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Social Processes as Drivers for Empowerment of Sustainable Fisheries Management on Åland

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Abstract

This study analyses and evaluates an early-stage, pre-intervention phase in Åland's small-scale fisheries community and examines the usefulness of a mixed-methods approach. It focuses on how combining three complementary methods supports the development of a grounded and legitimate pilot, rather than assessing pilot outcomes. The study applies a mixed-method approach combining a governance audit, community stakeholder workshops, and Q-methodology to map the social and institutional context prior to pilot implementation. The small-scale fisheries community in Åland represents an important cultural heritage and way of life, but faces increasing vulnerability due to regulatory pressures, ecological challenges, and socio-economic marginalisation. The findings suggest that combining multiple social science methods can contribute to a more nuanced understanding of stakeholder perspectives, power dynamics, and governance constraints, while supporting the identification of locally relevant intervention pathways and creating conditions for more legitimate and inclusive pilot development. However, the results also highlight limitations related to uneven participation and the difficulty of engaging diverse stakeholder groups in practice. The analysis indicates that social science approaches can provide an essential foundation for the later development of ecologically and socially grounded interventions, including nature-based solutions where locally appropriate. Nevertheless, social science contributions are currently less prominent than technical nature-based interventions, suggesting the value of more balanced integration between scientific disciplines in future initiatives. Overall, this article illustrates both the potential and the limits

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of mixed-method approaches in early-stage co-creation processes, offering insights for the design of participatory governance interventions in coastal communities.

Keywords
Åland; Finland; fisheries communities; governance audit; Q-method; small-scale fisheries; water ownership; workshop

1. Introduction

The small-scale fisheries (SSF) sector worldwide faces significant challenges in maintaining livelihoods and managing natural resources amid complex socio-economic and ecological pressures, while contributing at least 40% of global catches (FAO, 2022). In the context of blue growth agendas (European Commission, 2012), which promote the expansion and diversification of marine economies, these challenges are often intensified, as benefits and opportunities are unevenly distributed across sectors and scales. Compared to large-scale industrial fisheries, Baltic Sea SSF are disproportionately disadvantaged, as governance frameworks frequently fail to adequately address their sector-specific needs or incorporate their perspectives on governance and management of resources. Against this background, the present study responds to ongoing debates on the blue economy by critically examining how sustainability transitions in coastal regions may reproduce or challenge existing inequalities, particularly in peripheral contexts. This article examines the SSF sector in Åland (Figure 1), focusing on the co-creation of governance solutions that integrate ecological, economic, and social dimensions. The Ålandic waters, as part of the Baltic Sea, are shaped by anthropogenic pressures and face conditions that demand urgent care and deliberate management of the fish populations. Åland's coastal setting with limited economic resources, small population, and complex governance come together, making it a relevant case for examining issues of recognition, distribution, and procedural justice.

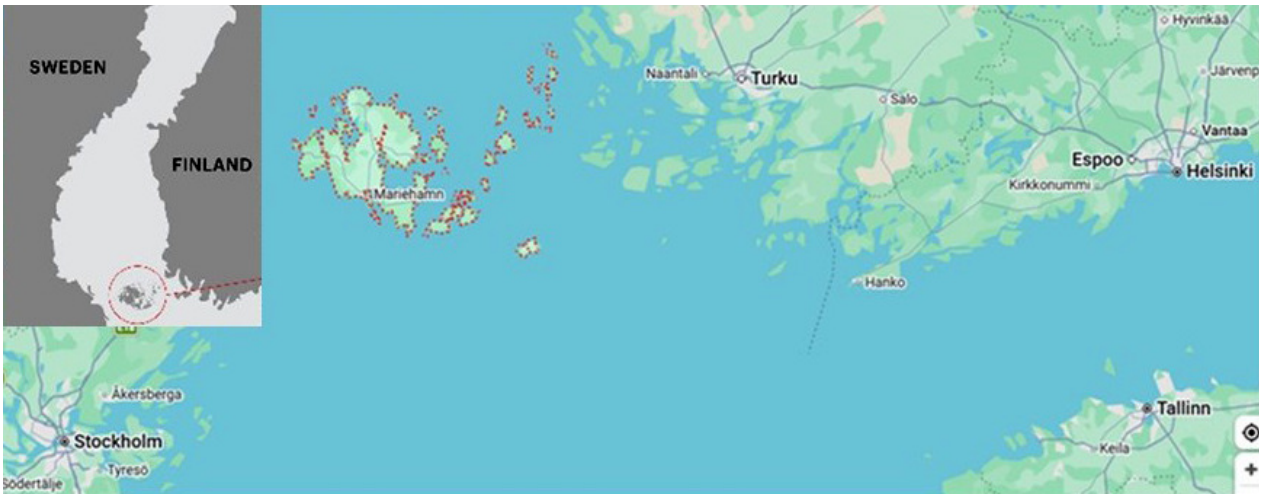


Figure 1. Location of the Åland Islands, highlighted in red.

In this article, fisheries stakeholder-related issues are discussed within the wider context of the Horizon Europe project Socio-economic Empowerment of Coastal Communities as Users of the Sea to Ensure

Sustainable Coastal Development (EmpowerUs). The project aims to enhance the capacity of coastal communities to respond to sustainability challenges. In the case study on Åland, the study initially focused on five rural municipalities. The geographical scope was gradually expanded during the project to include the entire Åland. This decision remained throughout implementation as the SSF sector *per se* no longer provides incentives to remain living in the coastal communities. However, it also became evident that the definition of fisheries community had to be refined to better address sustainability issues linked to water management and the associated users.

Triangulated qualitative methods were used to align the Åland case with the EmpowerUs project's emphasis on empowering coastal communities to actively shape societally and environmentally sustainable and inclusive coastal development. By combining multiple qualitative approaches in the analysis of Åland's SSF community, the methodology enables a more comprehensive and nuanced understanding of local perspectives, livelihood experiences, and power dynamics. This encompasses both societal and environmental aspects. Furthermore, triangulation strengthens evidence from co-creation processes and the co-production of knowledge by capturing diverse viewpoints within communities, thereby fostering a sense of ownership and agency for the SSF community. Such an approach is critical for enabling not only the Ålandic coastal regions, but also other areas, to take the lead in addressing their own challenges and to develop a stronger sense of belonging and control over their future.

Addressing global fisheries challenges requires inclusive governance models that ensure the meaningful participation of SSF stakeholders and other "users of the sea" in collective decision-making (FAO, n.d.). Such involvement is vital for building resilient systems to safeguard sustainability for livelihoods and ecosystems. The article highlights challenges within Åland's SSF and underscores the importance of empowerment and blue justice, both project-integrated approaches, reconciling ecological preservation with socio-economic realities. Ålandic "users of the sea" refer to diverse stakeholder groups dependent on marine and coastal resources. Commercial fishers, household, recreational, and sport fishers, aquaculture producers, along with NGOs active in conservation, tourism, and education, play a substantial role. Other key stakeholders include governmental authorities, water owners (rights holders), and the Fisheries Local Action Group. By contrast, groups without direct or substantial impact on marine resources, such as the economically significant Ålandic maritime and transport sectors, and citizens or visitors not engaged in fisheries, are excluded. Being a "user of the sea" is, however, the core of the fisheries heritage and identity.

This article applies the EmpowerUs framework to analyse the early project timeline, from its outset to the decision of a community pilot, rather than assessing the pilot outcomes themselves. The analysis captures an early pre-intervention phase, during which the pilot approach was developed prior to full implementation. The aim of the study is to examine how empowerment processes unfold within a context of multi-level fisheries governance, including private water ownership and water shareholders' associations (WSAs), and how qualitative methodological integration by triangulation shapes blue justice outcomes. Furthermore, the research seeks to explore how three mixed qualitative methods interact with one another and evaluate the extent to which these interactions shape decision-making in the development of the pilot. This includes detailing the sequence of preparatory methods required to produce robust, well-grounded knowledge capable of informing the pilot initiative in a systematic and empirically justified manner.

By analysing the co-creation process leading to the pilot, the study seeks to address the following questions:

> RQ1: How did the three methods used in the pre-intervention phase contribute to shaping the pilot's design and legitimacy, and how did their integration identify opportunities and constraints for advancing blue justice among different stakeholder groups?
>
> RQ2: In what ways did the co-creation process enable or constrain equitable participation among differently positioned stakeholder groups?

The article begins by outlining the contextual background of Åland and its SSF sector. The subsequent sections present the conceptual framework and the methodological approaches employed. The findings derived are then examined and discussed, followed by concluding reflections.

2. The Åland Islands and the fisheries community

2.1. Introduction to the Ålandic Society and Its Fisheries Sector

Åland is a self-governing, Swedish-speaking autonomous region of Finland. Approximately 90% of its territory consists of sea areas, and the archipelago comprises more than 6,700 islands, of which 60 are inhabited. The population amounts to 30,541 (ÅSUB, 2024). Åland's water areas are divided into three main ownership categories: private, common, and public. The total water area amounts to approximately 1,738,300 hectares, of which 307,317 hectares are under joint ownership by the WSAs (water commons) and 147,030 hectares are privately owned (Svels et al., 2025a).

Ålandic SSF, within the wider fisheries sector, operates inside a small yet diversified community; however, it constitutes a cornerstone of Åland's intangible heritage with long-established structures of societal influence (Storå, 2003). In 2025, there were 189 registered fishers: 28 full-time earning ≥30% of income from fishing, seven part-time earning 15–30% from fishing, and 154 earning 0–15% from fishing, including household fishers. As other regions in Finland, pluriactivity, the combination of multiple sources of income (Salmi, 2005), is also a characteristic of Åland. The fishers, of whom most are small-scale operators, primarily use gill nets to target Baltic salmon and non-quota species such as perch, whitefish, and pikeperch (Svels et al., 2025a). The median size of commercial fishing vessels registered is 6.27 m. The only Ålandic trawler exceeds 12 m (personal communication, Åland Fisheries Agency, 2025).

Ålandic fisheries hold cultural, economic, and symbolic importance. Although the commercial fisheries sector contributed only 1.4% of Åland's GDP in 2016 (ÅSUB, 2019), fishing remains widespread as part of household subsistence and recreational activity. Fishing guides, accommodation providers, and non-local tourist fishers, e.g., rod fishers and trolling vessels, also support the local economy. While the contribution to the primary sector's GDP is modest, the societal value of fish is significantly higher, as local businesses add value, create employment, and supply highly appreciated local food. The gross value of total landings in 2025 was €3 million (personal communication, Special Fisheries Advisor Niklas Ulenius, Government of Åland Fisheries Agency, email 26 March, 2026).

The EU Common Fisheries Policy forms the overarching regulatory framework for Ålandic commercial fishing. Åland has its own fishing legislation (Ålands landskapsregering, 1956) but lacks a mandate to participate directly in EU-level negotiations. Quotas for Baltic herring, sprat, salmon, and cod are allocated to Finland, which distributes Åland its legally defined share. Non-quota species, including pikeperch and perch, fall under Åland's provincial jurisdiction and are managed in cooperation with water-owners. Declining fish stocks pose a critical challenge (Pettersen, 2024) driven by a combination of climate change (Fogelberg, 2021; Snickars et al., 2015) and predators (Svels et al., 2025a, 2025b). The SSF's participation in formal decision-making remains limited. Although formal consultation processes exist, communication between authorities and fisheries is often insufficient (Holmström, 2023).

2.2. Water Ownership and Access to Resources

Åland's fisheries management system is shaped by three types of water ownership: (a) private, managed by individual owners; (b) common, managed by statutory WSAs; and (c) public, governmental waters management without allotment. Access to fishing waters is generally adequate, though some commercial fishers face difficulties securing access to larger areas for fishing. However, the reduced number of small-scale fishers has lessened competition for fishing waters.

Access to fishing waters is regulated by the water owners. Private water owners independently determine usage rights of their resources. In commonly owned waters, the WSAs play a central role in local governance by collectively managing access and controlling decision-making over shared resources. In contrast, publicly owned waters are managed by governmental authorities and are accessible through fishing licences, while offshore waters remain open to both commercial and recreational fishers. Despite this structured system, minor tensions persist between water owners and recreational fishers, highlighting ongoing concerns about access and prompting calls for more participatory governance to ensure equitable resource distribution.

2.3. Environmental and Economic Pressures on SSF

EU environmental directives significantly affect Åland's SSF sector, particularly regarding grey seals and cormorants (Suuronen et al., 2023; Svels et al., 2025b; Westerbom et al., 2024). Both species are EU-protected and pose substantial challenges through predation on fish stocks and damage to fishing gear. Grey seals are especially problematic, reaching approximately around 70,000 individuals in the Baltic (Suuronen et al., 2023), competing with SSF and altering fish behaviour (Hansson et al., 2018).

Around Åland, the seal count is at a minimum of 10,000 individuals (Luke Statistics, 2024). The Ålandic government issues hunting permits to mitigate impacts, and the local law (Ålands landskapsregering, 1985, §53, Article 31) requires that edible game only be used as food. However, consequences of the EU trade ban on seal products (Regulation (EC) No 1007/2009, 2009) have contributed to a marked decline in commercial fishers, as well as a loss of traditional fishing and hunting skills. Restrictions under the EU Birds Directive (Directive 2009/147/EC, 2009) are comparatively flexible, allowing more accessible derogation permits for cormorant hunting (Salmi et al., 2023). These measures aim to balance ecological conservation with the socio-economic needs of SSF.

3. Conceptual Framework

3.1. Translating Framework Into Methodological Practice

This section outlines the theoretical underpinnings of the study, drawing on empowerment theory, blue justice, and co-creation literature. Together, these concepts form a lens through which power dynamics, stakeholder participation, and knowledge integration are navigated in the Ålandic context.

Firstly, empowerment is central to this study and understood through Avelino's (2017) framework, which emphasizes the interplay between: (a) access to resources, (b) the capacity to mobilise them, and (c) the agency or willingness to act. In this perspective, empowerment is understood as a dynamic process that unfolds across institutional and social arenas. This processual understanding of empowerment also informs the methodological approach, which captures how empowerment evolves during the pre-intervention phase. It includes both structural and subjective dimensions, encompassing the distribution of opportunities and the perceived ability to engage meaningfully in decision-making processes.

Secondly, empowerment is complemented by blue justice theory (Bennett et al., 2021; Isaacs, 2019; Jentoft et al., 2022), which, in the Ålandic case, introduces normative criteria for evaluating inclusion, equity, and legitimacy in governance. Three dimensions of justice are particularly relevant: (a) recognition, concerning acknowledgement of diverse values, identities, and knowledge systems; (b) distribution, referring to fair allocation of resources, risks, and benefits; and (c) procedure, addressing fairness of decision-making processes and access to influence (Bennett et al., 2021; Blythe et al., 2023). The integration of empowerment with blue justice provides a robust conceptual apparatus to assess both the structural conditions and the experiential realities of those involved in coastal governance.

Thirdly, co-creation, which forms the pilot basis, is a collaborative approach enabling stakeholders and civil society to jointly design and implement processes (Frantzeskaki, 2019; Frantzeskaki & Kabisch, 2016; Mahmoud & Morello, 2021). Such processes aim to balance interests, benefits, and responsibilities among all participants, ensure inclusivity, and maintain transparency throughout planning, implementation, and evaluation (Hölscher et al., 2021). While normatively desirable for enhancing the social legitimacy of decision-making, there is no single method for co-creation (Devine-Wright & Sherry-Brennan, 2019).

4. Methodological Steps

4.1. Study Design and Case Context

This study applies a Transition Coastal Lab (TCL; Ayfantopoulou & Konstantinidou, 2024) approach to support coastal sustainability transitions. The Åland TCL represents a place-based, participatory setting in which diverse "users of the sea" are engaged in co-creation processes.

The analysis focuses on the pre-intervention phase, during which the pilot approach was developed prior to full implementation. This phase aimed to identify key challenges, map stakeholder perspectives, and establish a shared basis for subsequent pilot design. Guided by the principle of Leaving No One Behind (LNOB; UN, 2015), particular attention was given to the inclusion of diverse and potentially marginalised

groups (Leino & Puumala, 2020; Quick & Feldman, 2011), although participation remained uneven in practice (Gustavsson et al., 2026).

Central to the pilot was the Empowerment Action Fund allocating €50,000 to support the co-creation of pilot actions. These actions were not predefined but developed during the pre-intervention phase through stakeholder engagement, aligned with a sustainability framework and EU Green Deal policies, and designed to be feasible, scalable, and evaluable. Nature-based solutions were also incorporated in the project design to address environmental and climate challenges, actions, and activities (Dushkova et al., 2025).

4.2. The Combined Mixed-Method Approach and Analytical Logic

To examine this process, the study applies an integrated, mixed-method approach combining a governance audit (including document analysis and structured interviews), community stakeholder workshops, and Q-method interviews. These methods were selected to capture different dimensions of empowerment, blue justice, and co-creation, including institutional structures, stakeholder interactions, and individual perceptions.

The three methods were not applied in isolation but interacted through iterative cycles that collectively supported the co-creation process (Table 1). This triangulation enabled a more comprehensive and reflexive analysis of how empowerment processes unfold during the pre-intervention phase, while also supporting the development of a grounded and context-specific pilot. Table 1 synthesizes the relationship between each method, its corresponding justice and empowerment dimension, thereby providing analytical clarity and facilitating replicability, making it relevant beyond Åland TCL.

Table 1. Alignment of framework and methods.

Conceptual focus	Empowerment dimension	Justice dimension	Operationalised through
Access	Availability of institutional and material resources	Primarily procedural and distributive justice	Governance audit (institutional mapping)
Capacity to mobilise	Strategies and abilities to organise and collaborate	Primarily procedural and recognitional justice	Community stakeholder workshops (dialogue, consensus-building)
Agency to act	Willingness and opportunity to initiate change	All three justice dimensions Recognitional, procedural, and distributive justice	Q-method (perceptions of voice/inclusion)
LNOB principle	Inclusion of marginalised and diverse actors	All three justice dimensions	Crosscutting in design and stakeholder outreach

In combination, they fostered a pluralistic and reflexive understanding of empowerment as it unfolded within the TCL context. The approach constituted a concrete yet flexible step-by-step process suitable for diverse coastal settings and was planned to be implemented by researchers, planners, or other practitioners in close collaboration with local stakeholders. Central to the process were the pilots, co-developed by stakeholders and EmpowerUs academic teams. The pilots sought to LNOB by engaging the full range of stakeholders, ensuring attention to diversity, equity, and gender considerations throughout the design and joint implementation of the intervention.

The importance of methodological triangulation lies in capturing the voices of various types of actors. By employing multiple methods, the researchers can ensure a more comprehensive and nuanced understanding of the complex and diverse discourses and professional declarations within the TCL. This approach not only enhances the validity and reliability of the findings, but also provides a platform for multiple perspectives, including those of marginalized or less-heard stakeholders, to be included through approaches feasible or acceptable to them and recognized.

4.3. Governance Audit

Evaluating empowerment and its connection with ideas of justice also involves a foundational understanding of formal policy arenas, structures, decision-making processes, and interest competition in coastal politics. The governance audit was to create a baseline assessment of the institutional and policy context within which various forms of power and disempowerment are enacted. Based on her work on spatial planning, Healey (1996, 2018) developed a normative framework and analytical techniques to systematically map stakeholders in place management and development, where and how decisions are taken, and how interests mobilise to pursue often competing economic, social, and environmental aims.

Specifically, this explores the relationships between coastal communities and stakeholders with political, economic, and regulatory power, as well as decision-making arenas in both formal and informal contexts. It further considers the distributional implications of policy processes in their development and delivery, the discursive shaping of problems and perceived solutions, and how change is valued and measured, including whose perspectives are prioritized.

The Åland analysis identified the interests involved in the coast, their policies and programmes, their institutional legitimacy, and how they work in policy processes and decision-making arenas inside and outside the world of formal politics. This was supported by semi-structured in-depth interviews with stakeholders, broadly categorised as community representatives (Table 2), and document analysis.

Table 2. Number of governance audit interviewees by sector.

Voluntary sector	2
NGOs	4
Public sector	7
Private sector organisations	4

The governance audit helps identify the constitutive elements of power as it is enacted in vulnerable spatial communities, and how and where counter strategies may equip even very vulnerable communities with an enhanced political agency. It reveals, for example, how small-scale fishers are affected by decision-making at national and EU levels, the preference for regulatory policy instruments such as quotas, maritime zoning, and conservation directives, and competition among economic actors, including often well-organised industrial trawlers. It further demonstrates how fishing and coastal communities, as a collective interest, have revitalised traditions through heritage tourism, reactivated community governance in water-owners' associations, recognised the value of the sea as a commons, and strengthened fishers' capacity to diversify into recreational services while contributing to local development.

4.4. Community Stakeholder Workshops

During the pre-intervention phase, two community workshops were held (Table 3), allowing participants to co-define the pilot actions' challenges and potential solutions. During Workshop 1, the TCL team started the process of co-defining the pilot they would later implement, using participatory scenario methods (Reed et al., 2013). This enabled social learning across stakeholder groups, promoting community-owned solutions, and facilitating creative and collaborative exchange.

Table 3. Number of participants in workshops.

	Workshop 1	Workshop 2
SSF stakeholders	2	3
Researcher	1	—
NGOs	4	3
Business operators	2	1

Workshop invitations followed the LNOB principle and were sent to the "users of the sea" and members of SSF communities, identified through the governance audit and a snowball sampling approach. However, the fishers, women, and younger stakeholders remained underrepresented. Commercial small-scale fishers were unable to participate in Workshop 1 due to concurrent fishing activities taking place on the same day. Hence, their knowledge and experiences were lacking, while recreational fishers were overrepresented (Gustavsson et al., 2026). The skewed participant composition likely shaped the discussion. As fishers were absent from Workshop 1, concerns related to traditional fishing livelihoods received limited attention. Their perspectives were, however, captured through other methods, highlighting the importance of a mixed-methods approach. This pattern persisted during Workshop 2, where recreational fishers appeared significantly more outspoken than commercial fishers, potentially leading to an imbalance between the two groups.

In the subsequent phase, the TCL team and the EmpowerUs leads translated the co-created bottom-up outcomes from Workshop 1 into proposed, context-related solutions. These suggested actions were introduced at Workshop 2, where the participants redesigned them into pilot action suggestions. The suggestions were later evaluated and developed further into implementable actions by the local host and academic lead.

4.5. Q-Methodology

By engaging different individuals classified as "users of the sea," the Q-method offers valuable insights into shared perspectives and differences. A baseline Q study was conducted in the Åland TCL between month 6 (pre-intervention phase) and month 16 (project evaluation phase). The process followed the standard four-step Q-method approach: (a) development of statements, (b) participant selection and Q-sorting, (c) quantitative analysis using principal component analysis in PQMethod software, and (d) qualitative interpretation of factors (Watts & Stenner, 2012). Eight participants completed the Q-interviews, resulting in seven sorts, as one interview was conducted jointly with an elderly fisher couple.

The Q statements (13 in total, see Table 4) were co-designed by the consortium and the TCLs, using the blue justice framework (Bennett et al., 2021; Blythe et al., 2023). Justice comprises three dimensions:

recognitional justice (respect for diverse rights, identities, and knowledge systems), procedural justice (inclusive decision-making processes), and distributional justice (equitable allocation of benefits and burdens). Participants sorted the statements, which were translated into the local language, based on their level of agreement and explained their choices in brief interviews. The Q-method interviews focused on commercial SSF and their challenges.

Table 4. Q set building on the blue justice theory.

Recognitional justice	Procedural justice	Distributional justice
My stakes/rights in the environment are recognized	I have the opportunity to meaningfully participate in environmental decision-making	The impacts of environmental management decisions are fairly distributed
The historic and cultural links between my community and the sea are recognised by broader society	I know who to contact when clashes of interest occur in relation to decision-making processes	Government distributes resources in a way that makes it possible to live well along the coast
All economic sectors in our community are valued equally	Conflicts between different users of the sea are solved fairly when they arise	The benefits of blue growth/coastal economy are shared fairly across communities
Minorities are a significant resource to the local community	My identity does not prevent my participation in local decision-making	Blue growth also benefits vulnerable groups (health/poverty/insecurity)
	Life is better in the city-centres	

Q-method findings indicated that the complexity and inconsistency of Åland's fisheries governance and EU regulations translate into perceived unfairness, particularly among those who feel excluded from higher-level decision-making arenas. Participants frequently associated governance challenges with external pressures, such as EU-level environmental regulations and conservation policies (e.g., seal and cormorant protection), which were seen as negatively affecting fish stocks and livelihoods while offering limited scope for local influence.

5. Findings

5.1. Access, Capacity, and LNOB: How the Triangulated Methods Informed More Equitable Engagement and Outcomes of Pilot Development

The co-creation process during the pre-intervention phase followed a TCL methodology that combined a governance audit, two community stakeholder workshops, and seven Q-sorts. Together, the methodological triangulation helped identify the most pressing local needs and map the resources available to address them (Spiering et al., 2025). As a result, the non-predefined pilot actions emerged through extensive local engagement.

The initial approach to identifying the fisheries community and relevant participants was based on the idea that anyone "who uses the sea and extracts fish" is a user of the sea. As the process evolved, additional groups were identified to mirror the sea-users, and to reflect water ownership structures (WSAs) and

environmental governance (NGOs, authorities, and municipal officials). This broader inclusion aimed to capture the socio-ecological dimensions of the TCL. The workshops and Q-interview participation were therefore guided by a broad interpretation of the LNOB principle.

However, applying the LNOB principle proved challenging in the case of the Åland TCL; thus, the operational definition of stakeholder was ultimately narrowed to "someone who fishes," to achieve greater conceptual simplicity. The governance audit displayed that it may be "difficult to define stakeholders or assume that all stakeholders are visible, as blue growth has created uneven spatial, economic, and social effects" (Murtagh et al., 2025, p. 21). One workshop participant reflected: "Is it by self-selection that you are left behind? Or is it because you have not been invited to join?" From the outset, the intention was to include a diverse range of fisheries-related stakeholders, and members of the wider local community, including water-owners. Moreover, challenges with engaging residents with little connection to fisheries were also recognised.

Water-owners emerged as a particularly significant group related to blue justice. With their legal authority and mandate, water-owners held decision-making power over coastal areas, including controlling fishing rights and access to fishing waters and structural modifications. As a result, they played a considerable role for the fisheries community, however, not all water-owners were fishers. Knowledge gaps among the broad group of water-owners regarding their rights and responsibilities were identified during the workshops and became important elements in the pilot. Also, fisheries livelihoods and the traditions they uphold were articulated through an emphasis on the historical significance of SSF and their central role in the local context.

Diversity within local citizen groups and the lack of diversity within the fisheries sector and among water-owners posed challenges for workshop invitations. The total population across the five municipalities was small, limiting the presence of women, youth, and NGOs. Commercial fisheries, as elsewhere in the Nordic region (Ekstedt et al., 2025), remained male-dominated. While many women were formally registered as water-owners, they were often bureaucratically responsible for their own and their families' ownership rights, yet they were generally absent from WSAs' decision-making forums.

The Åland case illustrates the tensions arising when applying LNOB in practice. Although the pilot sought broad participation, practical considerations, such as administrative boundaries and thematic focus, required narrowing the target group to stakeholders more directly connected to the SSF sector and resource governance. As a result, certain stakeholder groups, including women, youth, and informal or recreational users, were less visible in the process. This highlights the need for a critical approach to stakeholder inclusion, one that moves beyond issuing invitations and instead interrogates which voices are legitimised, whose knowledge is valued, and who is empowered to influence outcomes (Spiering et al., 2026; Svels et al., 2026).

5.2. Improving Legitimacy: Multi-Method Understanding for Blue Justice

By identifying institutional structures and political dynamics, the governance audit allowed an analysis of procedural justice through the mapping of decision-making spaces and power asymmetries. The local stakeholder participants were first identified through the governance audit, after which additional key actors were incorporated using a snowball approach. The workshops were oriented toward building mutual understanding and facilitating the co-articulation of shared priorities, thereby aligning with recognition

justice by foregrounding local knowledge and perspectives. The Q-method offered a systematic approach (Table 4) capturing divergent viewpoints within the community, particularly regarding perceptions of fairness, inclusion, and empowerment, which connect closely to issues of distributive justice.

Two dominant perspectives emerged from the Q-analysis, both characterised by strong place attachment and cultural identity but differing in their perceptions of influence and fairness across governance levels. One group felt reasonably included in local decision-making processes yet frustrated by limited influence at the national and EU levels, particularly regarding environmental policies affecting fisheries. The other shared similar strong local ties, but felt more broadly marginalised, notably in relation to fishing rights, offshore wind development, and environmental governance. These early findings highlighted that perceptions of procedural justice vary, not only across governance scales, but also according to stakeholders' prior experience and familiarity with decision-making processes.

After synthesising the results, the local host and academic lead analysed the findings and determined the pilot's structure and design. This process led to the co-creation of a pilot, including five pilot actions, addressing key challenges within the SSF sector. An information campaign for active water ownership was planned to be carried out, together with workshops and seminars. The project was planned to map and propose measures in spawning areas and to involve collaboration with the Åland Hunting and Fishing Museum in Eckerö. The results were planned to be compiled into a report serving as a basis for the fisheries sector and supporting decision-making at various levels (Svels et al., 2025a).

5.3. Strengthening Legitimacy: Acknowledging Water Owners' Rights and Responsibilities

Water ownership rights and responsibilities in Åland are defined in the Fisheries Law of 1956 (Ålands landskapsregering, 1956). During Workshop 1, it became clear that the law no longer reflects contemporary environmental, social, or economic conditions. Although granting water-owners exclusive rights to fish and to manage fisheries, the law recognises limited subsistence fishing rights for residents. However, the legislation is regarded as partly outdated, providing insufficient tools to address illegal or unregulated recreational fishing and failing to reflect the scale of today's extensive recreational and tourism-based fisheries sector.

Discussions during the workshops and Q-interviews highlighted the challenges faced by fishers who do not own water, referred to as non-water owners (NOWs). This group includes some commercial fishers, recreational and household fishers, and tourism operators without registered access to water. Under the fisheries law, NOWs lack the right to fish in privately owned waters, except for residents who are entitled by law to subsistence fishing. All other activities require a licence from water-owners. NOWs may rent access to privately owned waters, navigate complex and often invisible water-area boundaries, and bear responsibility for ensuring that they comply with local regulations.

In contrast, publicly owned waters located mainly offshore and administered by the Government of Åland are open for angling and rod fishing without a licence. Residents, however, are permitted to use a wider range of fishing gear in these areas. During the workshops, tourism entrepreneurs reported social tensions when visitors unintentionally violated the rules of privately owned water areas.

This constellation of rights and responsibilities shows the complexity of Ålandic fisheries governance. It also underscores the need to update legal frameworks, clarify obligations for different user groups, and strengthen trust between water-owners, fishers, and public authorities. The issues related to seals and cormorants were not prioritized in the workshop discussions. Although the workshop participants acknowledged the current relevance and challenge to SSF, they indicated that the issue was so extensive that it felt difficult to grasp at the time. A degree of habituation to the situation was perceived among the participants.

The findings of this study indicate that the prioritization of legal reforms, and how and by whom issues concerning seals and cormorants are advanced, will shape the long-term sustainability and social legitimacy of the Ålandic SSF sector.

5.4. Agency: How Multiple Methods Supported Stakeholder Engagement in Pilot Development

Combining a diverse set of SSF stakeholders to develop a shared vision for the jointly developed pilot actions required preparatory steps during the pre-intervention phase that built trust, fostered shared understanding, and established a legitimate foundation for collaboration. Several elements proved essential for enabling collective engagement, while others proved more difficult to realise. The mix of multiple methods was essential to achieving a more just and comprehensive representation of stakeholders' perspectives, their needs and contexts. Several participants were constrained by practical considerations, including livelihood activities at certain times. Some interviewees perceived their earlier participation as sufficient and therefore declined to join the workshops. Elements of research fatigue also appeared to limit willingness for further engagement. These variations in participation patterns underscore the importance of integrating findings across methods to obtain a fuller and more balanced understanding of stakeholder experiences.

The Q-study revealed that familiarity with participatory processes influenced how stakeholders perceived their own agency. It proved that participants with prior engagement in governance or local decision-making reported greater confidence in navigating institutional structures, whereas particularly younger or less experienced actors expressed uncertainty about how to influence decisions or whom to contact in cases of conflict. This reinforces the importance of combining methods that capture both experienced and less-visible perspectives.

Early discussions in workshops and Q-interviews revealed widespread concern about the challenges facing the SSF sector and uncertainty about its future. Creating a common space where participants could openly articulate these concerns helped build confidence and fostered a sense of mutual recognition. This diagnostic pre-intervention phase, before deciding on the pilot content, helped align stakeholders with different interests, experiences, and levels of influence on the SSF sector. For example, during both workshops, fishers revealed that distress regarding what were seen as unjust conservation regulations (EU trade ban on seal products) impacted their livelihoods and their ability to continue their livelihood. Q-interviews indicated strong place attachment but limited perceptions of fair benefit-sharing from the blue economy, particularly around distributional justice. These insights would help refine pilot activities and support further analysis of how empowerment and (in)justice perceptions evolved after the intervention. Thus, the integrating method also supported the process of co-creation itself, while, of course, it would help evaluate outcomes later in the process (Gustavsson et al., 2026).

The workshops deliberately avoided formal voting. Instead, they focused on gathering perspectives, identifying concerns, and exploring potential pilot ideas. This approach prevented conflict between stakeholder groups and maintained an inclusive atmosphere. While prioritisation of ideas was created and emerged in Workshop 2, the absence of final decision-making ensured that no group felt marginalised or overruled during the preparatory phase.

For the TCL design, the involvement of local hosts and academic team members with deep knowledge of Åland's fisheries context was necessary. The hosts' dual roles, as government officials and recognised fisheries community contributors, helped bridge institutional and community perspectives. Their credibility reduced potential mistrust associated with government affiliation and strengthened the legitimacy of the pre-intervention process. The phase emphasised open communication, respect for divergent views, and clarity about the purpose and limitations of the process. This transparency helped reassure stakeholders that their contributions were valued and that the pilot would reflect locally grounded priorities rather than externally imposed agendas.

Media coverage before, during, and after the workshops played an important role in generating public interest and signalling transparency. Though social media was not used as a means for marketing the project, traditional media and participant networks helped broaden awareness of the TCL process and legitimise the initiative. This visibility contributed to opening the SSFs' discourse and the relevance of the EmpowerUs project.

6. A Blue Story Reflection on Blue (In)justice

Small-scale fishers in Åland embody a culturally significant way of life and a closeness to the use of natural resources that carries deep local knowledge. Pluriactivity enables Ålandic fishers to combine income sources for their livelihood and contribute to sustainable resource use. Meanwhile, they face increasing pressures from political, regulatory, and environmental changes. This has resulted in EU and national regulatory frameworks, together with conservation policies, increasingly disempowering small-scale fishers, placing the entire sector under structural and economic constraint.

The process of identifying relevant stakeholders through the empowerment lens and methodological triangulation for the Åland TCL involves all three dimensions of environmental justice. Recognitional justice strengthened the awareness of the diversity of sea-users, particularly the absence of the often-overlooked women and youth groups. However, challenges in incorporating minority user groups within the project were evident. Procedural justice improved as more groups were identified, enhancing the knowledge base for water and fisheries management and laying the groundwork for more inclusive decision-making. At the same time, Q-method results suggest that procedural justice remains uneven across governance levels: while many participants perceived local participation opportunities as accessible, they experienced decision-making at national and EU levels as distant and difficult to influence. This multi-scalar disempowerment was particularly evident in relation to environmental regulations and large-scale developments such as offshore wind energy, where local knowledge and concerns were perceived to carry little weight. Achieving effective stakeholder engagement in blue economy processes, particularly under LNOB principles, proved demanding. Distributional justice was addressed by clarifying how benefits and responsibilities associated with Åland's waters are shared among multiple owners, and by identifying where injustices and remaining knowledge gaps persist.

The workshop participants' perceptions of distributional justice were similarly ambivalent: while some felt that access to marine resources was locally fair, others highlighted economic marginalisation, declining fish stocks, and insufficient compensation for environmental constraints. These tensions reflect broader structural inequalities between SSF, and other sectors prioritised within blue growth agendas. In the context of marine ecosystem protection, the public sphere and the legal framework often perceive that water-owners are expected to shoulder an unreasonably high level of responsibility.

This integrated methodological approach during the pre-intervention phase addressed governance and institutional structures, sector-wide challenges, and individual experiences, generating a multi-layered understanding of the SSF context. Combining multiple social-science methods proved to be useful for producing a fuller and more accurate understanding of the blue economy of Åland, revealing power dynamics and highlighting the need for empowerment to support more just resource governance. Although some stakeholder groups were underrepresented in the workshops, the use of multiple methods broadened the evidence base and allowed some perspectives to be captured through alternative forms of participation. However, it did not fully compensate for the absence of particular groups.

Both the governance audit and workshops highlighted the central role of active and integrated water-ownership in improving fish populations and supporting ecological restoration. The participatory process in the pilot preparation itself initiated concrete ecological actions, grounded in shared understanding between authorities and sea users on environmental issues. The social foundation in these matters was essential: effective ecological solutions require not only technical design but also social legitimacy, community engagement, and alignment with local practices and knowledge (Rønningen et al., 2025). Although nature-based solutions were initially planned as part of the pilot, the approach proved less relevant in the Åland case, where stakeholders already possessed substantial ecological knowledge. Instead, the social science methods, focused on dialogue, participation, and knowledge exchange, provided the necessary interactive foundation for any future ecological or technical interventions. Moreover, the integrated methodological processes contributed to the empowerment of Åland's sea users by improving the understanding of environmental governance and regional socio-ecological dynamics. In this context, social science-based methods were not supplementary but foundational. They demonstrated that meaningful progress toward ecological restoration or implementation of nature-based solutions must begin with social processes that build trust, recognise diverse knowledge systems, and support equitable participation.

Ethical considerations concerned how stakeholders were identified, how participation was facilitated, and how the research process affected participants. Key issues were the inclusiveness of stakeholder selection, its implications for just and ethical engagement, and the risk of research fatigue among participants. A central ethical issue was the narrowing of stakeholder groups: although the initial aim was to include all relevant sea-users, practical constraints meant some groups were under-represented. This raised questions about the extent to which the LNOB principle was fulfilled. Decisions about who counted as a relevant user inevitably shaped whose voices were heard and whose concerns informed the pilot, underscoring the ethical responsibility to reflect critically on inclusion and exclusion throughout the process. The three methods identified two key LNOB-related issues requiring attention in the pilot: the limited inclusion of water owners who were not fishers and the local significance of fisheries-based livelihoods and traditions. By highlighting these groups, the methods helped empower previously underrepresented stakeholders. They also revealed the often-overlooked role of women as water owners, and exposed persistent challenges to their meaningful

inclusion in decision-making processes. If certain groups were underrepresented, their perspectives may not have been adequately reflected in the outcomes. This has implications for both procedural and recognitional justice. Ensuring ethical engagement, therefore, required continuous reflection on power dynamics, representation, and the potential consequences of uneven participation between stakeholders.

The composition of participants influenced the fairness and legitimacy of the co-creation process. The low participation of women across the activities was particularly striking. Although many women hold water rights and often manage accounting or administrative responsibilities related to fisheries, they typically did not identify themselves as "users of the sea" and were underrepresented in the process. Nonetheless, the pilot actions developed created new arenas accessible to diverse groups and have already been taken up in activities initiated by and for women. This suggests that, despite their limited representation during the process itself, the pilot and its associated practices may still have generated empowerment effects for women as coastal resource users.

Long-term participatory processes place demands on stakeholders, particularly in small communities where the same individuals are repeatedly called upon to contribute. The three different types of methods required different forms of participation, and not all individuals may have felt equally comfortable or empowered in each setting. Familiarity with formal participatory arenas influences who speaks and how, leading to one stakeholder group, particularly the fishers, showing signs of omission. The integration of multiple methods helped compensate for gaps in participation, ensured that missing voices were partially captured through alternative means, and strengthened the validity of the findings.

Although it proved difficult to engage all relevant stakeholders, the pre-intervention phase established a foundation upon which the pilot could potentially support longer-term empowerment. By fostering dialogue, strengthening the exchange between local and scientific knowledge, and improving the recognition of diverse user groups, the pre-intervention phase contributed to a more inclusive governance. The process established a justice foundation that supported more equitable and participatory decision-making. As researchers, we became more aware of the complexity surrounding the LNOB strategy and the necessity to go through such a comprehensive participatory process to apply improved natural and environmental nature-based solutions and governance.

7. Conclusion

Environmental change presents significant challenges for the Ålandic "users of the sea," shaped by ecological processes and governance interventions. Pressures associated with the blue economy arise both from ecological dynamics, such as Baltic Sea eutrophication, and from national and EU regulations protecting species. While these measures are grounded in conservation objectives, they are often perceived locally as contributing to declining fish stocks and fishers' hardship. The findings indicate that structured dialogue and stakeholder involvement provided a foundation for mutual understanding of these multifaceted challenges as a knowledge arena for social stakeholder engagement.

These collaborative engagements generated a locally grounded knowledge base, tailored to Åland's ecological and socio-economic conditions, that may inform future context-sensitive environmental regulation and planning practices. The findings suggest that, in the absence of socially grounded and

participatory processes, ecological interventions risk unintentionally reproducing or reinforcing existing disciplinary inequalities rather than alleviating them. This underscores the need to complement natural science approaches with social science perspectives, which are essential for shaping how interventions are experienced and contested.

Rooted in the Åland context, these results offer transferable insights for other coastal regions facing tensions between sustainability transitions, governance complexity, and justice concerns, contributing to broader debates on inclusive Blue Growth pathways.

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Conflict of Interests

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Data Availability

Due to the nature of the research, data sharing does not apply to this article.

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