COUNCIL OF THE EUROPEAN UNION

Brussels, 18 January 2002 (18.01)
(OR. fr)

5447/02

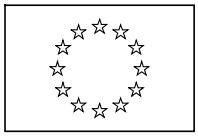
PECHE 13
ENV 24

COVER NOTE

from :	Mr Bernhard ZEPTER, Deputy Secretary-General of the European Commission
date of receipt :	19 December 2001
to :	Mr Javier SOLANA, Secretary-General/High Representative
Subject :	The Ecosystem-based Approach to Fisheries Management (EAFM): possibilities and priorities for international cooperation

Delegations will find attached Commission document SEC(2001) 1696.

Encl.: SEC(2001) 1696



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 18.12.2001
SEC(2001) 1696

COMMISSION STAFF WORKING PAPER

The Ecosystem-based Approach to Fisheries Management (EAFM): possibilities and priorities for international co-operation

The Ecosystem-based Approach to Fisheries Management (EAFM): possibilities and priorities for international co-operation

Summary

This document provides background information on developments in respect of ecosystem-based approach to fisheries management in the EU. It goes on to expand some conceptual views on the way an ecosystem approach may be understood and implemented in the short term and indicates options for future policy developments. It has been prepared as a contribution to the current international debate on the ecosystem-based approach, one recent manifestation of which has been the FAO Conference on Responsible Fisheries in the Marine Ecosystem, held in Reykjavik 1 to 4 October 2001.

1. INTRODUCTION

An ecosystem -based approach to fisheries management[1] (hereafter EAFM) should be seen in the wider context of Sustainable Development. Building on the process started in Rio in 1992, the European Union and the individual Member States have progressively integrated environmental considerations into a wide variety of other policy areas. At its meeting in Helsinki in December 1999, the European Council invited the Commission " to prepare a proposal for a long-term strategy dovetailing policies for economically, socially and ecologically sustainable development ". In May 2001 the Commission, in response to this invitation, came forward with a Communication "A sustainable Europe for a better world: A European Union strategy for sustainable development". This document includes a series of wide ranging recommendations covering many areas of EU policy. In relation to fisheries the Commission identified over-capacity and the near-collapse of fish stocks in European waters as being major threats to sustainable development. It further states that "the common fisheries policy should promote the sustainable management of fish-stocks in the EU and internationally, while securing the long-term viability of the EU fishing industry and protecting marine ecosystems" and … "improve fisheries management to reverse the decline in stocks and ensure sustainable fisheries and healthy marine ecosystems both in the EU and globally."

To achieve the objectives for fisheries as set out in the Commission's sustainable development strategy will require a change in current behaviour. Policy-makers, managers in the fisheries sector and fishermen must be aware of, and responsive to the impact of their actions on the marine ecosystem in general. Conversely, policy-makers and actors in other sectors such as

---

[1] For the purpose of the present document, ecosystem based management of fisheries is defined in accordance with the definition given in Section 3.2.8, Basic Principles of Ecosystem Management, FAO Fisheries Atlas. "The overarching principles of ecosystem- based management of fisheries are an extension of the conventional principles for sustainable fisheries development to cover the ecosystem as a whole. They aim to ensure that, despite variability, uncertainty, and likely natural changes in the ecosystem, the capacity of the aquatic ecosystems to produce fish food, revenues and employment and, more generally, other essential services and livelihood, is maintained indefinitely for the benefit of present and future generations.

The main implication is the need to cater both for human as well as ecosystem well-being. This implies conservation of ecosystem structures, processes and interactions through sustainable use. This implies consideration of a range of frequently conflicting objectives and the needed consensus may not be achievable without equitable distribution of benefits.

shipping, dredging, sand and gravel extraction, oil and gas exploration, tourism, land-based pollution sources etc, must demonstrate a similar attitude. While the long-term ideal must be to manage resources in full cognisance of the inter-relationships between the various natural and man-made pressures and the response of the marine ecosystem, policy makers are a long way from having the information and institutional structures to allow them to do this. Therefore, within its sphere of competence each sector should develop its own response to the challenge of sustainable development, which should include the strengthening of operational linkages with related sectors.

Single-species stock assessment and regulation will continue to be, together with the further development of long-term strategies, a fundamental part of EAFM. This is entirely logical: commercial species are what the consumers want to eat or process and that is what the fishermen naturally want to catch. The problem with existing approaches is that they have not been properly applied, as evidenced by the present collapse in stocks. In addition, the external impact of fisheries activities on the marine ecosystem have not been sufficiently taken into account.

2. REFERENCES TO EAFM IN EU AND INTERNATIONAL POLICY DOCUMENTS

(1) In the context of integration of environmental concerns into the Common Fisheries Policy (CFP) in accordance with Article 6 of the Treaty, the European Commission issued in March 2001 a communication on the elements for an integration strategy[2] where EAFM is expressly mentioned in the following terms:

> "A first and uppermost strategic step would be a change in attitude: any management action should be performed taking into account that it may have important effects on the marine ecosystem, even if their fine details are not totally understood. This is equivalent to, or will result in, **adopting an ecosystem-based approach to fisheries management**[3].

In April 2001 the Fisheries Council adopted Conclusions on integration of environmental concerns and sustainable development into the Common Fisheries Policy[4], where

> "The Council invites the Commission to monitor and evaluate the process of the integration of environment and sustainable development into the CFP. The Council calls on the European Council to invite the Commission to present, within the CFP review, concrete proposals for the integration of environment and sustainable development into the CFP, including priority actions such as reduction in fishing pressure and increased selectivity of fishing gear, measurable targets, timetables, improved protection of marine bio-diversity and **progress towards an eco-system based management.**"

(2) In the context of its Biodiversity Strategy, the Commission issued in March 2001 a Biodiversity Action Plan for Fisheries[5] where the management action proposed is already an example of a clear approach towards EAFM. In its chapter on scientific advice, the Plan states:

---

2 COM(2001)143

3 An extensive literature is available on this topic. See, for example, Pope, J.G. and D. Symes (2000): "An Ecosystem Based Approach to the Common Fisheries Policy: Defining the Goals".

4 7885/01 PÊCHE 78, ENV 188

5 COM(2001)162

"(...)there is a need to improve integrated advice to **support a development towards an ecosystem-based management**. This could best be done by the existing scientific advisory organisation and by greater co-ordination of existing research and information between fisheries and environmental disciplines."

(3) The Green Paper on the future of the Common Fisheries Policy[6] also issued in March 2001 contains several references related to the ecosystem approach. Of particular relevance is the analysis made in section 3.2, "The environmental dimension":

> "A reasonable balance has to be struck between environmental and fisheries interests. On the one hand the very nature of fishing means that in order to keep the mortality of species of no commercial interest within tolerable limits, some forms of fishing should be subject to restrictions. On the other hand, the sustainability of the fishing sector is dependent on a well-functioning ecosystem and the species within it."

In chapter 4, "A set of clearer objectives for the future", the Commission suggests, as the first objective of the CFP, that the Community "establish responsible and sustainable fisheries that ensure healthy marine ecosystems maintaining the quality, diversity and availability of marine resources and habitats."

Subsequently, chapter 5, "The future CFP: options and preferences" is headed by a section "Strengthening and improving conservation policy" where the first action envisaged is the adoption of a "multiannual, multi-species and ecosystem-oriented management". This approach should not be limited to the conservation aspect of the CFP, but rather provide the basis of all areas of management:

> … "there is a need to further develop an **ecosystem-oriented approach** to all areas of fishery management, from resources to consumers, in order to contribute to the achievement of a sustainable exploitation of the marine ecosystems".

Finally, the chapter on research underlines the need "to apprehend better the functioning of aquatic ecosystems and their reaction to different types of fishing pressure and exploitation strategies".

(4) The Community and/or its Member States are bound by several international conventions and agreements where EAFM or equivalent concepts are invoked, either as an adopted strategy or as a suggestion for future policy such as the FAO Code of Conduct, OSPAR, the North Sea Conference, Baltic 21 and several other Multi-lateral Environmental Agreements and Regional Fisheries Organisations..

3. EU IDEAS ON EAFM IN FISHERIES

On the basis of the above-mentioned references, the EU intends progressively to clarify the concepts associated with the EAFM and to build up a set of principles, objectives and rules for its implementation in the context of the CFP.

The ideas that follow are presented as a contribution to discussion at the international level, starting with the Reykjavik Conference:

---

[6] COM(2001)135

3.1 The objectives of EAFM:

EAFM aims at complementing the traditional approach to fisheries management by providing it with environmental policy principles, objectives and operational procedures as a basis for management action. EAFM directly concerns fisheries management, i.e. the administration of fisheries resources, fisheries interests and fishing activities. EAFM is not "ecosystem management", although it is expected to contribute substantially to it. EAFM should have the objective, in the long term, of establishing a system whereby fishing activity is conducted in a way that is compatible with the sustainable conservation of the overall balance of the marine ecosystem.

-3.2 Relationship with traditional fisheries management.

EAFM should not aim, particularly in the short and mid term, to replace current fisheries management, based largely on single-species stock assessment and regulation. This traditional management system needs to be maintained, for at least two reasons:

– there is no valid alternative to this type of management in the short and mid-term, which, properly applied, is essential to ensure the sustainable use of fishery resources;

– if correctly applied, this type of management will contribute to the long-term objective of EAFM. If through this means the abundance of regulated species is maintained at sustainable levels and overall fishing effort is reduced, this will result in higher ecosystem stability and lower impact on habitats and non-target species.

EAFM is therefore designed to build on existing fisheries management rather than to replace it.

3.3 EAFM as a process.

Since the early 1990's, following the preparations and the outcome of the Earth Summit in Rio de Janeiro, scientists and managers, in co-operation with inter-governmental organisations, have been working out a better understanding of concepts such as the "precautionary approach", "biodiversity protection" and "responsible fishing" and developing ways to translate these objectives and principles into management action. This has resulted or is resulting in the elaboration of more detailed guidelines for management actions, such as precautionary reference points, codes of conduct and action plans. What at the beginning were rather simple political statements have required a long and complicated process to become operational.

Similarly, the implementation of EAFM will require that scientists, managers and other stakeholders discuss its operational implications. Although this work has already started, the Reykjavik Conference provides an opportunity for wider recognition of the importance of EAFM and for giving greater impulsion to the process of making EAFM operational.

EAFM addresses the "environmental" dimension of sustainable development. During this process, managers will also have to consider its social and economic dimensions: the balance that would need to be sought between these three aspects will constitute the most difficult part of the exercise.

3.4 EAFM as an attitude

Deciding on the point at which the desired equilibrium between environmental, social and economic factors is reached is probably less important than starting the process, i.e., adopting the eco-system approach as a general attitude towards fisheries management.

Adopting this ecosystem-based attitude starts by the recognition that fishing has consequences well beyond its effects on commercial species. But such an attitude is not just

a simple act of faith. It should be accompanied by the acceptance of the consequences of the new attitude, the most important of which may be that, given the broader implications of management action, consultation about fisheries management should be extended to a wider range of stakeholders and not limited to fisheries interests.

At the same time, while fishing and aquaculture activity impact environment, they are also suffering impacts from other natural or human-induced activities. This means that, in parallel to EAFM, policy-makers should also be looking at other human activities that may have a detrimental effect on fisheries resources and on the marine ecosystem in general. In some cases, addressing the impacts of fishing on the ecosystem may not be sufficient to ensure or restore the quality of the marine environment. The effects of climate change, pollution, navigation, and even natural phenomena such as toxic algal blooms on the marine ecosystem need to be more systematically identified and addressed.

Necessary action in this regard would fall outside EAFM, that is, beyond the area of responsibility of fisheries managers. However, it is essential to bear in mind that when addressing the question of the conservation of the marine ecosystem action in other fields needs to be taken in parallel to the development of EAFM.

3.5 Operational aspects of EAFM

Implementation of EAFM will take time. A fully-developed EAFM requires scientific knowledge, based on appropriate data collection, that is largely unavailable at present. Its development will be a lengthy, complex and costly process. Consequently, the full implementation of EAFM can only be a long-term objective, to be achieved gradually.

In this context it is imperative to strengthen the role of Regional Fisheries Organsations (RFOs) as the main actors to develop fishery management strategies based on ecosystem considerations an to co-ordinate their actions with Multi-lateral Environmental Agreements (MEAs) and Regional Seas Conventions (RSCs). Ideas can be collected from the FAO/UNEP report on ecosystem-based approach and co-ordination between these bodies.

The table below sets out a set of measures that in the Community's view would contribute towards the long-term objective of implementing EAFM. This set of measures is not intended to be an exhaustive list but rather a starting point for discussion at the Reykjavik Conference.

The measures are categorised according to a time-scale (short-term, mid-term, long-term) and under three main areas of activity (Management, Research and International Co-operation).

INVENTORY OF POSSIBLE OPERATIONAL MEASURES TO IMPLEMENT AN ECO-SYTEM APPROACH TO FISHERIES MANAGEMENT (EAFM)

(i) SHORT -TERM MEASURES

MEASURE	*JUSTIFICATION*
Management	
Apply precautionary single-species management to most important regulated stocks, within a multi-annual planning framework.	Improvement in the status of key fishery stocks, less impact on other parts of the ecosystem and thus contribution to EAFM.
Reduce by-catches and wastage with, if appropriate, targeted measures to protect vulnerable species. Promote full use of catch	Contribution to the conservation of non-target species. Upgrade value of legitimate catch to favour selective fishing.
Incorporate the relevant provisions of FAO International Plans of Action (FAO-IPOA for seabirds, sharks, management of capacity and illegal, unreported and unregulated fishing (IUU)) into legally binding measures.	Contribution to the conservation of target and non-target species.
Consider measures to protect areas/sites, which have particular significance in terms of habitat or species protection, taking due account of fisheries interests.	Reinforcement of the protection of special or sensitive habitats.
Develop operational linkages with other sectors/actors impacting upon the marine ecosystem.	Will contribute to sustainable development of the marine ecosystem.
Ensure that the above measures and ecosystem considerations are part of all international fisheries agreements	Will contribute to the protection and conservation of fisheries on a global level.
Continue international efforts to identify/designate degraded fisheries in the context of Regional Fisheries Organisations (RFO,s).	Necessary step towards improvement in the status of key fishery stocks, less impact on other parts of the ecosystem and thus contribution to EAFM.
Improve efficiency of monitoring and control	General contribution to responsible and sustainable fishing
Research	
Continue to improve the scientific basis for precautionary single-species management.	Fill the current gaps to apply precautionary single-species management to all stocks.
Identify sensitive non-target species and sensitive habitats (i.e., those most affected by the fishing activity)	Help define priorities for further action.

Study the impact of the fishing activity on the marine ecosystem.	Better understand the effects of fisheries on the marine ecosystems..
Develop fishing techniques which have a reduced impact upon the environment, including more selective fishing gears.	Will reduce in direct and indirect damage from fishing activities.
Study the impact of other natural and human-induced activities on fishing resources and aquaculture.	Better understand the impact of fisheries vis-à-vis those of other activities on marine ecosystems. To gain a better understanding of the relative importance of the various pressures acting on the marine ecosystem in general and upon fisheries in particular.
Develop parameters/indicators to measure ecosystem health/stability. These parameters/indicators should be integrated in a common tool kit to be applied by other interest groups/stakeholders. Biodiversity indicators should be developed as a priority.	Once the parameters/indicators are developed they can then be applied as a management tool. (see above) to monitor tends in ecosystem health/stability.
International co-operation	
Promote ratification and full entering into force of FAO Code of Conduct, Straddling Stocks Agreement and FAO Compliance Agreement	These are key elements in providing the right framework for EAFM
Produce a consensual document on the application of EAFM in the context of sustainable development for presentation at the Rio+ 10 in South Africa.	Will ensure that the sustainable development of fisheries is given a high political profile.
Promote the application of the relevant provisions of IPOA seabirds, sharks, capacity and IUU through binding recommendations in the relevant RFOs.	Make these measures more effective by extending their mandatory application to all countries.
Develop operational linkages with other international organisations concerned with the sustainable development of the marine ecosystem (UN,FAO, UNEP, UNDP, UNESCO, WHO, IMO, WTO).	Will contribute to sustainable development of the marine ecosystem.
Build capacity of RFOs	RFO are essential players in implementing long-ranging EAFM
Promote the elaboration of consensual guidelines for EAFM by FAO.	Promote an international approach to the implementation of EAFM.

(ii) MID-TERM

MEASURE	*JUSTIFICATION*
Management	
Apply precautionary single-species management to all regulated stocks.	Improve status of all commercial fish stocks, less impact on other parts of the ecosystem and thus contribute to EAFM.
Introduce pair-wise (and subsequently more complex) relationships for management, for target species (i.e. herring/cod) or target/non target species (i. e. capelin/seabirds).	Gradually introduce simple ecological relationships, to take into account the effects of factors other than fisheries in the management of marine species.
Establish precautionary reference limits for sensitive species.	Will ensure the protection and conservation of sensitive species.
Use integrated ecosystem health indicators in co-operation with other interest groups and stakeholders. These indicators should, as a priority, include biodiversity indicators.	This will allow analysis of ecosystem health through objective, measurable parameters.
Develop market-based measures.	Such measures could provide a positive incentive for the implementation of EAFM and may contribute to reduce IUU fishing.
Research	
Study most important simple interactions between target species and between target and non-target species.	This will allow introducing pair-wise (and subsequently more complex) relationships for management.
Define the status of conservation of sensitive species and the impact of fishing on that status.	Evaluate the current effect of fisheries on sensitive species.
Develop more efficient (cheaper) methods for assessment and sampling programmes.	Self explanatory.
International co-operation	
Promote agreement in international fora on the definition of integrated, international ecosystem health indicators.	Ensure consistency in the approach on ecosystems shared by several countries.
Promote the establishment of international marine areas enjoying some type of environmental protection.	Extend the benefits of the habitat protection to internationally-shared areas.
Promote multilateral market and trade-related measures (WTO-compatible) in RFOs in support of measures to promote EAFM.	Ensure adequate international enforcement of the rules adopted.

(iii) LONG-TERM

MEASURE	*JUSTIFICATION*
Management	
Develop and agree on precautionary ecosystem reference points to be used in application of EAFM.	Tools to provide manager with benchmarks for management decisions.
Restoration of degraded marine ecosystems.	To recover as much as possible the overall balance of the ecosystem.
Research	
Develop bio-economic models to evaluate the best economic/social use of the marine ecosystem.	Promote the optimum economic/social use of the healthy ecosystem to incentive its conservation.
International co-operation	
Promote EAFM as a management methodology in Regional Fishery Organisations.	Extend EAFM to all countries involved in fishing.
Help developing countries to restore their degraded marine ecosystem.	Resolve the financial and technical difficulties in developing countries.

4. THE WAY FORWARD

4.1 The Development of EAFM in the EU.

As indicated in the preceding sections, the achievement of comprehensive ecosystem based management is a long-term objective, which will be achieved by the progressive amendment and improvement of existing management methods. Currently policy-makers lack much of the information needed in order to manage the marine ecosystem and fisheries, which constitute an integral part of that ecosystem, in a sustainable way. They need to collect information and carry out research in order to strengthen our knowledge base while recognising that they will probably never have a complete picture. The precautionary principle, which is included in Article 174(2) of the EU Treaty, and which has recently been the subject of two Commission Communications[7][8], should be applied to the management of fisheries resources.

Within the next few months, the Commission will come forward with a proposal for a revision of the regulatory framework relating to the Common Fisheries Policy. The Commission is committed to ensuring, in accordance with its own proposals for sustainable development, that fisheries are managed in a sustainable manner. The Ecosystem-based Approach to Fisheries Management will be integrated into the Commission's proposals.

---

[7] COM(2000)1

[8] COM(2000) 803

In addition to the revision of the basic regulatory framework, the Commission will subsequently come forward with proposals for modifying the technical regulations of the Common Fisheries Policy in order to address issues such as by-catch, wastage and direct damage to marine habitats.

In recognition of the fact that the marine ecosystem is under pressure from a range of natural phenomena and human activities, the Commission in its 6th Environmental Action Plan, has foreseen the development of a thematic strategy for the protection of the marine environment. As a first step in the elaboration of this strategy, the Commission will, in 2002,come forward with a Communication setting out its initial ideas. The general objective of the strategy will be to ensure that, despite the range of activities (e.g. fishing, oil and gas exploration, shipping, dredging, dumping, atmospheric and water based emissions), other pressures (e.g. eutrophication, algal toxins, exotic species invasions, global warming etc) and institutional competencies, (UN Organisations such as UNEP, FAO and IMO, International Conventions such as Climate Change, Biodiversity, MARPOL and UNCLOS, Regional Commissions and Conventions such as BARCELONA, OSPAR and HELCOM), there will be an integrated approach to the protection of the marine environment.

Within the framework of Council Directive 79/409/EEC on the conservation of wild birds and Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna, the Commission will continue to work with Member States to promote the conservation of marine habitats and sensitive species, especially through the establishment of the NATURA 2000 ecological network. These sites, which will benefit from special protection, are identified on the basis that they are of high importance for particular habitats (e.g. deep-sea reefs), or in the life cycle of particular species (e.g. harbour porpoises). In the case of certain sensitive species, these site protection measures will need to be complemented by other initiatives such as the reduction of by-catch.

In concluding fishing agreements with third countries the European Union will ensure that ecosystem consideration and protection are integral parts of these agreements.

With regard to research, the EU will in collaboration with other entities and institutions continue to collect basic information and develop its knowledge base on the functioning of the marine ecosystem in general and on the functioning and management of fish populations in particular. The EU will also work together with, among others, ICES and the European Environment Agency to develop indicators to be used in relation to fisheries. These indicators will be part of a wider set of integrated indicators to be applied to the marine environment.

4.2 The Development of EAFM at the International Level

In the international arena, the EU will work intensively with international organisations such as FAO, UNEP and IMO to promote the concept of the Ecosystem-based Approach to Fisheries Management. The EU will also work proactively with regional organisations such as OSPAR, HELCOM and in the framework of the forthcoming North Sea Conference to promote the same objective.