

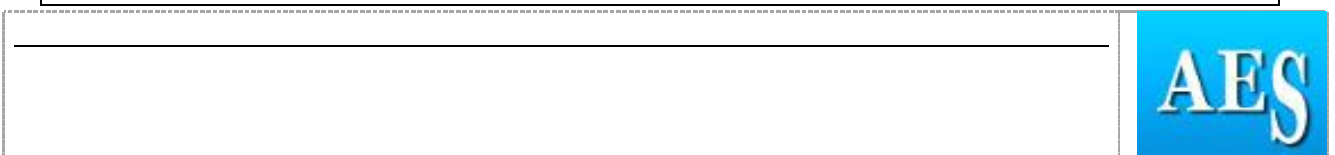
Extended Abstract

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Paper/Poster Title	Mapping the pathway towards improving fishers' wellbeing: testing the integration of stakeholders' knowledge through participatory processes.
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Abstract prepared for presentation at the 98th Annual Conference of The Agricultural Economics Society will be held at The University of Edinburgh, UK, 18th - 20th March 2024.

Abstract	<i>200 words max</i>
<p>While economic and environmental sustainability are commonly integrated into fisheries policies, social and human factors present challenges. The research employs participatory techniques and Fuzzy Cognitive Mapping (FCM) to analyze stakeholder views on fishers' well-being. The FCMs provide a visual representation of system dynamics, enabling a quantitative exploration of interactions. The study aims to aggregate stakeholder knowledge, assess group thinking maps, and evaluate FCMs as a policy decision-making tool. It underscores the importance of knowledge sharing for co-decision making, revealing challenges hindering stakeholder participation. The paper advocates for effective tools that integrate diverse stakeholder experiences in complex issues like fishers' well-being, contributing to enhanced decision-making through participatory and integrated approaches.</p> <p>The study compares mental models of different stakeholders, revealing distinctive characteristics and interconnectedness within each group's understanding of the fishers' well-being system. Government officials, fishers, researchers, representatives, charity organizations, and the community exhibit unique perspectives, emphasizing the need for diverse stakeholder engagement to address the complexities of fisheries management and promote holistic well-being. The method's benefits include visualizing perspectives, incorporating diverse viewpoints, explaining structural complexity, fostering equal stakeholder participation, providing a uniform approach, and enabling knowledge exchange. Limitations involve the need for more qualitative descriptions, initial investment, and software and skill requirements. Overcoming challenges requires showcasing the method's utility and adapting to participants' familiarity with research methodologies.</p>	
Keywords	Social sustainability, Wellbeing, fisheries, mental model
JEL Code	O2 see: www.aeaweb.org/jel/guide/jel.php?class=Q
Introduction	<i>100 – 250 words</i>
<p>Click here to enter text.</p> <p>This study addresses the complex dimensions of fishing sustainability, emphasizing the need for a comprehensive examination encompassing economic, social, environmental, and human aspects. While economic and environmental sustainability is often embedded in policies, social and human aspects prove challenging to integrate. The concept of sustainable fisheries is commonly framed as a win-win scenario for fish stock protection and</p>	



economic gains, neglecting holistic well-being, as confirmed by recent research. Social sustainability, linked to human well-being, is multidimensional and influenced by various factors. The well-being of fishers is recognized as crucial, requiring a multi-dimensional approach. The study explores stakeholders' conflicting views on fishers' well-being, utilizing a systems-thinking conceptual framework.

Examining the Scottish neophrons fisheries as a case study, the research incorporates participatory techniques to integrate stakeholder knowledge into fuzzy cognitive maps (FCMs). FCMs, providing a visual representation of system dynamics, allow for a quantitative exploration of interactions. The study aims to combine stakeholder knowledge, analyze group thinking maps, identify similarities and differences, and evaluate the method as a policy decision-making tool. The findings emphasize the importance of knowledge sharing for co-decision making and the challenges hindering stakeholder participation. The paper advocates for effective tools that integrate diverse stakeholder experiences in complex issues like fishers' well-being. The study contributes to understanding the intricacies of well-being systems and proposes ways to strengthen decision-making through participatory and integrated approaches.

Methodology

100 – 250 words

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Fuzzy Cognitive Mapping (FCM) is a structured interview-based method where participants create maps illustrating causal connections between system factors, each link assigned a score indicating causal strength. The method involves nodes representing system components, edges denoting connections, and edge weights depicting connection direction and strength. FCMs are analyzed using comparative content analysis, aiming to quantify the system's structure and identify influential concepts. The study focuses on fishers' well-being, utilizing predefined indicators covering environmental, economic, societal, and human aspects. Stakeholders from various groups participate in interviews, creating individual FCMs that are digitized and aggregated into group and community maps. The analytical framework employs network analysis metrics, including centrality measures and structural analytics, facilitating a comprehensive understanding of well-being system dynamics. The comparison of FCMs involves two stages, exploring structural dynamics and evaluating component metrics, enhancing insights into stakeholders' interconnected perspectives on fishers' well-being.

Results

100 – 250 words

The study compares the mental models of different stakeholders in the fisheries management system, including government officials, fishers, researchers, representatives, charity organizations, and the community. Using maps to represent their perceptions, the analysis reveals distinctive characteristics and interconnectedness within each group's understanding of the fishers' well-being system.

Government officials exhibit a linear approach with the least dense map, suggesting a focus on cause-and-effect links. They anticipate external forces but fewer outcomes, reflecting the challenges they face from various actors. In contrast, fishers perceive the system as simple but with a longer diameter, indicating complexity in indirect influences. The community

demonstrates strong system thinking with the highest density, emphasizing conflicting views among stakeholders.

Economic security emerges as a pivotal component across all groups, influencing various aspects of well-being. Quality of life is crucial for researchers, representatives, charity organizations, and the community. Investment is universally prioritized, reflecting diverse perspectives on its dimensions. Job satisfaction is a key indicator, acting as a connector and driver for multiple groups.

Key components vary, with freedom of decisions for fishers, safety for representatives, mental health for charity organizations, and business success and influence on policies for government officials. Unique perspectives highlight the importance of collective knowledge sharing. Components such as inclusive local community and science play crucial roles, linking economic, social, and environmental aspects. The study emphasizes the need for diverse stakeholder engagement to address the complexities of fisheries management and promote holistic well-being.

Discussion and Conclusion

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The method employed for policy design yields various benefits, enhancing the effectiveness of stakeholder engagement. Firstly, it facilitates stakeholders in visualizing their perspectives, revealing cause-effect relationships among seemingly unrelated issues. For instance, the concern for fishers' safety leads to the identification of the need for effective labor regulations to secure "good quality" crew. Secondly, the approach incorporates diverse viewpoints into a comprehensive structure, ensuring holistic understanding. Charity organizations emphasize mental health, while representatives highlight the interplay of investment with science and safety, enriching the community map. Thirdly, it explains the structural complexity of systems by unifying different perspectives, evident in the extensive connections in the community map compared to individual stakeholder maps. Fourthly, it fosters equal stakeholder participation, bridging knowledge gaps, and establishing common goals for fishers' well-being. Moreover, the method provides a uniform approach for all stakeholders, preventing dominance by specific groups and enabling knowledge exchange without direct interaction. Fishers appreciate the opportunity to adjust their views without appearing indecisive. Despite these advantages, limitations include the need for more qualitative descriptions of components, initial investment in stakeholder engagement, and software and skill requirements. Overcoming these challenges requires showcasing the method's utility and adapting to participants' familiarity with research methodologies.