



UiT The Arctic University of Norway

Legal pathways towards sustainable blue food systems in the aquaculture sector

Interdisciplinary workshop and Roundtable discussion
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Summary

The workshop, organized by Mathilde Morel on January 10th, as a part of her PhD project and preparatory work of her PhD midway presentation, aimed to convene experts within the realm of blue food systems with the overarching objective of exploring viable pathways toward sustainability transitions. The reason for this inquiry stems from the escalating recognition that contemporary food systems are increasingly linked to adverse environmental and socioeconomic repercussions, contributing substantially to approximately 30% of global greenhouse gas emissions.

This imperative for change is driven by numerous factors, including the climate crisis, rapid urbanization, evolving dietary preferences, and the expansion of the global population. Consequently, a foundational shift towards food systems characterised by diminished environmental impacts and carbon footprints becomes imperative. Furthermore, aligning with the [Agenda 2030](#), there is an urgent call for expeditious adoption of a more resource-efficient bioeconomy within the world's food systems.

Within this context, the integration of sustainable blue food systems, particularly in food producing sectors such as aquaculture, emerges as a critical facet of the solution. Despite the prevailing inclination towards augmenting sea-based food consumption through diverse blue growth strategies, it is crucial to ensure that unsustainable practices inherent in land-based food systems, are not replicated in marine environments.

To actualize sustainable blue food systems in the aquaculture sector, the realization of resilient, equitable, and enduring solutions is paramount. The anticipated outcome of this investigative endeavour is rooted in the understanding that the application of legal and regulatory mechanisms can wield substantial influence in the transition process. Such mechanisms are integral to the formulation of comprehensive aquaculture management strategies that strike a judicious balance between safeguarding, rehabilitation, and utilization. The workshop constitutes a key touch base activity and outcome for the project [SECURE](#), UiT The Arctic University of Norway.

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Aim of the workshop and content

Introduction

The interdisciplinary workshop on sustainable blue food systems opened with a round of presentations, serving as a valuable introduction to both the speakers and participants. The diverse audience comprised experts in the field of sustainable blue food systems, environmental specialists, natural scientists, and legal scholars.

The project SECURE and its Alignment with SDGs

The event commenced with Edel Elvevoll's presentation on the SECURE project, which strategically aligned its objectives with various Sustainable Development Goals (SDGs) outlined in the Agenda 2030. Elvevoll navigated through the project's rationale, emphasizing its contribution to addressing multiple SDGs such as Zero Hunger, Health, Climate Action, and Life Below Water. Key focus was placed on the investigation of low-trophic marine species as a vital component in addressing intricate sustainability challenges. The presentation also delved into the project's results and anticipated future outcomes.



Figure 1. Introductory slide of Edel Elvevoll's presentation, 2024.

Papers in progress on the research conducted by the SECURE Team:

- Andreas Langdal, Rita Colen, Edel O. Elvevoll, Ida-Johanne Jensen, Sofia Engrola. "Environmental impact of Galician blue mussels (*Mytilus galloprovincialis*) in fish feed for gilthead seabream juveniles (*Sparus aurata*)".

Multilevel Governance System for Blue Food Systems Planning in Norway

Ole Kristian Fauchald followed up with a discussion of the distribution of decision-making authority among the state, regional and municipal levels in Norway. He distinguished between decisions regarding individual projects and planning decisions. He pointed out that decision-making authority in individual cases are in essence delegated to regional elected authorities (fylkeskommunen), with the main exception being decisions regarding the amount of allowed production of salmon, which are made by state authorities (Fiskeridirktoratet). Planning decisions are mainly taken by municipal elected authorities (kommunestyret) and regional elected authorities. He identified the question of how important municipalities should be in defining the framework for aquaculture as a main unresolved issue. The economic importance of the salmon farming industry means that decision-making procedures and resources are focused on this sector. Other forms of aquaculture face challenges regarding the design of decision-making procedures and access to administrative resources. Fauchald highlighted the multiple roles of regional elected authorities directly and indirectly associated with the aquaculture sector, and questioned their current ability to follow up on all of them.

Number of sites in seawater by county¹⁾

	2023	2022	2021	2020	2019	2018
Fylke	Antall	Antall	Antall	Antall	Antall	Antall
County	No.	No.	No.	No.	No.	No.
Troms og Finnmark	-	7	6	3	-	-
Finnmark	1	-	-	-	4	0
Troms	7	-	-	-	2	2
Nordland	18	19	21	19	17	10
Trøndelag	13	10	13	10	13	11
Møre og Romsdal	10	8	10	8	8	7
Vestland	54	54	54	47	49	41
Rogaland	2	2	3	3	2	11
Agder	5	5	7	3	2	1
Øvrige fylker	1	0	0	0	0	0
Totalt/Total	111	105	114	93	97	83

1) Kun kommersiell produksjon/Only commercial production

Figure 2. Table: Statistics over localities for algae production by regions, from north to south. © Directorate of Fisheries, available at <https://www.fiskeridir.no/Akvakultur/Tall-og-analyse/Akvakulturstatistikk-tidsserier/Alger>, licensed under [NLOD](#).

Regulatory Facilitation for Multi-Use in Marine Industrialized Areas

Sigrid Eskeland Schütz contributed a comprehensive discussion on regulatory facilitation for multi-use in marine industrialized areas. Her presentation delved into the challenges and current practices associated with multi-use, elucidating its diverse applications from community-based fisheries to the integration of offshore wind and repurposing existing industrial infrastructure for tourism. She provided examples of types of multiuse situations like transformation of the industrialised area of Hull, in the UK and in the Danish Energy Island in the North Sea and offshore wind in combination with fisheries. Schütz emphasized the need for clearer regulation on third-party access to licensed areas, cross-sectoral integration, trust-building, and stakeholder engagement to successfully implement multi-use practices.

Human Rights Approach to Sustainable Blue Food Systems

Sofie Elise Quist brought a critical perspective to the workshop, presenting on a human rights approach to sustainable blue food systems. Quist raised concerns regarding social equity, and potential human rights violations, and identified blind spots within the prevailing narrative of sustainable growth. Based on her experience with the right to food in Scotland, she advocated for an approach to food system sustainability grounded in human rights both as legal standards and as an entry point for more relational discourse on food and ocean governance.

Environmental Legal Obligations on the state of Norway in Regulation of Aquaculture

Lena Schønning's presentation focused on elucidating the environmental legal obligations placed on the state of Norway in the management and regulation of aquaculture. By exploring the international, regional and national legal framework, Schønning provided an understanding of the central environmental legal responsibilities of the state of Norway in the regulation and management of aquaculture. Norway as regulator defines the where, what, and how of aquaculture, and therefore, the state of Norway is responsible for the total environmental impacts of aquaculture throughout the value chain regardless of where the impacts occur.

Work in progress: Lena Schønning, "Sentrale miljørettslige forpliktelser for Norge i reguleringa av akvakultur» paper in progress.

Conclusion

The interdisciplinary workshop not only showcased a diverse array of topics but also underscored the interconnectedness of various disciplines in addressing the various and complex challenges posed in the process of developing sustainable blue food systems and sustainability transitions. Each presentation contributed valuable insights, creating a

solid knowledge base that is expected to inform future endeavours in sustainability transitions.

Participants

The key participants in this event were researchers in the fields of natural sciences (food and nutrition, ecology, and marine sciences), law (environmental law, critical law and ocean governance law) and social sciences (political economics, political science and others working with coastal zone management).

Workshop Outcomes

1. Participants demonstrated their intention to further discussions on sustainable blue food systems and fostering collaborative research and outreach initiatives.
2. The workshop participants expressed their intention to collaborate on upcoming projects.
3. Meeting minutes were compiled to encapsulate the essence of the event.
4. Among some of the participants, a conversation was initiated on a potential framework for co-authored publications was conceptualized, marking the preliminary steps toward producing research outputs for the SECURE project and beyond.

Ways forward and the next event

The many interesting conversations, discussions and pathways towards sustainable blue food systems that were developed during this workshop significantly contributed to Mathilde Morel's PhD research as such and are expected to build bridges for future potential events.

An important outcome is the fundamental and critical role that regulations and legal incentives can and currently are playing as drivers of transition processes towards more sustainable food systems, also in the aquaculture sector. The various presentations and subsequent discussions highlighted the need for more diversified, systematic and planned use of regulatory measures and tools to better facilitate and create new transition pathways, including regulation that provides for pertinent planning and impact assessment, regulation that considers multiple sectors in combination, and regulation recognizing and reflecting environmental legal obligations and environmental problems. The workshop highlighted the timeliness of various topics discussed, emphasizing the need for continued discussion, collaboration, and dialogues in the future. The informal roundtable format of the workshop proved successful, fostering new dialogues and conversations across academic disciplines and research sectors.

Mathilde Morel and the other contributors recognized the significant potential in organizing a follow-up workshop or similar events to establish new connections, and dialogues, and potentially discover novel pathways for the future. They also aim to delve deeper into exploring the role of law in facilitating a sustainable transition in our food systems.

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