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Analysis of Multi Stakeholder Processes in Ecosystem Based Marine Management

- A Case study

Master's thesis in Industrial Ecology

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Abstract

Increasing public knowledge in environmental matters and decisions combined with a growing scepticism of science and distrust in management processes has pushed the need for enhanced decision and management methods. The very use of participation has been filled with intrinsic value and meaning, such as social, ideological, methodological and political. Stakeholder participatory processes could help widen perspectives of issues and be put in different contexts, thus increasing the quality of decision-making in environmental management. The study aimed to identify the gaps and places of improvement with an eye to explore and understand the obstacles linked to Multi stakeholder networks. The outcome of the study was aimed to support dialogic dynamics among the involved stakeholders and to contribute to the understanding of how these types of participatory processes can be improved. The study's focus was directed towards the three pilot projects administered by SwAM that worked towards developing an Ecosystem Based Marine Management model. The methodology of this study involved conducting semi-structured interviews to elicit information from the interviewees. The results were based on the themes of *Stakeholder Identification, Perceptions of pilot's purpose, Expectations, Perceived working climate, Communication channels and Challenges*. An analysis was performed respectively by comparing the data obtained with the compiled literature on how a good MSP should work. Upon performing the analysis, common and individual hindrances affecting the process's effectiveness and productivity were identified among pilots. The overall pulse of the pilot process was understood to be quite good, but it could be tweaked even more by improving certain measures. The pilot's unique administration and facilitation proved that MSPs could also be performed in such ways where more weightage was placed on ensuring a bottom-up, democratic and inclusive approach.

Keywords - EBMM, Stakeholders, Multi-Stakeholder Process, Bottom-up approach, Challenges, Perspectives, Perceptions, Differences, Attributes for a good MSP.

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Glossary

EBMM	Ecosystem-Based Marine Management
FAO	Food and Agriculture Organisation
SA	Stockholm Archipelago
SBS	Southern Bothnian Sea
8+	8+Fjords
SwAM	Swedish Agency for Marine and Water Management
UNEP	UN Environmental Programme
MSP	Multi-Stakeholder Process
MSN	Multi-Stakeholder Network
EB	Ecosystem-Based
SLU	Swedish University of Agricultural Sciences
HMI	Havsmiljöinstitutet
Org.	Organisation
IE	Interviewee

TRANSLATIONS

Länsstyrelsen	County administrative board
Havs- och vattenmyndigheten	Swedish Agency for Marine and Water Management
Havsmiljöinstitutet	The Swedish Institute for Marine Environment
Naturvårdsverket	The Swedish Environmental Protection Agency

ALTERNATIVE WORDS USED

For ‘Stakeholders’	Members, Participants
For ‘Facilitators’	Process Leaders

Note:
Throughout the report the pilots will be mentioned as SA, SBS and 8+ in the running texts.

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1. Introduction

Nature has always been the main source of material and inspiration for human beings, and as the technological and economic development accelerated, natural systems have not been able to maintain the levels of services demanded by human beings. The cost of many natural systems have been enormous with degradation and depletion as consequence. Not least, coasts and oceans have been subject to anthropogenic pressure from the extensive use as both material and food resource and endpoint of waste and pollution (Katsanevakis et al., (2011).

Increasing public knowledge and interest in environmental matters and decisions combined with a growing scepticism of science and distrust in management processes has pushed the need for new, enhanced decision and management methods (Reed, 2008). Transparency is increasingly important to consider for decision-processes to gain legitimacy in society (Waddock, 2013). For example, the Gilets Jaunes movement in France 2018 made clear that it is important to consider vulnerable and marginalised groups and gain wide public support to avoid public backlash (Pickering, Bäckstrand, Schlosberg, 2020).

In all times and contexts, the very use of participation has been filled with intrinsic value and meaning, such as social, ideological, methodological and political. Following, a wide range of interpretations of what participatory processes are and what they should be used for have developed together with categorisations for the understanding of differences and appropriate use for various methodologies (Reed, 2008). Mielke et al. (2016) states that the main objective of stakeholder involvement is to tackle the variety, uncertainty and complexity of values and perceptions on tough issues of society meeting the environment. Those issues can include technical, institutional and behavioural change in transitions, mitigation of degraded ecosystems or adaptation to new states of the environment that is expected due to climate change. Stakeholder involvement in this context entails combining the public's problem framing with expert assessment.

There is evidence that stakeholder participatory processes can have a positive impact on the quality of decision-making in environmental management (Reed, 2008). As knowledge traditionally has been communicated in a top-down manner, from scientists and experts to the people in common, institutions, companies and organisations are increasingly embracing participatory processes as a means to co-create more comprehensive knowledge. Acknowledging the value of practical knowledge, expertise, observations and experience transferred through generations, participatory processes can be used to widen the perspectives of issues, putting them in different contexts and increase the quality in decision-making and management processes. This enhanced view on knowledge can also improve the assessment of relevance for specific local solutions to environmental issues.

1.1 Aim

The aim of this study was *to identify gaps and challenges* in order to explore and understand obstacles in regard to Multi-Stakeholder Networks, such as the Ecosystem-Based Marine Management pilot projects. Furthermore, the outcome will hopefully be able to support the evolution of dialogic dynamics among the stakeholders and contribute to the understanding on *how participatory processes in EBMM can be improved*.

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The following research questions have been formulated to help provide a study on the different aspects or themes needed for a good Multi Stakeholder Process. The questions will aid the first part of this study's aim by identifying the gaps and places of improvement and the second part of the aim will be addressed as suggestions that will provide insights on how the studied process could be improved.

- *What **gaps and challenges** exist in the pilot projects?*
- *How could the project methodology be **improved to increase efficiency and effectiveness**?*

1.2 Delimitations

The study will concentrate on the three pilot projects of *Stockholm Archipelago, Southern Bothnian Sea* and *8+fjords.* The study was conducted from February to August 2022, attendance to meetings and conducting of interviews had taken place during this timespan. Data was collected through attending meetings, interviews and notes from meetings that have taken place from 2021 until June 2022. All online and on-site meetings (for 8+) which were conducted during this study's time frame were tried to be attended.

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2. Governance, Management of Marine Environment and Stakeholder Theory

In this chapter, the most fundamental and prominent institutions for ocean governance on a global and European level are presented, as well as how sustainability problems can be described and framed in a governance context. Following, ecosystem based marine management is introduced together with stakeholder theory and participatory processes.

2.1 Governance

Global ocean governance is upheld by a plethora of national & international organisations, directives, regulations and collaborations. The international foundation for marine policy is set by the UN Convention on the Law of the Sea (UNCLOS) which could be roughly divided into the sectors labour, science, mining, biodiversity, fishing and shipping. Standards are set by the responsible UN bodies which for biodiversity is the UNEP. It is up to the member states who have ratified the agreement to transpose the UNCLOS into their national regulation, which allows for interpretation, in contrast to the firm and detailed regulatory framework of e.g. the International Maritime Organisation.

2.1.1 Sustainability Issues

Cuppen (2011) frames sustainability problems as wicked problems; problems related to complex systems containing relationships and feedback mechanisms of chaotic nature. Such systems do not have easily defined boundaries and not one universal problem definition. In attempting to establish boundaries of ecological and social systems, and deriving who holds a stake in them, Reed (2008) argues that an initial formulation of clear research questions is of great importance. On the other hand, Hemmati (2002) holds that the defining of sustainability issues and goals is done in the most favourable way together with the stakeholders, who by the way all should agree upon the result, in a participatory process. He also opens up for the defining of the issues and goals being prepared beforehand by an initiating body followed by invitation of participants to the process. It is inarguably not an easy task to kick off an efficient management process in a system with arbitrary boundaries and problem definitions which in term should be defined by the stakeholders inside the system. It easily ends up as a Catch 22 problem; who are the relevant stakeholders inside the system whose boundaries the stakeholders themselves should define?

Nevertheless, effective sustainability transitions will need foundation in society and participatory processes aim to create the space needed for the communication and learning required for reaching agreement and concrete action (Hemmati, 2002). However, critics believe that, even though decisions might become more well founded in society, democracy cannot bring about the transformative change required for sustainability. The reason for this is democracy’s inability of urgent action and the participants’ underlying interests, which might not always be aligned in favour of environmental protection. Ensuring environmental sustainability and safeguarding democracy is often conceived as conflicting as democracy is perceived as too slow to address urgent action (Pickering, Bäckstrand and Schlosberg, 2020).

The debate on democracies ability to act on climate change has increasingly gained momentum. There is a high democratic price to pay while safeguarding environmental values and natural protection through authoritarian means, and trusting democracy may fail because the citizens' own interests and

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perceptions might put the environment to low priority. However, newer criticism suggests that while democracy might be unfit to avert the climate crisis, it might better fit local level processes where a more environmentally inclined democracy can be easier realised (Pickering, Bäckstrand and Schlosberg, 2020).

2.1.2 Management and Governance in the EU

The EU is addressing the many challenges of marine environments with a robust policy framework with its core in the UNCLOS. The framework is shaped to foster an approach which takes the whole ecosystem into consideration, for more sustainable management of sensitive habitats and species. The European Commission department of Maritime Affairs and Fisheries is responsible for the overarching Integrated Maritime Policy of which the Marine Strategy Framework Directive (MSFD) and Natura 2000 are the two environmental segments.

The MSFD rectifies the member states in tackling the challenges of marine environment and includes directives on for example biodiversity, overfishing, littering and plastic in the oceans. The framework pushes for continuous learning about anthropogenic pressures and impacts, and supplies member states with detailed criteria and methodological standards to support implementation (European Commission, 2021).

Natura 2000 is a network of protected areas in the EU and consists of EU's Habitats and Birds Directives that was adopted in 1992. It spans over 18% of the land area and 8% of marine territories in the EU. It's the largest coordinated network for protected areas in the world and has doubled its marine protected areas in the last six years. For each site, the unique ecosystem dynamics and its requirements is used as the foundation for the management plans and measures, with the species of interest and habitats in focus. Social, cultural, economical, regional and recreational factors also need to be considered while meeting the objectives of the conservation. Natura 2000 is not about isolating ecosystems completely from human influence, but rather encourages humans working with nature rather than against it (European Commission, 2022a). More area-specific intergovernmental collaborations are the four European Regional Sea Conventions; HELCOM, OSPAR, Barcelona Convention and the Black Sea Convention.

In a Joint Communication in 2022, the European Commission expressed the ambition to increase the engagement of the Member States to lead by example, work inclusively and take responsibility in the endeavour for a healthy, clean, productive and resilient ocean. Protecting the sea bed, halting the loss of biodiversity and fighting marine pollution are among other environmental topics' key priorities in the EU's international ocean governance (European Commission, 2022b). The EU is taking an active role in implementing the UN Agenda 2030 and Sustainable Development Goal 14, Life below water, in the marine framework and policy making (European Commission, 2022b). Goal 14.2 refers to management for protection and resilience of marine ecosystems and the status of the circumstances is measured by indicator 14.2.1; "proportion of national exclusive economic zones managed using ecosystem-based approaches" (United Nations, 2017). Sweden is committed to implement the Agenda 2030 on multiple societal levels and the SDG's are guiding the activities in governmental agencies, municipalities, society and research communities (United Nations, 2022).

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2.1.3 Ecosystem Based Management

Ecosystem-Based Management has its origins from the Convention on Biological Diversity's conference. The EBMM is often used in governance and management and is guided by 12 Malawi principals from 1998. The Malawi principles aim at decentralising marine management by inclusion of society and promoting transdisciplinary collaboration. The principles take a long term sustainable approach to ecosystems that balances conservation and economic activities (Kiel University, 2006).The implementation of EBMM will have different setups depending of the stakeholder's perspectives on biological, economic, social and political aspects (Hilborn 2007), and their cultural perspectives (Katsanevakis et al. 2011)

Traditional management methods have often been performed in silos which has been shown to be inefficient and insufficient (Katsanevakis et al., 2011). A review of EBMM, concluded in a successful implementation, requires the acknowledgement that ecosystems are complex adaptive systems that self-organise and adapt to perturbations, such as living organisms, traffic or social networks (Curtin and Prellezo 2010). Interventions in complex systems, such as in ecosystems and human society, it is important to understand feedback processes between the system and its subsystems. The dynamics in the system should guide the actions taken (Meadows, 1999). Therefore, conducting adaptive management with iterative courses of action is an important aspect of EBMM. However, knowledge of ecosystems' dynamics and functions is never complete. New knowledge and management methods need continuous updates. The context of all actions necessarily needs to be precautionary to the current level of knowledge. EBMM is an important tool for continuous learning and experimenting (Curtin and Prellezo, 2010).

Criticisms were raised from those who feel that the ecological aspect has gotten too much space whereas the socioeconomic sector felt marginalised. The criticism is probably based on the traditional view of economic aspects and the aspect's decreased in relative attention in the management and governance sectors. The critic reinforces the need of an EBMM with the main focus on the ecological aspect as a driver in the development of environmentally neglected management methods towards better approaches (Curtin and Prellezo, 2010).

2.2 Stakeholder Theory

In applying EBMM and central to the method, there are interests and perspectives of a wide range of stakeholders that needs to be considered. This section will be a guide through theory on democracy and participatory processes, Multi Stakeholder Processes and what is considered to be a good stakeholder process.

2.2.1 Stakeholders, Participatory Processes and Democracy

Stakeholders are individuals, groups or systems that have interest in, are affected by or can affect a decision. The stakeholders are involved in the management process through stakeholder participatory processes, defined as "a process where individuals, groups and organisations choose to take an active role in making decisions that affect them" (Reed, 2008). Ideally, all the main categories of biological, economic, social, political and cultural perspectives are represented by the stakeholders in the participatory process (Reed, 2008).

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Stakeholder participation differs from public participation which includes participants in a wider perspective than only the people with a stake in the matter. Those who hold a stake are more likely to find participation meaningful because of them being either affected by or able to affect the outcome of the process. Decisions made through participatory processes are considered to be more societally founded, therefore being more durable and of higher quality than decisions made by others than those who are affected (Reed, 2008).

Taking local interests and concerns into consideration at an early stage, project designs can be developed with a wide range of ideas and perspectives and with higher likelihood that local needs and priorities are met. Thus, such actions can act precautionary to avoid negative outcomes before they occur and contribute to a sense of ownership over the process and outcome. By making such a wide number of perspectives available, knowledge and experience previously hidden in society can surface and provide research with more robust, complete and qualitative information (Reed, 2008).

However, while participation is key to a democratic institution, participation itself is not necessarily ensuring democracy. Participation can be exerted and applied in a wide variety of modes, giving the participants a varying amount of influence, for example, the Arnstein's ladder of participation describes different modes of participation and levels of influence on decisions (*figure 1*). The ladder ranges from complete citizen control to manipulation of the population. In between those extremes we encounter common participatory activities; informing, as in one-way communication, consultation, as in taking suggestions and thoughts from participants and placation, as in inviting representatives to commitées but not giving them any real power. These three are, according to Arnstein, considered acts of tokenism, while partnership, delegated power and citizen control implies increasing power transfer to the hands of the citizens. Manipulation and therapy are non-participatory processes where public support is sought from educating the population in "the right ways" and seeking sympathy in decisions (Bobbio, 2019). Where nonparticipation may be considered disqualified in a democracy, tokenism and citizen control may not. This does however not mean that acts of nonparticipation do not occur in democracies, as these institutions appear and function in a tremendous variety of ways.

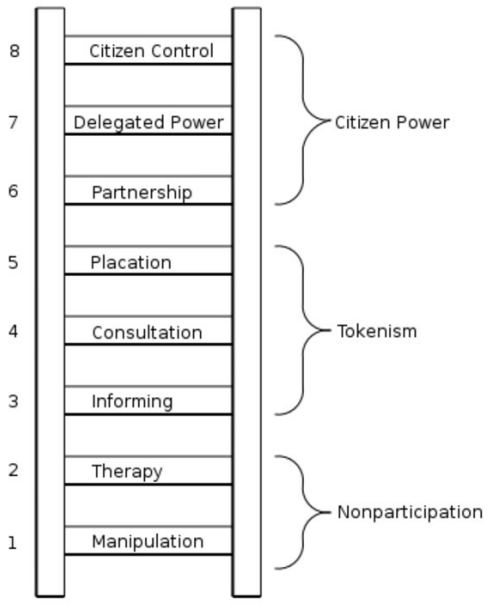

Figure 1. Arnstein's ladder of citizen participation (Arnstein,1969).

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Different modes of participation have different trade-offs which create dilemmas in the designing of the participatory process. Instead of aiming for consensus in participatory processes, a “shared adversity principle” should be adopted, where the participants gain a common understanding of the fears and concerns of each party (Steinman et al, 2002). Participants in such processes must understand that trade-offs are innate in decision-making.

Participatory processes can be risky, due to the uncertainty connected to the process and outcome. Participants often enter Multi Stakeholder Processes (MSP) with high expectations. A delay or failure of the process may lead to frustration and disappointment which seriously harm the trust towards such processes. MSP’s and dialogues are important and potentially powerful ways to build trust in complex issues and in developing social capital (Waddock, 2013). The thought of participatory processes as a universal solution to growing distrust has left many environmental managers disappointed after failing to fulfil the goals (Reed, 2008). A participatory process should aim to serve justice, legitimacy and effectiveness of public action, but no single process can serve all three (Fung, 2006).

2.2.2 Stakeholder Identification

In identifying and choosing participants for a stakeholder process it is possible to make use of experience and of already existing networks. One should, however, be alert and not settle indefinitely with the old established networks as societies are continuously evolving. New stakeholder groups might appear unexpectedly and old homogenous stakeholder groups might split into different directions (Hemmati, 2002).

All relevant stakeholders should if possible be identified in the designing of the process. Failing to identify stakeholders could not only make the outcome less holistic, but also risk affecting the process negatively if unidentified stakeholders appear in the midst of it. Avoiding missing out on stakeholders could be managed by inviting and letting already identified stakeholders brainstorm on what perspectives might be missing (Luyet, 2003).

The group composition is determining the width of perspectives brought to the table. High diversity provides a more comprehensive input of information and increases the chances of reaching more holistic conclusions, and the creation of more publicly embedded decisions (Reed, 2008, Hemmati, 2002). Apart from diversity, balance between the interest groups is important to the process and also facilitating equal opportunities for different voices. However, there is an upper limit to how many participants could be included and how diverse a group could be in a participatory process. With growing diversity of stakeholders, complexity of the process increases which may cause the efficiency and quality of the process to decline (Reed, 2008, Luyet, 2003).

To avoid missing out on and inviting the right stakeholders, one of stakeholder identification methodologies mentioned in the literature (Reed, 2009), called the Social Network Analysis is advised to be used. This is a quantitative method that uses questionnaires as one of the mediums to collect data, thus helping in mapping relational ties between the invited stakeholders. Sorting data on different matrices helps provide information on the structure of the invited stakeholder network. Practising such a methodology helps identify stakeholders who are central to the process, marginalised and will aid in selecting the participants based on the analysis performed on the network’s structure.

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2.2.3 Stakeholder Dialogues

The difficulties to define problems in complex systems, such as ecosystems, often leads to inefficient policy-making and mitigation, as solutions are produced without a really good understanding of the problem. A good stakeholder dialogue where stakeholders with different perspectives on the problem and its potential solutions learn from each other is crucial in developing a more comprehensive and accurate problem definition (Cuppen, 2011). For the purpose of environmental protection, it is most common and perhaps more pertinent to focus on stakeholder participation, as the process surpasses more efficiently when only those who hold a stake are engaged in the matter (Reed, 2008).

The trade-offs related to participatory processes such as striking the right stakeholder number balance, complexity of issues due to diversity, not inviting the right stakeholders, etc., also shape the design of communication and dynamics among the participants. A deliberative democracy considers a pluralistic society where many different views and standpoints come together in a deliberative manner. A participative democracy considers society dualistic where the less powerful apply pressure on the more powerful. One clear trade-off by applying deliberative democracy is that the process is favoured by restricted participation, which makes stakeholder identification important. Participatory democracy is favoured by massive participation, to generate enough pressure on those with power.

For a MSP to benefit from high diversity it is important to ensure democracy, accountability, inclusiveness, mutual respect, equity, legitimacy and trust among the participants. If there were trust issues and conflicts before, a failing process might complicate the state even more. Therefore it is important to establish a common understanding of the goals of the process and furthermore that the goals are perceived as achievable (Hemmati, 2002). The Design of participatory processes should also be just, legitimate and effective to support public action. Depending on design one or two of the values can be addressed. It is rare the process design manages to address all three (Fung 2006). One crucial feature of a successful participatory process is the creation of a safe space, free from judgement, that opens up for collaboration and co-creation (Hemmati, 2002). If performed and facilitated skillfully, the risks stemming from the uncertainties and complexity of a MSP is likely to be worth taking (Reed, 2008).

An optimal group composition requires at least two representatives from each stakeholder group and a balance in gender. Single participants with different viewpoints are less likely to be heard. It could also affect their willingness to contribute with important viewpoints in the process. Power-gaps among the stakeholders also needs consideration as some participants perceive benefits and others disadvantages. Power-gaps occur if there are differences in knowledge, number of “team-mates” and amount of resources such as time or money (Hemmati, 2002).

The outcome of a stakeholder dialogue should be to avoid “type III errors”, meaning solving the wrong problem (Cuppen, 2012). One outcome of a participatory process are consensus decisions and the other being quality decisions. Building consensus requires an atmosphere that cultivates openness, directness, objectivity and humility (Hemmati, 2002). A criticism toward consensus is that it also could lead to less quality decisions (Coglianese 1999) by repressing the diversity of opinions and values, leading to generalisation of the principles and developing solutions to less important problems (Reed 2008).

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2.2.4 Communication Channels and Meeting Platforms

The mode of communication is of significance in the exchange of information with and between stakeholders. Different groups in society are prone to be more receptive to communication through different channels, which is important to take into account when communicating inside large stakeholder networks. Some channels might benefit certain groups and disadvantage others, and to ensure everyone's voice has an equal chance of being heard, this heterogeneity must be addressed. Groups can be divided by e.g. age, gender, occupation, education, socio-economic status, ethnicity, location of residence etc. Parents with young kids and full time jobs might not have the same ability to participate in voluntary processes to the same extent that a senior person can. A person living on an island far out in the archipelago might have more trouble participating in a meeting than a person living in the city centre. Accessibility needs to be considered on all fronts to ensure legitimacy of the process, along with maximum transparency of information in order to ensure that the trust towards the process is not affected (Hemmati, 2002)

Stakeholder processes change over time which also affects communication. Early stages in the process benefit from face-to-face interactions as relationships and trust are more easily built. Early on written communication is less effective, but can be beneficial for e.g. minorities, whose voices have a possibility to be relatively more powerful. In later stages of the process, communication through electronic channels and platforms are likely to boost diversity, as busy family lives, time constraints and travel distances inhibit people from attending meetings physically, thus resulting in larger participation (Hemmati, 2002). But the drawbacks involve groups facing difficulties with technical and cultural barriers. Furthermore, online processes are considered unfit for deliberation, as people tend to isolate in groups of like-minded people, feeding the confirmation bias and sticking to their standpoints to a much higher extent than in face-to-face processes (Bobbio, 2019). With meetings online, more people have the possibility to join. Some groups such as elders might, however, have a hard time adapting to online activities, which affects attendance from such groups negatively. Nonetheless, online communication is considered an excellent tool for brainstorming and collecting ideas to effectively get an overview of common knowledge and viewpoints (Hemmati, 2002). Online setups are also efficient in the spreading of information, which fits less demanding participatory processes well (Bobbio, 2019).

2.2.5 Environmental Decision Making and Social Learning

In these processes, time is a crucial aspect as change might not be brought immediately but in the future. To avoid unnecessary frustration, the goals should be easily understood and perceived as achievable.

Involvement of the public in MSNs is argued to have the possibility to induce and increase public trust and social learning which has a positive effect on official decision-making. MSN participation could also contribute to empowering, facilitating co-generation of knowledge among participants which increases the likelihood that environmental decisions are perceived as holistic, fair, recognise different values, perspectives and needs (Reed, 2008).). Social learning is achieved through the building of new relationships and developing existing ones. Processes contributing to acknowledging the complexity of human-environment interaction encourage groups of people to open up their minds, listen, consider and respect perspectives other than their own. Acquisition of knowledge is by itself

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not enough to create social learning, it also requires learning from others' experiences and changes in the mental model of an issue. Changing mental models or rethinking the way of thinking is difficult. Trust is built in a safe environment free of judgement (Ehrnst, 2019). Social learning is about learning each others' trustworthiness and appreciating the legitimacy of each others' views (Reed, 2008).

To have a successful outcome of a participatory process, the process needs facilitation. A facilitator designs the process, organises meetings, time management, has the task to make the process go forward and include all stakeholders in the dialogue. The experience of the facilitator influences how methods and tools are used to facilitate learning (Reed 2008). Facilitation should lead to inclusive environments (Hemmati 2002) . The task of the facilitator grows more complex with increased diversity in the MSN, that also increases the probability of conflicts.

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3. SwAM and The EBMM Networks in Sweden

This chapter presents the organisation and mission of the Swedish Agency for Marine and Water Management, as well as provides a brief on the marine sustainability issues in Sweden. Furthermore, the ongoing work with EBMM in Sweden is explained, and specific information is provided on the project initiated by SwAM, along with its three project areas.

3.1 SwAM

The Swedish Agency for Marine and Water Management (SwAM) is the national agency that operates under the Ministry of Environment, and has the responsibility for implementing national marine and water policy. This includes management of water bodies, resources and water environment and is also working with issues of conservation, restoration, and sustainable use of water bodies and resources of fish.

3.1.1 Goal and Function

The Agency's work was dependent on current priorities from national, EU and international agencies. The operations were governed by the MSFD, the Habitats and Birds Directive (Natura 2000), the Marine Strategy Environment Directive and the Maritime Spatial Planning Directive. These EU directives were incorporated in the Swedish Environmental Code and the Swedish Fisheries Act. Other Swedish legislation guiding the Agency's work were the Government's strategies for regional development, maritime and circular economy. Furthermore, the Agency was involved in the goals and policies of rural development, climate and cultural heritage (*figure 2)*.

Figure 2. The Agenda 2030 is the overarching agenda in governing Swedish marine areas Environmental goals and strategies are founded in legal instruments on national and EU level (Havs- och vattenmyndigheten, 2020).

3.1.2 Organisational Structure

SwAM's head office is located in Gothenburg, on the Swedish west coast. The general director at that time, was responsible for carrying out the mission of the Ministry of Environment. This was done with assistance from a support team consisting of an advisory council, administration and digital transformation, along with the department directors from the four departments of Environmental analysis, Water resources management, Marine management and Fisheries control. The four

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departments were divided into specialised units working with implementing national marine and water policy (*figure 3*).

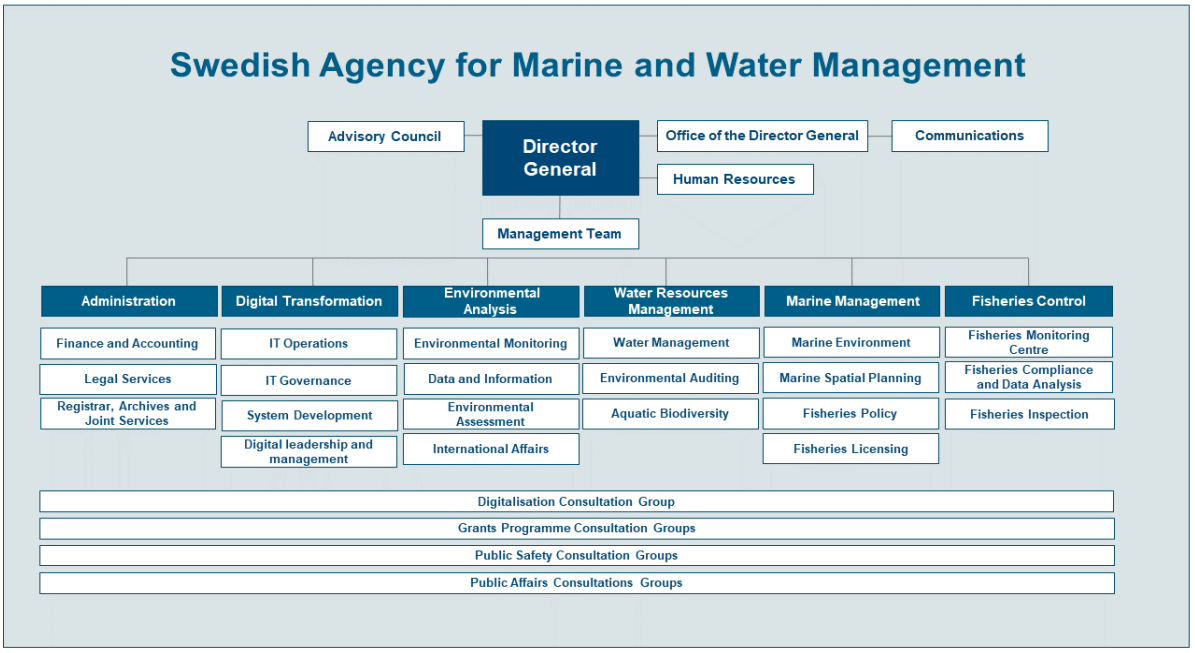

Figure 3. Structure of the organisation of SwAM (Havs- och vattenmyndigheten, 2022).

3.2 Sustainability Issues in Sweden

The Swedish marine environment faces many sustainability issues, some with known causes and some with unknown ones. The decreasing and in some cases disappearing fish stocks was one of the more well-known marine sustainability issues. Other topical marine issues in Sweden are presented in the following subsections.

3.2.1 Eelgrass

Eelgrass constitutes a vital habitat for a high diversity of species and supports many important ecosystem services, as well as providing favourable water flow conditions for particles to settle in the seabed. Eutrophication and pollution were believed to cause extended loss of eelgrass *zostera marina* which between the 1980's and 2016 had decreased by 60% in the Bohuslän seabed. Some areas were more adversely affected, as in Kungälv, where only 2% of the eelgrass stock remained (Havs- och vattenmyndigheten, 2016).

3.2.2 Mussels

There were indicators suggesting that the mussels' stock had decreased the last couple of decades. Mussels have an important role in filtering nutrients and serving as feed for e.g. crabs and birds. The cause of the decrease was not yet clear, but a combination of global warming, competition with invasive species and an increase of mussel preying species due to overfishing of predators higher up in the food-chain may have been the reason for its decrease (Baden, Hernroth and Lindahl, 2021).

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3.2.3 Trawling, Seal and Cormorant

Extended industrial trawling close to the marine baseline in the Baltic and Bothnian Sea had caused issues with seal disrupting ecosystems further into the archipelago. The seals normally prey on fishes that were removed by trawlers, causing the seals to migrate to untouched bays and plunder e.g the reproduction sites for trout and other species. Along with that, an increasing population of cormorants, which are the largest fish consumers among birds, competing for the fish, sometimes led to infected conflicts over who had the right to the resource (Havsutsikt, 2018). In November 2021 it was accepted by the Swedish Parliament to partially move the trawling limit to 12 nautical miles outside the baseline on trial (Baltic Eye, 2021).

3.2.4 Recreation

Recreational activities such as jetties shadowing the seabed, boating contributing to sound pollution contributed to stresses on the marine ecosystem. Marine litter caused physical harm to some species as did the release of chemical contaminants from the dissipative use of fuel, paint & various economic activities, etc,. (Marcus Reckermann et al, 2022).

3.3 The EBMM Project

SwAM initiated three pilot projects in three different coastal regions in Sweden as a step to develop a National EBMM model. The regions were Stockholm Archipelago (SA), Southern Bothnian Sea (SBS) and the “8+fjordar” (8+)-project on the Swedish west coast. The aim of the pilots was to generate knowledge and experience in the pilot regions to be used in developing a management model applicable to all coastal regions in Sweden. The aim of developing a regional Ecosystem Based Management model was underpinned by the national environmental goal “A balanced ocean and living archipelago” as well as the UN’s Sustainable Development Goal no. 14 “Life below water”. The model would be supplemented by practical tools supporting the implementation of the EBMM (Havs- och vattenmyndigheten, 2021).

The model was based on an ecosystem approach, where the natural ecosystem sets the limitations and acts as a base together with the economic and social dimensions of society. The ecosystem approach pursued making use of both scientific and local knowledge and experience, which required a broad range of stakeholders to be involved. SwAM had put emphasis on stakeholder diversity and had aimed to engage representatives from local businesses, fishing industry, local residents, politicians, municipality, universities, county boards, researchers, recreational fishers, decision-makers, agencies and organisations to participate in a learning process by sharing perspectives. There was emphasis on considering as many relevant perspectives as possible, to increase the relevance of decisions and actions not only for the marine ecosystems, but also humans and industries. The approach was facilitating a space where a top-down and bottom-up perspective could meet, local knowledge and perspectives could meet the perspectives of governance and decision-makers (*figure 4*).

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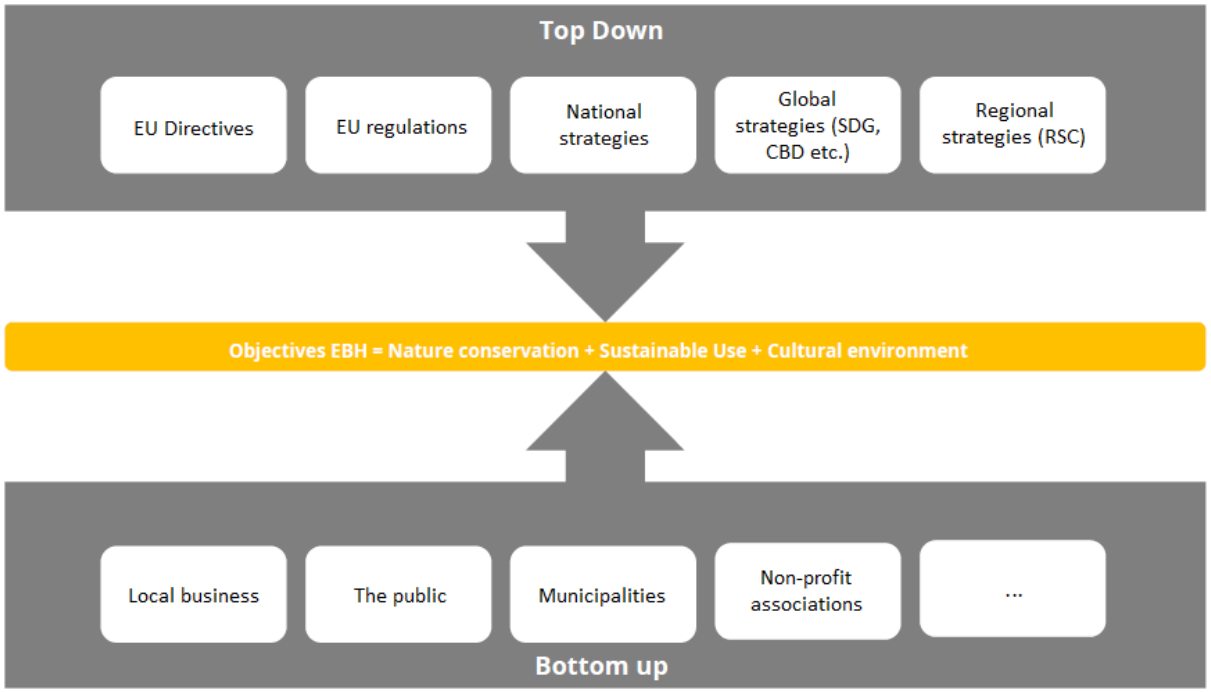

Figure 4. Top down and Bottom up perspectives are combined in all pilot areas, to make sure local conditions and prerequisites are considered (Havs- och vattenmyndigheten, 2021).

3.3.1 Goal and Project Design

The administrators described broadly the goals of the project as follows:

1. To develop a local and regional model based on EBMM and to implement it in an efficient way, with the aim of trying to comply with and reach the Swedish environmental goals.
2. To develop a knowledge base and model that aids in communication between different communities.
3. The stakeholders have already been working towards all the discussed issues in the forum, so through this pilot they were trying to make it more visible and holistic.
4. To broaden the point of view by including the voices from the different themes (aspects) in relation to the different areas worked upon.

The aim was to understand how EBM could be implemented and identify the type of management needed. The pilot projects intended to address local impacts which required local knowledge in addition to scientific knowledge. A holistic approach was suggested as the ecosystem is complex. To reach the desired goals, the administration included aspects such as being effective and to prioritise the substantial factors in a broad stakeholder group. The process demanded the administration to undertake a flexible, reflective and adaptive approach, and allocate sufficient resources to build a process of knowledge co-production on the marine environment. However, there was a concern that instead of focusing on the issue at hand, the focus would be used to discuss definitions of EBM.

3.4 The Pilots' Stakeholder Network

The following section will explain in brief about the stakeholders present in the network of the pilot along with their connections. In addition, details of what a stakeholder forum is, will also be covered.

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The network of the project (*figure 5*), communicates the different linkages that helped the network stay connected. The connections between the different levels of the stakeholder groups were exhibited based on the reporting direction flow between them. The information flow was considered substantial to the stakeholder forum which was the centre to the whole MSP. In some cases a two-way information flow was discovered. The networks in the SwAM project mostly worked on their own, but occasionally the three pilots came together to exchange knowledge and opinions.

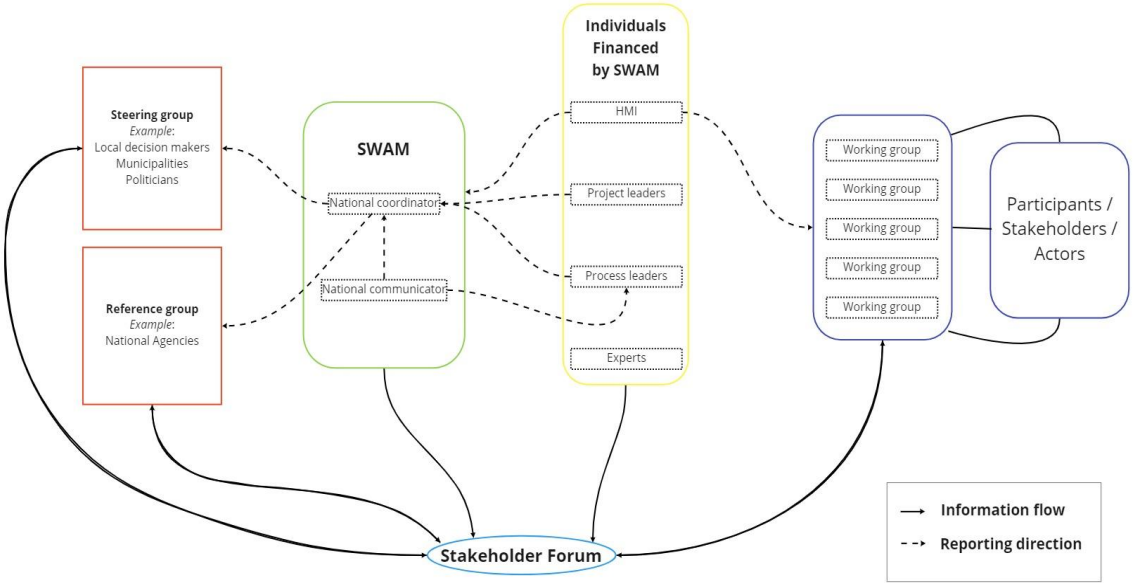

Figure 5. Outline of the pilots' stakeholder network (Authors' Production)

3.4.1 Process Situation

The SwAM project was primarily about management of ecosystems by involving and engaging stakeholders and making sure the stakeholders were included and well informed. As the project took shape, working methods were developed. Regular meetings ensured that stakeholders at different levels progressed. It was important to the administration that the participants understood that their attendance during meetings mattered to the outcome of the project. To ensure a firm research-based process and legitimate approach experts from SLU Aqua and Gothenburg University were invited to the process.

The bottom-up approach of working towards the project's goals was at the heart of the project. Participants were encouraged to follow work from different working groups and many of the stakeholders took a great interest in what other groups had been working on. To manage the project, the project leaders needed to implement some top-down measures such as guiding questions. The administration was sensitive to the stakeholders' engagement and understood that if their views were taken into account the acceptability of the decisions made would be higher. Participants were not directly involved in the decision-making process, but they were encouraged to provide valuable viewpoints. Formation of the knowledge base was ensured by the researchers and it was considered substantial as it became a supporting tool for decision makers. As quality assurance to understand the direction of the process, the project leaders regularly evaluated the project.

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Stakeholders from different levels were involved in the pilots, to ensure fairness among the complex nature of the pilot, with the objective of making them collaborate and to identify a reasonable approach to work towards EBMM. The administration developed an effective way of making the stakeholders understand the reason for their participation, which was by letting them know that the purpose for which they were participating was to drive their own interest. One of the preconditions set to be followed while having the discussions in the forum was for the stakeholders to have a dialogue rather than an argument. During the meeting, stakeholders were encouraged to share opinions or viewpoints on other working group's work. A digital platform of Aktörsforum known as the Humhub was developed to make the process more efficient. On Humhub, the stakeholders could for example find meeting notes, summaries, templates, tools used in the different groups and unanswered meeting questions.

3.4.2 Stakeholder Forum

The Stakeholder forum (Aktörsforum), was the arena where the pilot participants met for discussions. The forum was used to discuss the question which the groups had been concentrating on in relation to the goal of the project. The local issues were the driving forces of the project and the participants were encouraged to work with their own issues and join working groups on a particular issue or on more general or holistic environmental concerns. Other activities organised by the SwAM project were learning seminars where scientists discuss and share research with the participants. The progress of the project was regularly evaluated in small meetings between the project management and the working groups' representatives. These meetings were often followed by the Aktörsforum meetings.

The work did not follow a strict structure or agenda but was of an exploratory nature. The group's work was focused on a central question that was time set. At the time of the study, some groups and participants were very new to the project and were in their initial stages of the process. Most of the working groups had yet to establish collaborations with other working groups. The composition of the groups was homogeneous with people with similar backgrounds and experiences.

3.4.3 Steering, Reference Group & Employed Staff

Pilots' model was the development and implementing EBMM in the marine environment on a regional level which made local decision makers and National agencies important stakeholders. The steering committee's main task was to take strategic decisions based on the pilot's goals on working directions. The steering committee was formed by local decision makers such as municipalities, politicians and other relevant people. The pilot's reference group was composed of national agencies with the task to direct the decisions on marine environment. The total network was large with a large number of voluntary participation: However, there were also employed members, mainly administrators and scientists/experts engaged to do certain tasks. The administrative level included National project leader, National communicator, National Coordinator (HMI), Individual pilots' project leaders and Facilitators. Project leaders were employed to ensure the presence of all the interest groups in the forum. Process leaders/facilitators were employed to analyse and develop a design for and facilitate the meetings. Scientists/Experts mainly from SLU and GU were employed to assess and evaluate the project's work in relation to EBMM. The Swedish Institute of Marine Environment (HMI) has the intention to provide advice for sustainable sea management by conveying the needed knowledge between the authorities, researchers and decision makers. An HMI individual was hired for this pilot to provide their expertise and support other administrators accordingly.

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3.4.4 Facilitation

Facilitators or process leaders were considered to play a key role in the project's process. They helped navigate through heated discussions, moderated meetings and created the online platform (Humhub). The project management and the facilitators met regularly to brainstorm ideas on how to work on issues and to create learning meetings. Even though they had no direct connections with the working groups, facilitators provided the working groups with tools and templates which were guides to the process. In addition, group meetings with a representative from each working group were held periodically to understand what had been done, what has to and can be done in the upcoming days. They often helped the project manager to plan meetings when time was short. The facilitators work during Aktörsforum meetings involved aiding the process and providing technical support. They were also responsible for interpreting and converting the information discussed in the meetings into digital documents and uploading the same in Humhub.

The working group members were encouraged to facilitate their own process during their small meets with the intention of making them self-organised. Moreover, the facilitators had insisted/advised that the administrators let the participants come up with their own issues to work with instead of handing over an issue to them. The reason for such advice was for the participants to have a deeper level of engagement in the process.

3.6 The Swedish EBMM Networks

3.6.1 Stockholm Archipelago

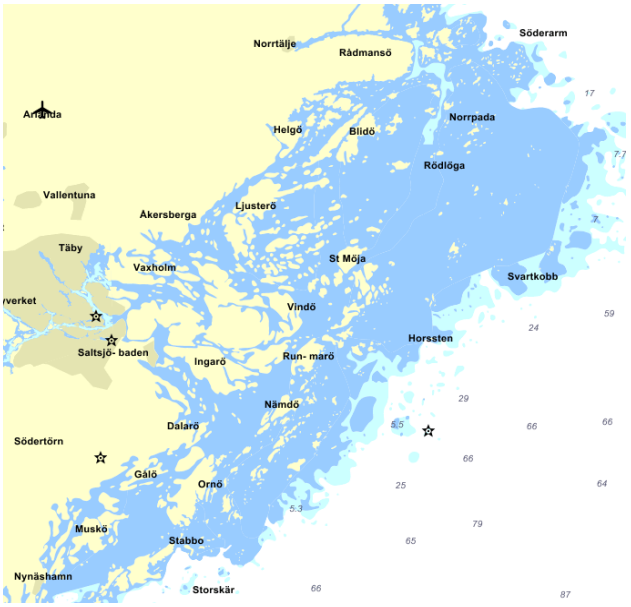

Figure 6. The SA pilot area, from Arholma in the north to Landsort in the south (kartor.eniro.se).

Stockholm Archipelago (SA) is the largest archipelago in Sweden with 30 000 islands 7 municipalities, Norrtälje, Österåker, Vaxholm, Värmdö, Tyresö, Haninge and Nynäshamns 1 County Administrative Board, Stockholm. The archipelago is of considerable size and diversity, hosting vast amounts of human activity and had numerous projects of different character running over the years. For example the Tre Skärgårdar (3 Archipelago) project that spanned over 2019-2020 was a project to increase collaboration between Sweden and Finland in the archipelagos of Åland, Åboland and Stockholm. Parts of connections and functions of the Tre Skärgårdar's network have been used for the SA pilot.

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3.6.2 Southern Bothnian Sea

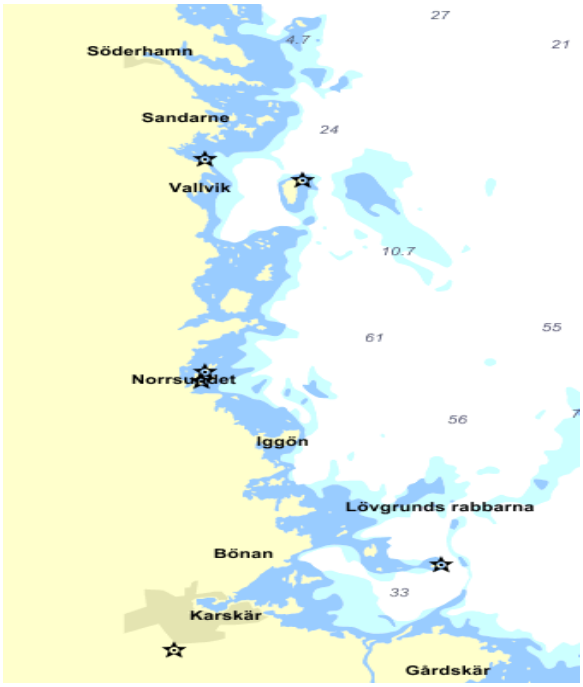

Figure 7. The SBS pilot area from Söderhamn in the north, to Norrtälje municipality in the south (kartor.eniro.se).

The Southern Bothnian Sea (SBS) pilot area consisted of the coastal region in the five municipalities of Söderhamn, Gävle, Älvkarleby, Tierp and Östhammar and included two County Administrative Boards, Gävle and Uppsala. The pilot was assigned a project leader late in the process and the initial startup work was made by the national project leader and the project coordinator. The area was quite new to these kinds of projects. Kustfiskarlyftet was however another active project in the area which had expressed interest to participate.

3.6.3 8+Fjords

Figure 8. The 8+ area (8+fjordar, 2022)

8+fjords (8+) is a project that was initiated in 2005 and commissioned in 2008 as a collaboration between the municipalities of Stenungsund, Uddevalla, Kungälv, Orust and Tjörn. It was initiated as a response to a declining health in marine ecosystems and diminishing fish stocks in the area. The project's area spanned over the coastal regions from Nordre Älv in the south to Uddevalla in the north and the project dealt with issues in the environment, the fish status, recreation, culture and marine related business initiatives. Their guideline was the national environmental goals "Ocean in balance and a living coast and archipelago".

The project had a steering group consisting of politicians from all municipalities which were

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elected every fourth year. Through events and collaborations with locals they have been spreading knowledge about their unique marine environment and information about their operations. 8+ has been running numerous projects on removing old fishing gear (death traps) from the seabed, reinstalling mussels, planting eelgrass, facilitating trout and salmon spawn in streams, collaborating with school children on invasive species and more (8+fjordar, 2019).

This pilot area differs from the two other pilots as it was an already established organisation with a steadily running operation building on an Ecosystem Based Management approach. The choice to include 8+ was a move to support the ongoing work, develop their processes and learn from many years of experience.

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4 Method

In this chapter, the process of the study's methodology along with the manner in which data was gathered and what strategy was used to analyse the respective data is described.

4.1 Data collection

In contact with HMI, the three pilot projects from SwAM were suggested as a suitable subject for this study of MSPs. The upcoming subheadings provide details on how the information was gathered.

4.1.1 Literature and Other Written Documentation

The main search engine used in the literature review was Google Scholar. Information on Stakeholder theory was based on keywords such as *stakeholder theory.* Information regarding participatory processes were extracted using keywords such as *participatory processes, stakeholder participation, designing stakeholder processes, public participation* and *stakeholder dialogue.* For information regarding EBMM, keywords used were *Ecosystem Based Marine Management, environmental and sustainable governance.* Information on using qualitative interviewing as a research approach was attained by using keywords such as *interviewing techniques, qualitative research interview* and *semi-structured interviews.* Information on the pilot projects was provided by Madeleine Prutzer who shared SwAM's publication Projektstart Direktivet (Project start directive) by mail. Further information on the pilot projects was found at SwAM's webpage among active projects. In addition, we were also given access to the Humhub of SA and SBS which helped in obtaining information regarding *the number of participants*, *gender distribution*, *happenings in the project areas* and *contact information*. Information on 8+ and their activities was collected on their website and facebook page. The national environmental objectives were collected from the webpage https://www.sverigesmiljomal.se/ which was run by The Swedish Environmental Protection Agency.

4.1.2 Contact Information & Approach

Madeleine Prutzer at HMI provided us with the contact details of the project leaders of SA & 8+, and the national project leader. Pilot participants' contact details were collected from Humhub and by snowball sampling along the interviewing process. The stakeholders were initially approached by email with a personalised content to increase the probability of response rate. The email content consisted of a short presentation of the study, its purpose and the importance of getting a comprehensive picture of different perspectives and perceptions among the stakeholders. The email response rate was over 70% for SA, 39% for SBS and 66% for 8+. With the intention to receive a diverse range of perspectives from the interviews, stakeholders were selected from varied areas of interest and background.

4.1.3 Interviews

27 semi-structured interviews were managed to be conducted during a 7 week period. The interviews started with the project administrators and worked its way through to the participants in the pilots. Most interviews have been conducted online, via Zoom or Microsoft Teams, and one for 8+ was conducted in person. The interviews lasted for around one hour with some variation depending on how much the interviewee had to share. Typically, new participants took shorter time (down to 30 minutes) and members of the administration longer (up to 90 minutes). The interviews were recorded

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for transcriptional purposes and all recordings were approved by the interviewees beforehand. For SA, 9 interviews were conducted in total. After these nine interviews the stories started to repeat and the data collection was assessed to be saturated. For SBS, 7 interviews and in 8+, 5 interviews were conducted. The rest of the interviewees belonged to the administration level.

The interview questions were formulated in an open ended manner, which let the interviewee elaborate on their own words and allowed for some off-topic exploration. These questions were initially formed from 7 themes (describe the project, role, stakeholder situation, attributes of different stakeholder groups, intention of participation, meetings and challenges in stakeholder context) that were developed during the interview process. Some recurring topics in the interviews which were not initially covered by the questions were added to the checklist. The final main themes came out to be: *stakeholder identification & invitation, perceptions & expectations of project's purpose, perceived working climate, communication channels and challenges.*

The interviews were performed in a way where the interviewer contributes as little as possible to the conversation to minimise influencing the answers. This semi-structured approach was chosen to avoid leading questions and collect as much qualitative and unaffected information as possible. Allowing elaboration helped to provide a holistic picture on the reasoning behind certain viewpoints and thus a better understanding of the stakeholders truthfully perceived situation.

4.1.4 Observations from Meetings

Administration had arranged periodic (Big) meetings as part of the pilots' process and our participation in the meetings had to be active as the meetings were partly built on interaction and group discussions. Apart from taking an active participant role, it was combined with an observational role. The meetings have provided practical experience of the processes as well as insights in the topics discussed. The big meetings were held independently for the 3 pilots, whereas, the large meeting (*table 1*), had the gathering of participants from all three pilots, with the intention to share collective knowledge. During the course of our study, one of the SA meetings had been conducted in Stockholm and we had to miss it due to resource constraints.

Dates	**Type of Meeting**
March 3rd	Big Meeting
April 22nd	Knowledge Webinar
May 9th	Big Meeting
May 11th	Big Meeting
June 8th	Large Meeting

Table 1. Dates and types of meetings attended during the course of the thesis study

4.2 Data management

The following section explains how the data from interviews and meeting observations were compiled accordingly. Furthermore, information based on the analysis strategy is also explained.

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4.2.1 Interview & Observation Data Compilation

The recordings of the interviews were transcribed and sorted into the four stakeholder groups of Administration, pilot SA, pilot SBS and pilot 8+. Transcriptions from the interviews amounted to 178 pages whose content were structured qualitatively, analysed and sorted into the main themes. The observations from the meetings attended (*table 1*), consisted of gathering and compiling data regarding *number of participants*, *process's features* and *observing thought-provoking comments*.

4.3 Analysis strategy

The Analysis is divided into three different subsections in order to analyse the results and also answer the research questions. Firstly, since the study was performed for three pilot areas, a comparative analysis between the pilots was conducted with an aim to identify and bring out the commonalities and differences present in relation to the themes that were used in this study. The results were also analysed to extract information to know how the different pilots were contributing to its ultimate target of developing the EBMM process.

4.3.1 Research Questions

In order to answer the research question of "*What **gaps, challenges** and **places of improvement** exist in the pilot projects?"*, the gathered data was analysed under subheadings such as Process, Learning and Level of Engagement, which holistically covered the features of an MSP. The reason/cause for the arisal of the existing or prevalent challenges in the projects were highlighted and also compared with the respective literature gathered for this study.

Lastly, the second research question of "*How could the project methodology be **improved to increase efficiency and effectiveness**?"*, was answered under the themes of Stakeholder Invitation, Governance and the Issues' Complexity. These sub-themes stood out to be more or less the ultimate reasons for the challenges present in the pilots. So, on comparison with the literature gathered, ideas for improving the pilot projects were provided. In addition, the suggestions for improvements were already provided by some interviewees for certain challenges, which has also been mentioned in the analysis for the respective issues.

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5. Result

In this chapter, the data received from the conducted interviews will be compiled and managed according to the different themes of the study.

5.1 Stakeholder Identification & Invitation Process

This section provides information on how the stakeholder identification and invitation process of SwAM's pilots had been conducted by the administration. In addition, data was compiled in relation to the four features according to Hemmatti, (2002), that is needed to provide the process legitimacy.

5.1.1 Stakeholder Identification and Invitation

All three pilot projects used similar identification processes by using already established networks. In the established pilot projects, SA and 8+ used the networks from previous projects while the new pilot SBS used the networks at SwAM. SA's stakeholder invitation was based on the network of "Tre Skärgårdar" (a recently completed project) that finished in 2020. The invitations of SA and SBS were sent to those considered to have any type of stake in the archipelago. Apart from this, in SBS, the participants were encouraged to reach out to whomever in their own networks they believed were fit to join the pilot. 8+ used a more selective invitation and reached out to the relevant stakeholders in the network. At time of the study 8+'s network had mainly been run by the municipality in collaboration with organisations and local businesses. The concern was that the stakeholders invited were too narrow, so there was an effort to broaden the invitations by inviting the public through their Facebook page and website as these channels had high view rates.

The recruitment process in SA was perceived to be slow and many of the invited stakeholders experienced project fatigue because of other projects running in parallel. The recruitment in 8+ had been good, but they were interested in finding new people and wanted to connect to other networks such as the SwAM's EBMM project. The SBS pilot also struggled with low recruitment rates initially as the project was new and was still figuring out whom to invite.

Categories	SA	SBS	8+
Stakeholder Identification	Used *already existing networks* from other projects (Tre Skärgårdar)	Usage of *SwAM Networks*	*Well established network* due to their 20 year experience
	-	Participants *snowballed* prospects	-
Pulse of identification process	*Initially slow* due to project fatigue	*Still in cradle* phase (during this study)	*Plans to grow* network by collaborating with relevant stakeholders having other networks
Stakeholder Invitation	E-mail	E-mail	Information channels: Their facebook page and official website

Table 2: Stakeholder identification and invitation process

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5.1.2 Representation in The Pilot Projects (Diversity & Inclusiveness)

At the time of the study, new stakeholders were continuously joining the three projects. To get a general idea of stakeholder groups participating in the pilot projects, the facilitators conducted a survey during the meeting on June 8th. The survey question asked was, “What perspective do you as stakeholder bring to the table?”. There were 52 responses in total and the distribution was:

Municipality	15%
County administrative board/region	9%
Governmental agency	15%
Research	21%
Interest organisation	15%
Business & Industry	6%
Politician/Decision makers	3%
Citizen	10%
Other	5%

The total number of members in the three networks was close to 300 members. All pilots had representation from research, interest groups, NGOs and authorities. In general, decision-makers in municipalities and the large fishing industry were missing. At large, SBS had the heaviest numbers on research groups and authorities. Apart from this, stakeholders from the wind power industry as well as a large group of NGOs were also included. The SLU researchers were present in all three projects. It was understood by SwAM that the general low attendance of the politicians was due to time limitations. It was also believed that some large stakeholders preferred the national arena rather than the regional or local.

In SA, there was representation of municipality and county administration functions for fishery and ecological monitoring. Present were also a large group of NGOs with different interests such as wildlife in general to fishing and sailing (*table 3*). Stakeholders that were missing were mainly in decision-making positions such as local politicians but also representatives from local and fishing industries.

Stakeholders Present	**Stakeholders Missing or Not Attending**
County Administrative Board - County Fisheries County Administrative Board - Unit of Environmental Analysis Municipal Ecologist Fish Biologist Sports Fishing Stockholm Ornithological Association Stockholm Water and Waste AB Race for the Baltic - Non-Profit Org. World Wildlife Fund Swedish Boating Union The Archipelago Foundation Professional Fishermen Water Retrieval Systems Stockholm University - Baltic Sea Centre	Municipality Politicians Local business Large scale fishing industry

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Stakeholders Present	Stakeholders Missing or Not Attending
SLU Aquatic Resources	

Table 3. Stakeholders in the pilot project of Stockholm Archipelago (SA).

In SBS, stakeholders from different universities and authorities in agriculture, ocean and housing were participating. Present were also a large group of NGOs representing different interests such as angle fishing, wildlife and sailing (*table 4*). Missing stakeholders were in decision-making positions such as local politicians, but also representatives from local and fishing industries. At the start of the pilot the pelagic fishing industry was represented, but they dropped out after a while. The reason/common understanding was that the regulatory conflicts probably provided few incentives for the industry.

Stakeholders Present	Stakeholders Missing or Not Attending
Boating Org. Bothnian Sea Water Authority SLU HMI Interest Org. Anglers Sports Fishing and Fishery Conservation Org. Coastal Fishermen Swedish Agency for Agriculture World Wildlife Fund Svea Vind Offshore AB Housing Authority Water Conservation Association Birdlife Sweden Nature Conservation Society Stockholm University Gothenburg University	County administrative board Municipality Politicians Large scale fishing industry Cottage owners Real estate agents

Table 4. Stakeholders in the pilot project of Southern Bothnian Sea (SBS).

The stakeholders in 8+ were difficult to identify since the network was large and moreover they did not have a Humhub platform to collect participant information. The easily identified stakeholders represented the municipality. Present were also NGOs representing wildlife (*table 5*). Stakeholders missing were decision-makers such as s local politicians and representatives from the local fishing industry.

Stakeholders Present	Stakeholders Missing or Not Attending
Anglers Sports Fishing The Nature Conservation Society SLU Aquatic Resources Municipality *(More information on who were involved were not able to be gathered because of the absence of an online platform in 8+)*	County administrative board Local business Politicians Fishers for household needs Large scale fishing industry

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Table 5. Stakeholders in the pilot project of 8+ fjords (8+)

5.2. Project Arrangements

5.2.1 Perception of Project's Purpose

The purpose of the SwAM project was to explore ways of implementing EBMM in Sweden and to include a large group of stakeholders to find ways of working. This goal was clear on the administrative level. The participants in the different pilot's had in general a similar understanding of the implementation of the EBMM model in Sweden but also identified other outcomes.

Project's Purpose				
Categories	**Administration**	**SA**	**SBS**	**8+**
To develop/build	Regional model in EBM	Regional development in EBM	Regional development of EBMM	Regional EBMM approach by testing the model in the 3 local areas
	Improvements in an EB manner			
To attain (Project's role)	Ecosystem management	Good management & be an umbrella for cooperation *	Effective management methods	New ways of management
	Implementation possibilities	Balance to the Baltic ecosystem and surrounding coastal areas	Collect and share knowledge *	Increased collaboration & streamlined processes *
What will be the project's outcome?	Implement EBMM approach by different levels supporting each other	Tools & approaches for future usage	Tools for EBMM & decision making	New ways to work with EBMM
		Measures for improving water quality		
Is the project's purpose clear?	***Yes***	***No***	***No***	***Yes***

Table 6. Perception of the Project's Purpose (Administration, SA, SBS & 8+).

A common understanding on the concept of developing EBMM on a regional level in Sweden was generally understood as the purpose of the pilots. The focus on the marine environment and development of the EBMM model was in some cases perceived as a delimitation and vague. These stakeholders thought the work should be more focused towards nature conservation. The understanding of the project's work was for it to be a forum to develop the ecosystem by trying to build more effective and efficient ecosystem based management approaches. In SA, the project was to act as an umbrella to create a common understanding of the issues at hand.

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The outcome of the projects was understood in a wider context in the pilots than in SwAM's outcomes. It was common that the project aimed at developing new tools and techniques to improve the quality of the marine environment. In SBS, the project outcomes were to be used as a tool for planning and decision-making. In the 8+, the outcomes of the projects were to be used to simplify granting/passing permits processes that made implementation smooth rather than putting obstacles to procedures.

The vast nature of the project along with its complexity led to some participants not understanding the goals and found it difficult to narrow down. The participants were often unable to understand the scope of the project which was described as fuzzy, vague and fancy.

5.2.2 Stakeholders Expectations of Participating in the Project

This section provides an understanding of the different expectations of the stakeholders to participate in the pilots, which in turn helps to interpret their intentions and motive to participate up to a certain degree, (*table 7*). In general, stakeholders seem to have a good understanding of their participation independently of which pilot they are participating in.

Stakeholders' Expectations for Participation			
Categories	**SA**	**SBS**	**8+**
Collective Learning & Rewarding Process	*Learn* from shared perspectives	*Build solutions* through constructive dialogues	*Learn* from other pilot areas
	Collaborate instead of working against each other	*Aid* each to develop a positive space	-
Knowledge Seeking & Sharing	*Have common view* on ecosystem status and measures	*Gather sufficient knowledge* before formulating decisions	*Improve knowledge base* and make it beneficial for long run
	-	*Use developed knowledge* as a guide to manage other areas	*Act as a role model* to develop EBMM in other areas
		Ensure new methods/approaches were understood by old sectors	-
Foresight	*Develop networks* relevant to pilot's work	*Establishment* of long lasting collaborative networks	*Develop the network* to achieve the ecological goals to attain a better marine environment

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Stakeholders' Expectations for Participation			
Categories	**SA**	**SBS**	**8+**
	Create a holistic plan to be used in different scales	*Build concrete measures* for the future	-
	Restoration of marine ecosystems	*Make an impact* before the ecosystems were beyond rescue	-
Involvement in decision making	*Increase awareness* in municipalities	*To ensure* the project's outcome to reach the higher level (authority)	*Improving cooperation* with the authorities
	Have an influence in decisions, processes and regulation	*Ensure* higher authorities listen to participants' voices for decision making	-
	-	*To ensure* participants' opinions are taken into consideration	

Table 7. Stakeholders' expectations for participating in the pilot projects

The expectations in the SA was to have a collective approach towards the pilot's work. To do this it was important to establish a clear and a common view of the ecosystem by engaging in dialogue and sharing perspectives. Some stakeholders reflected that the pilots' work should be an effective process, for it to be rewarding in the future. In SA, some participants conveyed that their expectations for the pilot's outcome were not very high because of a common reason where the challenges faced provided too much uncertainty. Whereas some had not yet had time to develop any expectations. Another participant expressed having low expectations for the whole pilot, but had high expectations for the work in their specific working group.

In SBS, there were more concerns of the outcomes of the project than of expectations of the project's future impact. One group of participants became pessimistic about the outcome of the project as they perceived the uncertainty of the project's purpose. Contributing to the sense was the unclear delimitations that made expectations difficult. Another group of SBS stakeholders appeared interested in taking part of and influencing decision-making. As stakeholders their stakes were high, they were interested in that the right management was implemented. To accomplish the right type of management there was an understanding of working with the other working groups and to be able to appreciate the complexity of ecosystems and avoid solving the wrong problem.

In 8+, an overall positive view of the pilot was encountered, and there was a large enthusiasm in collaborating with SwAM in this context. One interviewee expressed that it was about time for this project to happen and that they had wished for this to happen 10 years ago. In 8+, the expectations were to form a clear and effective knowledge base that was useful for the project at its current phase and in the long run. In 8+, stakeholders stressed the importance of the two-way collaboration concept.

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This implied a dialogue with an exchange of ideas and collaborative relations between stakeholder levels (local to higher authorities). There was a common understanding that 8+ fjords should be the role model and inspiration for other areas with EBMM plans.

5.3.3 Perceived Working Climate

The following section will provide an insight on how the working climate or the situation of the pilots looked like. For understanding this, the perceptions of the interviewees based on the different categories that help in judging a working climate were compiled (*table 8*). From the statements compiled in table 08 it can be viewed that the working climate was good enough but there was more room for improvement. Some common feelings were to be viewed between SA and SBS, where the imbalance in the number of stakeholders participating led to power differences and the excessive number of stakeholders representing a particular group led to them gaining more attention from politicians.

Categories	SA	SBS	8+
Democracy	Administration was keen on *ensuring openness/ transparency*	Entire process was *open and inclusive*	-
Dialogue/ Communication	*Good communication* between stakeholders between different levels.	*Friendly discussions*	-
	Good dynamics and balance of shared opinions	*Participants were encouraged* to share their perspectives and dialogue more if needed	-
	Good communication with the County Administrative Board	At times *talking around the bush* was experienced	-
Comfort	-	Working with already known people led to *safe work space* and improved relationships.	-
Activity	Stakeholders were *quite active* in the process related activities	*Increasing level of involvement* from stakeholders	Stakeholders with *high commitment* levels and *consistency* attend the meets.
	-	-	Some stakeholders valued *objectivity to not influence* others with their opinions.
			Involvement from the steering committee was *demanded*

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Categories	SA	SBS	8+
			Inactive County Administrative Board
Differences	*Good working climate* remained even during discussions and diverse opinions	Pilot's *climate was remained good* between different stakeholders present	*Presence of differences* between HaV and the pilot's steering committee
	Participants perceived *strong opinions* leading to jargon	*Difficulties* to accept perspective when differences in opinion emerged	*Presence of on-going conflicts* based on the goals of the pilot
Dominance	*Imbalance between number of private organisations* present compared to public sectors	*No experience of hierarchy*	-
	Power differences experienced at times during unequal power relations between stakeholders	*Psychological effects*: politicians paying more attention to well represented groups	-
Participation	*Inclusion of new stakeholders* slowed the process	Involved stakeholders included *more interested stakeholders*	*Public participation* was encouraged and needed
	Inconsistency in the participation rates	*Necessary improvement* of stakeholder involvement	*Age hindering* previously active members' participation
	Concerns about the pilot's need to bring in more stakeholders to increase diversity	-	*Conflict leading to no participation*, like the conflicts with fishermen
Narrow Perspectives	*Narrow perspectives* present at times	*Stakeholders participating in clarifying* perceptions based on lies and myths	-
	Low acceptance rates for the different perspectives shared in the forum	-	-
	Collaboration within groups was easy with already familiar members	*Synergies* between groups were visible and developing	*Good collaboration* witnessed

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Categories	SA	SBS	8+
Collaboration	For groups formed with unknowns took time to establish relationships and a common view	*Mutual connections* with other groups established a common ground for work	*Public (locals) acceptance and collaboration was valued* to be substantial for the process
	-	-	*Good cooperation* with the County Administrative Board
Attention & Attributes	*Concerns among stakeholders on others lacking interest* when they do not find the topic discussed to be relevant	Specific stakeholders raised *concerns on not getting enough attention* from other groups	-
		M*ore attention was given to stakeholders* with loud voices	
		Municipality had more *power and legitimacy*	

Table 8. Perceived working climate in SA, SBS & 8+.

There were some process related concerns dealing with the presence of narrow perspectives and lack of wanting to listen to other perspectives/voices, which were asked to be improved by bettering the process. The stakeholders participating were able to digest the fact that collaboration between groups will take time. Since the whole project of 8+ was different when compared to the other two pilots, on-going conflicts based on the goals of the pilot were to be observed by the participants. For the differences that were viewed between HaV and the steering committee, an advice provided by the stakeholders was for both parties to come to an agreement, so that the process could move in a smooth manner. It was commented that the above-mentioned differences might cause confusion for the project leader of 8+, since he was the common link between HaV and the steering committee. At times it was remarked that, in the past the authorities were the reason for dragging down the speed of the process because of not being able to get the decisions passed through easily.

5.3 Four Principles of A Multi Stakeholder Process

The following section will describe the networks based on the principles of respect, equity, legitimacy and trust in the processes of the multi-stakeholder pilot networks. The narratives from the stakeholders from the different pilots were combined as there were clear similarities in all pilots. The differences are managed and mentioned respectively as they occur.

5.3.1 Respect

The participating stakeholders confirmed that all the perspectives shared in the stakeholder forum were considered with equal respect by the administrators. It was also expected from the listening stakeholders to show the same respect. The administrators were particular about providing space for stakeholders' thoughts, ideas and knowledge. It was appreciated that the administration avoided organisational lobbying. They divided the talking space equally among participants and all

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stakeholders perceived to have received good quality treatment. At times, diversity in the pilots was a challenge as multiple opinions clashed. During these occasions the tone was ensured to be always respectful to maintain a good work environment. As described by a participant during a meeting in 8+, that researchers had to agree to disagree, but they were considerate enough to the parties involved by understanding and listening to their opinions. Another was the amount of knowledge created during the pilots which would require action long after the end of the pilot project. Everyone's observations and experience were considered to be important and were treated to be valuable sources. In the different pilots, certain stakeholder groups were perceived as dominant by taking over meetings due to their huge representation. Some of the stakeholders perceived the imbalance toward participants who had less power. At times, there were some stakeholders in SBS, who felt that their opinions were not listened to by others and their concerns were noted to be neglected.

5.3.2 Equity

Participants perceived that most of them had been treated in an equitable way. The administration made certain that no individual stakeholder or groups were being ill-treated or had the feeling of being treated in an uneven manner. It was reminded to the participating stakeholders that they all had an important role to play in the pilot. There were perceptions that some stakeholders had more power than they had legitimacy. But there were no perceived differences in power even with the presence of stakeholder from various power levels. The previous statement held true in most of the cases, but some participants were able to feel it occasionally. Participants felt that they were able to put forth their opinions freely in the forum and a democratic approach was able to be sensed. At times equity was questioned by some participants because of the missing stakeholders, who were said to not be participating due to varied reasons. In SBS, one anomaly however was the worry that the pelagic fisheries had received or experienced a sour reception or the feeling of everybody being against them. The administration felt that it might have contributed to them not participating fully that eventually led to them not coming to the meetings.

5.3.3 Legitimacy

The stakeholders in the pilot were guaranteed to have high literacy rates with a broad experience in their respective fields and were remarked to have good knowledge. In general, participants conveyed that stakeholders gain more legitimacy by living in the area. This was within the scope of the pilot with chances of gaining more knowledge. It was implied that people with practical experience in the target areas were perceived to have more legitimacy. The legitimacy of information was valued in the forum, for example, at times, personal opinions dominated the discussions and lacked back up, unlike the scientific knowledge. In the weightage between local and scientific knowledge, they were observed to be valued quite equally. In 8+, local knowledge was estimated to be salient because sometimes retrieving particular information in a scientific way was affirmed to be difficult. Some stakeholders from SA and SBS considered the structure of the pilots' work to not be legitimate enough because of the variety of issues put forth by the diverse range of stakeholders. Some had also used the word "fuzzy" to describe the pilots. In addition, the project's broadness and the presence of many stakeholders/working groups was said to influence legitimacy.

5.3.4 Trust

As in many large stakeholder networks with passionate participants, history, and poles of strong advocators of interest, there were existing trust issues between participants in the pilots. The trust issues were however not perceived to be of any wide spread or troublesome character. There were

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some perceptions stating that some conflicts had shifted over the past decades. The question of who had the right to use the resource had now shifted to "*How are we going to get it back?*". For example in SA, the main conflicts were based on "*How the archipelago should be managed and what should be prioritised?*". The conflicts were not perceived to inhibit the work much and though many participants had identified a number of large conflict areas, they experienced being met with respect. The stakeholders were aware that trust building would develop in a slower place because of the time taken for the group to sit together, build dynamics and eventually reach its comfort zone.

The platform provided by the pilot was said to aid stakeholders who have contrasting opinions to sit together and discuss things rather than accusing each other. The pilot had brought stakeholders together by providing room for dialogue and building trust. When the participants were asked if trust issues were present in the pilots, the results were mixed. Some said trust issues were obviously present and others said they were yet to experience it.

An example of this was that some participants had conflicting opinions in the past, but the pilot work had brought them together and helped them have a dialogue and provided a room for trust to blossom. Mixed results were obtained when asked if trust issues were present in the pilots, some said trust issues were obviously present and others said they were yet to experience it. The main trust issues perceived by the stakeholders were caused due to:

- Inherited conflicts and long-lasting/already existing issues between certain stakeholders
- Lack of involvement from people in power
- Scepticism towards the process and presence of different stakeholders leading to lack of belief on others
- Internal issues within the same working group
- If there was lack of administrative involvement in problem solving
- Stakeholders having their own goal, agenda and image

With the aim of overcoming the trust issues, the interviewees had suggested some considerations on how they could be addressed. They were:

- To involve in proper dialogue and use legitimate resources as backup, like reports and researches, to develop the understanding with others who were in conflict
- To make things more clear by elaborating for why one has a particular stand/perspective towards the opinions shared
- To emphasise the presence of why a particular stakeholder was present in the network

5.4 Communication and Meetings

The statistics of the interviewed stakeholders' preferences on what mode of meeting they considered to be effective, *table 9*. Hybrid meetings were not conducted by any of the pilots when this study was conducted, but it was reflected as a preference by some interviewees.

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IRL	10
Online	1
Hybrid	7

Table 9. Statistics on the preference of the mode of meeting.

The differences experienced by the interviewees between the digital and IRL pilot meetings along with its pros and cons, *table 10*. The reason for not having individual statements for the pilots was because the stakeholders provided general information regarding the modes of meeting which were conducted during the project.

IRL		***Digital***	
Pros	**Cons**	**Pros**	**Cons**
More focus/engagement, structured and high energy	*Difficulty to travel*, Eg., Due to long distance	*High participation rates* - Flexibility to attend meets and no travelling needed	*Hard* for the administrators to *analyse* the participants during the process
More productive, official & high conversational flow	*Difficulty to find time*	*Easy* for members to find time to participate	*Lack of energy* and less productive
Face to face dialogues *worked well in person*	*Expensive mode* of meeting	*Not a costly mode* of meeting	*Considered boring* due to lacking physical meeting
Suitable for workshops	-	*Better discipline* witnessed	*Technical barrier*: Older participants inexperienced in using technology
Build trustful relationships while meeting new people	-	*Easy* for members *to find time* to participate	*More digital knowledge needed* to conduct and organise
Enhanced creativity among groups	-	*No disturbance* while others present/talk	*Not being able to view facial expressions*
Easier to talk and helps with having personal discussions	-	*Worked good* with already familiar people and for smaller meets	*No real life* interactions
Necessity to *work with more senses*. Able to easily ready others' intentions	-	*Easy to avoid* lobbying individuals or organisations	*Need for high* preparation time
More informal talks during the break	-	*Ease of getting people to move around* during meets (allocating	*Difficult to judge* stakeholders' power and read each other

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IRL		*Digital*	
Pros	**Cons**	**Pros**	**Cons**
		members to breakout rooms)	
Stakeholders were *not able to jump off* the meetings	-	*Easy* document access	Some people *exited* the meet if they *found it to be uninteresting*

Table 10. Pros and cons of online and IRL meetings.

5.5 Challenges

Stakeholders involved in the pilots' work had reflected on the past, present and future challenges that were hindering or slowing down their work in the pilots. The reason for categorising the challenges based on the three aspects they reflect rather than compiling all problems as one is because a pattern in the expressed challenges were viewed which were in accordance to *Resource, Process* and *Personal* aspects. The worries and uncertainties of the stakeholders were compiled together with challenges (*tables 11, 12, 13 and 14*).

Challenges: Resource Based		
SA	**SBS**	**8+**
Not enough time to reach goals and agree on shared and discussed things	*Not enough time to attend meetings*, go through Humhub documents and do some homework in between meets	*Difficult* for already employed stakeholders in other organisations *to find time* to attend the pilot meetings
Need for large amount of resources (Eg., Legitimate mandates, finances)	*Not enough time to be part of other working groups work* (if interested) and exchange information	*Limited time to attend the pilot meets* for some stakeholders, irrespective of their commitment to the project's work
Tentative availability of resources for future usage	*Not able to share some data* due to data restriction laws	*Need to analyse the amount of resources* needed for the future
Low availability of money for the project	-	*Need for more working staff* with practical knowledge on the ecosystems

Table 11: Resource based challenges of SA, SBS & 8+.

Common stakeholder concerns about resources availability for the project were raised among the participants in the pilot projects too. There was an increased need for time as it was in higher demand among the participants in all three pilots. Stakeholders were worried that the reduced/limited time was hindering them from arriving at a common ground among such a diverse setting, not being able to work on the project apart from the meeting times and the limitation smashing some stakeholders' enthusiasm to gain knowledge from other groups' work. Apart from this, SA and 8+ had general concerns about financial limitations in the future hindering EBMM implementation. In 8+, there was a

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need to have more practical people working with them who had hands-on experience in the respective area, than theoretical individuals.

Challenges: Process Related		
SA	**SBS**	**8+**
To maintain equal participation from the different working groups and ensure equal voice	*To ensure the pilot's work reaches the higher authorities*, for them to regulate it	*Demand for more collaboration with the locals*. With an additional need for the project to have a more local reach
To gather right data, that was beneficial after the project too	*To ensure scientists to keep the politicians informed* on how ecosystems work together	*Difficult to process* the variety of perspectives shared
Some stakeholders were *unaware on what role to take* during the project's work	*Address knowledge gaps* - Some stakeholders were unable to interpret the information shared by another sector	*To ensure the participants were open* to being receptive to other opinions
Need for more clear definition of the project's goal to retain the participants and not lose them due to lack of clarity and uncertainty	*To ensure the pilot moves further than just discussions*, because of the worry for the pilot becoming a platform where conversations occur and no actions were taken	*More efficient meetings needed* - Not asking the right question during discussions led to not coming to the point directly
Clarity needed on what to achieve and deliver in the project because of stakeholders questioning their time invested in the pilot's work	*In need of a mandate* to find out how the time invested by the different stakeholders were going to pay off	*Uncertain on where the project was going to land* (referring to its goal)
Disrupted process flow due to lack of regular meetings	-	*Periodical elections leading to inconsistency* of members present in the steering committee
No work connection to be seen yet with EBMM	-	*More time taken* to grant applications and permits
Difficult to work in a vast area that has a complex ecosystem	-	*Public has less knowledge* about the happenings below the water surface

Table 12: Process related challenges in SA, SBS & 8+.

Common concerns raised in all three pilots were the uncertainties on the project's goal and also the direction the project had set its motion. Participants had stated the risk of losing participation of some stakeholders if these uncertainties were not addressed in the near future. In SA and SBS, participants had a valid worry on knowing how the effort and time invested by them were going to pay off. This

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worry emerged due to the absence of proper mandates in the pilots. In SA, challenges were to avoid bias, dominance and ensure equal representation by including the right number of stakeholders, moreover the complexity and vastness of the ecosystem was considered a challenge to work with. In SBS, stakeholders really wanted their work to bring about a change thus making them want their work to reach the higher authorities. In 8+, an interviewee had worried about the public not being much aware of the happenings in their ecosystems and stressed on the importance of educating them with an intention to create awareness. Another challenge expressed in 8+ was elections affecting the stability of the politicians in power present in the steering committee. This challenge was also applicable for the other two pilots because of the need for politicians' presence to take things forward in the pilots.

Challenges: Personal		
SA	**SBS**	**8+**
Presence of different perspectives within the same group	*Diversity in some groups* are homogeneous, leading to too much agreeing with each other	*Confusion among stakeholders on project's leadership* due to the presence of two different control systems (HaV & Steering committee)
Building strong connections between working groups	Leading groups *hindered from building relationships* with other stakeholders	*Attention to certain individuals* in need of technology assistance in digital settings
Difficulty in getting the right stakeholders to join the pilot	*Meetings were tentative* due of the project's broadness	-
Difficult to make all participating minds to view the same problem	-	-

Table 13: Personal challenges in SA, SBS & 8+.

In SA and SBS involving the right stakeholders in the pilot was considered difficult. In SA, having varied perspectives was said to be hard to manage. In contrast, a stakeholder in SBS worried that too much consensus was not ok for the group and stated that this happened due to homogeneous group formation. A distinctive challenge put forth by a group leader for one of the working groups in SBS was that, being a leader was hindering them from having strong relationships with other stakeholders. 8+ had developed confusions in the minds of stakeholders due to the presence of two control systems (HaV and Steering committee), which acted as a challenge in itself. Another challenge was the need for more aid for certain individuals who were not well versed with technology, so that they could be up to speed with the pilot's work.

Challenges: For Administrative Level		
Resources Based	**Process Related**	**Personal**
No extra finances available for compensating the participants	*Complex to work* in a vast area with a huge number of people	*To address different opinions* shared in the forum
Need for more financial	*Need to develop* design to	*Adoption of bottom-up*

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Challenges: For Administrative Level		
Resources Based	**Process Related**	**Personal**
resources as its future availability was tentative	attain good dialogues	*approach when* participants are used to the top-down working
Time, a crucial factor for participating in the meetings	*To identify ways to ensure value creation* of the pilots' work	*To identity stakeholders with claims* to join the process
-	*Need for stakeholders* to be present in *equal terms*	-
-	*Need to define project's goal more clearly* as it was unclear for certain participants	-

Table 14: Challenges (Resource based, Process related & personal) of the Administrative level

5.7.1 Suggestions

Interviewees not only reflected on the challenges they were facing, but they also provided some suggestions on how some of the above-mentioned challenges could be addressed (*table 15*). The reason for not dividing the suggestions based on the different stakeholder levels and pilots is because they were viewed to be common potential solutions to the challenges put forth.

Suggestions for Challenges Faced		
Resource Based	**Process Related**	**Personal**
Improve working groups' efficiency by organising groups based on the stakeholders' regular work	*Ensure proper facilitation* by maintaining good dialogues, critical thinking, and avoiding lobbying organisations	Perceived powerful individuals or groups *should leave space for other stakeholders*
Combining working groups with other relevant groups to address the challenge of limited resources	*Improving project's efficiency and effectiveness* by using the digital platform more	*Participants need to have holistic perspective* to understand their role in the project and the forum
Improve knowledge/awareness by educating locals and people in general	*Put efforts into explaining the process well* to reduce uncertainty	*Dialogue as a means for social learning* and participants must be patient enough
-	*Improve discussions' efficiency* by putting forth problem related questions directly rather than asking participants to come up with questions	*The County Administrative Board could play a major role* as they have experiences dealing with different perspectives
-	*Identify ways of improving the continuity of work* by providing	*Reduce conflicts* by agreeing to disagree and ensuring respect

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Suggestions for Challenges Faced		
Resource Based	**Process Related**	**Personal**
	homework in between meets	throughout the process

Table 15: Suggestions provided by the interviewees on the challenges faced in the pilots

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6. Analysis

In this chapter, comparisons between the pilots' findings are performed, followed by comparing the compiled results to the literature and answering the research questions.

6.1 How do the three pilot projects contribute to EBMM?

6.1.1 Comparison SA and 8+fjords

Although SA was a new network it was well established, and its stakeholder network was mostly based on an old project (Three Archipelagos). For SA, the EBMM pilot project could be compared to a new game on the same playground with the same players as previously. The pilot was located in an area of considerable previous activity. The 8+ fjords network had existed for 20 odd years and was used to working with the municipalities in the southern county archipelago. Both networks had functioning organisations and were connected to the municipal level and used regional collaborations. The 8+ fjords developed collaborations with the municipalities, for example the municipal ecologist. Through the municipalities' network, the 8+ fjords connected to decision-makers and stakeholders in the region, such as the County Administrative Board. In SA the closeness to Stockholm facilitated participation of local, regional stakeholders and national agencies.

8+ was well known by locals, as the ocean and its health had for long been deeply embedded in the history and culture of the region. Historically the 8+ fjords network had limited experience with public participation and the locals perceived it to be even less with the pilot project. The main reason for avoiding public participation was the worry that it would have affected the project's efficiency. However, public participation ensures the robustness of the process and keeps the process's quality high (Reed, 2008). In joining with the SwAM project, 8+ saw the potential of gain in knowledge sharing and co-creation which could compensate for an efficiency loss. In SA the public was included.

Both networks had developed efficient information channels to inform about ongoing work. The SA network used information letters to the public, followed by interest expressed from passionate followers and the 8+ used their Facebook page and website to inform the locals. These information channels proved to be useful in the invitations of stakeholders to the pilot projects.

The network's strategies to invite stakeholders was similar: to invite any voluntary individual willing to work with and champion the issue. The outcomes of the processes were different in diversity. With the intense work by the project manager in 8+ fjord, the network managed to invite a more diverse cohort than the SA network. In the SA cohort, many of the participants knew each other quite well from earlier projects, which led to homogeneous group formations. The accepted invitations were at the start few in SA since the network developed a project fatigue. There was a perception in the pilots that there was a hesitancy in the large-scale fishing industry to participate and politicians were also missing.

In 8+ fjords and SA pilot projects developed in the SwAM project. The 8+ fjords used to have close contact with local stakeholders which was replaced by the invited stakeholders from the public. Over the years the 8+ fjords developed a certain degree of independent governance. In the SwAM project, the direction of the projects was decided by SwAM. This had led to confusion for some stakeholders because of not knowing which was the actual control system (SwAM or the steering committee).

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6.1.2 Comparing SBS with SA and 8+ fjords

The different preconditions of the pilot areas lead to different identification and invitation processes to the SBS pilot. Both SA and 8+ fjords were located in areas of considerable previous activity which facilitated the stakeholder identification and invitation process. The SBS pilot was new and had neither predecessors nor active local networks engaged in similar projects. So, the stakeholder identification and invitation process were based on SwAM's networks. The invited stakeholders came from different socioeconomic structures which created a dynamic interaction between the stakeholders. The SBS's successful invitation process was apparent during the online meeting in May 2022 based on the attendance, diversity, activity, and enthusiasm during the meeting.

The established networks were at the setup of the pilots already working with a project manager who developed ways of working. At the time of the project (spring 2022), the SBS network lacked a project manager and a steering group. At the start of the pilot the network was managed by SwAM's national project leader and project coordinator. The SBS project manager was assigned later in the spring.

Both concepts of over and under participation were considered to be issues in all three pilots. In the SA, the wide invitation affected the balance between stakeholder groups. There was a perception of an overrepresentation of private organisations compared to public organisations. At times in SBS, groups with high numbers of participation became loud and were perceived to get more attention than other groups participating. In one of the SBS working groups, members thought that the outcome from the working group would benefit from a bigger diversity in the group.

In 8+fjords and SA missing stakeholders were the fishing industry. In SBS, stakeholders such as cottage owners and real estate agents were believed to contribute with important perspectives to the issue.

A recurring issue in SA and SBS pilots was the understanding of the project's purpose, which was seen to be a common issue for some participants. In both pilots the goal was perceived as unclear. This was more predominant in the SBS pilot. A reason could be the recent start of the pilot area and participants still were learning about the issue and finding their roles. There was more confidence in the SA pilot. The uncertainty also developed low and uncertain expectations in SA and SBS despite SBS's enthusiastic beginning. If the perceptions of the process being too slow prevails, then participants may start to drop off from the projects.

6.1.3 The EBMM Network

Project management by inviting everyone, aimed at creating learning experiences and build trust for the EBMM processes. Fair number of interests were expressed from the locals to participate in the pilots as several of the stakeholders had contacted the project management. The management was interested in a broad stakeholder representation and welcomed stakeholders with interests in social sciences, history and culture. Stakeholders such as local businesses, County Administrative Boards and politicians showed less interest to participate in the pilot projects.

The use of already existing networks and experiences for stakeholder identification and invitation process was a good way of identifying and inviting relevant stakeholders (Hemmati, 2002). The member count on the Humhub forum could be used as a proxy to view this issue, as SA had almost 80

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members and the newly started area of SBS which had completely relied on SwAM's networks had nearly 100 members. The large attendance at the startup meeting also acted as a proxy for a well-functioned invitation process. This success could be traced to the comprehensive networks of SwAM and a large interest from society who had a need for getting a better picture of their marine areas.

The open invitation led to the involvement of stakeholders with varied attributes, because some participants were perceived to have more power than legitimacy. This was not an issue for the pilots as the expressed stakeholder interests were received and weighed equally by the administration. Also, one of the pilots' preconditions was for the administration to treat the involved participants in a respective and equal way rather than having any bias and they had been true to that. Despite having invited a wide range of stakeholders, some groups were viewed to be more or less unevenly distributed. This issue was due to the imbalance in the number of stakeholders representing a certain group and providing the stakeholders with the choice of joining whatever working group was of their interest, thus leading to the unevenness.

SwAM's set up of the project was experimental with an aim to create and develop new management methods for EBMM. The aim was also to build on passion, focus and specific interests from a large diverse stakeholder group with a core focus on bottom-up working. The management did not provide participants with any issues to work on, instead participants were allowed to work on the issue that they were curious about. This unique effort sounded interesting, but it had its downs. Given the short time duration of the pilots, stakeholders expressed that it will be difficult to reach an understanding, a common ground and view things in the same manner. Time was a precious/valuable asset for the pilots' participants and careful consideration of all the distinctive perceptions shared will demand more time. In the future, if some perceptions are neglected, then the whole project will create a disbelief for groups whose opinions were not taken into consideration.

The 8+ fjords were excited to participate in SwAM's EBMM project because of their longing for deeper collaboration with SwAM and wanting to share their knowledge and experience over the last two decades. This viewpoint was based on comments from the interviewees about wanting more efficient communication and collaboration with SwAM for a long time, a wish to learn from others and to act as a role model.

Concerns were raised regarding knowledge gaps present amongst some stakeholders. The administration was trying to solve this by conducting knowledge seminars, where scientists gather the needed information along with info requested by the participants and deliver them accordingly. It was expressed that there might be chances for the shared information to not be of good clarity for some participants due to their varied experiences. But when this question was put forth to the scientists in an effort to know if there was such a knowledge gap, they said that it was not the case since the participants were guaranteed to be legitimate due to their high experiences and literacy rates, thus confirming Hemmati's text about involved stakeholders being legitimate.

Expectations are important to consider as they have great power to affect the process in both positive and negative directions. Low expectations could affect the effort put into the work and high expectations might lead to later disappointment with increased conflicts and decreased trust as a consequence (Reed, 2008). High complexity was viewed in the pilots because of the presence of different expectations from the stakeholders, due to this, not all stakeholders were able to see the same picture and some found it difficult to make others understand their perspectives.

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The pilot project's goal was clear to the pilot 8+ fjords. Moreover, 8+ fjords had a special position in the project as they already had a working organisation. The participants in SA and SBS were not very clear with the project's goal and had mixed perceptions. A reason for the differences in the goal perceptions could be that 8+ fjords was the last to join the EBMM project and SwAM would have had time to process and formulate a clear goal. This may also explain why SA and SBS pilots have a mixed interpretation of the goal, since they were participating in the goal formulation process.

The administration's purpose could differ from the purpose of the participants, as the participants' own interests in the represented issues were perceived as the main driver and precondition for the project to proceed. SwAM's administrators had expressed that the misalignment in goal perceptions were not contradictory to a well-functioning process as long as the process was designed for it and they were aware that perceptions may differ and were okay with it.

6.2 What gaps and challenges exist in the pilot projects?

The gaps and challenges were compiled in relation to the pilots' Process, Learning outcomes and Levels of Engagement.

6.2.1 Process

SwAM possessed, as the responsible governmental agency for marine matters, considerable experience in running projects and maintained a comprehensive network consisting of a substantial diversity of people, organisations and agencies, and a well practised ability to reach out to relevant interests.

SwAM's aim for stakeholder diversity in the process was in accordance with the belief that more the perspectives shared, more comprehensive the composed picture of reality, that yields more inclusive and publicly embedded decisions and actions (Reed, 2008, Hemmati, 2002). They had succeeded in engaging a wide range of stakeholders in all pilots. Recreational fishers were well represented in all projects, as well as researchers, who were there on mission to develop and update the knowledge base. The administration ensured to provide an atmosphere that felt inclusive for the participants, the voices of the stakeholders were given importance and listened to respectfully (Hemmati, 2002).

Even though SwAM's process had its benefits and were complying to the literature gathered for this study to a good extent, challenges in the process were expressed in relation to number of stakeholders, stakeholders' participation and facilitation of the networks. The challenges and their causes are as follows:

Power issues had been felt between the participants because of the difference in the number of stakeholders representing an organisation, resource differences, etc, (Hemmati, 2002). The lack of resources is risky as it leads to distrust among the stakeholders, eventually affecting their participation (Hemmati, 2002).

Due to the number of participants and diversity present, the different perceptions of the stakeholders were a challenge to deal with in the first place. The added challenge of the lack of time (implying the limited duration of the pilot as well as the limited time available for the participants to work) acted as a hindrance for not being able to agree on the goals and viewpoints which were shared in the forum.

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The administrators had ensured to invite stakeholders in an extensive manner, but there was also the problem of missing stakeholders. But the involvement of more stakeholders to ensure equity might have paved the way to dominance by some stakeholder groups and finding a balance by having an optimum level of stakeholders for avoiding the risk of over or under participation were important (Luyet, 2003). With a wide range of stakeholders present in the pilot, achieving trustful relationships among all was a challenge and building trust was to have its ups and downs. In addition, complexity was also linked to the vast area worked upon and the pilots' broadness was quite a lot for the stakeholders to digest.

In the project's attempt to reach out to as many different stakeholders as possible, some limitations had been set to who was considered a relevant stakeholder and who should not be invited to participate. The agriculture sector was deliberately excluded from the project because there were other projects regarding agriculture and coastal eutrophication running in parallel, which would have made participation in this project redundant. Another exclusion was not including any national representation with an eye to be able to focus on only local representation. But even after these exclusions, administration and certain participants found excessive participation of stakeholders to be a challenge.

SwAM's connection to individual stakeholders such as local residents and private business practitioners was not always well established and this might have led to many stakeholders ending up under the radar. An example of this issue was confirmed in SBS, as they were not confined to any previous networks, they were able to identify new stakeholders and groups who could be potential for the process's knowledge development.

Irrespective of the facilitation process being merited, there were still some challenges emerging from the pilots in accordance to it. They are as follows:

The statement of inclusiveness (Hemmati, 2002), was held true for some participants, but not for the rest. Even though administrators ensured respect among participants, some stakeholders were not ready to be receptive. The Renewable Energy representatives from SBS had expressed their concerns about not being heard at times and also were feeling neglected. This was going against the description of creating a proper atmosphere for a good process (Hemmati, 2002). Another inclusion related challenge was when some stakeholder groups felt an unwelcoming experience despite the forum being democratic and inclusive. The reasons were mainly due to the presence of ongoing conflicts with other groups present in the pilots and due to bitter past experiences.

In general, there were concerns expressed about the pilot process being too slow. Participants stated that people might start dropping out if the groups won't get the right facilitation/guidance to be able to drive it forward and get it running. An interviewee had expressed that they will end participation if things did not get rolling soon, and put their time into other things which they perceived as more fruitful.

A specific challenge for 8+ fjords was the irregular attendance of the steering group members (politicians). Their irregularity hindered them from not viewing the way in which HaV was working. This led to both parties having different visions rather than having a collective approach. It was suggested by stakeholders from the same pilot that both parties could move together in the same direction to be more efficient.

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Conflicts and trust issues due to past experiences could be a major drawback for the process (Hemmati, 2002), but the following example was an experience on how this challenge could be overcome by the pilots' process. Administrators ensured that participants had dialogues instead of arguments, but there were incidents where a certain party was upset and expressed that to the whole forum. Towards the end of the meet, the administrators made both the conflicting parties to have a dialogue, thus helping them understand each other's point of view.

6.2.2 Learning

Administration made clear that perspective sharing was not only about sharing a viewpoint but it was also about learning and knowledge sharing. All information that was being discussed during the meetings and suggestions provided by the members in the working groups were made transparent and accessible to all the participants in the pilot through the Humhub, thus ensuring free and equal access to information (Hemmati, 2002).

The MSP's sole focus of the bottom-up approach brought forth certain challenges. The stakeholders familiarity with this approach created uncertainty and in some cases discomfort. They are expressed as follows:

Some stakeholders were confident enough to know what roles they had to perform in their groups, but in contrast there were others who did not have an understanding of what to do. Some had taken the time needed to understand what they were actually doing in the pilot. This was an issue because some stakeholders found the whole bottom-up approach to be vague as they were waiting for things to be served to them by the administration. This was well connected to their previous experiences of working in a top-down manner.

The followed bottom-up approach by the management had paved the way for self-organised learning for the group members. The administration with the help of the facilitators were focused on preparing the process which included planning the meetings and arranging other relevant things. But the participants were given the freedom to work with what they found to be interesting in their working groups and were advised to develop questions to focus on. They were the ones responsible to bring about and drive the expected change. This provided participants with some control over the manner in which the process was conducted (Hemmati, 2002). But, this way of work was quite challenging for some members and groups who were not used to such a working manner, as they were expected to develop their own issues, organise the work and also manage themselves accordingly. Apart from the big meetings, no facilitator support was provided to them during the small working group meets, thus leading to slow work advancements.

The facilitators ensured that the forum was not being used as a place for stakeholders to start preaching/venting. Even though the facilitators tried to avoid biassed communication/domination during the meets, some stakeholders still used it as a venting platform. This issue was well related and connected to the purpose and intention of the stakeholders' participation in the pilots' processes.

The literature (Reed, 2008), talks about the importance of having a common understanding on the purpose and goal of the project, as the process of the project can be disrupted or slowed down if there is lack of clarity on what has to be achieved. There were some differences in perception between the administrators and the participants, which was due to lack of clarity on the project's purpose, and partly as a deliberate consequence of the process design.

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Only few stakeholders had good relationships with the other working group members, whereas others had good relations within their working groups but not yet with the members outside the groups. Initiation of good dialogues with the stakeholders who were yet to build relations and who had contradicting opinions could have been helpful if more IRL meets were conducted. This would eventually have helped to reduce trust issues among the pilot participants.

Hemmati (2002), had explained about having a consensus process to provide participants the platform to work together as equals without imposing the authority of one group over another. This case was true for some groups who were able to see chances of collaboration with other groups. But consensus building was not aimed for because one of the process's main intentions was for participants to not arrive at consensus. Instead, it was to ensure that the participants understood others' points of views. This seemed to be in relation with the literature Katsanevakis et al. (2011), which stated that it was naive to get the idea that all stakeholders will come to consensus on the decisions being made.

6.2.3 Level of Engagement

The challenges affecting participants' engagement levels were related to the availability of resources, varied expectations and mode of communication/meets.

A concern raised repeatedly in SA and SBS pilots was the lack of resources. There were times when some stakeholders had to do the pilot's work after their actual work, which they expressed to be a bit hectic. During such times, administrators had ideas of providing extrinsic motivation by financially compensating those stakeholders, but limited resources did not aid that. Accessibility is an important aspect which includes having sufficient resources for an MSP to be successful and run for the complete project's duration (Hemmati, 2002).

Another resource-based challenge was availability of time. As expressed by administrators, the time aspect could be a possible reason for missed participation in all pilot areas, not only for politicians but for other stakeholder groups too. Stakeholders' commitment levels were high but they were finding difficulties to contribute to the pilot's work because of either being salaried employees working for other organisations or living in a distant place. This challenge was addressed to an extent as most of the conducted meetings were online.

In all pilot areas, participants expected to develop their networks, and that the project was to act as an important part in developing EBMM processes. There were, however, some differences between the pilots. In SBS, many expectations encompassed inclusion factors, influencing decisions and making authorities listen to more perspectives. This is a consequence of authorities making plans and large stakeholders prospecting and operating in the area, which might not always be to the liking of the locals. In SA, there was a greater emphasis on learning, which was related to the extensive history of projects, a wish to develop the processes, and also the larger share of authorities participating. For 8+ fjords, expectations were more about improving their own operations, inclusion of locals and relationships with agencies. This originates from them already running a steady operation with well-functioning processes and having confidence in these processes along with a sense of autonomy and independence. Their high attendance in the area and close connection to both decision-makers and locals also reduces the risk of nasty surprises after decisions were made.

Overall, SA had the largest set of low expectations and this might originate from the experience gained from other projects which were carried out in the area and possible project fatigue, but also due

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to the commonly perceived unclear objectives. SBS had the most unsure expectations because they have less history in these kinds of large collaborative projects than the SA pilot. Whereas, participants in 8+ fjords shared mainly high expectations because of their previously mentioned enthusiasm.

The pandemic had been a main hindrance for arranging more IRL meets, so there were less face-to-face interactions and this made it quite difficult for the administrators as well for the participants to build relationships. Face-to-face meetings are substantial because of it aiding in building trustful relationships with other participants (Hemmati, 2002).

The level of engagement was higher in IRL meets, but more participation was achieved during online meets. It was apparent in table 9 that the preference for online meets were very less when compared to IRL (face-to-face) and hybrid meetings, with one main reason for not getting personal connect with the participants. On the other hand, online meets were more flexible and had high participation rates with good diversity. The facilitators had adapted to working digitally and accommodated to this by creating digital tools such as maps that can be worked upon without any discussions. But, physically being present and working on the same map was said to have increased the energy and involvement amongst the stakeholders. Substantial aspects like using more senses and having informal talks during breaks were missing in the online meets, thus this acted as a hindrance for relationship building.

The pilots' process relied mostly on electronic communications, like the Humhub which provided access to calendars, working groups' details, knowledge base, answering questions received from participants, etc. Communicating electronically could help when suggestions and opinions were to be provided for the discussed problems and were collected accordingly (Hemmati, 2002). Communicating clearly, not cleverly was a necessity because there were chances for misinterpreting the information that was provided through online platforms, due to absence of body language and other relevant factors (Hemmati, 2002). These problems seemed to be prevalent in the pilot's online meets because some participants had their cameras off and the probability for someone to exit the meetings was high if they did not find the discussed topic to be interesting.

6.3 How could the project methodology be improved to increase efficiency and effectiveness?

6.3.1 Stakeholder Invitations

It is beneficial to constantly explore outside the established network to catch new relevant stakeholders that might appear in the dynamic evolution of society (Hemmati, 2002). Administrators had tackled this issue by encouraging participants to snowball contacts in their own networks who might have interests to join the project. Sharing the responsibility of searching for and inviting new interests amongst the participants reduced the chances of missing out on important perspectives up to an extent. This was sensed to be a good way of managing the blind spots as the experimental nature and deliberately indeterminate delimitations of the project give little room for definite rights and wrongs on whom to invite. But this type of invitation also had its downsides, as it had caused a delay in the project's process because of stakeholders identified at later stages. There were, however, remarks of insecurity from the project administration on public participation, which on one hand was desired and even necessary, but on the other, were understood to have an upper limit to when the number of public participants disfavors the process. There was an insecurity in managing invitation processes in this way, because one can never be sure whether the right perspectives come to the table.

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“Be as inclusive as necessary and possible” (Hemmati, 2002), is quite an arbitrary statement, and the administrators had viewed the issue in line with this. Their approach was to invite as many as possible to explore how these kinds of projects should be set up and what delimitations should be set to stakeholder involvement in the developed processes. However, the decision to not include stakeholders from agriculture was made as an effort to not make the project too big and hence risk the quality of the outcome. This action was supported by science which says that there are trade-offs between high diversity and the deliberative quality of the process. None of the interviewed participants commented on the absence of agriculture representatives, which indicated that they were not missed. It was anticipated that there was a risk of participants finding less meaning to effortful measures, when a large stakeholder with considerable impact on marine ecosystems from nutrient emissions was absent. Nevertheless, that did not seem to be a problem at the time of this study.

The challenge of missing stakeholders was viewed in all three pilots, some were not identified and some were invited but still did not participate due to several reasons. The late identification of relevant stakeholders slowed down the process’s flow within the working groups as they had to get the new participants up to speed and also consider their opinions for advancing as a group. Stakeholders appearing late in the process might have negative impacts on the project (Luyet, 2003), and it was viewed in some parts of the pilot, with the negative impact being the delayed time of the working group’s advancement. The quality of stakeholder invitations could have been improved by having a limit to the number of stakeholders representing a particular issue. Not halting stakeholder on-boarding after a certain phase and late identification led to delayed pilot process.

Even though the stakeholder invitation process was considered to be good, it still had challenges related to stakeholder identification and the number of stakeholders participating. To have avoided these issues, a stakeholder analysis could have been conducted before the pilots’ start. The project was aiming to invite everyone who had relevant interests, but the analysis would have come in handy to filter some participants. A filtration step could have been the usage of the Social Network Analysis methodology (Reed, 2009). A part of this method could have been used by developing questionnaires/structured interviews to identify the stakeholder networks and their respective relational ties. When stakeholders expressed their interests to join the pilot projects, they could have been asked to fill out the questionnaire which would have helped in interpreting what perspective they bring to the forum and also their intention for participation. If this method was used, the administrators would still have achieved diversity, equal representation, thus leading to a mindful selection. This would have avoided excessive participation of certain groups that was said to have expressed dominant characteristics due to their large participation.

6.3.2 Governance

Issues related to governance were the ability to/extent of participating in decision-making process, project’s goal definition, missing stakeholders who were considered important for the process’s advancement, etc,.

As the pilots did not have the right mandates and were relying on the steering committee to take things forward, the administrators did not promise the participants that the things discussed in the forum would be considered for decision-making. One of the important reasons for trust issues in the pilot was the question about the pilot having an impact in the future or not. This seemed to affect the process’s legitimacy, thus leading to uncertainties amongst participants**.** But in the longer run the level

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of stakeholders' engagement was said to have increased when they realised that a platform has been provided for them to bring forth their concerns and they can get the desired attention if worked upon.

The pilot was considered to be democratic, but trusting democracy was said to cause failure to an MSP because of participants giving more weightage to other concerns rather than environmental ones (Pickering, Bäckstrand and Schlosberg, 2020). But the pilots' participants were aware of their participation and almost everyone convened with the intention of improving the marine ecosystem's health. But the pilot process was not in line with one of the literature's (Hemmati, 2002) requirements, as it did not have a fixed issue for everyone to work upon. Instead, the process was democratic enough to allow different issues to be brought forth to the forum, thus leading to its increased complexity. A suggestion provided by one of the interviewees to overcome the broadness of topics discussed during meets was for the administration to provide the right guiding questions to work with, rather than asking the members to formulate their own questions.

The process being legitimate enough is a prerequisite for ensuring legitimacy Hemmati, (2002). Certain stakeholders felt that the project's goal definition was unclear which shook the MSP's legitimacy. The administration was aware of this issue and had planned to develop more clear ways of defining the project's goal. Even though the pilot had one goal which was to try to implement EBMM, each stakeholder and working groups had different objectives. The administrators did not consider this to be a backdrop for the pilot because the participatory process was built for such a diverse approach. The difference in objectives had been confusing for some stakeholders, but it is not necessary for the objectives to be based on consensus because that would lead to not getting diverse opinions and there was a high risk of generalising the work's principles and focus (Reed, 2008).

The stakeholder diversity differed to an extent among the pilot areas, although politicians and the pelagic fishing industry were the overall missing stakeholders. The overall absence of the pelagic fishing industry was explained by a complicated relationship between the industry and other stakeholders such as small-scale fishery, nature conservationists, a public engaged in nature protection, others who claimed a right to the fish resource and decision-makers. Infected conflicts had been flourishing for decades and the fishing industry might have felt targeted by everyone else, and thus saw little reason to attend a forum where they would most likely leave with less than they arrived. Their attendance would have brought an important perspective to the table, as the pelagic fisheries played a significant role in the status of the ecosystems.

Likewise, the difficulties to engage larger stakeholders was likely to imply a missing out of important perspectives. The overall lack of participating politicians led to the missing out of an important perspective from governance and decision-making. Such perspectives could be useful to help keep the pilot's work in line with regulations, local plans and other processes, especially in SA and SBS who did not inherently possess a close connection to politicians. There was a possibility that 8+ fjords' organisation had reached a certain level of autonomy, where the politicians did not feel the need to interfere, but still the participants wished for more of their participation.

6.3.3 The Issues' Complexity

The complexity of the pilots' MSP was linked to the diverse range of stakeholders present, differences experienced, conflicts and decision-making process.

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At times, there was a feeling of not gathering the right number of stakeholders among the pilots of SA and SBS. Since the stakeholder network in these pilots were formed based on already known people, they knew each other. This led to too much agreement among the topics discussed within the groups. Stakeholders were worried that having no differences within the group might not lead to any constructive conflicts. The same interviewee had expressed that the presence of a more diverse range of opinions would have solved this issue.

The presence of narrow perspectives was to be sensed at times, especially when some had their own bias and misconceptions towards certain issues. A suggestion provided to avoid this issue was to at least agree to disagree by ensuring more proper facilitation which demands the participant to give a more in-depth explanation to why they have a certain perspective/viewpoint. It is a necessity for stakeholders to be treated as equals by the others present in the project and that the stakeholders' interests are received in an equitable manner (Hemmati, 2002).

The absence of the fishing industry was to originate from the notion that there were very little fish to fish in the area, combined with an upsizing of fishing boats, making them unfit and even not allowed to operate in the area. It was also an industry under large public pressure where overfishing and bottom trawling around the coasts had been topics of discussion. Moreover, the conflict on seals and cormorants was from one perspective believed to have added to the fishing industry not participating, while another perspective suggested that the same conflict might be the reason for them to participate. Further, the fishers for household needs were considered as missing, and this originated in a decline of fish stock, the ageing and passing away of the old household fishers and no emergence of new ones.

The ultimate decisions were yet to be made by the authorities because the project was still in the processing phase when this study was performed. But the administration was aiming to take almost all opinions into consideration. Most of the stakeholders involved in the pilot were interested in the decision-making process and the trust that stakeholders had on the project would be put to test during decisions' formulation. The decision makers must take the outcomes of the process seriously and consider them while making decisions (Hemmati, 2002).

Even though the preference for IRL meets were more, the administrators did not completely shift from online to IRL meetings. This was because some stakeholders found online meetings to be more convenient given their limited time and the pilot did not want to risk their participation by completely making a shift. There were some suggestions provided by the stakeholders and administrators on having the meets in a hybrid manner to avoid the issues of online meets, but there were no signs of hybrid meets in the forum until this study was completed.

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7. Discussion

7.1 Strengths, Weaknesses & Scope for Improvement

The following sections provides information on how the formulated aim and methodology of the study were legitimate enough and identifies places/aspects where improvements could have been done. In addition, details on the limitations to the study and an exploration of the validity and reliability of the data collected and gathered for the analysis are also covered.

7.1.1 Aim & Method

Aim: Initially the specific target was to only identify the communication gaps in the process, but the study had taken a more holistic turn and led to analysing the whole pilot process. A gave larger attention to the second part of the aim, to explore and understand the obstacles of the specific processes. This led to altering our aim a bit by converting 'Communication Gaps' to 'Gaps and Challenges'. We flipped the aim over and used the exploration of the obstacles in the attempt to identify gaps and improvement measures.

Method: An initial weakness for the study was to build the method process from scratch as there was no one-size-fits-all tool to rely on, and this made this study experimental. A challenge and drawback of not knowing what tool to use had made it difficult for knowing which directions to undertake and how much time to put into different parts of the study. But the freedom of not being confined to a particular tool and the explorative nature of the study was a strength in itself, as customisations to the method were done wherever necessary. Interviews were a learning process, as it took some time to understand how to conduct them effectively and elicit quality information from the interviewees, given the limited interview duration. A major improvement part of the interview process was to analyse what questions were relevant to the interviewee and our study, followed by comprehending how to ask the right follow-up questions. Another weakness to the study was the decision to not include any tools such as the IA2P spectrum or the Power-Legitimacy-Urgency (PLU) diagram, as they would've helped in providing some interesting aspects too. Both the tools were sent in the form of tasks to 6 interviewees (pilots' administrators), but they perceived them to be too time-consuming and complicated. The study's limited time had hindered us from not being able to come up with a shorter version of the tasks (tools), which led to its exclusion from the study.

Alternative Method & Ending: The methodology of the study would have been different if the study's duration was a year instead of 6 months, because the additional time would have helped us develop our own stakeholder analysis for all the pilots. This added analysis would have assisted us to get a more comprehensive and true picture of the pilots since SwAM did not conduct/perform a stakeholder analysis themselves. Information of stakeholders such as who were potential to the process, who were missing, the various aspects of the participatory process and how it was implemented could have been judged through the stakeholder analysis. If this study had continued till the end of the pilot project's duration (ie.,2023), the information gathered in the results might have changed because the administration considered themselves to be still in the forming phase of the project with some unsettled things and new stakeholders were still joining the process. Moreover, some of the interviewees had reflected that their perceptions of few things might have changed as days passed as they would have known more about the pilot process and also had answers for their uncertainties. So, for these stakeholders it would have been interesting and informative to conduct

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follow-up interviews and see if any changes had emerged when compared to their previous statements. This would have led to a comparison analysis of various stages/times of the pilots and maybe a different conclusion.

7.1.2 Limitations

Study's depth: Initially there was a choice to either do a study for one pilot or for all three. It was decided to go with the latter option because of our curiosity to know how differently the three pilots were functioning. If we had chosen to study only one pilot, more in-depth details of the particular pilot process would have been attained. But in contrast, a comparative analysis on all pilots would not have been possible. A strength from deciding to perform an analysis on all three pilots would be a broad range of stakeholders involved in the pilots benefiting from it rather than just participants from one pilot.

Amount of data: Plentiful data was extracted from the interviews conducted. In the beginning there were more interview themes for our study and the interview questions were formed based on that. After data was extracted for the respective themes, we saw the chances for our study to get very broad. So, even though lots of interesting data were found, we did not use all the elicited information because that would have demanded more time to manage and analyse. After careful consideration the interview themes were reduced to almost half, but if all themes were explored without undergoing reduction, the study would have led us to results on other aspects too. We were also provided access to the Humhub, but since there was too much data to process already, we had to limit ourselves from that information too.

Timing of the study: The initial plan was to interview two participants from each working group to see if there were any similarities or differences expressed among the same group. But this proved to be hard because most of the working groups weren't completely formed and there was an issue of time constraint. But if there was a possibility to do that, the dynamics within the groups could have been explored. The timing of our study affected the possibility of interviewing some people due to summer vacation.

7.1.3 Literature

The book "Multi-stakeholder Processes for Governance and Sustainability" by Minu Hemmati was used as the main literature for the study's analysis. This book was written in 2002, and some things might have changed since in stakeholder science. We had, however, confidence in the validity of the theories that had been applied to this study as the book was still widely being used as a guide for Multi-Stakeholder Processes.

7.1.4 Validity & Reliability

Data was collected from the participants in a certain stage of the process, where some were new to the project, some had been involved a longer time, some felt that they were yet to settle in and it was too early in the process for them to provide information. An example of the previously mentioned situation was that the pilot SBS was not formed completely when we conducted interviews. And in SA, participants felt that advancements were not yet witnessed within some working groups. Also, biases and the mood of the day affected the answers. This doesn't lessen the validity of the data because we had respect and trust towards all the perceptions shared, but it was important to know what could affect the findings.

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7.2 Knowledge Contribution to The Field

Firstly, no other similar studies on the stakeholder's participatory processes had been carried out on the pilot projects of SwAM. By performing an analysis on the themes which were used in this study and from keen observations, the pilot process has painted/provided a different picture to the field of stakeholder participatory processes as it held a unique aspect to it. The uniqueness of the project are linked to two factors which are as follows:

- **Project's attribute:** The project has based itself by practising and ensuring the bottom up manner as a core, as no hierarchical commands or push from the administration/other authorities had been experienced by the pilot participants
- **Forum's approach:** The administrators had expressed by stating that the pilot projects were a platform provided for different stakeholders who were relevant and interested towards marine management issues. Stakeholders who participated in the pilots were given the freedom to work with their own interests and if they wanted to be given importance to by the authorities, then it was in their hands to work accordingly and ensure that their work/voice was taken into consideration, not only by the authorities but also by the other participants in the forum

Even though the project's process had some cons and challenges due to their uniqueness, it has proved that participatory processes can be performed in such an open and democratic manner and will hopefully bear a productive and effective outcome for EBMM in the future.

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8. Conclusion

The aim of this study was to identify gaps and challenges of SwAM's three pilots' Multi-Stakeholder Networks in order to explore and understand the gaps, challenges and help the administration improve their process methodology by providing suggestions. The study was based on two research questions: "What are the gaps and challenges that exist in the pilot?" and "How could the project methodology be improved to increase efficiency?".

It was identified that the gathered/identified gaps and challenges in the pilots fell under the three aspects of Process, Learning and Level of Engagement. Upon further analysis, it was understood that the mentioned gaps and challenges could be addressed by concentrating on factors such as Stakeholder Identification, Governance and Complexity of the Issue. The quality of stakeholder identification was good, but the management could have done an analysis or used certain tools (as suggested in the Analysis) to have a good control over the participating stakeholders thus aiding them to filter individuals or groups during times of redundancy. The governance in the pilots was mostly related to not having proper mandates which created a sense of dissatisfaction for the participants since most of them were eager to know if their work would be taken into consideration for the future decisions. The administration was not able to promise anything regarding decisions made because of their reliance on the steering committee for the decision-making process. The complex nature of the pilot in itself along with a wide range of stakeholders present had created uncertainties. The suggestion to overcome the complexity was to ensure that individuals provided legitimate reasoning for their participation, so that everyone is listened to and respected for their presence. Complexity was also related to the type of meetings, which was addressed at the moment of this study by conducting online meets with the consideration of bringing up hybrid meets in the future.

The pilot project on EBMM was an important step taken by SwAM, right on time in this world of rapidly degrading ecosystems, growing human population and rising challenges from climate change. MSPs will be an important factor in safeguarding democracy while developing powerful tools to protect and manage the environment. While the outcome of these processes can never be predicted, the designing of the MSP is critical as the quality of participatory forums is an important factor for strong environmental outcomes.

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Appendix 1

List of interviewees

Stockholm Archipelago (SA)

Name	Representing Organisation	Role in their Organisation	Name of the working group
Gustaf Almqvist	Employed in SA	Project Leader / Part of the Administration	-
Marie Löf	Stockholm University Baltic Sea Centre	Research Scientist	Nature protection
Rolf Nilsson	Stockholm Fisk & Svenska Brasserier	Professional Fishermen	Fisheries management
Alfred Sanström	Swedish University of Agricultural Sciences (SLU)	Researcher	-
Martin Olgemar	County Administrative Board, Stockholm	-	Restoration
Nils Ljunggren	Sportfiskarna, Swedish Sport Fishing and Fisheries Conservation Association	Head of middle section	Fisheries management effective processes
Carl Rönnow	Swedish Boating Association	Responsible for environmental questions	Leisure boating
Joakim Lücke	Stockholm Water & Waste	Limnologist	Efficient processes
Thomas Hjelm	Hospitality Industry	Chairman	Sustainable hospitality industry
Sofia Wikström	Stockholm University Baltic Sea Centre	Research Scientist	Leisure boating

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Southern Bothnian Sea (SBS)

Name	Representing Organisation	Role in their Organisation	Name of the Working Group
Erica Haslar	Employed in SBS	Project Leader / Part of the Administration	-
Carolyn Faithfull	Department of Aquatic Resources (SLU)	Research Scientist	Nature & Tourism
Daniel Bengtsson	Birdlife Sverige	Bird Conservation Officer	Sustainable energy
Ingrid Wänstrand	County Administrative Board, Uppsala	Administrator	Nature & Tourism
Mikael Frodin	Sportfishing	Professional Sport Fisherman	-
Per Johansson	Tillväxtverkets	Senior Advisor	-
Stefan Husa	Svea Vind Offshore AB	Environmental Marine Biologist	

8+ Fjords

Name	Representing Organisation	Role in their Organisation	Name of the Working Group
Niclas Åberg	Employed in 8+	Project Leader / Part of the Administration	-
Ann-Christin Mathiasson	Employed to work for 8+	Communicator	-
Gösta Bring	Member of the steering group in 8+	-	-
Karin Olsson	Department of Aquatic Resources (SLU)	Project Manager	-
Peter Magnestam	Employed by 8+	-	-

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Administrative Members

Name	Representing Organisation	Role in their organisation
Max Vretborn	Common for all pilots	National Project Leader
Annika Källvik	Common for all pilots	National Communicator
Madeleine Prutzer	HMI	National Coordinator
David Ershmmar	Employed by HaV	Facilitator
Nanna Frank	Employed by HaV	Facilitator

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Appendix 2

Interview Questions

Primary Questions for Administrative Members

- How would you like to describe the pilot project?
- What is your role in the project?
- How would you describe the stakeholder situation?
- How are the stakeholders chosen?
- Could you describe what importance the different stakeholder groups have?
- What are the stakeholders' intentions in participating?
- How does the facilitation of the meetings take place?
- Are there any challenges in the stakeholder content (in relation to functions, relations, communications)?

Questions for Working Group Members

- Would you like to tell a little about yourself?
- Are you involved in this on behalf of yourself or representing an organisation/institution?
- Could you describe what your organisation does in general?
- Could you describe your role in your organisation?
- What is your motive in participating in this pilot?
- How do you perceive your role to be in the pilot?
  Follow up: How do you perceive your role in the pilot in relation to other stakeholders?
- What are your expectations for participating in the pilot?
  Follow up: What are your expectations of the outcomes in the pilot?
- What do you perceive is the purpose of the project?
- How does the working groups' meeting work?
  Follow up: Can you give examples of topics that are discussed during the meets?
- How do you perceive the conversational dynamics in the working group?
  Follow up: Is any facilitation provided during the working groups meets?
- Which actors do you perceive to have more or less power, legitimacy and urgency?
- How do meetings work in real life (IRL) vs online? And why?
  Follow up: Which mode of meeting is your preference?
- How is the knowledge of locals and business people perceived in relation to scientific knowledge?
- How would you describe your relationship with SwAM?
- How would you describe your relation with other stakeholders in the pilots?
  Follow up: How are different stakeholders treated in the pilots? Can you see a difference in how they are treated?
- Are there any trust issues between stakeholders in the pilot? If yes, please provide some examples?
- Are there any challenges that complicate your work in the pilot?
- What are your personal feelings about the pilot project as a whole?

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