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## SUSTAINABILITY IN PROJECT MANAGEMENT FOR MARINE FISHERIES: A PSALSAR-BASED SYSTEMATIC REVIEW

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**ABSTRACT.** This study investigates the current state of knowledge within sustainability in project management, focusing on the fisheries industry through a literature review covering the period from 2010 to 2025 using the Scopus, ProQuest, and ScienceDirect databases. This systematic literature review search initially resulted in 120,633 papers. After applying selection criteria, 25 papers were included in the systematic review. The PSALSAR framework was used to ensure a comprehensive and structured analysis. In addition, two semi-structured interviews with practitioners involved in sustainability certification projects were analysed to complement the literature by providing practical insights. This systematic literature identifies potential gaps in applying sustainability in project management, highlighting areas for additional investigation and innovation. This comprehensive understanding of current knowledge gaps, best practices, and challenges is crucial for guiding future research. It consolidates and synthesises research on sustainability in project management within fisheries, emphasising the need for more comprehensive frameworks and a stronger focus on adapting project management principles to sustainability challenges specific to fisheries. The review pointed out the limited research on this topic compared to other industries, such as construction and energy, calling for a deeper exploration of how sustainability practices can be fully integrated into project management specific to the fisheries industry.

**JEL Classification:** Q01,  
Q22, M11

**Keywords:** project management, fisheries industry, sustainability, systematic literature review, PSALSAR.

## Introduction

Nature is inseparable from human societies, influencing their development and sustaining their existence. Globally, millions of people rely on the fisheries industry for food and livelihoods (Marine Stewardship Council, n.d.) as it directly impacts food security, employment, and economic prosperity. The fisheries industry applies diverse techniques for capturing a wide array of marine resources (Hannesson, 2021). The focus of fisheries involves both the act of harvesting fishing and fish processing, and engaging in commercial enterprises (Charles et al., 2016). Certifications within the fisheries industry serve as crucial tools, demonstrating a strong commitment to sustainable harvesting practices, and validating adherence to strict regulatory standards (Bailey et al., 2018). However, the industry is experiencing sustainability concerns as a result of several effects caused by its operations, such as overfishing, habitat damage, and climate change (Barange et al., 2018).

The United Nations Sustainable Development Goals highlight that sustainability has become a core business requirement, rather than merely a moral responsibility (Khan et al., 2025). Sustainable Development Goal 14 (Life Below Water) (SDG 14) is crucial but challenging to fulfil due to the scale of the world's oceans and seas. With SDG 14 connected to other SDGs goals, it adds extra complexity to its potential achievement (Molony et al., 2022). Overfishing lowers fisheries' productivity, which has detrimental effects on social and economic issues as well as biodiversity and ecosystem stability, and in 2021, the proportion of global fishery stocks that were assessed as being within biologically sustainable levels decreased to 62.3% (FAO, 2024), 3.5% lower than in 2017 (FAO, 2022). Project management can be used as a tool for addressing these issues and achieving more sustainable practices (Tharp, 2012), as well as a change in perspective and aligning projects with broader environment (Ahmadu et al., 2025).

The increasing relevance of sustainability in business processes, as well as the sustainable development of natural and environmental resources, has had a considerable impact on how projects are designed, planned, scheduled, and carried out (Chawla et al., 2018). Sustainable development is considered to be "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987A p. 43), while sustainability is considered to be "nature's ability to produce or generate resources or energy remains intact" (Silvius et al., 2014 p. 70).

Sustainability has become increasingly integral to business practices and project management, and its significance extends to specific industries, such as fisheries. Sustainability in fisheries is a focal point of extensive academic research due to its crucial role in preserving aquatic ecosystems and securing the livelihoods of communities reliant on fisheries (Bradley et al., 2018; Farmery et al., 2022). Today, sustainability has become important in project management, and this reflects a shift in mindset from thinking short-term to emphasising responsibility and long-term impact (Orieno et al., 2024). According to Sánchez (2015), integrating sustainability issues into project management is important because it helps organisations align their projects with their business strategy and stakeholder demands, while also considering social and environmental dimensions. Project management can assist in addressing concerns such as sustainability matters and climate change (Ika et al., 2022). Projects often serve as drivers of change and play a critical role in addressing major challenges that are often solved with innovation and transformation (Locatelli et al., 2023).

The fisheries industry has been at the forefront of innovation, constantly finding new ways to improve production efficiency and reduce environmental impacts (Li et al., 2022). However, sustainability remains a major concern in the fisheries industry, as the depletion of fish stocks and damage to marine ecosystems pose significant challenges to the long-term

viability of the industry and the communities that depend on it (Pauly et al., 2002; Jacquet et al., 2022). While there is already a body of research on sustainability in project management in general (for example, Silvius et al, 2014; Marcelino-Sádaba et al., 2015; Sánchez, 2015; Armenia et al., 2019), limited research has been undertaken on the integration of sustainability solutions in project management, specific to the fisheries industry (Schoper et al., 2018). This gap in the literature limits understanding of how to integrate sustainability principles into project management practices in the marine fisheries industry, justifying the need for further research and exploration of sustainable project management practices in this area.

In order to begin to bridge this gap, this study therefore focuses on exploring the following research question: What is the current state of knowledge in the field of sustainability in project management specific to the marine fisheries industry? The aims of the research are the following: i) laying the foundation for understanding and implementing sustainability in project management within the fisheries industry, ii) mapping current knowledge, and iii) highlighting research gaps and future directions. This inquiry answers this research question and the three associated research aims by carrying out a systematic literature review.

The rest of the paper is divided into the following sections. Section 2 describes the methods used, which are based on the Protocol, Search, Appraisal, Synthesis, Analysis and Report (PSALSAR) framework, and provides a structured approach for the systematic literature review in order to answer research aim no. 1. Section 3 presents the review’s findings, in which research aim no. 2 is addressed. Section 4 presents a discussion and conclusion, where research aim no. 3 is reflected upon, and the limitations of this study are considered. Figure 1 maps the research question, research aims, and key contributions of this study.

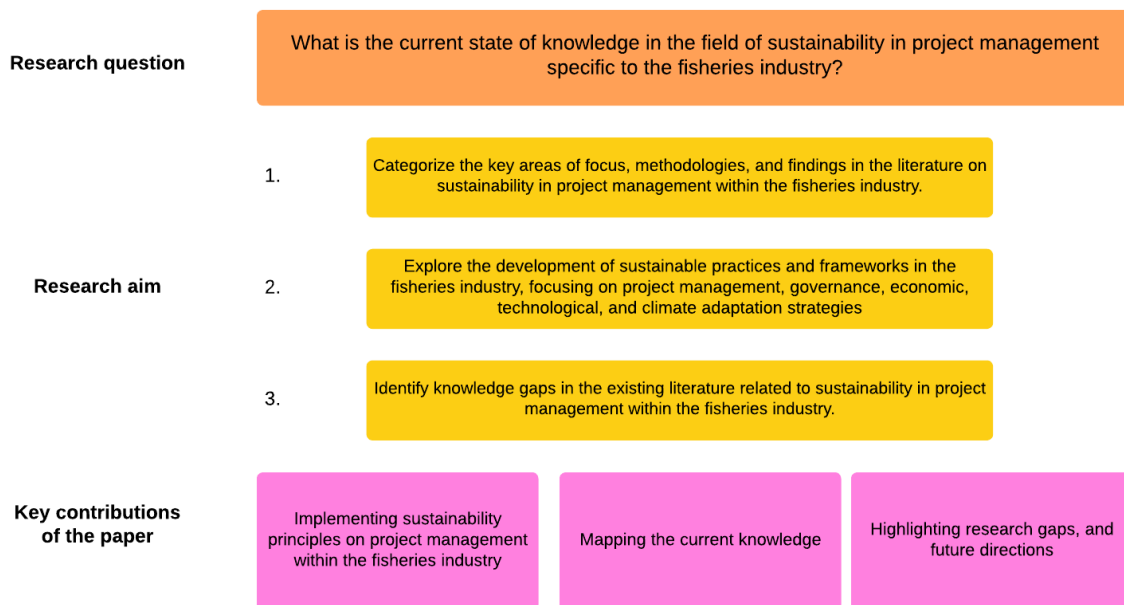


Figure 1. Research question, research aim and key contributions of the paper

## 1. Methodological approach

An exhaustive systematic literature review was conducted. The goal was to summarise the research findings from a wide range of studies on the subject of sustainability in project management within the fisheries industry (Ridley, 2012).

The PSALSAR method developed by Mengist et al. (2020) was used to provide a clear and detailed explanation of the procedures followed and choices made in the selection of literature for this specific review. The PSALSAR framework has been developed from the Grant and Booth (2009) SALSA framework, which stands for Search, Appraisal, Synthesis, and Analysis. PSALSAR stands for Protocol, Search, Appraisal, Synthesis, Analysis and Report, and is a way to define the search methods used while conducting a systematic literature review (Mengist et al., 2020). Figure 2 shows the steps followed in the PSALSAR systematic literature review and expected outcomes.

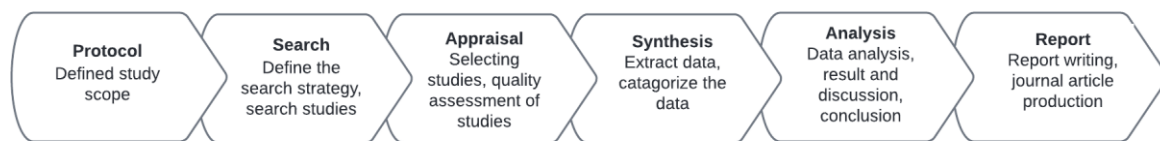


Figure 2. PSALSAR Framework  
Sourced from Mengist et al., 2020

In this study, a detailed protocol was developed outlining the objectives, research question, inclusion and exclusion criteria, and the methodology to be applied in this review. This protocol served as a roadmap, ensuring consistency and transparency throughout the review process.

Comprehensive search strategies were determined and executed across three databases: ProQuest, ScienceDirect, and Scopus, which identified papers involving the concept of sustainability in project management within the fisheries industry. These three databases were chosen for their quality, reliability, and extensive coverage of peer-reviewed academic literature. The systematic search strings conducted on these databases all contained a combination of the three terms ‘Sustainability’ AND ‘Project management’ AND ‘Fisheries industry’ within their title, abstract, and/or keywords. The search flow is shown in Figure 3 based on the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) flowchart.

Each identified study was subjected to a rigorous appraisal process to assess its quality and relevance. The appraisal process involved evaluating its findings and the relevance of these to the research question. Figure 3 shows that the search produced a total of 71 articles. After removing duplicates, which were a total of 20, the total number of articles was 51. This procedure began with an initial examination of the article abstracts to determine their suitability for inclusion. The abstracts of the 51 retrieved articles were reviewed in relation to the study aims and the defined inclusion and exclusion criteria. The exclusion criteria are shown in Figure 3. The structured evaluation using the PSALSAR framework resulted in the inclusion of 25 articles and the exclusion of 26 articles. Lower-ranking journals were not excluded if the publications fulfilled the above-mentioned criteria.

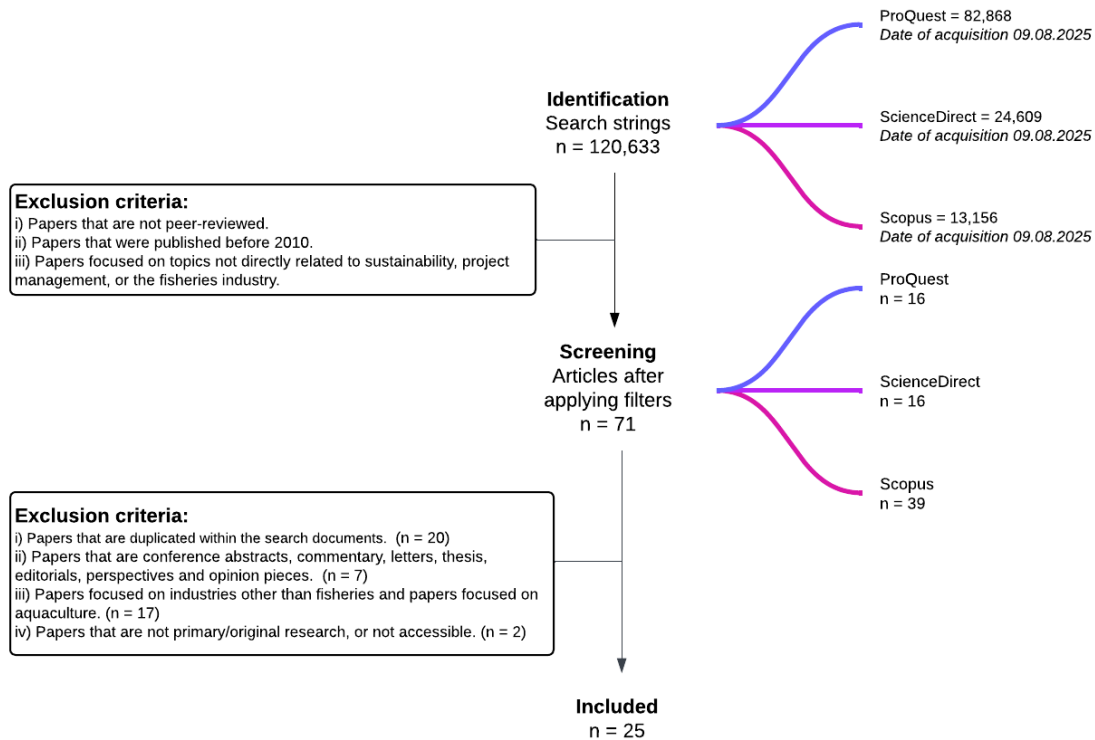


Figure 3. Search flow and total number of publications from each database  
Source: Author’s representation of PRISMA flow chart, 2025

As a result of the protocol, only articles published between 2010 and 2025 were included in the article search. The selection of 2010 as the baseline year in the systematic literature review was strategic, seeking to ensure that the dynamic nature of research on sustainability within project management was captured. Its imposition acknowledges the foundational work by Labuschagne and Brent (2004), as well as more detailed academic articles shortly before 2010 by Gareis et al. (2010) and Silvius et al. (2009). Furthermore, it is believed that including the year 2010 provides a reference point for examining the evolving perspectives and advancements in the field of sustainability and project management. For example, Gareis et al., (2009, p.1) highlighted that "Sustainable development in temporary organisations such as projects and programs is rarely considered". The period after the year 2010 is thus important because it represents the initiation of a growing conversation about incorporating sustainability into project management techniques. Including the period from 2010 to 2025 in the systematic literature review thus facilitates a comprehensive analysis of research conducted after the foundational work had been commenced.

This synthesis aimed to integrate findings from multiple studies to provide a cohesive understanding of the topic. Detailed analysis was conducted on the collected data to identify patterns, relationships, and gaps in the existing literature. Table 1 describes the selected articles, including details pertaining to study location and research method. The final step involved compiling a comprehensive report that documented the entire review process, all key findings, and related implications. In this study, the ‘report’ constitutes the write-up of this manuscript, including its methodology, findings, discussion, and conclusion, which together provide a transparent and comprehensive account of the review process and its outcomes. As shown in Table 1, which presents an overview of the study characteristics of the selected articles for the

## RECENT ISSUES IN ECONOMIC DEVELOPMENT

final analysis, Australia is the most frequently represented geographical location. Overall, 15 of the articles used qualitative methods (60%), with case studies as the most frequently used methodologies. Quantitative methods were utilised in 7 publications (28%) and mixed method approaches were used in 3 articles (12%).

Table 1. Study characteristics of chosen articles for final analysis (Created by the author, based on approach of Nedzinskaitė-Mačiūnienė and Minelgaitė, 2024)

Geographical Location	Author(s)	Article	Research Method	Main Findings
Africa	March et al., 2022	Small-scale fisheries development in Africa: Lessons learned and best practices for enhancing food security and livelihoods	Qualitative (Review of Case Studies)	Strong conclusions arose from this study, primarily that there is a critical need to reshape SSF governance in compliance with the sector's vulnerability and dependency context.
Australia	Caputi et al., 2015	Maximum economic yield of the western rock lobster fishery of Western Australia after moving from effort to quota control	Quantitative Analysis	The study concluded that moving to individual catch limits and extending the fishing season contributed to price increases for lobsters, leading to higher profits
	McGarvey et al., 2016	Using bioeconomic modeling to improve a harvest strategy for a quota-based lobster fishery	Quantitative (Bioeconomic Modeling)	The baseline 2011 strategy was found to be nearly optimal from an economic perspective at historical recruitment levels, but potential benefits were also noted from lower levels of exploitation which can lead to a higher stock abundance.
	Nursey-Bray et al., 2018	Adapting to change: Prioritising management for the future of the Marine Scalefish Fishery	Mixed Methods	The study found that fishers prioritized governance objectives highly and considered economic and environmental objectives as key and equally important. Fishers placed less emphasis on social objectives as they expected social benefits to naturally follow from economic and environmental benefits.
	Voyer et al., 2017	Using a well-being approach to develop a framework for an integrated socio-economic evaluation of professional fishing	Mixed Methods	The integrated well-being approach allowed researchers to bridge existing gaps in interdisciplinary studies, collect and integrate qualitative and quantitative social data, and provided a holistic picture of the influences on well-being in the fishing community
Europe	Rindorf et al., 2017	Moving beyond the MSY concept to reflect multidimensional fisheries management objectives	Qualitative (Workshops)	The researchers found that economic considerations and inclusive governance were preferred as the main objectives in complex fisheries, with sustainability constraints also required to ensure ecosystem, social, and governance sustainability.
	Hamon et al., 2021	Future Socio-political Scenarios for Aquatic Resources in Europe: An Operationalized Framework for Marine Fisheries Projections	Qualitative (Scenario Analysis)	The research underscored the importance of examining socio-political scenarios alongside anticipated changes in the natural environment when projecting the impacts of climate change
Global	Erauskin-Extramiana et al., 2023	Implications for the global tuna fishing industry of climate change-driven alterations in productivity and body sizes	Quantitative (Review and Simulation Models)	The research concludes that fish stocks would decrease their global potential productivity significantly and fish body size would decrease in the projected climate scenarios.
	Murua et al., 2023	Improving sustainable practices in tuna purse seine fish aggregating device fisheries worldwide through continued collaboration with fishers	Qualitative (Review and Case Studies)	The research showed that collaboration between fishers and scientists can play a critical role in advancing sustainable fishing practices

## RECENT ISSUES IN ECONOMIC DEVELOPMENT

	Crona et al., 2019	Fishery Improvement Projects as a governance tool for fisheries sustainability: A global comparative analysis	Quantitative (Comparative Analysis)	The authors concluded that while FIPs have the potential to improve fisheries sustainability, there are inherent weaknesses in the FIP model of influence stemming from reliance on supply chains as the means for implementing environmental practices
Iceland	Karlsdóttir et al., 2021	Efficiency management in catch handling onboard small boats – Standardisation of processes in Icelandic fisheries	Qualitative (Case Study)	The authors found significant variability in working methods, leading to several efficiency enhancement opportunities. The study affirmed that standardized, efficient catch handling practices can financially benefit small boat fishers in Iceland, while also contributing to several United Nations Sustainable Development Goals.
	Ciptono et al., 2021	Portfolios, programs, and projects in strategic marine-fisheries sustainability and blue growth: a case study in Indonesia	Qualitative (Case Study)	The results underscored the need for strategic management in marine-fisheries sustainability and importance of managing multiple projects efficiently and optimally, specifically in context of Indonesia. The researchers concluded that P3O and P3M3 models could improve productivity in marine-fisheries businesses by enabling them to adapt in a controlled and manageable way.
Indonesia	Käll et al., 2022	From good intentions to unexpected results — a cross-scale analysis of a fishery improvement project within the Indonesian blue swimming crab	Qualitative (Case Study)	The study concluded that while FIPs can succeed in creating industry associations and influencing regulations, getting buy-in and compliance from local fishers remains a significant challenge.
	Harlyan et al., 2025	Species Diversity of Trammel Net Fisheries of Kotabaru Waters, South Kalimantan, Indonesia	Quantitative (Data collection and analysis)	The study assessed species diversity and richness in Kotabaru shrimp fisheries, revealing significant spatial variation and fishing pressures. Results point to the need for adaptive, area-specific management to strengthen sustainability and support MSC certification.
Latin America and Caribbean	Gomez-Gomez et al., 2024	Diversity, challenges, and opportunities of Fishery Improvement Projects in the Latin America and the Caribbean region	Quantitative (Data analysis)	The study concluded that FIPs in Latin America and the Caribbean tackle weak data, unclear harvest rules, and poor enforcement through data collection and stakeholder engagement. They complement certification schemes but need long-term monitoring and broader drivers to ensure lasting sustainability.
	Cintio et al., 2017	Eco-Label Certification: A Case Study of the Campeche Shrimp Fishery, Mexico	Qualitative (Case Study)	The research found that despite the potential improvements from the REBYC—II LAC project, the Campeche shrimp fishery is currently not certifiable by the MSC
Mexico	García-Rodríguez et al., 2024	From bottom to up: Effects of fishery improvement projects on the stock trends of multi-specific small-scale fisheries from Mexico	Quantitative (Data analysis)	The findings provide a baseline for understanding fisheries status and highlight how improvement projects can supply missing data and support the sustainability of small-scale fisheries.
Philippines	Shamsuzzoha et al., 2024	Blockchain-enabled traceability system for the sustainable seafood industry	Qualitative (Case Study)	The study shows that the Tracey blockchain solution can enhance traceability and transparency in small-scale fisheries, support sustainable fishing, and improve both fishers' livelihoods and consumer trust.
Portugal	Silva et al., 2015	Development of a responsive fisheries management system for the Portuguese crustacean bottom trawl fishery: Lessons learnt	Qualitative (Case Study)	The new management plan was developed, which included the operator's strategy for achieving the outcome targets and methods for data gathering and exchange
Solomon Islands	Roscher et al., 2025	Using hypothetical scenarios to explore potential trade-offs and rebound effects from livelihoods projects in the Pacific Islands: a case study from Langalanga, Solomon Islands	Mixed Methods	The study found that fishers' adaptive responses to livelihood projects vary by gender and age, with potential trade-offs such as short-term profitability over sustainability, reinforced vulnerabilities, and risks to public health. These insights highlight the need to anticipate and mitigate unintended effects when designing policies and projects.

## RECENT ISSUES IN ECONOMIC DEVELOPMENT

South America	Miller et al., 2018	The SOS Pesca Project: A Multinational and Intersectoral Collaboration for Sustainable Fisheries, Marine Conservation and Improved Quality of Life in Coastal Communities	Qualitative (Multinational Collaboration)	As a result of the project, fishing communities' perceptions of their marine environment and the need for sustainable resource management improved significantly.
Spain	Rubio et al., 2024	Adaption planning to climate change in industrial fisheries: Progress in the Basque tropical tuna fishery	Qualitative (Interviews)	The study found that the Basque fishery system adapts mostly through industry-led efforts like practice changes and capacity building, but coordinated planning remains limited.
United States	Ebel et al., 2018	The power of participation: Challenges and opportunities for facilitating trust in cooperative fisheries research in the Maine lobster fishery	Qualitative Analysis	Distrust between stakeholders is a persistent challenge. They suggest that the mistrust between fishermen, scientists, and managers can be mitigated by building long-term relationships based on mutual respect
	Lomonico et al., 2021	Opportunities for fishery partnerships to advance climate-ready fisheries science and management	Qualitative (Review)	The study highlighted the benefits of collaborative fishery partnerships in advancing climate-ready fisheries management. Examples of successful fishery partnerships and the roles they could play in different phases of the management cycle were pointed out
	Bonito et al., 2022	U.S. Exempted Fishing Permits: Role, Value, and Lessons Learned for Adaptive Fisheries Management	Qualitative (Case Study)	The study concluded that EFP projects can be vital tools for experimenting with innovative strategies for fisheries management. However, the researchers outlined the need for more standardized documentation across regional EFP programs

### 1.1. Interviews

Semi-structured interviews were conducted to include key stakeholders involved in sustainability certification processes within the Icelandic fisheries sector. The interviews were used to gather deeper insights on how certification processes are implemented, maintained, and evaluated over time. The interviews show how stakeholder engagement and governance frameworks influence project success and how certification contributes to the broader goals of economic efficiency and resource utilisation in Icelandic fisheries.

The interviews were conducted between March and April 2021. The interviews were conducted in 2021 as part of an earlier qualitative data collection on sustainability and project management in the Icelandic fisheries sector. Although some time has passed, the data reflects stable processes and ongoing systems of certification and governance that are still in place.

The purpose of the interviews is to provide an additional empirical perspective as they give deeper understanding on Fishery Improvement Projects (FIP), which are often mentioned in the articles included in the systematic literature review. This is worth looking at, as there are more FIP in recent years that may suggest they are becoming an important part of managing fisheries across the world (Crona et al., 2019; García-Rodríguez et al., 2024). The specifics of the interviewees are described in Table 2. The interviews were conducted in Icelandic, written up, and open coded in order to identify themes, with a synthesis compiled, and finally they were translated into English.

Table 2. Characteristics of interviewees

	Gender	Job position	Company	Company size	Date of interview	Length of interview	Words transcribed
A	Male	CEO	1	Micro sized enterprise	25. March 2021	00:31:27	3478
B	Male	CEO/Project manager	2	Micro sized enterprise	21. April 2021	00:28:25	3644

## 2. Findings

The 25 articles were analysed to identify themes. A total of three themes were identified as follows: 1) Effective Governance and Policy Frameworks, 2) Economic Optimisation, Technological Innovation, and Resource Utilisation, and 3) Climate Change Adaptation and Stakeholder Involvement. The outcomes linked to these themes are now reported in turn.

### 2.1. *Effective governance and policy frameworks*

The theme of "Effective Governance and Policy Frameworks" in the fisheries industry features in eleven of the twenty-five publications: Bonito et al. (2022), Cintio et al. (2017), Ciptono et al. (2021), Crona et al. (2019), Gomez-Gomez et al. (2024), Hamon et al. (2021), Harlyan et al. (2025), Murua et al. (2023), Rindorf et al. (2017), Roscher et al. (2025), and Silva et al. (2015).

#### 2.1.1. *Governance and policy*

Recent studies underscore the importance of stakeholder collaboration and policy alignment in achieving effective fisheries governance.

Silva et al. (2015) highlight that assigning accountability to resource users, as seen in the Responsive Fisheries Management System, improves governance through stakeholder involvement and data driven decision-making. Similarly, Rindorf et al. (2017) suggest that governance structures enabling diverse stakeholder participation and collaboration are associated with more effective outcomes.

Crona et al. (2019) further support this by illustrating that FIP, which rely on stakeholder dialogue, develop management plans effectively. This collaborative approach is essential for sustainable fisheries management. Ciptono et al. (2021) add that when seeking to align fisheries projects with both national and international policies, including the SDGs, it is important to deliver clear and efficient governance. Bonito et al. (2022) emphasise the need for standardised regulatory frameworks, particularly for Exempted Fishing Permits (EFPs), to ensure consistent data collection and comprehensive analysis. This standardisation is key to evaluating and improving governance strategies and the authors created the U.S. first standardised database of EFPs. Roscher et al. (2025) point out that effective governance depends on policies being well-adapted to local contexts and understanding their dynamic interactions using hypothetical scenarios linked to planning processes. The results show that hypothetical scenarios are useful for understanding local contexts, focusing on social sustainability, and highlight the importance of examining them carefully before launching projects or policies to reduce negative outcomes.

#### 2.1.2. *Opportunities*

The literature identifies several opportunities for enhancing fisheries management through more flexible and inclusive frameworks. Rindorf et al. (2017) point out the need for decision-making processes that accommodate diverse stakeholder inputs, which can lead to more adaptive and effective management strategies. Hamon et al. (2021) highlight the

importance of international cooperation in fisheries management, suggesting that improving current collaboration structures and establishing new ones can help address global fisheries concerns. This perspective aligns with Ciptono et al. (2021), who advocate for adopting the P3M3 project management model and a "Triple Bottom Line" approach in Indonesia, promoting sustainability and effective governance. Harlyan et al. (2025) highlight that opportunities exist in implementing adaptive, localised management strategies informed by scientific data to enhance sustainability. Ultimately, these efforts contribute to global sustainable seafood supply chains and provide essential baseline data for future research.

Cintio et al. (2017) point out the importance of bridging the gap between research and practice by moving towards a holistic, ecosystem-based management approach. This shift is important for ensuring the long-term sustainability of fisheries, as it considers the entire ecosystem rather than focusing on individual species. Similarly, Crona et al. (2019) highlight the need for enhanced data collection efforts that include multiple species and model fisher behaviour, which is vital for developing comprehensive management strategies. Murua et al. (2023) identify opportunities for progress through collaborative research, particularly in testing new fish aggregating devices and selective fishing methods with active fisher involvement. Gomez-Gomez et al. (2024) mention that fishery improvement projects can be seen as multi-stakeholder tools aimed at improving the sustainability of fisheries. They point out that the full impact of FIP will only become clear over time. The study also highlights obstacles and opportunities to their use across Latin America and the Caribbean, offering lessons for those pursuing sustainable fisheries management in comparable contexts, especially stakeholders.

## ***2.2. Economic optimisation, technological innovation, and resource utilisation***

The second section looks at the theme of "Economic Optimisation, Technological Innovation, and Resource Utilisation" in the fisheries industry from six different publications: Caputi et al. (2015), García-Rodríguez et al. (2024), Karlsdóttir et al. (2021), Käll et al. (2022), McGarvey et al. (2016), and Shamsuzzoha et al. (2024).

### ***2.2.1. Optimising economics, utilisation, and innovation***

Karlsdóttir et al. (2021) suggest that standardisation of catch-handling processes by small-scale fishers, particularly through technological innovation in areas such as automation, can lead to increased efficiency and reduced waste. This optimisation extends to resource utilisation, as improved handling practices can maintain the quality of the catch and minimise losses. Shamsuzzoha et al. (2024) review a user-friendly traceability app for small-scale fisheries. The study finds that effective traceability of seafood depends on information sharing among all actors along the supply chain, from fishers to consumer.

McGarvey et al.'s (2016) findings suggest an optimised approach to establishing catch limits, using the criterion of Catch Per Unit of Effort (CPUE). This method holds the potential to enhance long-term profitability for fishers while ensuring sustainable lobster populations are maintained for future generations. Caputi et al. (2015) found that shifting from effort-based to quota-based fishing, guided by Maximum Economic Yield principles, significantly enhanced economic profitability and promoted sustainable fishing practices. Käll et al. (2022) discussed the need for looking beyond market mechanisms and understanding connections between human behaviour, economic motivations, and resource management to tackle environmental challenges and promote social well-being. García-Rodríguez et al. (2024) point out that improved utilisation of fishing resources is achieved by addressing poor management and data gaps through FIP and data gathering.

Karlsdóttir et al. (2021) explores how the application of project management principles, such as process standardisation and Kaizen methodology, can improve efficiency in small-scale fisheries, promoting both economic and environmental sustainability. Similarly, Caputi et al. (2015) suggest that embracing opportunities for progress, such as adopting new technologies and management strategies, can lead to more efficient resource utilisation and improved economic outcomes in fisheries.

### ***2.3. Climate change adaptation and stakeholder involvement***

The third section investigates the theme of "Climate Change Adaptation and Stakeholder Involvement" in the fisheries industry, based on eight publications: Ebel et al. (2018), Erauskin-Extramiana et al. (2023), Lomonico et al. (2021), March et al. (2022), Miller et al. (2018), Nursey-Bray et al. (2018), Rubio et al. (2024), and Voyer et al. (2017). These studies highlight the significant impacts of climate change on marine ecosystems, the necessity for sustainable management practices, and the crucial role of stakeholder involvement.

#### ***2.3.1. Barriers***

According to Erauskin-Extramiana et al. (2023), there are several barriers that may affect the sustainability of tuna and billfish fisheries due to climate change. For instance, a projected 36% decrease in global productivity of these fish stocks by 2050 is likely to pose a significant challenge. Moreover, the reduced body size of fish may impact market prices and demand, potentially leading to decreased revenue for the fishing industry. Lomonico et al. (2021) highlight that increased environmental variability and uncertainty can lead to unpredictable shifts in fish species' productivity and distribution, which complicates fisheries management. In addition, Lomonico et al. (2021) highlight the need for stronger partnerships among management agencies, the fishing industry, the private sector, and academia to address resource gaps.

The study of Rubio et al. (2024) illustrates how an industrial fishery, facing both climate and socio-economic pressures, has only modest formal adaptation planning, as seen in the Basque tropical tuna sector. Still, numerous adaptive measures are in place, reflecting long-term adjustments. Miller et al. (2018) identify a major challenge in declining fish stocks, amplified by limited data for assessing and managing these challenges. The complexities of international collaboration and the need for better coordination among diverse stakeholders can be seen as a barrier. Nursey-Bray et al. (2018) highlight barriers that include declining fish stocks, the need for governance reform, and the under-regulation of recreational fishing. Ebel et al. (2018) observe the persistent distrust between scientists and fishers as a major obstacle to effective collaboration. This distrust stems from differing priorities, power imbalances, and past conflicts, making fishers wary of sharing information that could lead to stricter regulations. While there is distrust, Ebel et al. (2018) emphasise the positive role of strong personal relationships between researchers and fishers in fostering trust and facilitating more meaningful participation.

Nursey-Bray et al. (2018) suggest that future research should focus on analysing fisher objectives by examining the priorities of various stakeholders. The lessons learned from such research emphasise the importance of government support in implementing reforms, coordinating public-private governance, and collaborating with scientists and fishers to address the impacts of climate change. March et al. (2022) suggest a need for further research on the effectiveness of different governance and management approaches, climate change adaptation strategies, and the role of community engagement in sustainable fisheries management.

### ***2.3.2. Stakeholder engagement***

According to Lomonico et al. (2021), achieving climate readiness is not only dependent on technical and financial resources, but also on the adoption of attitudes and practices that support more collaborative and adaptive management approaches. The necessity for industry measures to adjust to these changes has been emphasised by Erauskin-Extramiana et al. (2023). They have identified potential adaptation techniques for the fishing industry, such as raising the economic value of fish via sustainability certifications and advancing digitalisation to decrease fuel usage and time spent at sea. Collaborations can improve support for cost and task sharing, as per the recommendation of Lomonico et al. (2021), increase adherence to fisheries management regulations, and foster better cooperation between industry and academic institutions.

The lessons learned from Miller et al. (2018) include the importance of encompassing entire communities in fisheries reform, the usefulness of interactions between fishing communities and researchers, and the value of integrating multiple themes to encourage participation and project ownership. Face-to-face communication played a crucial role in facilitating better dialogue and achieving nationwide impact. In the same vein, March et al. (2022) emphasise the importance of knowledge sharing and community-led approaches. Miller et al. (2018) underlines the significance of community engagement, international collaboration, and adaptive management tools for sustainable fisheries management. This research provides valuable insights for future endeavours in comparable situations.

### ***2.3.3. Sustainability***

According to Nursey-Bray et al. (2018), there was a strong agreement among fishers about the necessity of urgent reform and the acknowledgement of the intertwined nature of economic and environmental goals. Voyer et al.'s (2017) framework identifies seven key domains of community well-being directly influenced by the fishing industry. These factors encompass not only economic contributions but also social aspects such as community identity, way of life, and health and well-being. By emphasising the connections between the social, economic, and environmental dimensions of sustainability, Voyer et al. (2017) provide a valuable tool for policymakers and stakeholders seeking to implement sustainable fisheries management practices. According to Erauskin-Extramiana et al. (2023), there is a need for research to examine the combined effects of climate change and fishing across different regions and species, as the fishing industry must adapt to these impacts. In agreement with Erauskin-Extramiana et al. (2023), Lomonico et al. (2021) underlines the importance of developing and using new information streams and data infrastructure for adaptive management. One of their key recommendations is for government agencies to regularly publish prioritised research needs and information gaps related to climate change.

## ***2.4. Synthesis of emerging themes and insights***

For effective fisheries governance, most of the research in this review highlights the significance of stakeholder collaboration and inclusive decision-making. Improving resource efficiency and adopting new technologies are the fundamental goals of economic optimisation initiatives. In the context of climate change, more research is required to examine adaptive management techniques and the integration of social, economic, and environmental goals. In Figure 4, a summary of the findings is illustrated using a Venn Diagram, which categorises the articles included in the systematic literature review based on their main focus. This visual

representation highlights the overlap of each study, highlighting how different research themes and revealing potential gaps in the literature.

A few articles mentioned FIP, including Käll et al. (2022), Crona et al. (2019), Cintio et al. (2017), Gomez-Gomez et al. (2024), García-Rodríguez et al. (2024), and Harlyan et al. (2025). Although project management principles were not the primary focus of these articles, many articles mentioned the importance of stakeholders, one of the main actors needing consideration by project managers.

Although only a few of the studies specifically address project management frameworks, as shown in Figure 4, some of them still provide valuable insights that can be applied to project management practices, and thus help to advance knowledge about project management in the fisheries industry. For example, demonstrating the effectiveness of integrative models and data-driven approaches (Erauskin-Extramiana et al., 2023), proposing innovative frameworks for partnerships and collaborative management (Lomonico et al., 2021), showcasing successful project implementation and stakeholder engagement at various levels (Miller et al., 2018), and highlighting the importance of participation and decision-making and governance reforms (Nursey-Bray et al., 2018). Any framework put forward could be adjusted to oversee projects related to fisheries management (Voyer et al. 2017). Some recent studies, such as Rubio et al. (2024) and Roscher et al (2025), highlight the importance of delivering social well-being through harnessing marine resources.

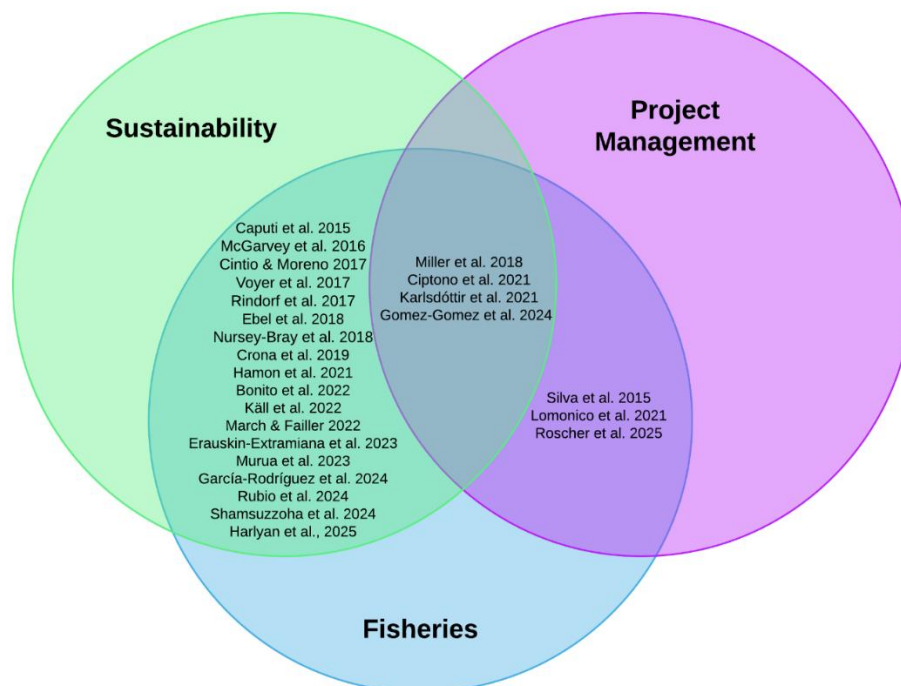


Figure 3. Main focus of the included articles in the systematic literature review

Source: Created by the author, 2025

## ***2.5. Findings from interviews***

Using interviews to complement the systematic literature review, this study is supported by real life perspectives from two experts in the field of certification projects in Iceland. The two interviewees shared their experience on FIP. The role of both interviewee A and interviewee B is to ensure that the companies carry out certification projects. The first theme that emerged was Enhancing profitability through stakeholder cooperation in sustainable fisheries, which included profitable (22 codes), stakeholders and cooperation (19 codes), requirements (4 codes), standards (67 codes), and project management (16 codes). The second theme to emerge was Sustainability as driver of improvement, which consisted of sustainability (39 codes), role model (11 codes) and improvements (10 codes), and quota system (30 codes).

### ***2.5.1 Enhancing profitability through stakeholder cooperation in sustainable fisheries***

Interviewee B considers the most valuable benefit of the company's activities and its projects was bringing people together and also creating dialogue between stakeholders. Interviewee B added that it was *"the most important thing we have done in recent years."* In contrast, Interviewee B voiced that projects could be seen as an additional stakeholder working for the benefit of the environment and also operated in connection to other stakeholders within the sector. Interviewee B mentioned that *"working in Iceland is like nowhere else"* and considers the short communication channels to be important when it comes to working towards the same goal.

In relation to the profitability of fisheries products in Iceland, interviewee A spoke about how the fisheries industry is of enormous significance to Iceland's export earnings and that the country depends on how fishing is responsibly managed. Interviewee A added that the catch has decreased compared to before the Icelandic quota system was introduced, but the value has increased and the fisheries sector in Iceland has become more profitable. In connection to higher profitability linked to sustainably sourced fish products, Interviewee B mentioned that it is easier to sell a product that can be shown to have been sustainably sourced. He also noted that the prices of the sold product would be higher and gave an example of a 30% difference in price between a product that is certified sustainably and one that is not.

Interviewee A voiced that if companies *"cannot demonstrate sustainable fishing, they lose access to the best-paying markets in the world."* In a similar manner, Interviewee B asserted that if fish products were not sustainably certified, it would mean that the product would not reach certain markets. Interviewee B added that if the product were not certified, there would be a definite risk of losing the most important markets in which Icelandic fish products are sold. Interviewee B, who works on certification projects, pointed out that although there was no economic benefit to the company's operations, the activities of the company have economic impact.

Regarding project management, Interviewee B stated that the main aspect related to managing projects is to be in constant communication with the stakeholders of the project, as deemed appropriate at any given time. He also pointed out how a project requires collecting and analysing data, connecting stakeholders, and most importantly, ensuring progress.

### 2.5.2 Sustainability as driver of improvement

In the opinion of Interviewee A, Iceland is a major fishing nation with a rich history despite being a small country. He also added that Iceland has a good reputation related to fishing. Interviewee A explained that before the quota system, there was a report published about the situation in the Icelandic fisheries sector, in which it was conveyed that the Icelandic fishing fleet was far too large and unprofitable. The main fish stocks around Iceland were said to be in poor condition before the implementation of the quota system in 1990, and since then the Icelandic fisheries management system has improved over time. Interviewee A also pointed out that companies today know exactly the amount they are allowed to catch.

Interviewee B noted that a high proportion of all catches that are landed in Iceland come from sustainably certified fish stocks. He also said that the benefits of sustainably certified stocks are substantial. In this context, he referred to the clear environmental advantages, such as reduced impact on marine ecosystems, including the seabed and marine habitat, as well as benefits for overall biodiversity.

Interviewee B stated that it is the companies own responsibility to make sure they comply with laws and regulations regarding sustainability. Interviewee A mentioned that fisheries management prevents overfishing of fish stocks. He also said that the situation in Iceland is such that there are fewer and larger companies that have a share of the quota, but *"in terms of sustainability, it is undisputed."* Interviewee B said in a similar manner that *"it's quite clear that such certification strengthens the overall system, the entire sustainability framework."* Interviewee A emphasised the importance of traceability certification of fish products should companies intend to use sustainability certifications for marketing purposes, in order to ensure that the product originates from certified fish stocks.

Interviewee A said that there are very strict requirements and processes regarding fulfilling certification standards. He added that there is a requirement from the market for companies to clearly demonstrate that responsible fishing practices are being carried out in Iceland. Interviewee A discussed the waste management requirements of a certified fisheries company. He mentioned that fishing vessels must bring everything related to fishing back to land in the context of both the cutting of fish gear and general waste. When interviewee A talked about the utilisation of catch, he said that it has become much higher than it used to be. There is a lot of innovation when it comes to finding new solutions to create new products from what was previously considered worthless years ago.

In relation to buyer's behaviour, Interviewee A mentioned that buyers are increasingly demanding sustainable products. He also noted that it is not enough for companies to say they are doing well with regards to sustainability, but independent parties are needed to confirm that this is the case.

Interviewee A said that his company is constantly evolving and that its processes and operations are always being improved. He added that there are all kinds of actions that are being taken to refine what has been done in a certain way in the past. For example, Interviewee A mentioned in connection with fishing, the impact of bottom trawling on the seabed where entire lobster habitats can be damaged. He said that there are always attempts to improve fishing gear to keep the environmental damage to a minimum and added *"there is always room for improvement."* In relation to improvements, Interviewee B mentioned that it is necessary to continuously demonstrate this each year.

### 3. Discussion

The theoretical contribution of this study lies in the application of the PSALSAR framework developed by Mengist et al. (2020). Using the PSALSAR framework is beneficial for systematic literature reviews because it ensures a structured, transparent, and reproducible process, which enhances the reliability and validity of the findings. Having a protocol is critical because it provides a clear plan and criteria for the review, helping to ensure consistency, objectiveness, and transparency throughout the research process.

Although the interview insights reflect the Icelandic context, they offer valuable lessons for other nations. Interviewee B was of the view that the most important advantage of the company's work and projects was that they brought people together and started conversations between stakeholders. A number of articles included in the systematic literature review also mention the importance of stakeholder involvement, taking several perspectives. To name a few, Voyer et al. (2016) mention that adding a well-being approach can ensure that every stakeholder group's voice is acknowledged to help make fair decisions for all. Also, Rubio et al., (2024) found that stakeholder diversity can be an obstacle within an international perspective, however, they found it crucial when implementing inclusive climate adaptive solutions. Silva et al. (2015) found that a key motivation for stakeholder participation was a chance to create and suggest a more appropriate management plan than was previously in place. Shamsuzzoha et al. (2024) mention that it is important that all stakeholders provide data, so it is possible to have traceability of products through the value chain. The study by Rindorf et al. (2017) reported on a workshop that demonstrated significant stakeholder support for including ecological, economic, social, and governance objectives with the goal of maximising economic advantages while remaining within environmental and social boundaries. Bonito et al. (2022) found that larger projects with a greater number of stakeholders were more likely to influence management results.

Interviewee A stated that companies that do not have sustainable sourced products might lose access to the most lucrative global markets. Interviewee B said that the absence of sustainable certification for products would result in the product being barred from certain markets. This is in line with Cintio et al. (2017) who mention the market demand of sustainable certified products and their added value when entering certain markets. Interviewee B stated that it was easier to sell a product if you can prove that it was sustainably sourced, adding that the pricing of products would be higher in return. Cintio et al. (2017) mention that eco-labelling programs create higher demand for products that have been sourced through sustainable fisheries and acknowledged the high cost of certified fisheries. Interviewee A said that the catch has decreased since the quota system was put in place, but its total economic value has gone up and the fisheries sector in Iceland has become more profitable. Gomez-Gomez et al. (2024) state that FIP are predominantly motivated by market demand for sustainable seafood. Similarly in relation to buyers behavior, Interviewee A stated that consumers are progressively demanding sustainable sourced products. Erauskin-Extramiana et al. (2023) state that while the fisheries sector relies on fossil fuels, they will continue to increase fuel efficiency of the fleet in order to stay profitable. Cintio et al. (2017) found that sustainable certified fisheries can have an advantage regarding a company's reputation and on the market.

Effective management of fisheries is essential for safeguarding the long-term sustainability of marine environments and securing food supplies for the growing global population (Clavelle et al., 2019). However, current approaches to fisheries management often fall short in achieving the delicate balance between ecological, economic, and social priorities (Botsford et al., 1998; Cochrane, 2000; Neilson et al., 2019). An important factor contributing to this challenge is the failure to adequately incorporate the diverse perspectives and contextual

understandings held by various stakeholders, including fishers, scientists, and coastal communities, into fisheries management frameworks (Neilson et al., 2019). The literature suggests that a key knowledge gap in fisheries project management pertains to the incorporation of sustainability considerations.

This systematic review indicates that research on sustainability in project management in the fisheries industry is still relatively limited. The majority of the literature on project management and sustainability has focused on other sectors, such as construction, manufacturing, and energy (Chofreh et al., 2019; Silvius et al., 2014; Silvius et al., 2015).

Although many articles in this systematic literature review offered valuable insights of relevance to project management, there is a need for a more in-depth exploration of how project management principles can enhance stakeholder engagement and capture valuable lessons learned. Additionally, only a small proportion of them directly address the integration of sustainability principles into project management in the fisheries industry. The impact of incorporating sustainability considerations into project management in the fisheries industry thus remains an understudied area. By incorporating sustainability into project planning and execution, project management can help to optimise resource use, manage risks, and adapt to changing conditions, as has been researched more in other sectors. Schoper et al. (2018) state that the fishing industry has a relatively small percentage of project-related work, which may be the reason for the relatively small number of studies on the matter. The few studies that have been conducted suggest that the integration of sustainability principles into project management in the fisheries industry can lead to benefits such as improved environmental performance, enhanced stakeholder engagement, competitive advantage, and the achievement of long-term project success (Chofreh et al., 2019).

While this systematic literature review offers valuable insights, it is important to acknowledge several limitations that may affect the comprehensiveness and objectivity of the findings. Firstly, the review is limited to articles published in English. This language constraint may have meant that relevant research published in other languages was missed, potentially leading to a partial understanding of the global landscape of sustainability in project management within the fisheries industry. Secondly, the review process utilised only three databases: ProQuest, Scopus, and ScienceDirect. While these databases are comprehensive and their focus is on academic publications, relying only on them may have resulted in the exclusion of significant articles found in other databases. Moreover, the systematic literature review includes only 25 articles. While these articles were selected to provide a comprehensive overview, the small sample size may not fully represent the diversity of research and perspectives within the field. Furthermore, there could be a time-lag bias, in which more recent studies are underrepresented due to the time it takes for them to be indexed in the chosen databases. Regarding the limitations of the interviews, both interviewees are connected to the Icelandic fisheries industry, so are unable to provide an international context and their commercial role may have introduced bias. Only two interviewees also limits the depth of the results and the possibility of generalising these to the entire fisheries industry or all certification processes. This study did not capture the viewpoints of a broader range of other stakeholders and actors regarding the sustainability of the fisheries sector and its implementation into project management.

More research is needed to understand the specific challenges and barriers to implementing sustainability-focused project management in the fisheries industry, as well as the strategies and tools that can be used to overcome these obstacles. This could involve the development of a comprehensive framework for integrating sustainability principles into fisheries management projects, as well as the identification of best practices and case studies that demonstrate the successful implementation of these approaches. Further research is needed

to explore innovative frameworks for partnerships and the long-term impacts of collaborative management on marine ecosystems and societies. Based on the results from the interviews, further research could be applied to other countries and certification contexts in order to identify variations in governance structures, stakeholder engagement, and implementation practices.

The findings revealed that stakeholder engagement emerged as a relevant theme in many of the articles included in this review. Engaging stakeholders not only ensures that projects align with social and environmental expectations but also helps in mitigating conflicts, ensuring transparency, and potentially enhancing the long-term sustainability of projects. The interviews also reveal how stakeholder engagement plays out in practice in the Icelandic context. Interviewee B highlighted that short communication lines and a close-knit industry makes stakeholder coordination significantly easier. It may suggest a structural advantage of the Icelandic fisheries sector that may not be present in larger fisheries sectors elsewhere.

The growing recognition of sustainability and project management is not adequately reflected in the literature included in this study. Despite the importance of sustainability, there remains a noticeable gap in the integration of sustainable practices within project management frameworks, which is shown in this review via the limited focus on this area. This could suggest that while the concept of sustainability is gaining traction, there is still significant room for further exploration and development in the field, particularly in terms of practical applications in project management within the fisheries industry.

The interviews confirmed several patterns identified in the literature, regarding stakeholder participation and market-driven sustainability. Not only that, they also added dimensions not captured in the systematic literature review. These include the operational reality of project management in FIP, a strong fisheries history, the role of short communication lines, and the practical economic benefit of certification projects. Integrating these perspectives provides a more comprehensive understanding of sustainability-oriented project management in the fisheries sector.

This gap in the literature suggests that managers in the fisheries industry may need to take a more active role in adopting sustainability practices. Prioritising stakeholder engagement and integrating sustainability into project planning can help align operations with regulatory and environmental requirements. The limited research in this area highlights an opportunity for project managers to take the lead in applying these practices within the industry.

## **Conclusion**

In conclusion, the goal of this systematic literature review was to put a clear focus on sustainability in project management within the fisheries industry, to provide valuable insights into current practices, successful case studies, and challenges, and identify opportunities for enhancement.

Through an analysis of the existing literature, this review highlighted effective strategies and identified key obstacles that need to be addressed to advance sustainable development within projects in the fisheries industry. Answering the research question, the key contributions of this paper were threefold i) lay the foundation for understanding and implementing sustainability into project management principles within the fisheries industry, ii) mapping current knowledge, and iii) highlighting research gaps and future directions.

The existing research on sustainability in project management in the fisheries industry establishes a fundamental understanding of ecological, economic, and social aspects. This foundation is predicated on the recognition of fisheries as vital to food security, livelihoods, and economic stability. The incorporation of sustainability as an important consideration within project management involves establishing governance structures that foster stakeholder

collaboration, policy coordination, and accountability. Effective governance frameworks are considered essential for implementing sustainable practices, as they assist in aligning local, national, and international policies, ensuring the fisheries industry's adherence to the SDGs.

The review revealed that sustainability in fisheries encompasses environmental preservation. Sustainable practices are shaped in large part by factors such as effective governance, economic optimisation, technological innovation, and the impacts of climate change. The literature emphasised the importance of an approach that incorporates multiple stakeholder perspectives and aligns policy with sustainability objectives.

The introduction highlighted the role of the fisheries industry in global food security and economic stability, alongside various sustainability challenges, such as overfishing, habitat destruction, and climate change. The findings reflect these concerns, demonstrating that integrating sustainability in project management can help to address these issues through structured governance frameworks, economic optimisation, and technological advancements.

The systematic review strengthens existing knowledge while identifying gaps in the literature, particularly the need for more focused research on sustainability in project management within fisheries. There remains a gap in research on the application of sustainability in project management within the fisheries industry, highlighting the need for further exploration and development in this area. It is evident that more research is needed regarding the social dimension of sustainability when it comes to fisheries and project management, especially regarding community well-being and access to resources. Despite some progress, these research gaps hinder the full integration of sustainability into project management practices. Specifically, there is limited exploration of how project management methodologies, such as Agile or Lean, can be adapted to address the unique challenges of the fisheries industry. The current state of knowledge thus provides an understanding of the application of sustainability within project management in fisheries, yet highlights the necessity for continued research and development in specific areas to achieve a more integrated and holistic approach.

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