



## **SOCIAL IMPACT ASSESSMENT MONITORING MECHANISM IN DEVELOPMENT PROJECTS : A REVIEW ON MALAYSIAN PRACTICES**

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### **Abstract**

This paper examines the effectiveness of Social Impact Assessment (SIA) monitoring mechanisms in development projects in Malaysia, with a focus on state-level practices. SIA is a crucial tool for ensuring that development initiatives aligned with sustainable development goals by balancing social, environmental, and economic factors. However, the implementation and monitoring of Social Impact Management Plans (SIMPs) are often inconsistent, leading to gaps in the process of SIA in Malaysia. These gaps include unclear stakeholder roles, insufficient timelines for monitoring activities, and inadequate mechanisms for assessing and mitigating impacts. Through literature review and analysis of Malaysia's existing SIA processes, this study identifies several areas that need a drastic improvement. A key recommendation is the establishment of clearer, more detailed guidelines for stakeholders to ensure better accountability and coordination across the different levels of government, project developers, and affected communities. Effective community engagement is also emphasized, as it ensures that the voices of local communities are heard and that their concerns are addressed throughout the project lifecycle. By strengthening the roles of stakeholders and enhancing the monitoring framework, this paper proposes a more comprehensive and integrated approach that not only improves SIA practices but also ensures that development projects contribute positively to the well-being of local communities.

**Keywords:** Social Impact Assessment, Monitoring, Social Impact Mitigation Plans

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## **INTRODUCTION**

Social Impact Assessment (SIA) plays an increasingly vital role in the planning and execution of development projects worldwide. Its primary objective is to assess the potential social impacts of proposed development initiatives, ensuring that these projects contribute positively to communities and do not disproportionately harm vulnerable populations. The focus of SIA extends beyond merely identifying potential social consequences; it also emphasizes managing and mitigating adverse effects while enhancing beneficial outcomes for affected communities. This process helps ensure that economic growth does not come at the expense of social well-being or environmental sustainability (Vanclay, 2003).

The International Association for Impact Assessment (IAIA) has been a pivotal organization in defining and advancing the principles and practices of Social Impact Assessment (SIA). As per Vanclay (2003), SIA is understood as a process for managing both intended and unintended social consequences of development projects, policies, and plans. IAIA has consistently emphasized integrating SIA into broader impact assessment frameworks, advocating for adaptive management and active stakeholder participation throughout project lifecycles.

SIA serves as a mechanism for identifying and evaluating the social consequences of development projects—both positive and negative—on local populations, including their livelihoods, cultural practices, social structures, and quality of life. It is particularly concerned with potential changes to the way people live, work, interact, and relate to their environment as a result of a proposed development (Vanclay, 2003). Moreover, SIA is designed to address social equity issues, ensuring that vulnerable groups are not disproportionately impacted by large-scale projects.

In recent years, Malaysia has witnessed rapid urbanization and economic expansion, driven by large-scale infrastructure projects, urban development, and resource extraction activities. As the country strives to meet its development goals and align with the United Nations Sustainable Development Goals (SDGs), ensuring that such projects are socially responsible has become critical. The introduction of the Town and Country Planning Act 1976 (Amendment 2017) [Act A1522] represents a significant milestone in Malaysia's regulatory framework, mandating that certain large-scale and high-impact development projects undergo a Social Impact Assessment. This legislation aims to align national development projects with broader sustainability goals, ensuring that projects are economically viable while minimizing negative social repercussions on communities (Hassan, 2018).

Among these is the issue of monitoring. Although SIAs identify and propose mitigation strategies for potential social impacts, the processes for enforcing and monitoring these mitigation measures, known as Social Impact

Mitigation Plans (SIMPs), are often insufficiently prioritized. As a result, mitigation measures that are outlined in SIA reports may not be properly implemented, monitored, or adjusted over the course of the project lifecycle, leading to unanticipated social consequences for affected communities (PLANMalaysia, 2023).

### **The Problem of Monitoring in SIA Practices**

Monitoring the implementation of mitigation strategies is a critical part of the SIA process. It ensures that the social impacts predicted during the assessment phase are appropriately addressed and that any unforeseen consequences can be mitigated in a timely manner. However, in Malaysia, there is a significant gap in the monitoring mechanisms embedded within the SIA framework. The current guidelines are often vague, lacking specific timelines, detailed responsibilities, and clear procedures for enforcing the monitoring of SIMPs throughout the project lifecycle (Rossouw & van der Merwe, 2024).

For instance, PLANMalaysia, the main regulatory body overseeing SIA implementation, has provided guidelines for preparing and submitting SIA reports, but the agency has not specified detailed procedures for ensuring that the proposed mitigation measures are effectively monitored. The Social Impact Assessment Preparation Guidelines (PPSIA) 2023 acknowledged the importance of monitoring but fail to establish comprehensive mechanisms for real-time or ongoing evaluations of SIMP implementation. Without clear monitoring systems in place, there is little accountability for ensuring that social impacts are continually assessed and mitigated (PLANMalaysia, 2023).

This lack of systematic monitoring is further exacerbated by the decentralized nature of SIA enforcement in Malaysia. While the federal government mandates the submission of SIA reports, it is often up to state and local authorities to oversee their implementation process. Different states exhibit varying levels of commitment and capacity to enforce SIA provisions, leading to inconsistent practices across the country. This creates disparities in how SIMPs are enforced and monitored, with some projects receiving rigorous scrutiny while others proceed with minimal oversight (Suaree et al., 2022).

### **Challenges in Stakeholder Engagement and Participation for Monitoring**

A key principle of effective SIA is the involvement of local communities in both the assessment and monitoring phases. Stakeholder engagement is critical to ensuring that the concerns and needs of affected communities are accurately reflected in the mitigation strategies. However, in Malaysia, public participation in SIA processes, particularly in the monitoring of SIMPs, is often minimal. Communities are frequently excluded from the decision-making processes, and their input is seldom sought after the initial assessment phase (Hassan, 2018). This lack of community involvement can lead to the implementation of mitigation

measures that are misaligned with the actual needs and preferences of the people they are intended to benefit. Monitoring efforts may include revisiting local communities and conducting surveys to address concerns raised in the SIMP, facilitating the assessment of proposed KPIs and the evaluation of the resulting social impacts.

This issue is further exacerbated by the absence of clear communication channels to convey community concerns to project developers and government agencies. Consequently, the social impacts of development projects are often assessed without meaningful involvement from the affected communities. This disconnect undermines the alignment between the mitigation strategies proposed in SIMPs and the actual conditions on the ground (Franks & Vanclay, 2013).

In every Social Impact Assessment (SIA), a key requirement is the establishment of a Social Impact Monitoring Committee (SIMC) tasked with overseeing the assessment of anticipated social impacts and the implementation of mitigation measures. This committee typically includes representatives from relevant technical departments, government agencies, and community leaders from the affected areas. However, while the inclusion of these stakeholders is essential for the monitoring process, their roles and effectiveness have yet to be proven in practice. A significant gap identified in the existing monitoring frameworks is the lack of clear guidelines to assess the effectiveness of community engagement and the roles of local leaders (Franks & Vanclay, 2023).

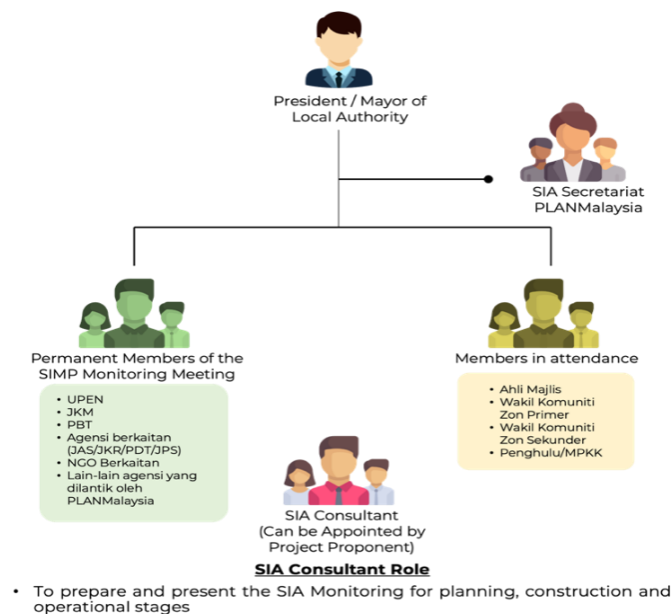


**Figure 1: The Proposed of Social Impact Monitoring Committee**  
*Source: German Technology Park SIA Report, 2024*

Without structured mechanisms to measure community involvement, it is challenging to ensure that the voices of local populations are genuinely considered, limiting the ability of stakeholders to effectively manage social impacts during development projects (Hassan, 2022). The involvement of community leaders and representatives is critical, as they act as intermediaries between the project proponent and the affected community. However, studies have shown that, without sufficient capacity-building and proper guidelines, the contributions of these stakeholders can remain superficial and fail to influence decision-making (See et al., 2024). This highlights the need for more robust stakeholder engagement practices, with clear roles and accountability measures for community leaders and affected populations. Additionally, the project proponent plays a crucial role in monitoring SIA during the development phase. It is the responsibility of the proponent to ensure that social impact mitigation measures are not only planned but also implemented effectively and continuously monitored. Without the proponent's active involvement in monitoring, the SIA process risks becoming a static document rather than a dynamic tool for addressing social issues as they arise (Zeshan et al., 2021). Therefore, it is essential that the proponent, together with other stakeholders, works collaboratively to track progress, address concerns in real-time, and adapt mitigation strategies as necessary.

## **LITERATURE REVIEW**

### **The Concept of Social Impact Assessment (SIA)**

Social Impact Assessment (SIA) has evolved as a critical component in ensuring that development projects align with sustainable development objectives. SIA assesses the potential social impacts, both positive and negative of proposed development projects on affected communities. The International Association for Impact Assessment (IAIA) defines SIA as the process of identifying, analyzing, and managing the intended and unintended social consequences of interventions, including policies, plans, and projects (Vanclay, 2003). This ensures that projects contribute to sustainable and equitable development, taking into consideration the well-being of individuals, families, and communities.

Globally, SIA has been embraced as part of the broader environmental and social governance (ESG) framework in various industries such as mining, infrastructure development, and urban planning. Esteves et al. (2012) argue that SIA is crucial for promoting community engagement, stakeholder participation, and transparency in decision-making processes. In many cases, SIA has become a statutory requirement, with governments mandating its use for large-scale development projects. The process allows developers, policymakers, and communities to better understand the social changes a project may cause, such as impacts on livelihoods, health, social cohesion, and access to resources.

### **Global Context and Best Practices**

Globally, many countries have integrated SIA monitoring as part of a broader framework for managing environmental, social, and governance (ESG) concerns in development projects. For example, in Australia and South Africa, SIA is part of an adaptive management framework that includes continuous monitoring of social impacts throughout the project lifecycle, from pre-construction to post-completion. These countries have implemented rigorous standards for tracking and reporting on social impacts, often requiring developers to regularly update their SIMPs based on ongoing community feedback and real-time data (Franks & Vanclay, 2013).

Advanced technologies such as Geographic Information Systems (GIS) and big data analytics are increasingly used to enhance the effectiveness of SIA monitoring globally. GIS, for instance, allows for real-time tracking of social and environmental changes, enabling stakeholders to respond quickly to any negative impacts (Chamaki et al., 2018). Big data analytics can also help identify patterns and trends in social impacts that may not be immediately visible through traditional monitoring techniques. However, the adoption of these technologies in Malaysia remains limited due to financial and technical constraints.

### **Legal and Policy Framework of SIA in Malaysia**

In Malaysia, the regulatory framework for SIA has been formalized through the Town and Country Planning Act 1976, particularly following its amendment in 2017. The amendment mandates the preparation of SIA reports for large-scale projects or those deemed to have significant social impacts, thus making SIA an essential part of the development approval process. The purpose of these reports is to ensure that proposed development projects do not cause disproportionate harm to local communities and that mitigation strategies are planned to offset any negative social consequences (Hassan, 2018).

The Act specifically emphasizes that SIA must be conducted before planning permissions are granted for projects that could have a major social impact. This amendment marked a significant shift in how social consequences are considered in the planning and approval processes of development projects. However, as several scholars (Suaree et al., 2022; PLANMalaysia, 2023) have pointed out, the lack of clear guidelines on how mitigation measures are to be monitored post-approval remains a significant gap. While federal guidelines exist, the enforcement and interpretation of these guidelines are inconsistent at the state and local levels.

### **Monitoring Mechanisms in Social Impact Assessment**

Monitoring the implementation of Social Impact Management Plans (SIMPs) is an essential, yet often neglected, component of the SIA process. According to Rossouw and van der Merwe (2024), the lack of effective monitoring

mechanisms can result in mitigation measures being ignored or poorly executed, particularly after the initial project approval stages. Monitoring ensures that the planned social mitigation strategies are executed, assessed for effectiveness, and adjusted as necessary to accommodate ongoing or unforeseen social changes.

Globally, effective SIA monitoring has been associated with continuous evaluation and adaptive management strategies. For instance, in Australia and Canada, SIAs are integrated into the broader framework of Environmental Impact Assessments (EIAs), with monitoring mechanisms that cover both the environmental and social impacts throughout the project lifecycle (Esteves et al., 2012). These frameworks emphasize the importance of ongoing monitoring to ensure compliance with mitigation plans and to track whether predicted social impacts materialize as expected.

In Malaysia, however, monitoring is often a weak link in the SIA process. The existing guidelines for SIA monitoring, as outlined by PLANMalaysia in 2023, provide limited specifics regarding timelines, stakeholder roles, and appropriate methodologies for monitoring the effectiveness of mitigation strategies. This has resulted in inconsistent application across different states and sectors. For instance, studies have shown that there is a significant variation in how SIMPs are monitored, with some states conducting robust evaluations, while others provide minimal oversight (Hassan, 2018).

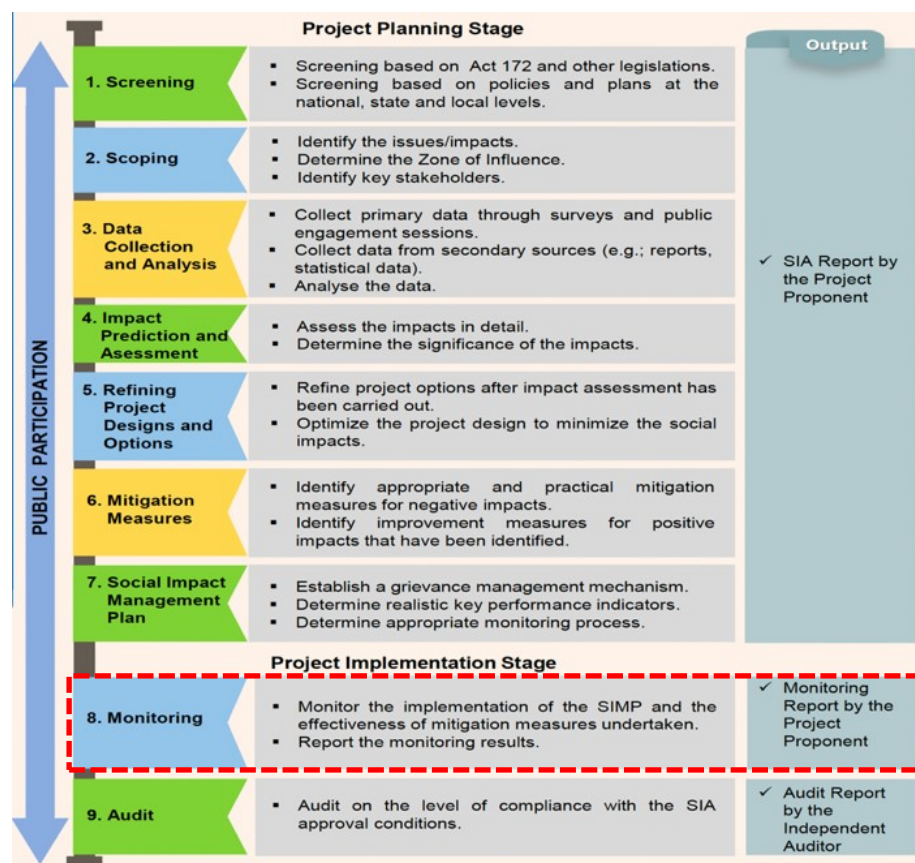


**Figure 2: The Process of Social Impact Assessment (SIA)**

*Source: PPSIA, PLANMalaysia, 2024*

### Stakeholder Roles in SIA Monitoring

The success of SIA monitoring depends heavily on the roles played by various stakeholders, including government agencies, developers, local communities, and civil society organizations. According to Franks and Vanclay (2013), stakeholder participation is crucial in ensuring that monitoring processes are transparent, accountable, and reflective of the needs of affected communities. However, in Malaysia, the roles and responsibilities of these stakeholders are not always clearly defined, particularly in terms of post-approval monitoring.

The lack of clarity in stakeholder roles often leads to confusion about who is responsible for monitoring social impacts during and after project implementation. This gap can result in poor enforcement of mitigation measures and an inability to address social issues as they arise. Strengthening stakeholder roles, particularly the involvement of local communities in the monitoring

process, is essential for ensuring the long-term social sustainability of development projects (Sairinen et al., 2011).

### **Technological Integration in SIA Monitoring**

The integration of advanced technologies such as Geographic Information Systems (GIS), remote sensing, and big data analytics has the potential to significantly enhance the monitoring of social impacts in development projects. These technologies provide real-time data and allow for more accurate tracking of social changes, enabling stakeholders to monitor and adjust mitigation measures promptly. GIS, for instance, has been widely used to map social impacts and monitor changes in land use and community dynamics over time. Such technologies not only help in identifying negative impacts but also in optimizing positive contributions from development projects by facilitating better decision-making and adaptive management (Parra, 2022; See et al., 2024).

However, the adoption of these technologies in Malaysia's Social Impact Assessment (SIA) monitoring framework remains limited due to challenges such as a lack of technical expertise, financial constraints, and insufficient infrastructure (Zeshan et al., 2021). Despite these barriers, integrating technologies like GIS, remote sensing, and big data could substantially improve the effectiveness of monitoring efforts by providing more detailed, real-time insights into social and environmental dynamics. This would ensure that mitigation measures are not only implemented but also adapted based on continuous monitoring. Furthermore, integrating these tools could help achieve the United Nations Sustainable Development Goals by enhancing the monitoring of community well-being, land use, and the socio-economic impact of projects (Parra, 2022; See et al., 2024). As such, future research should explore practical solutions for overcoming these technological and infrastructural challenges to facilitate the broader adoption of these technologies in Malaysia's SIA practices.

## **METHODOLOGY**

### **Research Design**

The research design for this study adopts a qualitative research design to explore the effectiveness of Social Impact Assessment (SIA) monitoring mechanisms in Malaysia. The research focuses on understanding how current practices are applied, identifying gaps in monitoring processes, and proposing improvements for the Social Impact Mitigation Plans (SIMPs) in development projects. A qualitative approach was chosen because it allows for an in-depth analysis of stakeholder perspectives, existing policies, and contextual challenges in the implementation of SIA monitoring mechanisms. Data was collected through a review of existing SIA reports, policy documents, and academic literature. The analysis focuses on identifying the key challenges in the current monitoring processes and proposing a framework to improve these practices.

### **Data Collection Method**

The study relies heavily on document analysis as a primary method of data collection. Data sources include official reports from PLANMalaysia, academic publications, and case studies of development projects that required SIA. The document analysis provides insights into the content of SIMPs, the guidelines for monitoring social impacts, and the legal requirements for enforcing these plans. Additionally, it helps identify inconsistencies in how SIA monitoring is implemented across different states.

Interviews with key stakeholders, such as SIA report providers, developers, and government officials, were also conducted to gain insights into the practical challenges of implementing and monitoring SIMPs. The interviews focused on understanding the challenges faced in implementing and monitoring SIMPs, stakeholder roles in the process, and the adequacy of current guidelines and tools for monitoring. These interviews provided qualitative data on the practical aspects of SIA implementation and monitoring, highlighting both successes and areas for improvement.

Three case studies of large-scale development projects in Malaysia were selected to provide a deeper understanding of how SIMPs are monitored in practice as of table 1. These case studies focus on projects that have had significant social impacts, such as infrastructure development or resource extraction projects in urban and rural areas. The case studies involve an analysis of the SIA reports for these projects, as well as interviews with stakeholders involved in monitoring the social impacts.

### **Data Analysis**

Thematic analysis was used to analyze the qualitative data collected from documents, interviews, and case studies. Data was coded and categorized into themes, allowing for the identification of patterns and relationships between different aspects of the monitoring process. The findings from the analysis were then used to propose a comprehensive framework for improving SIA monitoring practices in Malaysia.

**Table 1 :** Social Impact Assessment (SIA) Report Submission for Planning Permission Applications as for 2024

| States                   | Applications |
|--------------------------|--------------|
| State of Selangor        | 102          |
| State of Pahang          | 5            |
| State of Melaka          | 35           |
| State of Negeri Sembilan | 20           |
| State of Terengganu      | 23           |
| State of Pulau Pinang    | 67           |
| State of Kedah           | -            |
| State of Perak           | 8            |

*Source: PLANMalaysia, August, 2024*

### Validation of Findings

To ensure the reliability and validity of the findings, triangulation was employed by cross-referencing data from multiple sources, including document analysis, interviews, and case studies. This helped to verify the consistency of findings across different contexts and stakeholder perspectives.

## RESULTS

### Current SIA Practices in Malaysia

The analysis of existing SIA practices reveals that while SIA reports are legally required for certain development projects, the monitoring of Social Impact Mitigation Plans (SIMPs) is inconsistent. Many SIA reports lack detailed provisions for ongoing monitoring, leaving gaps in enforcement once the project has received approval. This is particularly evident at the state level, where local authorities often lack the resources and technical expertise needed to monitor social impacts effectively.

As of 2024, **Selangor** has contributed **39.5%** of the total SIA reports, while states like **Kedah** have submitted none at all, leading to disparities in how social impacts are managed across regions. This inconsistency in SIA application reflects broader regulatory and enforcement gaps, which undermine social accountability. Research also shows that **70%** of developers and SIA report providers face difficulties in preparing the required **Monitoring Reports** due to the absence of clear procedural guidelines (Hassan, 2018). Although the **Social Impact Assessment Preparation Guidelines (PPSIA) 2023** offers some direction on monitoring, it lacks specific methodologies for implementing the monitoring process (Suaree et al., 2022).

### Stakeholder Engagement and Monitoring

Interviews with key stakeholders revealed that the roles of government agencies, developers, and local communities in the SIA monitoring process are not clearly defined. This lack of clarity often leads to delays in the enforcement of mitigation

measures, with some projects proceeding without adequate social impact monitoring. Stakeholders also highlighted the need for better coordination between government agencies at the federal, state, and local levels.

The absence of a structured, systematic framework for continuous monitoring renders the implementation of SIMPs less effective, creating a gap between policy and practice (Esteves et al., 2012). This is particularly evident in the lack of clarity surrounding **stakeholder roles**. **75%** of government agencies and technical departments involved in monitoring SIMPs are unclear about their specific responsibilities, with **60%** of them citing insufficient resources to engage effectively in the monitoring process (Franks & Vanclay, 2013). This confusion hinders the ability to enforce mitigation measures, ultimately leaving communities vulnerable to unaddressed social impacts.

### **Technological Gaps**

The integration of technologies such as GIS and big data analytics into the monitoring process of Social Impact Assessments (SIA) remains limited in Malaysia. While these tools hold great potential to provide real-time insights into the social impacts of development projects, their adoption has been slow due to a lack of technical expertise, financial resources, and insufficient infrastructure (Zeshan et al., 2021; Parra, 2022). However, the application of these technologies in SIA remains in its infancy, and further investment and expertise are required to leverage these tools effectively for social impact monitoring (Digital News Asia, 2022).

By enhancing the capacity of local agencies and providing more resources for technical training, Malaysia could significantly improve its ability to monitor social impacts and implement timely mitigation strategies. This would help close the gap in effective governance and ensure that development projects are more socially responsible and sustainable in the long run.

## **DISCUSSION**

### **Impacts to the Community**

If the Social Impact Assessment (SIA) Monitoring Report is not prepared, it can have severe repercussions on the affected communities. One significant impact is the potential for unmitigated adverse effects, such as loss of livelihoods, social cohesion, and access to essential resources. These effects disproportionately affect vulnerable groups, including low-income households and indigenous communities, exacerbating inequalities and social exclusion (IUCN, 2024). Moreover, without monitoring, mitigation measures proposed during the SIA process are unlikely to be implemented effectively, leaving communities exposed to ongoing or worsening conditions, such as displacement or inadequate compensation mechanisms (World Bank, 2024).

Effective monitoring is crucial for addressing unforeseen challenges and adapting project plans to local needs, fostering inclusivity and social sustainability. Without this, projects risk alienating affected populations and failing to meet both local development and international sustainability goals, such as the United Nations Sustainable Development Goals (Social Impact Assessment Hub, 2024). This lack of accountability and feedback mechanisms can also result in legal disputes or community protests, further delaying or derailing the project.

### **Enhancing Monitoring Mechanisms**

To address the identified gaps in monitoring, this study proposes a framework that emphasizes clear guidelines for monitoring SIMPs throughout a project's lifecycle. This includes defining specific roles and responsibilities for all stakeholders involved, from government agencies to developers and local communities. The framework also recommends setting clear timelines for the monitoring process, ensuring that social impacts are tracked at regular intervals.

### **Stakeholders Role**

Stakeholders play a crucial role in the effective implementation of the SIA monitoring report, especially in ensuring that the identified social impacts are managed throughout the project lifecycle. Key stakeholders, including government agencies, local communities, project developers, and civil society organizations, must actively participate in both the assessment and monitoring processes. Government agencies are typically responsible for enforcing regulations and ensuring compliance with SIA guidelines, while developers are tasked with preparing the SIA report and implementing mitigation measures. Local communities, particularly those directly affected by the project, must be engaged throughout the process to ensure that their concerns are addressed and that the mitigation strategies align with their needs. This collaboration helps to foster transparency, build trust, and ensure that the benefits of the project are maximized while minimizing negative social impacts (IUCN, 2024; Social Impact Assessment Hub, 2024).

| NO                                        | IDENTIFIED SOCIAL IMPACTS                                 | SEVERITY LEVEL                             | OUTCOME                                    | MITIGATION MEASURES                                                                                                                                                                                                                                                                                                                                                                                                                             | KPI                                                                                                                                                                                                                                                                                                                                                                                              | IMPLEMENTING PARTY | MONITORING PERIOD                 | ENFORCEMENT AGENCIES                                                                                   |
|-------------------------------------------|-----------------------------------------------------------|--------------------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>KESIHATAN DAN KESEJAHTERAAN SOSIAL</b> |                                                           |                                            |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                                   |                                                                                                        |
| 1d                                        | Health and Social Well-being<br><br>(QUESTIONNAIRE & FGD) | Significant Negative Impact (Low Priority) | To increase trust and community acceptance | <ul style="list-style-type: none"> <li>• Making transparent and open announcements through mass media and electronic media</li> <li>• Conducting consultations with local residents, explaining the benefits they will gain, such as job opportunities and other related advantages</li> <li>• Developing an industrial area based on the Manage Industrial Park (MIP) concept, integrating industrial activities with the community</li> </ul> | <ul style="list-style-type: none"> <li>• An 80% increase in community acceptance</li> <li>• Two consultation sessions with local residents within the first 6 months of the project.</li> <li>• Distributing mass media and electronic press releases annually regarding the progress and benefits of the project.</li> <li>• A 50% reduction in public complaints about the project.</li> </ul> | Project Proponent  | <b>During Planning Permission</b> | <ul style="list-style-type: none"> <li>i. Local Authority</li> <li>ii. State Invest Company</li> </ul> |

**Figure 3:** Social Impact Management Plan and role of stakeholders  
*Source: German Technology Park SIA Report, 2024*

The success of the SIA monitoring report largely depends on continuous stakeholder engagement and adaptive management. Once the monitoring report is implemented, ongoing feedback from stakeholders is essential for assessing the effectiveness of the mitigation measures and making necessary adjustments. This process involves collecting data through various methods such as community surveys, focus group discussions, and participatory monitoring. The monitoring team should ensure that the voices of vulnerable groups are heard and that their social and cultural needs are prioritized. By integrating these perspectives, stakeholders can contribute to better project outcomes and a more socially responsible development process. Failure to adequately involve stakeholders in the monitoring process can result in unaddressed social issues, which can lead to project delays, increased conflicts, or even abandonment (Social Impact Assessment, 2024; State Development, Infrastructure and Planning, 2024).

### Leveraging Technology for Improved Monitoring

The integration of advanced technologies such as Geographic Information Systems (GIS) and big data analytics into the Social Impact Assessment (SIA) process offers a promising solution to the challenges identified in this study. These tools provide real-time data that enable stakeholders to actively monitor and assess social impacts throughout the project lifecycle. GIS, for example, allows for spatial analysis, enabling better visualization of how development projects affect local communities, infrastructure, and land use over time (Zeshan et al., 2021). By using satellite imagery and mapping tools, it is possible to track changes in land use, monitor displacement, and assess the effects of construction activities on local ecosystems. Furthermore, the use of big data analytics allows for the processing of large volumes of social, economic, and environmental data,

which can be leveraged to predict potential social impacts and help tailor mitigation measures more effectively (Parra, 2022; See et al., 2024).

### **Strengthening Stakeholder Engagement**

Clearer definitions of stakeholder roles are crucial for improving the implementation of Social Impact Mitigation Plans (SIMPs) and ensuring that the monitoring process is both effective and inclusive. Research suggests that well-defined roles for stakeholders—ranging from government agencies to local communities and project developers—are essential to prevent overlapping responsibilities and gaps in accountability (Franks & Vanclay, 2023). For instance, government agencies must ensure that developers comply with the monitoring guidelines, while developers should actively engage with local communities, providing them with transparent information about the project's progress and impact. This collaborative approach ensures that all parties are aligned in their goals of minimizing negative impacts and optimizing positive outcomes (See et al., 2024).

Moreover, the role of community engagement in SIA monitoring cannot be overstated. Effective community involvement ensures that local populations have a voice in both the assessment and monitoring processes, which helps align the mitigation measures with the real needs of those affected by the project (Hassan, 2022). This involvement not only promotes social equity but also improves the legitimacy of the project within the community, reducing the risk of resistance or social unrest. Stakeholders must prioritize continuous engagement through transparent communication, regular updates, and active participation in decision-making. By doing so, the monitoring process becomes more dynamic, adaptive, and capable of responding to unforeseen social impacts in real time (Zeshan et al., 2021; Parra, 2022). Ultimately, strengthening stakeholder roles and community engagement will significantly enhance the effectiveness of SIMP implementation, contributing to the long-term success and sustainability of development projects.

### **CONCLUSION**

This study has highlighted significant gaps in the current practices for monitoring Social Impact Mitigation Plans (SIMPs) in Malaysia. While Social Impact Assessment (SIA) is an essential tool for ensuring sustainable development, its effectiveness is often undermined by the lack of clear monitoring mechanisms, poorly defined stakeholder roles, and limited integration of technological solutions. The absence of specific, enforceable guidelines and the failure to adequately define stakeholder responsibilities have resulted in inconsistencies across various development projects. Moreover, the limited use of modern technologies, such as Geographic Information Systems (GIS) and real-time data

analytics, reduces the ability to monitor and adjust mitigation strategies effectively as the project evolves (Social Impact Assessment Hub, 2024).

To address these issues, this study proposes a comprehensive framework for improving SIA monitoring, including clearer guidelines, enhanced stakeholder engagement, and the adoption of advanced technologies. Implementing these recommendations will help ensure that the benefits of development projects are maximized while minimizing negative social impacts, thus making them more sustainable and socially responsible (State Development, Infrastructure and Planning, 2024). Furthermore, future research should focus on the practical implementation of this framework, exploring how emerging technologies can be incorporated into the SIA monitoring process to improve real-time tracking and responsiveness. A structured investigation into the current regulatory gaps and inconsistencies in SIMP monitoring across different jurisdictions is crucial to ensure uniformity and accountability. By developing standardized procedures and incorporating advanced data analytics tools, Malaysia can achieve more effective monitoring, providing a stronger foundation for sustainable development and mitigating social impacts more efficiently (Social Impact Assessment, 2024).

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