MareFrame

HOW TO ADVANCE TOWARDS AN ECOSYSTEM-BASED APPROACH TO FISHERIES MANAGEMENT (EAFM) IN THE EUROPEAN UNION

The widespread implementation of an EAFM is a central goal for the EU. Although there have been significant advances, is wider implementation still faces structural and institutional challenges. MareFrame has identified four central challenges: policy harmonization of the CFP and MSFD; inadequate platforms for meaningful participation; insufficient frameworks for balancing objectives; and the need of capacity building for advice and uptake.

MareFrame has designed a *Decision Support Framework* (DSF) to address these challenges in cooperation with stakeholders. The DSF includes:

(1) a co-creation process, involving cooperation with stakeholders to identify, analyse, and explore how to address the problem;
(2) ecosystem models, to understand the likely consequences of management options
(3) a set of computerized Decision Support Tools that aid complex planning and decision-making
(4) educational resources to facilitate the use of the DSF

Challenge	Component of the MareFrame DSF addressing specific challenge			
	Co-creation	Ecosystem Model	Decision Support Tools	Education materials
Policy harmonization of the CFP and MSFD	✓	✓		
Inadequate platforms for meaningful participation	✓		✓	
Insufficient frameworks for balancing objectives		✓	✓	✓
Capacity building needed for advice and uptake	✓	✓		✓

The findings of MareFrame advocate that managers adopt all four components of the DSF together for best practice, but the components can be implemented piece by piece in the case of scarce resources or context-dependent circumstances.

1. Policy harmonization of the CFP and MSFD

There is room for improving the CFP and the MSFD coherence associated to the interplay of the multilevel governance (Member States and EU level), facilitating how decision makers, science advisors, and stakeholders should analyse trade-offs.

What MareFrame has done	Barrier Remaining	Recommended Action
Identified institutional and legal barriers and challenges	Sector/area based policies may slow down advances towards EAFM (fisheries, environmental)	Enhance regional policy structures and strengthen links with Regional Sea Conventions
Analysed the advisory system for an EAFM	Lack of resources/ resource optimization; fragmentation of the knowledge pool, piecemeal advice	Allocate resources strategically to broaden the scope of science processes
Used scoping exercises to address cross policy issues (e.g. joint consideration of GES Descriptors 3, 4 and 6)	Different users request different advice	Enhance capacity of the advisory system to support cross-policy cooperation (involving ICES, GFCM, STECF, JRC)

2. Inadequate platforms for meaningful participation

There are many stakeholder forums in the EU, but their activities are in many cases weakly connected to decision-making. Meaningful participation with regard to EAFM requires platforms that foster iterative scoping of problems for adaptive planning and management.

What MareFrame has done	Barrier Remaining	Recommended Action
Enhanced participatory processes with facilitators and scientific support	Lack of funding and awareness (resources and commitment)	Integrate structured dialogue in existing work programs
Analysed the relationship between Advisory Councils and Member States Regional Groups	Underdeveloped links between (some of) the ACs and the MSRGs	Provide guidance on best practice for cooperation
Analysed the science-policy-society gaps and the need for multiple sources of knowledge connected to relevant policy fora	Stakeholder fatigue and "misuse" of consultative processes detached from decision-making; overlapping work and underestimation of requirements and workloads; legitimacy of constituencies; differences in capacity to influence the dialogue	Use the regionalization process to support scoping exercises. Regionalization should include management at regional, sub-regional and supra-regional levels

3. Insufficient frameworks for balancing objectives

EAFM requires the capacity to address and balance a number of conflicting ecological, economic, and social objectives in a fair, transparent, and legitimate manner where costs and benefits of specific options on the various dimensions of sustainability are described systematically.

What MareFrame has done	Barrier Remaining	Recommended Action
Developed methodology supporting joint consideration and evaluation of ecological, economic, and social objectives/ trade-offs	Lack of social and economic indicators and defined thresholds; limitations with regards to incorporate such indicators in ecosystem model frameworks; difficulties of reconciling multiple objectives with multiple decision makers at multiple levels	Support the collection of relevant data. Interdisciplinary collaboration to model full ecosystem by considering social, economic and environmental aspect. Define reference levels for ecosystem indicators; establish scoping processes involving all authority levels
Developed DSTs for informed decision-making	DSTs have not been tested in real planning decision-making	Facilitate the actual use of DSTs at local level to test suitability and usefulness

4. Capacity building needed for advice generation and uptake

There is a need to strengthen the supply of EA advice from scientists and stakeholders. In addition, capacity building is necessary for decision makers to better know how to handle EA advice.

What MareFrame has done	Barrier Remaining	Recommended Action
Cooperation between natural social sciences, transdisciplinary research to address uncertainty and complexity of social-ecological systems	Lack of skills for enhancing multi-disciplinary research approaches	Promote "a sustainability sciences approach," providing adequate resources and platforms for transdisciplinary cooperation in research
Assessed the role of the ACs in the EAFM and relevant fora for the exploration of trade-offs	Lack of availability of stakeholders to provide knowledge into a compatible and connected format within an EAFM	Conduct practical experimentation connected to ongoing activities with ICES and STECF to identify the benefits of an EAFM for the ACs

The MareFrame project contributed to a wider implementation of EAFM by developing processes, models, and tools to support scenario-based planning in iterative cooperation with stakeholders. The findings are of relevance for the future management of the marine living resources and for the supporting the implementation of the CFP, the MSFD, the Habitat Directive the Birds Directive, the Marine Spatial Planning Directive and the overall Blue Growth Strategy.

All the information and public deliverables are available at *www.mareframe-fp7.org*

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