a more structured, proactive engagement channel with estate sustainability departments could accelerate resolution of the issue category this study found least effectively addressed.

This study did not include direct interviews or surveys with plantation workers or surrounding community members, and all effectiveness conclusions are therefore derived from estate manager self-assessment, corroborated where possible against independently prepared institutional audit documentation rather than against direct worker or community testimony. Future research extending this comparative design to include direct worker and community perspectives and applying it across a larger and more geographically diverse sample of Malaysian oil palm estates, would allow the estate-characteristic and implementation-condition patterns identified in this study to be tested against a wider evidence base than a single district permits.

Ethics Approval and Consent to Participate

This study was conducted in accordance with the research ethics requirements of Universiti Teknologi MARA (UiTM). Written informed consent for participation and for the use of anonymised institutional documentation was obtained from all ten participating estate managers prior to data collection. No plantation workers or surrounding community members were interviewed or surveyed directly in this study, consistent with the data boundary described in Section 3.6.

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Conflict Of Interest

The authors declare no conflict of interest.

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