Social Return on Investment (SROI) as a Measurement Tool for the Impact of Sustainable Aquaculture Programs: A Systematic Literature Review

Wazir Naf'an[1*], Dedi Purwana[2], Unggul Purwohedi[3]

[1] Affiliation 1; email: wazir.nafan@gmail.com; wazir.nafan@kkp.go.id;
[2] Affiliation 2; email: dpurwana@unj.ac.id
[3] Affiliation 3; email: upurwohedi@unj.ac.id

Abstract

This study explores the potential application of Social Return on Investment (SRI) as a tool for measuring the social, economic, and environmental impacts of community-based sustainable aquaculture programs in Indonesia. A systematic literature review (SLR) was conducted on 29 primary sources, revealing two key clusters: (1) the local context, including keywords such as Indonesia, aquaculture, community, and challenge, and (2) the evaluation framework, involving SROI, social return, investment, and methodology. Despite the interconnections within these clusters, no direct relationship was found, highlighting the lack of empirical studies explicitly using SROI to assess the impact of community-based aquaculture programs. This finding emphasizes a significant gap between the need for social impact evaluations in aquaculture development and the availability of appropriate methodologies. The study concludes that SROI has the potential to provide a comprehensive evaluation framework for sustainable aquaculture programs, provided it is developed within a contextual model that integrates blue economy principles and participatory governance. The main recommendation is the development of a sector-specific SROI protocol to support sustainable, transparent, and socially just policies in aquaculture.

Keyword: Social Return on Investment, SROI, Sustainable Aquaculture, Impact Evaluation, Blue Economy, Indonesia.

1. Introduction

The aquaculture sector plays a crucial role in ensuring both global and national food security, providing approximately 50% of the world's fish supply for human consumption and serving as a vital source of livelihood for millions of people in developing countries (FAO, 2022, 2025a). In Indonesia, aquaculture functions not only as a productive economic activity but also as a social instrument that strengthens household economic stability in coastal areas, reduces poverty, and expands access to animal protein sources (Rimmer et al., 2013; Wasik et al., 2025). Contributing more than 70% to the overall growth of the national fisheries sector, aquaculture has become a strategic component in the implementation of Indonesia's Blue Economy Roadmap (Kurwardani et al., 2023; Trenggono et al., 2025).

Despite its economic importance, the evaluation of aquaculture programs in Indonesia remains predominantly focused on technical and financial indicators (such as production

volume, land productivity, and export value) while the social, institutional, and environmental dimensions are often overlooked (Partelow et al., 2022; Riany et al., 2023). This output-oriented evaluation approach fails to capture the complex socio-environmental impacts of coastal development interventions, including shifts in farmers' social structures, the strengthening of social capital, and the enhancement of community resilience to climate change (Ateweberhan et al., 2018; Grant, 2012).

The need for a more comprehensive evaluation framework has become increasingly urgent since the Indonesian government adopted the Blue Economy paradigm, which emphasizes the balance between economic growth, social equity, and marine ecosystem sustainability (DJPB, 2021; Trenggono, Meilano, Latief, Diantara, et al., 2025). Within this context, the Social Return on Investment (SROI) approach emerges as a promising evaluation tool. SROI assesses the extent to which social, public, or private investments generate measurable economic, social, and environmental value (Corvo et al., 2022; Nicholls, 2017).

Numerous international studies demonstrate that SROI enhances transparency, accountability, and policy effectiveness across various sectors, including sanitation (Purwohedi, 2016; Purwohedi et al., 2023), public infrastructure (Purwohedi & Gurd, 2019), and environmental management (Lee & Jung, 2025). This approach has been shown to shift development evaluation paradigms from output-based to outcome-based, emphasizing social value creation as a key performance indicator.

However, a recent systematic review by Syaifullah et al., (2024) revealed that the application of SROI within the marine and fisheries sectors remains very limited, despite the sector's significant multi-dimensional impacts on the socio-economic conditions of coastal communities and its direct relevance to Sustainable Development Goal 14 – Life Below Water. Similarly, Gutiérrez-Nieto et al., (2025), through a global bibliometric analysis of 168 SROI-related studies published between 2004 and 2023, found that SROI research remains largely concentrated in the health, education, and social welfare sectors, with minimal attention to natural resource management and aquaculture.

This indicates a substantial research gap between the urgent need for social impact evaluation in sustainable aquaculture and the availability of appropriate methodologies for measuring it. Therefore, this study aims to systematically review the potential application of SROI as a framework for assessing the social, economic, and environmental impacts of sustainable aquaculture programs in Indonesia. Employing a Systematic Literature Review (SLR) combined with bibliometric analysis, this paper identifies global trends, cross-sectoral best practices, and conceptual recommendations to develop a contextualized SROI model that supports participatory governance and the principles of the blue economy in Indonesia.

2. Literature Review

2.1 The Concept and Development of Social Return on Investment (SROI)

The concept of Social Return on Investment (SROI) was first developed by the Roberts Enterprise Development Fund (REDF) in the late 1990s to measure the social value created by community projects and nonprofit organizations (Corvo et al., 2022; Nicholls, 2017). This approach emerged as a complement to traditional financial evaluation systems that primarily emphasize outputs, by incorporating the measurement of outcomes and impacts across social, economic, and environmental dimensions. According to Vluggen et al., (2020), SROI

functions not only as a performance measurement tool for public projects but also as a mechanism for transparency and accountability, as it translates social outcomes into monetary values that can be compared directly with financial investments.

Methodologically, SROI consists of six sequential stages: (1) defining the scope and identifying stakeholders; (2) mapping outcomes and impacts; (3) assigning monetary values to impacts; (4) adjusting for net effects; (5) calculating the SROI ratio; and (6) reporting and utilizing the findings (Nicholls et al., 2009; Purwohedi, 2016; Purwohedi et al., 2023). The SROI ratio quantifies the amount of social value generated for every unit of investment. For example, (Purwohedi & Gurd, 2019) found an SROI ratio of 1:1.19 in a community-based wastewater management project in Gresik, while Inah et al., (2023) reported a ratio of 1:1.66 for the Irrigation Water Utilization Improvement Program (P3-TGAI) in Bantul, indicating that every monetary unit invested generated tangible social and environmental benefits.

Conceptually, Corvo et al., (2022) argued that SROI has evolved into a fundamental element of blended value accounting, a paradigm that integrates economic, social, and environmental value within a unified assessment framework. However, Gutiérrez-Nieto et al., (2025), through a bibliometric analysis of 168 global SROI publications, found that existing studies remain heavily concentrated in health, social welfare, and environmental sectors, with almost no empirical applications in fisheries or aquaculture. This gap was also emphasized by Syaifullah et al., (2024), who found no evidence of SROI application in the marine and fisheries sectors despite their strong relevance to the Sustainable Development Goals (SDG 14: Life Below Water). Therefore, there is an urgent need to adapt the SROI framework to the specific characteristics and complexities of the aquaculture sector, particularly in developing countries such as Indonesia.

2.2 Sustainable Aquaculture and Its Social Value

Aquaculture plays a pivotal role in supporting global food security and improving the well-being of coastal communities. According to FAO (2025), sustainable aquaculture systems require a balance between ecological efficiency, economic viability, and social inclusiveness. As one of the world's largest aquaculture producers, Indonesia holds significant potential to leverage this subsector as a key driver of its national blue economy strategy (Wasik et al., 2025). However, as described by Riany et al. (2023) and Partelow et al. (2018), traditional pond-based systems in Indonesia continue to face structural challenges, including inadequate irrigation infrastructure, weak community institutions, and limited collective coordination. As a result, pond productivity remains unstable, water distribution is often unequal, and small-scale farmers struggle to compete effectively.

Institutional and social approaches are therefore critical to addressing these challenges. Paramita et al. (2023) emphasized that collective action (gotong royong) in pond irrigation maintenance must be supported through robust local institutions and non-monetary incentives. Government initiatives such as the Participatory Aquaculture Irrigation Management Program (PITAP) have sought to revive community-based collaboration by involving farmers directly in canal rehabilitation efforts (DJPB, 2021). However, according to policy evaluations by Bappenas (2023), most government project assessments remain dominated by output-based indicators, such as the length of rehabilitated canals or the number of beneficiaries, while social and environmental outcomes are rarely measured systematically.

In this context, SROI offers a transformative framework for impact-based evaluation. By shifting the focus from physical achievements to the quantification of long-term social and environmental benefits, SROI aligns with FAO's Blue Transformation Roadmap (FAO, 2022), which calls for inclusive governance and participatory evaluation systems to ensure equitable distribution of blue economy benefits at the community level. Supporting this notion, Grant (2012) and Ateweberhan et al. (2018) demonstrated that community participation in monitoring and evaluating aquaculture programs enhances policy legitimacy, resource management efficiency, and social ownership of development projects.

2.3 The Relevance and Potential Application of SROI in Aquaculture Program Evaluation

Empirical applications of SROI across various sectors have demonstrated its ability to enhance public accountability and policy effectiveness. For instance, in post-disaster recovery programs in Malaysia, Teo et al. (2021) reported an SROI ratio of 1:1.27, indicating that each unit of investment yielded greater social value than the initial capital. Similarly, Lee & Jung (2025) adapted SROI as a tool for evaluating the social and ecological benefits of Environmental Impact Assessment (EIA) projects in South Korea, converting emission reductions and deforestation avoidance into measurable monetary values for national environmental policy planning. These findings confirm that SROI effectively integrates social, economic, and ecological dimensions into a comprehensive analytical framework.

In Indonesia, this approach holds substantial potential for community-based aquaculture programs such as PITAP. Applying SROI in this context can help quantify the social value generated from community cooperation, improvements in farmers' livelihoods, irrigation efficiency, and environmental gains such as enhanced water quality. In other words, SROI enables policymakers and stakeholders to determine how much tangible and sustainable social benefit each unit of public investment produces for coastal communities.

The bibliometric findings of this study reinforce this need. A keyword network analysis using VOSviewer on 29 primary publications identified two main clusters: (1) local context (Indonesia, aquaculture, community, challenge) and (2) evaluation framework (SROI, social_return, investment, methodology). The absence of a direct connection between these clusters indicates that the application of SROI in aquaculture remains extremely limited, with no empirical studies conducted in Indonesia to date. This condition corroborates the findings of Syaifullah et al. (2024), confirming that the fisheries and aquaculture sectors represent a white space in global SROI research—an area of high potential yet largely unexplored.

Therefore, this study argues that SROI holds significant promise as a multidimensional evaluation framework for sustainable aquaculture development in Indonesia. Beyond assessing economic efficiency, SROI strengthens social dimensions, participatory governance, and the principles of the blue economy as emphasized by Syaifullah et al. (2024) and Trenggono et al. (2025). To realize this potential, a sector-specific SROI protocol must be developed to incorporate socio-ecological values and local institutional contexts. Once established, this framework could serve as a foundation for a more accountable, inclusive, and socially equitable policy evaluation system in Indonesia's fisheries and aquaculture sector.

3. Material and Method

This study employed a Systematic Literature Review (SLR) approach to explore the potential application of the Social Return on Investment (SROI) framework as a tool for assessing social, economic, and environmental impacts in sustainable aquaculture programs. This approach was chosen because it allows for a comprehensive analysis of conceptual developments, implementation practices, and research gaps related to SROI across various sectors, particularly within the context of aquaculture.

3.1 Design Study

The research design followed the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), including its search reporting extension PRISMA-S, to ensure transparency, rigor, and replicability throughout the review process (Rethlefsen et al., 2021). The SLR procedure consisted of four main stages: (1) Identification: Literature was collected from major academic databases, including Scopus, Web of Science, and Google Scholar, using the keywords "SROI," "aquaculture," "impact evaluation," and "blue economy."; (2) Selection: Articles were filtered based on inclusion criteria: published between 2010–2025, relevant to social impact measurement or sustainability topics, and available in English or Indonesian; (3) Data Extraction: Key information from each selected study was systematically extracted, including research context, objectives, methods, sector of application, SROI ratios, and key outcomes; (4) Synthesis and Mapping: Descriptive and bibliometric analyses were conducted using VOSviewer software to identify keyword relationships and visualize research clusters.

Following this process, 29 primary articles met the inclusion criteria. The bibliometric network analysis revealed two main clusters: (1) a local context cluster, including terms such as Indonesia, aquaculture, community, and challenge; and (2) an evaluation framework cluster, comprising terms like SROI, social_return, investment, and methodology. These clusters formed the conceptual basis for interpreting how SROI can be adapted into a holistic evaluation framework for sustainable aquaculture management.

3.2 Data Analysis

Data analysis was conducted using two complementary approaches: qualitative thematic analysis and quantitative bibliometric analysis. The thematic analysis was employed to categorize emerging concepts, challenges, and opportunities for applying SROI in sustainable aquaculture. Meanwhile, the bibliometric analysis utilized VOSviewer to visualize keyword co-occurrence networks and identify thematic linkages and frequency distributions among research topics.

The quantitative mapping results were then integrated with qualitative synthesis to examine the alignment between global SROI literature and Indonesia's aquaculture context. The integration of both analytical approaches provided a robust conceptual foundation for developing a community-based SROI model tailored to sustainable aquaculture management in developing countries.

4. Result

A bibliometric analysis was conducted on 29 primary articles identified through the Systematic Literature Review (SLR) process using data from Scopus, Web of Science, and Google Scholar. Keyword network visualization was performed using VOSviewer to identify

thematic relationships, research collaboration intensity, and the conceptual evolution of the Social Return on Investment (SROI) framework across various sectors, including its potential application in sustainable aquaculture.

The mapping results revealed two distinct clusters, each representing different thematic orientations. The first cluster, referred to as the Local Context Cluster, consisted of keywords such as Indonesia, aquaculture, community, challenge, and sustainability. This cluster reflects research focusing on socio-ecological dimensions, community governance, and the challenges of managing aquaculture ponds in coastal regions of Indonesia. The second cluster, or the Evaluation Framework Cluster, included keywords such as SROI, social_return, investment, impact, and methodology.

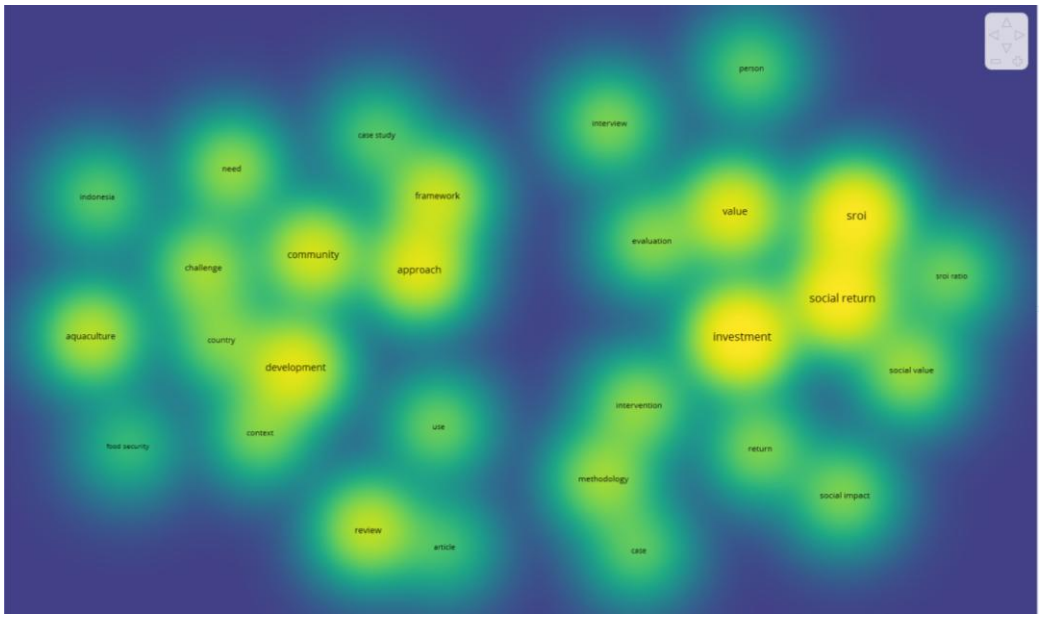

Figure 1. Keyword Density Visualization of Social Return on Investment (SROI) Literature Using VOSviewer

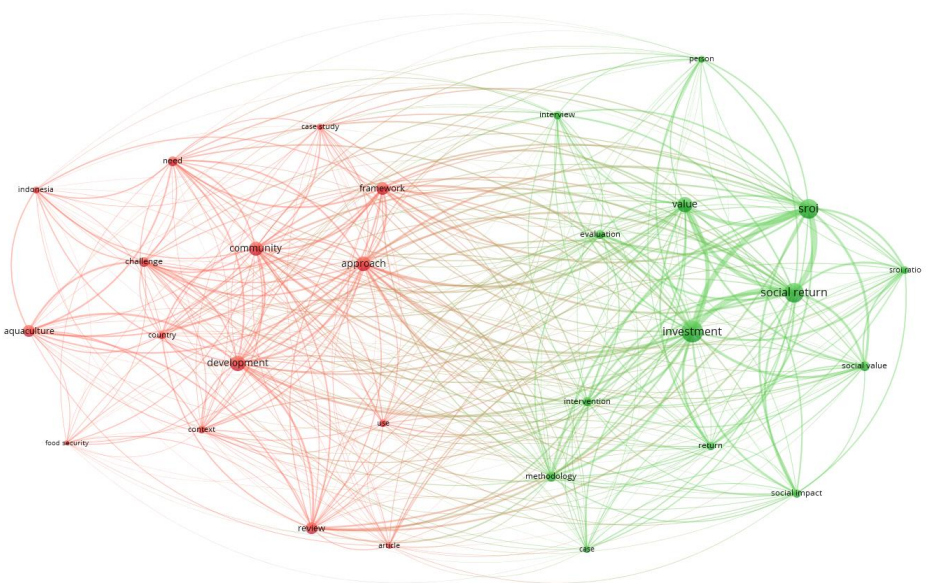

Figure 2. Network Visualization of SROI Research Clusters (Local Context and Evaluation Framework)

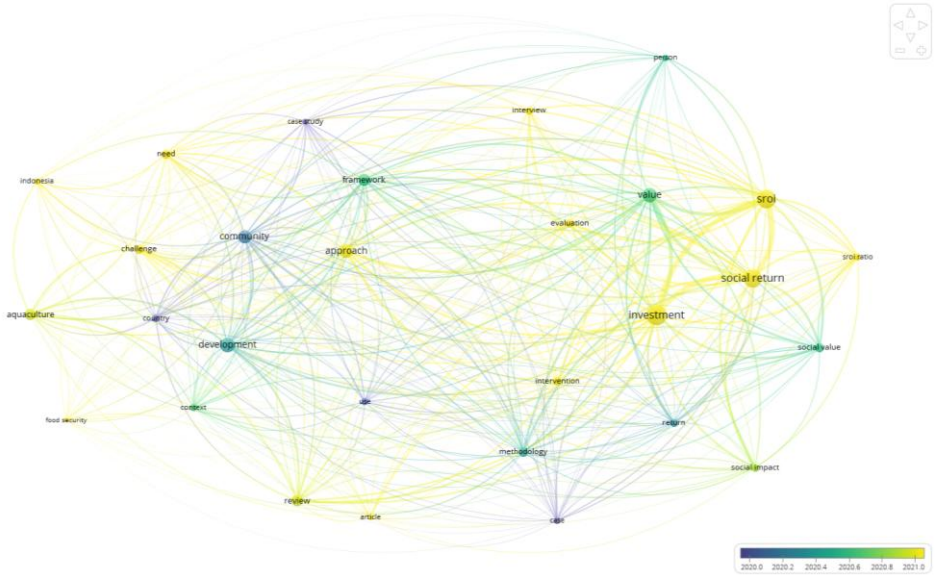

Figure 3. Overlay Visualization of SROI Keyword Evolution Over Time

The bibliometric visualization generated by VOSviewer showed no direct link between these two clusters. This indicates that, to date, there have been no empirical studies explicitly connecting SROI applications to aquaculture practices, particularly those involving community-based systems in Indonesia. Such disconnection demonstrates a clear research gap between the theoretical development of SROI as a social evaluation framework and its practical application within the sustainable aquaculture context.

The analysis underscores that there remains substantial potential to develop SROI as an integrative evaluative framework capable of bridging social, economic, and ecological dimensions in aquaculture systems. SROI offers strong potential to evolve into a blended value measurement tool, one that not only accounts for economic efficiency but also monetizes social and environmental benefits that are often overlooked in conventional financial reporting systems.

5. Discussion

The bibliometric mapping using VOSviewer (Figures 1–3) identified two dominant and thematically distinct clusters: the Local Context Cluster (Indonesia, aquaculture, community, sustainability, challenge) and the Evaluation Framework Cluster (SROI, social_return, investment, methodology, value). The visualization revealed a lack of direct linkages between these clusters, indicating that while the SROI framework has matured globally as a tool for social impact assessment, it remains largely disconnected from empirical research in the aquaculture sector, particularly within Indonesia's coastal and community-based systems (Gutiérrez-Nieto et al., 2025; Syaifullah et al., 2024).

This structural disconnection underscores a persistent methodological gap between impact evaluation frameworks and aquaculture sustainability research. Most aquaculture studies in Indonesia remain confined to assessing technical and biophysical performance—such as pond productivity, feed efficiency, and export growth—while the social and institutional dimensions of sustainability are rarely quantified (Ateweberhan et al., 2018; Partelow et al., 2022; Riany et al., 2023). This mirrors global patterns, where social value accounting and blended valuation

approaches are still underutilized in natural resource sectors (Corvo et al., 2022; Nicholls, 2017; Vluggen et al., 2020).

Aquaculture in Indonesia operates within complex common-pool resource systems (Partelow et al., 2022), where water, land, and canals are governed collectively through informal norms and local institutions. As Nagel, Anggraini, et al. (2024); Nagel, Buhari, et al. (2024) and Ostrom (1990) argued, sustainability in such systems depends not only on economic incentives but also on the quality of collective action and institutional resilience. However, empirical studies show that unequal resource access, weak local governance, and declining trust among farmers often undermine long-term sustainability (Riany et al., 2023; Senff et al., 2018).

Government initiatives such as the Participatory Aquaculture Irrigation Management Program (PITAP) attempt to address these institutional gaps by engaging communities directly in canal rehabilitation and pond normalization (DJPB, 2021). Early evaluations suggest that this participatory approach improves short-term productivity and fosters community cooperation, increasing yields by up to 40% in pilot areas (Paramita et al., 2023). Yet, the sustainability of these achievements remains questionable, as motivation often stems from short-term material incentives rather than embedded collective norms or social capital (Bappenas, 2023; Wasik et al., 2025).

In this context, SROI provides a robust framework to assess how investments in community-based aquaculture generate long-term social, economic, and environmental returns. The SROI methodology quantifies the monetary value of non-financial outcomes—such as trust, collaboration, and environmental restoration—thus translating intangible social goods into measurable indicators of public value (Corvo et al., 2022; Nicholls et al., 2009; Purwohedi, 2016). This approach aligns with calls by the FAO (2022, 2025) and Trenggono, et al. (2025) for more comprehensive, outcome-based evaluations of aquaculture's contribution to the Blue Economy and the Sustainable Development Goals (SDG 14: Life Below Water).

Global applications of SROI demonstrate its potential to reshape development evaluation across diverse sectors. For example, Purwohedi & Gurd (2019) reported an SROI ratio of 1:1.19 in a community-based wastewater management project in Gresik, Indonesia—indicating that each IDR 1 invested generated IDR 1.19 in social value. In a rural irrigation program in Yogyakarta, Inah et al. (2023) found a ratio of 1:1.66, showing higher efficiency in social returns. Similar outcomes have been observed internationally: Teo et al. (2021) documented an SROI ratio of 1:1.27 for post-disaster recovery projects in Malaysia; Lee & Jung (2025) identified a ratio of 1:1.12 in environmental assessment programs in South Korea; and Vluggen et al. (2020) demonstrated that SROI can enhance transparency and accountability in European social enterprises.

Despite such widespread adoption, the marine and aquaculture sectors remain underrepresented in global SROI literature (Gutiérrez-Nieto et al., 2025). This omission is striking given aquaculture's inherently blended value nature—combining economic productivity, social welfare, and ecological stewardship within a single production system (FAO, 2025; Grant, 2012; Massa et al., 2025). The absence of SROI application in aquaculture reflects both conceptual inertia and the dominance of output-based project assessments that neglect long-term social impact (Pérez Agúndez et al., 2024).

The integration of SROI into aquaculture policy and evaluation frameworks could therefore serve as a transformative step toward holistic sustainability assessment. By calculating the ratio between total social value created and total investment, SROI allows policymakers to identify which interventions deliver the highest social yield per unit of expenditure (Purwohedi et al., 2023). For instance, rehabilitating one kilometer of irrigation canal could be monetized not only for its immediate economic benefit (increased yield) but also for its social returns—such as reduced water conflicts, improved local governance, and enhanced ecosystem health (Riany et al., 2023; Senff et al., 2018).

Moreover, adopting SROI aligns with Indonesia's Blue Economy Roadmap and the FAO Blue Transformation agenda, both of which emphasize inclusive growth, environmental responsibility, and measurable social impact (FAO, 2022; Bappenas, 2021; Kurwardani et al., 2023). Implementing SROI in this context would strengthen participatory governance by empowering communities to co-define indicators of success, thus increasing program legitimacy and accountability (Ateweberhan et al., 2018; Pérez Agúndez et al., 2024). It would also enable comparative evaluation across regions and investment schemes, allowing national agencies such as Bappenas to prioritize funding for high-impact projects.

Several international studies further substantiate SROI's adaptability in complex socio-environmental systems. Massa et al. (2025) demonstrated that social valuation methods similar to SROI can capture non-market benefits of aquaculture in the Mediterranean, including cultural identity and ecosystem services. Likewise, Pérez Agúndez et al. (2024) argued that embedding social metrics into aquaculture governance enhances both economic legitimacy and environmental accountability. These findings reinforce that SROI could fill a crucial analytical gap in Indonesia's sustainable aquaculture policy landscape—bridging the divide between production-based targets and social equity outcomes.

Ultimately, the disconnection between the two bibliometric clusters should be interpreted not as a deficiency but as an opportunity. The global SROI literature provides a mature conceptual foundation, while the Indonesian aquaculture context offers a dynamic, data-rich environment for methodological innovation. Integrating SROI into aquaculture evaluation frameworks would not only enhance policy precision and transparency but also operationalize the principle of value-based governance—ensuring that each unit of public or private investment yields measurable benefits for people, profit, and the planet.

6. Conclusion, Implication, and Recommendation

This study highlights the potential of the Social Return on Investment (SROI) framework as an integrated tool to measure the social, economic, and environmental impacts of sustainable aquaculture in Indonesia. The Systematic Literature Review and bibliometric analysis reveal a clear research gap—SROI has not yet been empirically applied in aquaculture, despite its strong relevance to community-based and blue economy initiatives. The findings suggest that adopting a sector-specific SROI model could enhance policy accountability and decision-making by quantifying both financial and social-environmental values. Overall, SROI provides a promising approach for building transparent, inclusive, and impact-oriented governance in Indonesia's sustainable aquaculture development.

8. References

Ateweberhan, M., Hudson, J., Rougier, A., Jiddawi, N. S., Msuya, F. E., Stead, S. M., & Harris, A. (2018). Community based aquaculture in the western indian ocean: Challenges and opportunities for developing sustainable coastal livelihoods. *Ecology and Society*, *23*(4). https://doi.org/10.5751/ES-10411-230417

Bappenas. (2023). *Indonesia Blue Economy Roadmap* (L. A. A. T. Sambodo (ed.); 2nd ed.). BAPPENAS.

Corvo, L., Pastore, L., Mastrodascio, M., & Cepiku, D. (2022). The social return on investment model: a systematic literature review. *Meditari Accountancy Research*, *30*(7), 49–86. https://doi.org/10.1108/MEDAR-05-2021-1307

DJPB. (2021). KKP Libatkan Langsung Masyarakat di Pitap Untuk Tingkatkan Produktivitas Tambak Rakyat. *Kkp.Go.Id*, 23–25. https://kkp.go.id/djpb/artikel/37284-kkp-libatkan-langsung-masyarakat-di-pitap-untuk-tingkatkan-produktivitas-tambak-rakyat

FAO. (2022). *Blue Trasformation Roadmap 2022–2030 A vision for FAO's work on aquatic food systems*. https://doi.org/https://doi.org/10.4060/cc0459en

FAO. (2025a). *Guidelines for sustainable aquaculture*. FAO. https://doi.org/10.4060/cd3785en

FAO. (2025b). Guidelines for Sustainable Aquaculture. In *Sustainability (Switzerland)* (Issue 1). FAO. https://doi.org/https://doi.org/10.4060/cd3785en

Grant, J. (2012). Coastal communities, participatory research, and far-field effects of aquaculture. *Aquaculture Environment Interactions*, *1*(2), 85–93. https://doi.org/10.3354/aei00009

Gutiérrez-Nieto, B., Camón-Cala, J., Cuéllar-Fernández, B., & Fuertes-Callén, Y. (2025). A bibliometric analysis of the social return on investment. *Humanities and Social Sciences Communications*, *12*(1), 1–14. https://doi.org/10.1057/s41599-025-05529-w

Inah, N., Saraswati, E., & Ghofar, A. (2023). Social value of the irrigation water utilization improvement program. *International Journal of Business, Economics & Management*, *6*(2), 163–172. https://doi.org/10.21744/ijbem.v6n2.2139

Kementerian Perencanaan Pembangunan Nasional/ Badan Perencanaan Pembangunan Nasional. (2021). Peta Jalan Sustainable Development Goals (SDGs) di Indonesia Menuju 2030. *Kementerian PPN/Bappenas*, 35. https://sdgs.bappenas.go.id/website/wp-content/uploads/2021/02/Roadmap_Bahasa-Indonesia_File-Upload.pdf

Kurwardani, A. R. T. D., Kurniawan, M. F. A. K., Mubarok, Z., Buditama, A., & Haryo Topo Yuwono, D. (2023). *Peta Jalan Ekonomi Biru Menuju Indonesia Emas 2045 Kementerian Kelautan dan Perikanan* (Anastasia Rita Tisiana Dwi Kuswardani (ed.); 1st ed.). Penerbit Buku Kompas.

Lee, S. T., & Jung, S. M. (2025). Social return on investment as a tool for environmental impact and strategic assessments: Evidence from South Korea. *Environmental Impact Assessment Review*, *112*(April 2024), 107765. https://doi.org/10.1016/j.eiar.2024.107765

Massa, F., Hamza, H., Fezzardi, D., Fourdain, L., Cavallo, M., Caruso, F., & Theodorou, J. A. (2025). Enhancing social acceptability of aquaculture: Stakeholder engagement in guidelines development for the Mediterranean and Black Sea. *Marine Policy*,

178(March). https://doi.org/10.1016/j.marpol.2025.106697

Nagel, B., Anggraini, E., Buhari, N., Gray, S., Partelow, S., & Schlüter, A. (2024). Mental models of aquaculture governance in Indonesia. *Sustainability Science*, *19*(6), 1825–1845. https://doi.org/10.1007/s11625-024-01545-y

Nagel, B., Buhari, N., & Partelow, S. (2024). Archetypes of community-based pond aquaculture in Indonesia: applying the social-ecological systems framework to examine sustainability tradeoffs. *Environmental Research Letters*, *19*(4). https://doi.org/10.1088/1748-9326/ad2e71

Nicholls, J. (2017). Social return on investment—Development and convergence. *Evaluation and Program Planning*, *64*, 127–135. https://doi.org/10.1016/j.evalprogplan.2016.11.011

Nicholls, J., Lawlor, E., Neitzer, E., & Goodspeed, T. (2009). A guide to Social Return on Investment. *Development*, *3*(January), 55. http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:A+guide+to+Social+Return+on+Investment#6

Ostrom, E. (1990). Governing the Commons. In *Governing the Commons*. https://doi.org/10.1017/cbo9780511807763

Paramita, A. O., Partelow, S., Schlüter, A., & Buhari, N. (2023). Can the Indonesian Collective Action Norm of Gotong-Royong Be Strengthened with Economic Incentives? Comparing the Implementation of an Aquaculture Irrigation Policy Program. *International Journal of the Commons*, *17*(1), 462–480. https://doi.org/10.5334/ijc.1273

Partelow, S., Schlüter, A., O. Manlosa, A., Nagel, B., & Octa Paramita, A. (2022). Governing aquaculture commons. *Reviews in Aquaculture*, *14*(2), 729–750. https://doi.org/10.1111/raq.12622

Partelow, S., Senff, P., Buhari, N., & Schlüter, A. (2018). Operationalizing the social-ecological systems framework in pond aquaculture. *International Journal of the Commons*, *12*(1), 485–518. https://doi.org/10.18352/ijc.834

Pérez Agúndez, J. A., Raux, P., Lancelot, L., & Rougier, J. E. (2024). Building the Social Acceptability of Aquaculture through a Participatory Approach: An Experiment Conducted in Monastir Bay, Tunisia. *Aquaculture Journal*, *4*(3), 114–134. https://doi.org/10.3390/aquacj4030009

Purwohedi, U. (2016). *Social Return on Investment (SROI) : Sebuah Teknik untuk Mengukur Manfaat dari Sebuah Program* (Issue February). https://www.researchgate.net/publication/313919309_Social_Return_on_Investment_SROI_Sebuah_Teknik_untuk_Mengukur_Manfaat_Dampak_dari_Sebuah_Program_atau_Proyek

Purwohedi, U., & Gurd, B. (2019). Using Social Return on Investment (SROI) to measure project impact in local government. *Public Money and Management*, *39*(1), 56–63. https://doi.org/10.1080/09540962.2019.1537706

Purwohedi, U., Harto, P. P., Wibowo, H., & Bahri, E. S. (2023). *SROI Social Return on Investment* (P. Prasojo (ed.); I). Raih Asa Sukses (Penebar Swadaya Group).

Rethlefsen, M. L., Kirtley, S., Waffenschmidt, S., Ayala, A. P., Moher, D., Page, M. J., Koffel, J. B., Blunt, H., Brigham, T., Chang, S., Clark, J., Conway, A., Couban, R., De Kock, S., Farrah, K., Fehrmann, P., Foster, M., Fowler, S. A., Glanville, J., … Young, S. (2021).

PRISMA-S: An extension to the PRISMA statement for reporting literature searches in systematic reviews. *Journal of the Medical Library Association*, *109*(2), 174–200. https://doi.org/10.5195/jmla.2021.962

Riany, C. F., Partelow, S., & Nagel, B. (2023). Governance challenges for Indonesian pond aquaculture: a case study of milkfish production in Gresik. *Frontiers in Aquaculture*, *2*(September), 1–16. https://doi.org/10.3389/faquc.2023.1254593

Rimmer, M. A., Sugama, K., Rakhmawati, D., Rofiq, R., & Habgood, R. H. (2013). A review and SWOT analysis of aquaculture development in Indonesia. *Reviews in Aquaculture*, *5*(4), 255–279. https://doi.org/10.1111/raq.12017

Senff, P., Partelow, S., Indriana, L. F., Buhari, N., & Kunzmann, A. (2018). Improving pond aquaculture production on Lombok, Indonesia. *Aquaculture*, *497*(November 2017), 64–73. https://doi.org/10.1016/j.aquaculture.2018.07.027

Syaifullah, T., Saptono, A., & Purwana, D. (2024). EKSPLORASI METODE SROI SEBAGAI ALAT PENGUKURAN DAMPAK PROGRAM PEMBANGUNAN BERKELANJUTAN EXPLORATION OF THE SROI METHOD AS A MEASUREMENT TOOL FOR THE IMPACT OF MARINE AND FISHERIES PROGRAMS FOR (A Systematic Literature Review). *Jurnal Kebijakan Perikanan Indonesia*, *16*(1), 61–71.

Teo, W. S., Seow, T. W., Radzuan, I. S. M., Mohamed, S., & Abas, M. A. (2021). Social Return on Investment (SROI) for government flood recovery project in Kuala Krai, Kelantan. *IOP Conference Series: Earth and Environmental Science*, *842*(1). https://doi.org/10.1088/1755-1315/842/1/012055

Trenggono, S. W., Meilano, I., Latief, H., Diantara, S. D., Sakti, W. I., Ketaren, D. G. K., Winata, I. N. P., Yuwono, T., Syamdidi, Arthatiani, F. Y., Kasim, K., & Radiarta, I. N. (2025). Innovation in the blue economy and environmental sustainability in marine and fisheries strategy. *Global Journal of Environmental Science and Management*, *11*(2), 497–518. https://doi.org/10.22034/gjesm.2025.02.08

Trenggono, S. W., Meilano, I., Latief, H., Simamora, D. C., Sabina, A., Arthatiani, F. Y., & RadiartA, I. N. (2025). Developing a Marine and Fisheries Blue Economy Index for Indonesia: A Comprehensive Assessment Framework. *Sustainable Futures*, *10*(101440). https://doi.org/10.1016/j.sftr.2025.101440

Vluggen, R., Kuijpers, R., Semeijn, J., & Gelderman, C. J. (2020). Social return on investment in the public sector. *Journal of Public Procurement*, *20*(3), 235–264. https://doi.org/10.1108/JOPP-06-2018-0023

Wasik, Z., Gunawan, S., & Handriana, T. (2025). Contribution of aquaculture to future food security: Economic analysis and development in Indonesia. *International Journal of Innovative Research and Scientific Studies*, *8*(1), 1036–1048. https://doi.org/10.53894/ijirss.v8i1.4505