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Article

Utilizing Social Return on Investment (SROI) as a Framework for Sustainable Social Investment: Insights from Flood Mitigation

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Abstract: In recent years, the increasing scarcity of resources and rising demands have created substantial challenges for social investment, impacting both profit-oriented and nonprofit organizations. Stakeholders across this spectrum, ranging from for-profit enterprises to nonprofit organizations, striving to adapt to rapid economic changes, face obstacles in securing funding, primarily due to difficulties in demonstrating the value of their investments. This challenge is exacerbated by the weaknesses often associated with Corporate Social Responsibility (CSR) initiatives, which can include a lack of measurable impact and insufficient alignment with stakeholder needs. Many CSR efforts often criticized for short-term focus and lack of measurable impact, contribute to skepticism among stakeholders regarding their effectiveness. Recognizing these challenges, there is a growing emphasis on sustainable investments that integrate social, economic and environmental returns. This article explores the concept of sustainability within the framework of the triple bottom line and the Sustainable Development Goals (SDGs), specifically focusing on the Sungai Muda Flood Mitigation Program (SMFMP), Kedah involving quantitative data. Using Social Return on Investment (SROI) analysis, the study finds a positive social return of RM 4,892,641,540.00, meaning the program delivers RM 4.88 in social benefits for every ringgit invested, across social, economic and environmental elements. These findings underscore the SMFMP's potential as a valuable social investment, offering substantial benefits for individuals, communities and society. The study suggests that the SROI is a useful tool for stakeholders, including government bodies and CSR initiatives to integrate social and environmental values into economic decision-making.

Keywords: SROI, social investment, sustainable returns, flood mitigation, SDGs

Introduction

The Social Return on Investment (SROI) methodology emerges as a comprehensive approach for assessing the value generated by social programs, particularly in alignment with the Sustainable Development Goals (SDGs). SROI encompasses social, economic and environmental elements, thereby providing a holistic perspective on the impact of interventions, such as flood mitigation programs (Lombardo et al., 2020). This methodology transcends traditional financial metrics by integrating these diverse aspects to calculate the total social value of social programs, thereby offering a more nuanced understanding of their effectiveness (Kadel et al., 2022). Recognized internationally as a stakeholder-informed process, SROI measures the value created by social programs, including flood mitigation initiatives, by defining social value through the changes experienced by stakeholders in their lives (Patil, 2023).

The SROI framework is grounded in a comprehensive value perspective, aiming to address inequalities, mitigate environmental degradation and enhance overall well-being by considering the associated social, environmental and economic costs and benefits (Hyatt et al., 2022). In the context of Corporate Social Responsibility (CSR), SROI provides a valuable tool for organizations to evaluate the effectiveness of their CSR initiatives, including flood mitigation programs. Many CSR programs face criticism for lacking measurable impact and failing to align with stakeholder needs. By applying SROI, organizations can demonstrate the tangible social value of their flood mitigation efforts, thereby enhancing transparency and accountability. This methodology not only helps in justifying CSR investments but also ensures that these initiatives contribute meaningfully to sustainable development. The application of SROI in flood mitigation programs provides deeper insights into how organizational activities impact individuals and facilitates improved resource allocation decisions (Merino et al., 2022). Decision-makers benefit from SROI by incorporating broader impacts into their choices, thereby enhancing their capacity to account for social, economic and environmental effects (Hermansyah, 2023).

Furthermore, SROI offers a systematic approach for mapping and assessing social impact, allowing for the integration of stakeholder considerations into resource allocation decisions. Additionally, SROI enables organizations to effectively demonstrate the broader social value of their flood mitigation work and engage stakeholders in meaningful ways (Hyatt et al., 2022). The application of the SROI methodology provides a robust framework for evaluating social programs, measuring social value and promoting sustainability. By incorporating sustainable returns; social, economic and environmental dimensions, SROI facilitates a comprehensive assessment of the impact of flood mitigation interventions, empowering stakeholders to make informed decisions and drive meaningful social change.

Literature Review

1. The Fundamental of SROI

SROI offers a holistic framework for assessing the multifaceted value created by social programs, particularly in alignment with the SDGs. This approach encompasses social, economic and environmental dimensions, providing a comprehensive understanding of impact beyond purely financial gains. In the context of Malaysia, where there is a growing demand for sustainable development practices, SROI becomes increasingly relevant as stakeholders seek to justify their investments in social initiatives, such as flood mitigation programs. SROI measures the value of an intervention against the cost of enabling it to occur. It utilizes a concept of value that transcends traditional financial metrics by incorporating social, economic and environmental elements to calculate the total value, referred to as “social value.” Central to this approach is a comprehensive value perspective that defines social value as "the value that stakeholders perceive through changes in their lives" (Social Value International, 2015). This perspective aligns with the worldview trend of prioritizing sustainability and social equity, which is particularly pertinent in Malaysia, where environmental challenges and social disparities are pressing issues.

The SROI framework aims to address inequality, mitigate environmental degradation and enhance well-being by considering the associated social, environmental and economic costs and benefits (Nicholls et al., 2012). This methodology provides deeper insights into how organizational activities impact individuals and facilitates improved resource allocation decisions (Merino et al., 2022). In Malaysia, decision-makers benefit from SROI by incorporating broader impacts into their choices, thereby enhancing their capacity to account for social, economic and environmental effects (Hermansyah, 2023). Furthermore, SROI offers a systematic approach for mapping and assessing social impact, allowing for the integration of stakeholder considerations into resource allocation decisions. In the context of flood mitigation programs, SROI enables organizations to effectively demonstrate the broader social value of their work and engage stakeholders in meaningful ways. The application of the SROI methodology provides a robust framework for evaluating social investments, measuring social value and promoting sustainability. SROI facilitates a comprehensive assessment of the impact of interventions, empowering stakeholders to make informed decisions and drive meaningful social change. By incorporating CSR principles, SROI not only evaluates the financial returns of social investments

but also emphasizes the importance of social and environmental outcomes. This integration allows organizations to align their CSR initiatives with measurable social value, ensuring that their efforts contribute positively to community well-being and sustainability. Consequently, SROI serves as a vital tool for organizations seeking to enhance their CSR strategies while demonstrating accountability and transparency to stakeholders. As Malaysia continues to navigate the complexities of social investment in a rapidly changing environment, the integration of SROI into flood mitigation initiatives not only addresses the immediate needs of communities but also aligns with the global trend towards sustainable development. This alignment underscores the importance of adopting SROI as a critical tool for enhancing the effectiveness of social investments and fostering a more resilient and equitable society.

The SROI framework was initially developed by The Roberts Enterprise Development Foundation (REDF) in San Francisco, United States, in 1996 and later refined by The New Economics Foundation in the United Kingdom in 2008 (Banke-Thomas et al., 2015; Classen, 2015; Hall et al., 2015; Mertens et al., 2015). SROI builds upon traditional economic evaluation methods such as cost-benefit analysis (Gibson et al., 2011; King, 2014; Pathak & Dattani, 2014) but distinguishes itself by adopting a more comprehensive approach. It includes a broader range of social impacts such as multiplier effects (Banke-Thomas et al., 2015; Krlev et al., 2013; Pathak & Dattani, 2014) and emphasizes active stakeholder engagement (King, 2014; Krlev et al., 2013; Mertens et al., 2015). This methodology offers a deeper understanding of how organizational activities impact individuals and facilitate improved resource allocation decisions (Gosselin et al., 2020). Decision-makers derive significant value from SROI as it allows them to consider a broader spectrum of impacts in their decision-making processes. This comprehensive approach enhances their ability to incorporate social, economic and environmental consequences into their evaluations, leading to more informed and responsible choices. SROI provides decision-makers with a structured methodology for mapping and measuring social impact, enabling the inclusion of stakeholder considerations in resource allocation decisions (Millar & Hall, 2013). By combining economic, social and environmental outcomes, SROI contributes to theory development and aids in decision-making processes (Jenei & Kiss, 2019).

SROI can be employed to underscore the social value generated by either an entire organization or specific components within it (Mertens et al., 2015). This approach facilitates the assessment of social, economic, environmental and other outcomes that are not typically monetized or valued through traditional success metrics (Arvidson et al., 2014; Krlev et al., 2013; Pathak & Dattani, 2014). The process of monetization also known as valuation involves attributing financial values to outcomes that lack direct market prices using proxies. This includes "soft outcomes" (Millar & Hall, 2012) such as well-being, self-esteem, confidence, community participation, enhanced family relationships, cultural integration, as well as issues of discrimination and social inclusion (Arvidson et al., 2014). SROI is a relatively recent and developing field (Classen, 2015; Krlev et al., 2013) and its application in Malaysia is still in an emerging phase, both in scholarly literature and practice. The SROI framework comprises two main types of analysis: forecast and evaluative (Banke-Thomas et al., 2015; Krlev et al., 2013). Forecast analysis resembles formative evaluation, focusing on the planning stages of a program to anticipate potential outcomes if the intended goals are met (Gibson et al., 2011; Millar & Hall, 2012; Nicholls et al., 2009).

Conversely, evaluative SROI corresponds with summative or impact evaluation, conducted after program implementation to measure its effectiveness. Unlike traditional impact assessments, evaluative SROI assigns monetary values to program outcomes, demonstrating cost-effectiveness. It is retrospective, examining the actual results achieved (Gibson et al., 2011; Millar & Hall, 2012). Previous studies have recognized SROI as a valuable tool that can complement and supplement existing program evaluation methods (Context, 2010; Social Ventures Australia, 2012), making it a favored approach for social impact assessment (Pathak & Dattani, 2014). SROI analysis is adaptable and can be integrated at various stages of a project's life cycle by governments, investors, corporations and organizations, regardless of their profit orientation to maximize social returns. It can be utilized during the planning phase, mid-term assessments or final evaluations (Context, 2010), allowing for periodic “snapshots” of a program’s impact over specific time frames (Gibbon & Dey, 2011). The SROI methodology is built on seven core principles that ensure effective communication with stakeholders, enhancing transparency and accountability (see Figure 1).

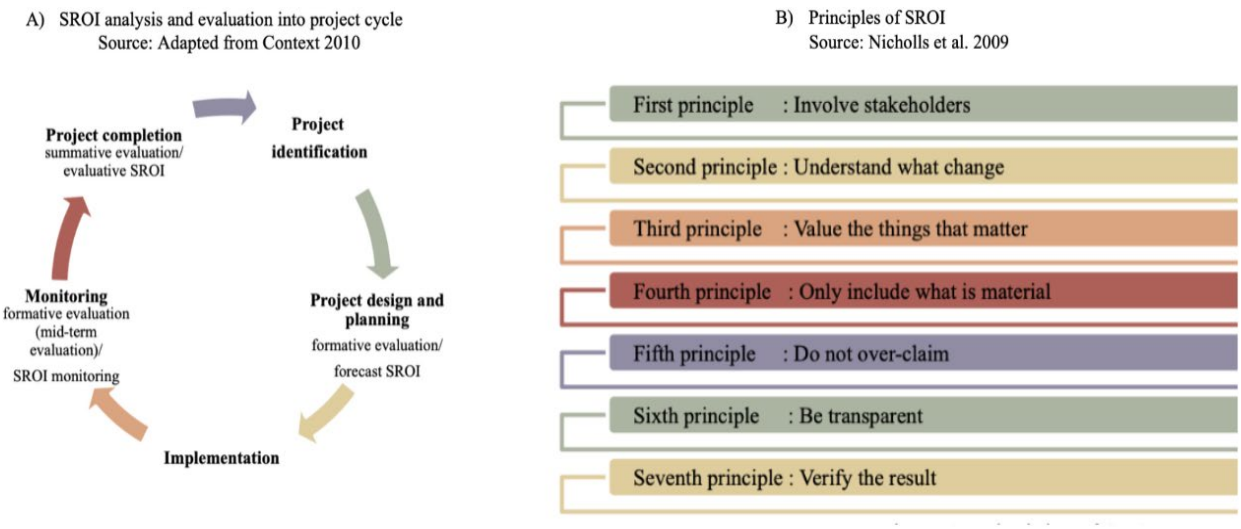


Figure 1. Principle of SROI (2009)

The SROI framework is grounded in the principles of the theory of change and the logic model. Its foundations are derived from traditional economic evaluation methods, with the program's value contingent upon the active participation of stakeholders at multiple levels, whether they are directly or indirectly impacted by the initiative. The SROI analysis process is structured into six key stages (Kadel et al., 2022), which include data collection, data processing, data analysis and data dissemination (Figure 2).

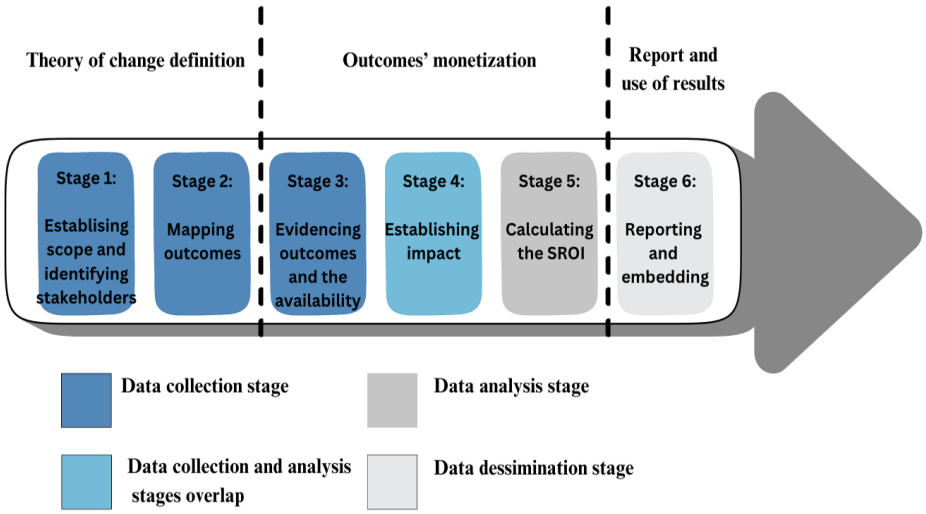


Figure 2. Stages of the SROI process
Source: Own elaboration based on Context (2010), Nicholls et al. (2009)

SROI methodology provides a structured framework that promotes effective communication with funders and stakeholders, enhancing transparency and accountability in decision-making processes (Stielke, 2024). By incorporating sustainability practices into SROI analysis, organizations can measure the broader socio-economic outcomes of their interventions, ensuring that resources are allocated effectively and sustainably (Gibbon & Dey, 2011). This approach not only quantifies social impact but also fosters a deeper understanding of the holistic value created by organizations, encompassing economic, social and environmental benefits (Hemmerling et al., 2023). The application of SROI in decision-making processes allows for the identification of opportunities to create social and increased financial value, guiding stakeholders towards impactful and sustainable resource allocation (Millar & Hall, 2013). By moving beyond

traditional measures of capturing financial value, SROI measurements present a comprehensive range of outcomes, essential for establishing impact and providing an enhanced understanding of reality (Ashton et al., 2020). This shift towards social value measurements is crucial for demonstrating the full range of outcomes and impacts generated by interventions, ultimately contributing to sustainable development and effective decision-making (Lozano et al., 2020).

Methodology

This study adopts a quantitative research methodology, employing a survey conducted among 380 households. Purposive sampling was used to specifically target farmers living in the floodplain regions of Sungai Muda. The Sungai Muda River, which spans Kedah and Pulau Pinang, has a catchment area of 4,210 km² and extends 180 km in length, originating from the Muda Dam and passing through the districts of Baling, Sik and Kuala Muda. This catchment area serves as the primary water source for agriculture, industry and domestic use in both Penang and Kedah. However, the region frequently experiences flooding during the rainy seasons from April to May and September to November each year, leading to recurrent issues such as riverbank erosion, water pollution and diminishing water resources.

This research introduces a SROI framework specifically designed to evaluate flood mitigation programs in Malaysia. The aim is to establish a comprehensive methodology that quantifies the social, economic and environmental impacts of these initiatives, aligning with SDGs. The proposed framework provides a foundational tool for stakeholders seeking to assess and optimize the social value of their investments, marking a significant advancement in the application of SROI within the Malaysian context. The study, based on the application of SROI to the SMFMP, focuses on three core elements: social, economic and environmental. Each element encompasses well-being indicators relevant to the Malaysian context. The selection of these indicators was guided by the research objectives and the particular requirements identified within the study. While the choice of indicators may vary depending on location and time, the three principal pillars (social, economic and environmental) remain consistent across different applications (see Figure 3).

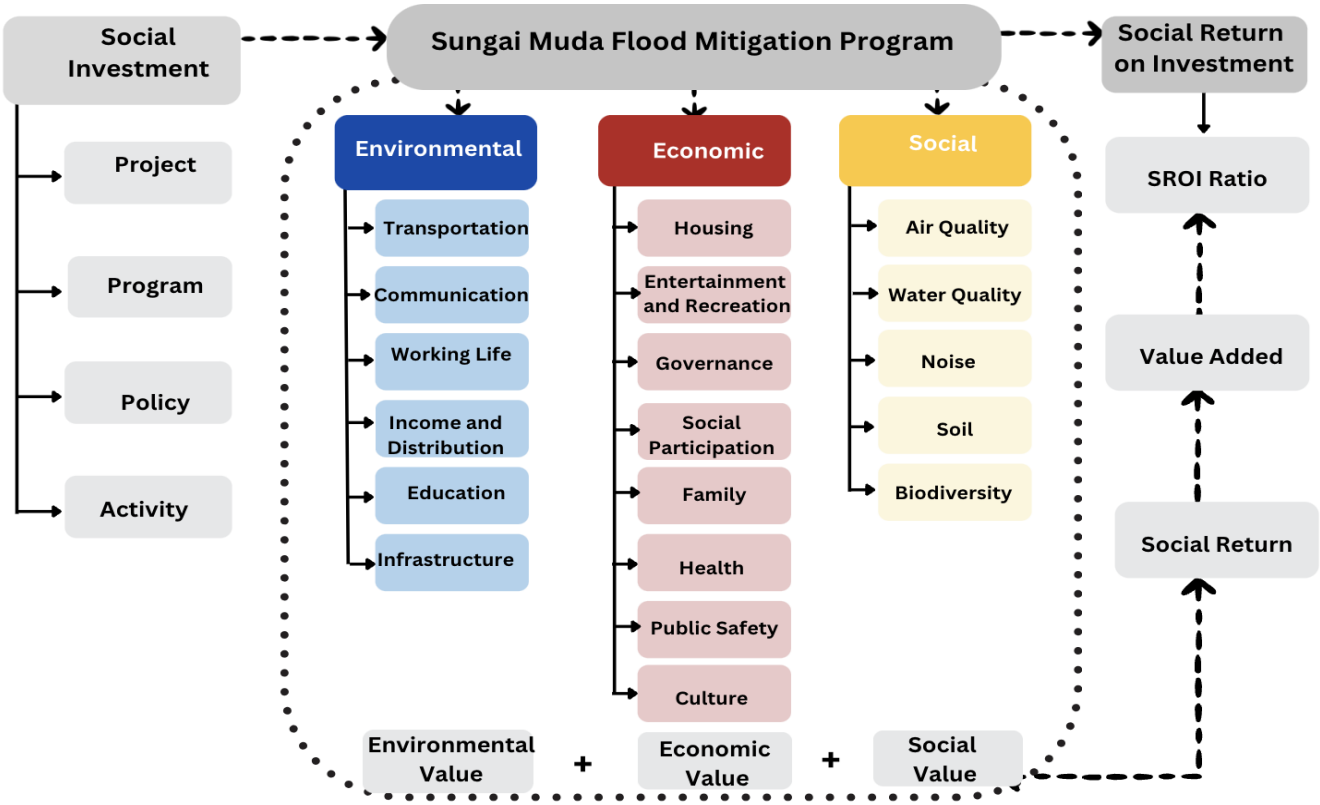
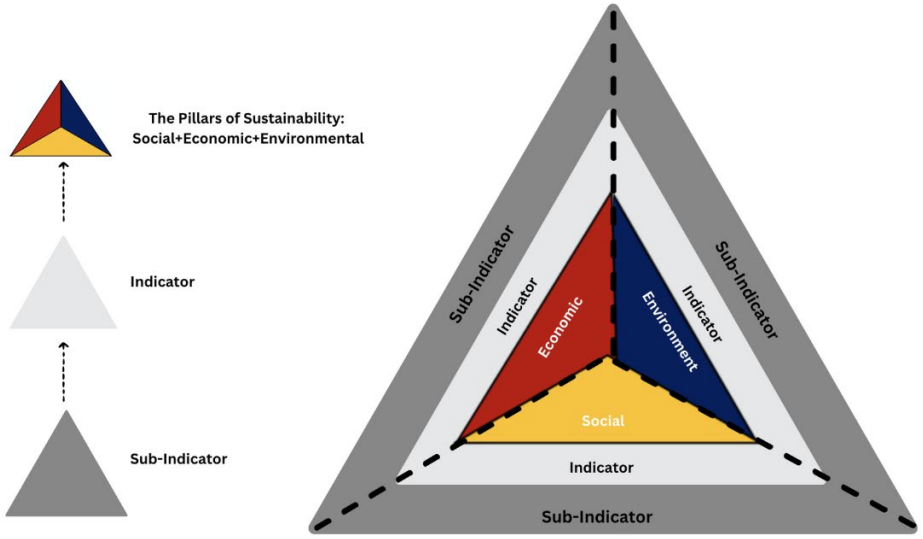


Figure 3. Instrument of SROI
Source: Own elaboration based on Ramli et. al (2019)

A monetary value is assigned to each indicator to reflect its significance. For instance, in the case of social element, health indicator is quantified by the cost savings from avoiding hospital treatments for farmers. Consequently, the overall value of each element is derived from the aggregated value of its indicators (see Figure 4). The values attributed to each indicator are adaptable and can be modified based on the specific context and research objectives. Thus, indicators and sub-indicators may vary across different cases and their assigned values may differ due to situational factors. Sustainable return integrates social, economic and environmental components.



No.	Element	Indicator	Value of indicator
1	Social	Health	Hospital treatment cost
		Housing	Cost of repairing and rebuilding of destroyed and damaged house
		Public security	Cost of replacing official documents (MyKad, MyKid, birth certificate).
2	Economic	Income & distribution	Value of loss of income, loss of income assistance, basic needs aid, agricultural assistance
		Education	Cost of schooling assistance
		Infrastructure	Cost of repairing and rebuilding destroyed and damaged infrastructure
3	Environmental	Water quality	Cost of cleaning and treating polluted river

Figure 4. The value of indicator and element of SROI
Source: Own elaboration based on Ramli et al. (2019)

The SROI analysis effectively demonstrates the total net present value impact, the added value and the SROI ratio for each investment undertaken across activities, policies, projects or programs, as outlined below (see Table 1):

Table 1. SROI's Calculation

(1) Total present value impact = [social value] + [economic value] + [environmental value]
(2) Present Value of Benefit = [Total net present value impact] x *f* (i.e. frequency of flood in a year)
(3) Value added for Program = [Present Value of Benefit] – [Value of Program Investment]
(4) SROI ratio = $\frac{\text{[Present Value of Benefit]}}{\text{Value of Program Investment}}$

Findings and Discussion

SROI analysis effectively captures changes across the entire spectrum of the theory of change, from inputs to impacts and provides a monetized ratio to quantify these effects (Rotheroe & Richards, 2007; Emerson, 2003; Arvidson et al., 2013; Zappala & Lyons, 2009). This method presents a comprehensive framework for assessing the effectiveness of programs (Lingane & Olsen, 2004). SROI emphasizes the importance of adopting a holistic approach when assessing the SMFMP, as understanding the multifaceted benefits of flood mitigation requires such a comprehensive perspective. Flooding, the most frequent natural disaster in Malaysia, has significant and direct impacts on the population (Raja et al., 2023). The full effects of the disaster can only be clearly observed after its occurrence (Yusof et al., 2024), highlighting the crucial need for a flood mitigation program to minimize its impact. Involving the intended beneficiaries as primary stakeholders is essential, as it not only helps mitigate the effects of flooding and improve quality of life but also reveals insights and identifies potential unintended consequences that might otherwise remain obscured. Furthermore, the assessment of the triple bottom line encompassing social, economic and environmental dimensions in SROI analysis is vital for comprehensively understanding the costs and benefits associated with an approach that is as holistic as it has been represented in SMFMP.

The SROI analysis reveals that the SMFMP generates significant social value, positively impacting social, economic and environmental outcomes. The flood mitigation program has significantly contributed to high returns in several key outcomes, notably by eliminating the risk of flooding occurring twice a year. This program has enhanced accessibility and improved transportation systems, facilitating better access to intended destinations. Additionally, the flood mitigation initiative has generated job opportunities and supported farmers in achieving more productive crop yields, with the average monthly household income for farmers reported at RM1,546.41. Prior to the implementation of this program, the floods resulted in substantial income loss for farmers, as the majority of the local population relies on rice farming activities. Following the implementation of the mitigation program, the quality of life for the local community has also seen marked improvement. The program's social value encompassing social, economic and environmental elements is derived from indicators aligned with the Malaysia Well-being Index (MyWI) 2022 (DOSM, 2024). This ensures that the assessment is grounded in a nationally recognized framework for measuring well-being. The SROI analysis reveals a total net present value impact of RM 4,892,641,540.00 billion, encompassing social (health, housing, public security), economic (income & distribution, education, infrastructure) and environmental (water quality) indicators. With a total investment cost of RM 1,001,760,000.00 billion (JPS, 2016), the program yields a value added of RM 3,890,881,540.00. This signifies that every ringgit invested generates RM 4.88 in social benefit, resulting in an impressive SROI ratio of 4.88:1 (refer to Figure 5).

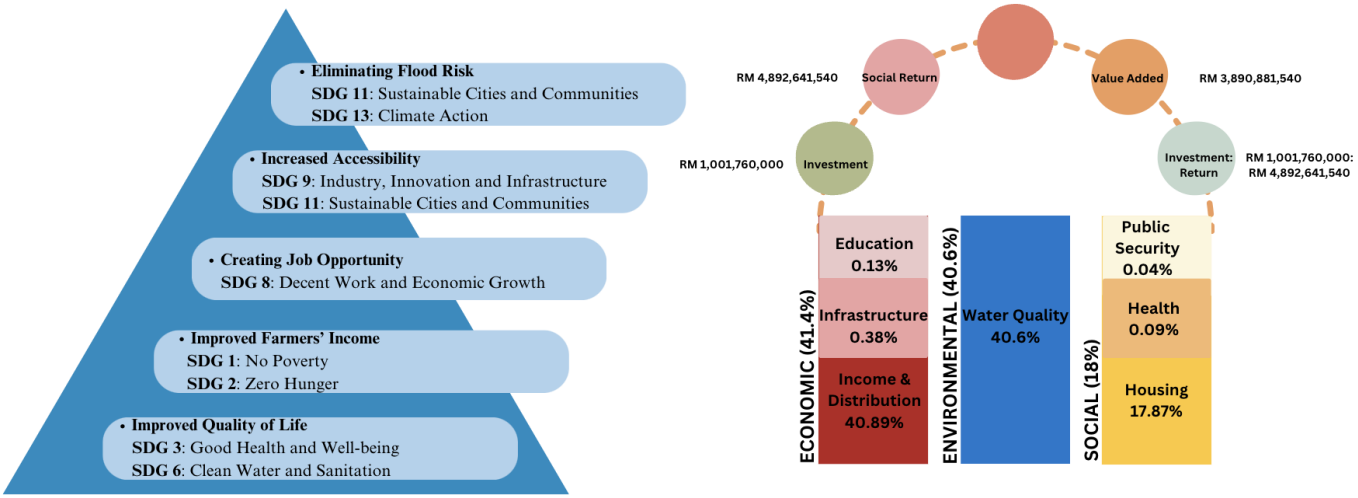


figure 5: Sustainable return of Sungai Muda flood mitigation program

SROI focuses on quantifying the value of changes across social, economic and environmental dimensions by where feasible, expressing these changes in monetary terms. Consequently, a SROI analysis effectively demonstrates the value derived from investments aimed at enhancing societal well-being, thereby facilitating the measurement of the genuine impact of social investments. Social value is generated through alterations in the conditions of social, economic and environmental factors that influence individuals, communities and society as a whole. By monetizing the social, economic and environmental changes resulting from the program, the SROI analysis provides a compelling narrative for investing in societal well-being. The implications of SROI are significant, as it not only quantifies the benefits of social investments but also enhances accountability and transparency for stakeholders. By demonstrating the tangible social value generated by initiatives like the SMFMP, SROI encourages decision-makers to allocate resources more effectively and prioritize projects that yield substantial community benefits and it aligns with CSR in promoting sustainable development and fostering a culture of social responsibility among organizations and governments. Ultimately, SROI serves as a vital tool for promoting sustainable development and fostering a culture of social responsibility among organizations and governments.

Conclusion

The convergence of sustainability and social investment is essential for effectively addressing the economic challenges of our time. The SMFMP in Kedah exemplifies how sustainable investments can generate substantial social benefits. In today's economic landscape, the sustainability of social investments hinges on clearly articulating their value proposition, which must encompass both financial viability and social responsibility. The SROI methodology offers a robust and compelling framework for evaluating the effectiveness and efficiency of social investments. By quantifying social value, SROI not only identifies potential cost-saving opportunities but also enables a thorough assessment and management of value. This framework represents a significant shift in perspective, expanding the definition of value creation to incorporate a wide range of impacts. However, this study faced several limitations, particularly the lack of data to comprehensively measure social value. To overcome this challenge, better and more comprehensive data collection is needed. The practical implications suggest that measuring social value can aid in better, more effective and efficient decision-making, as well as raise awareness about sustainability.

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