



MEDITERRANE-ON

**Identificación de Indicadores de Sostenibilidad
en Acuicultura en el Mediterráneo**
*Identification of Sustainable Aquaculture
Indicators for the Mediterranean*

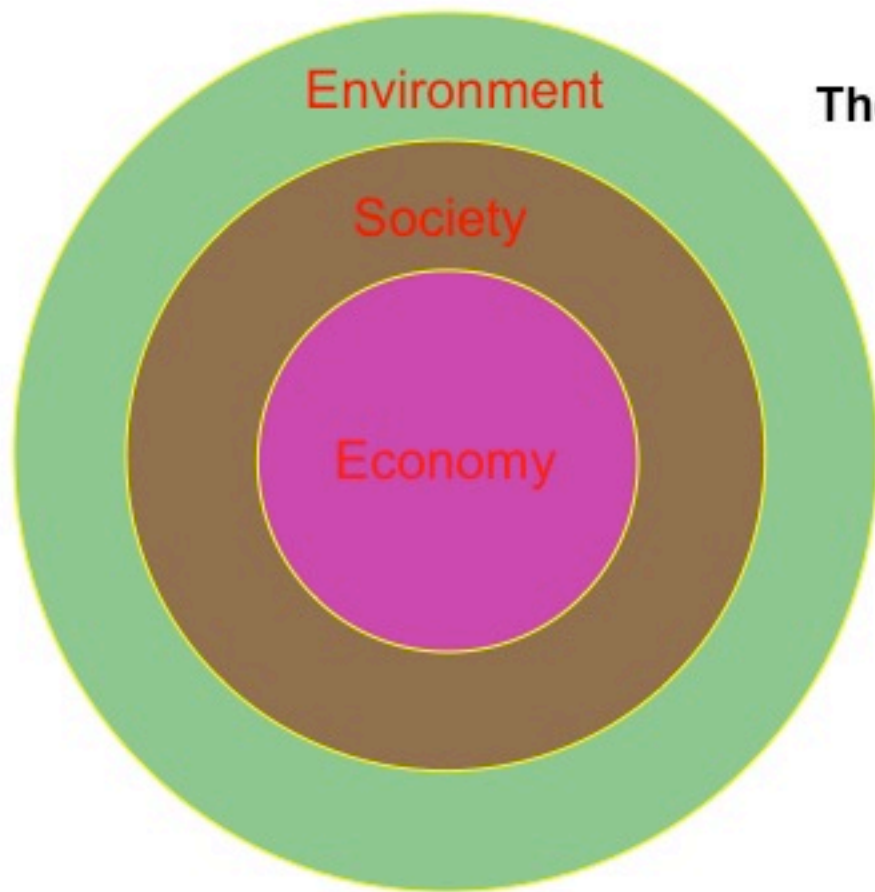
Principles, criteria and indicators approach

François Simard

What have we been doing?

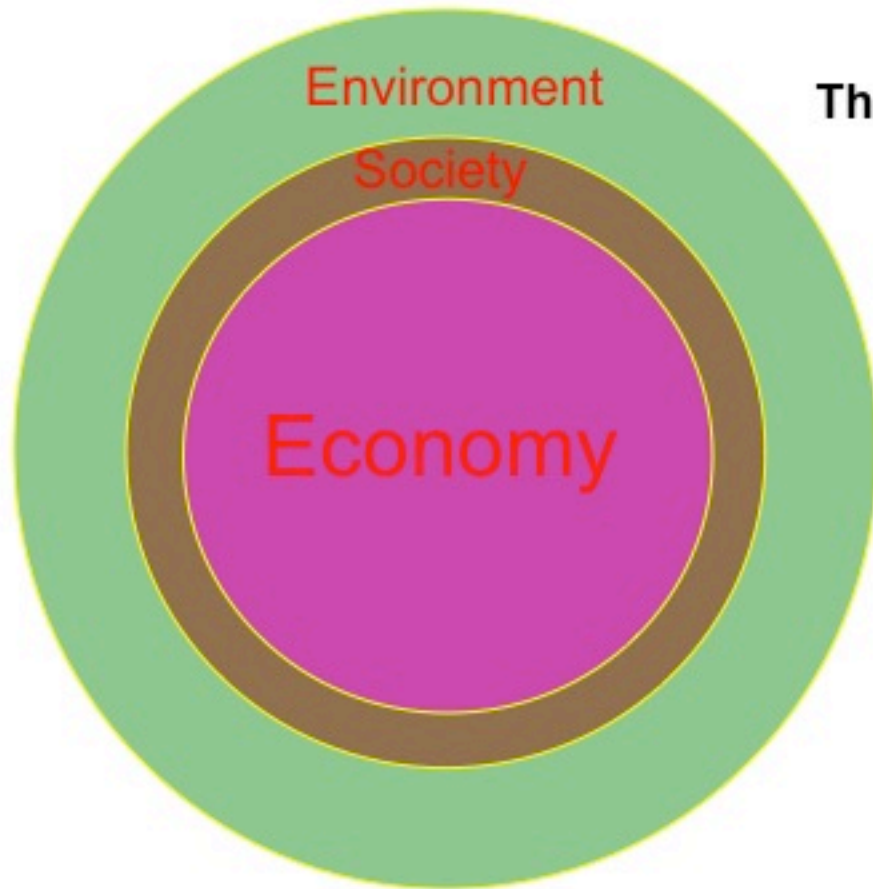
April 2004, Barcelona
"Scoping meeting"
Defining the objectives





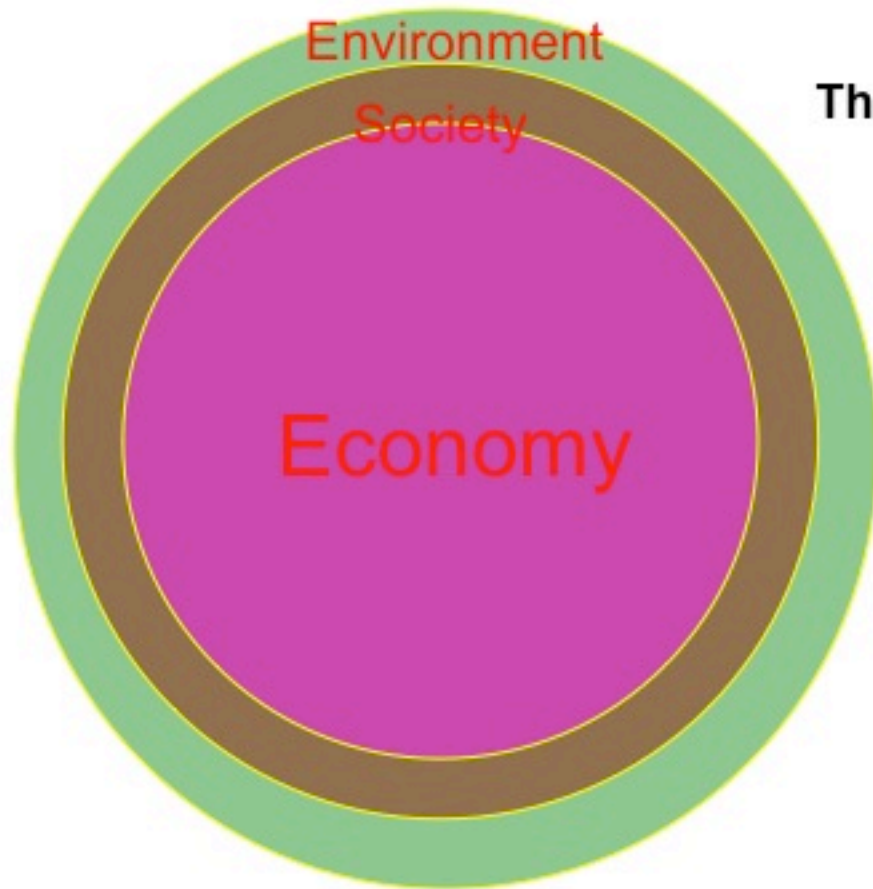
The principles of sustainable development

- ▶ Environmentally acceptable
- ▶ Socially equitable
- ▶ Economically viable



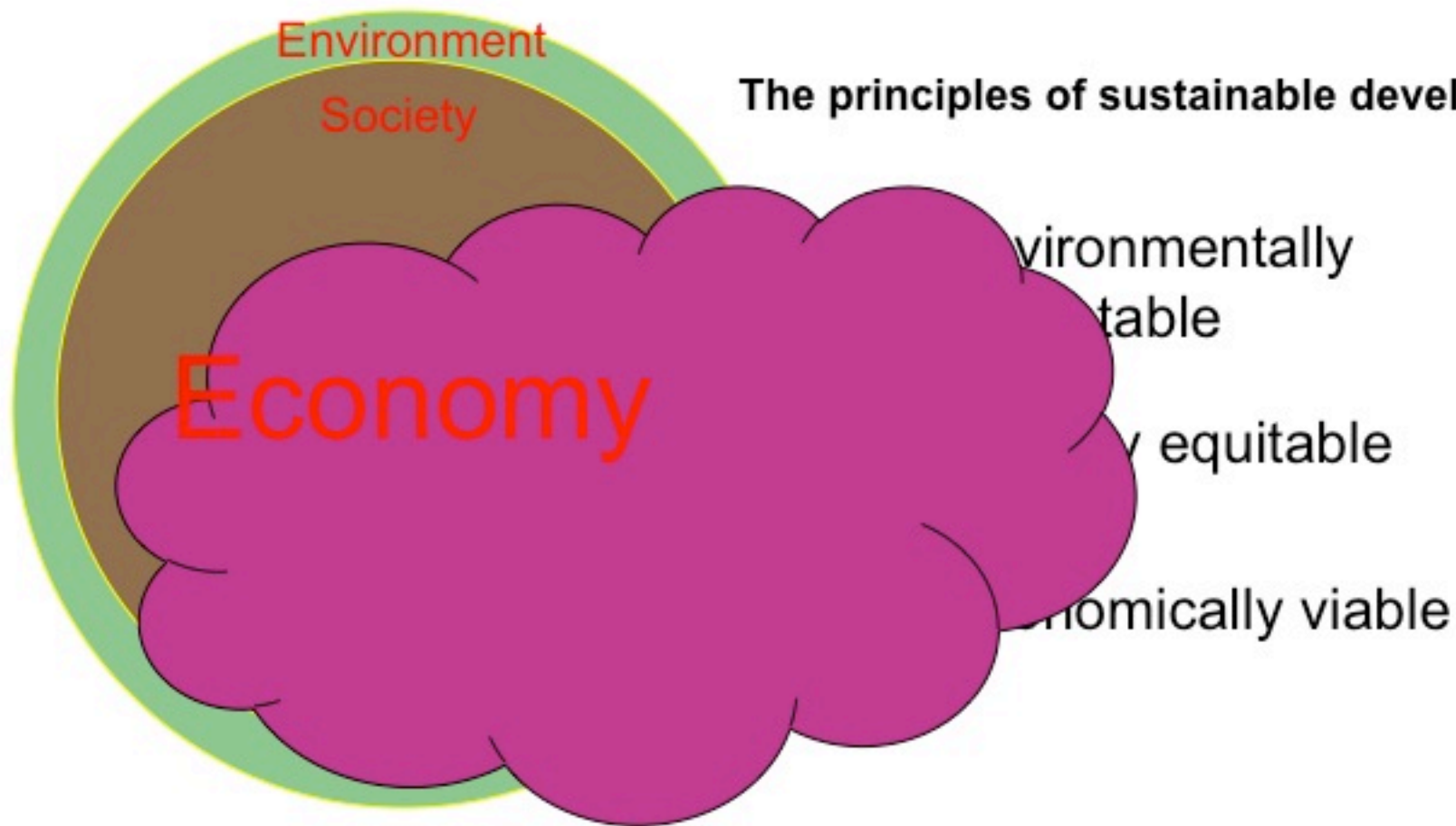
The principles of sustainable development

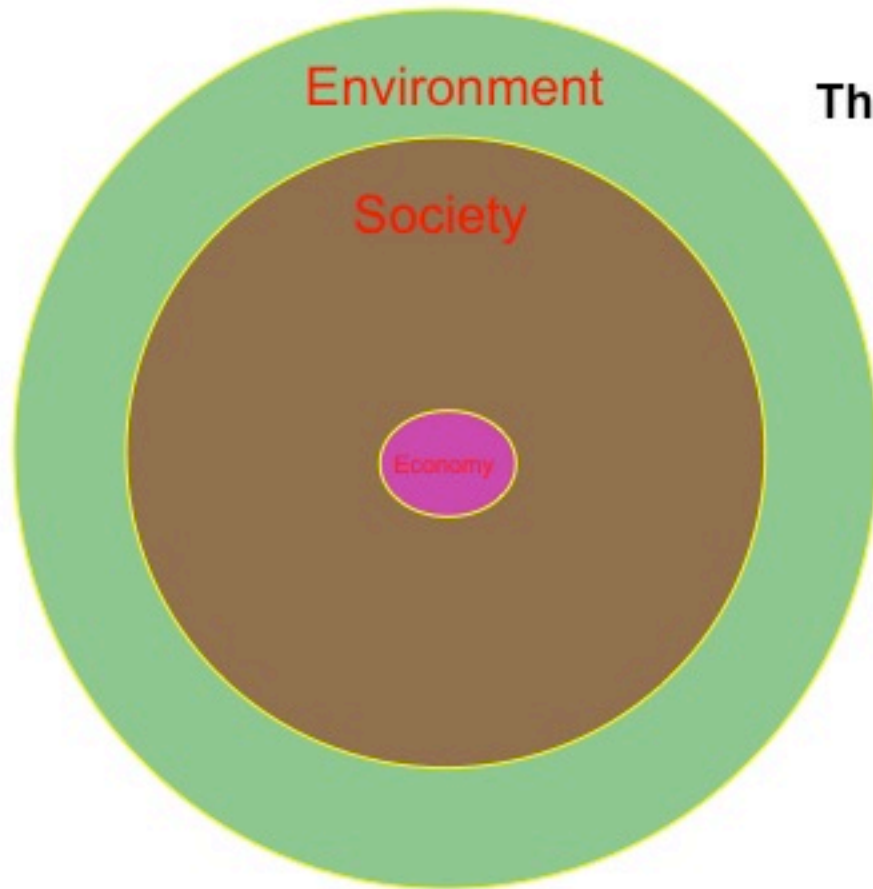
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**Breakout Session1B: Aquaculture
and environment:
Bringing together new partners to
move towards sustainability**

**Ecosystem Management Theme
Sponsored Workshop
November 19th, 2004
Criteria and Indicators for
sustainability in aquaculture.**

What have we been doing?

November 2004, Bangkok
World Conservation Congress

Workshops:

“Sustainable Aquaculture”

“Indicators for the sustainable development of
Aquaculture”

FAO, NACA, WWF

Experts from Europe, South America, North
America, South East Asia, North Africa



Memorandum of Cooperation

between

FEAP – The Federation of European Aquaculture Producers

and

IUCN – The World Conservation Union¹

GIVEN the primary goal of the FEAP is to promote the responsible development and management of a viable European aquaculture sector in order to assure a high standard of quality food production while respecting environmental considerations and consumers' demands;

GIVEN the mission of IUCN in the Mediterranean region is to, *inter alia*, influence, encourage and assist Mediterranean societies in achieving both the conservation and sustainable use of natural resources, and sustainable development;

The FEAP and IUCN (herein represented by the IUCN Global Marine Programme), hereafter referred to as the parties, agree to cooperate in the following broad areas of work:

1. Identify the environmental issues related to the development and management of fish farming in the Mediterranean region;
2. Define and communicate the concept of sustainability in aquaculture, including criteria and indicators;
3. Promote the best environmental management practices for responsible fish farming within the framework of sustainable development (e.g. guidelines, prospective analysis...)
4. Develop and reinforce communication partnerships and links between environmental representatives and the aquaculture sector in the Mediterranean.

In pursuing these cooperation objectives, the parties shall agree written annual plans of work, to be developed in the light and consideration of the parties' respective annual work programmes in order to identify relevant areas of synergy, which will be subject to identifying the necessary financial/resources to achieve these.

Where necessary, the FEAP and IUCN may establish specific Memoranda of Understanding for specific activities and individual projects.

What have we been doing?

February 2005, Brussels

Signing a Memorandum of Cooperation between IUCN Global Marine Programme and the Federation of European Aquaculture Producers FEAP

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2. Define and communicate the concept of sustainability in aquaculture, including criteria and indicators;
3. Promote the best environmental management practices for responsible fish farming within the framework of sustainable development (e.g. guidelines, prospective analysis...)
4. Develop and reinforce communication partnerships and links between environmental representatives and the aquaculture sector in the Mediterranean.

APROMAR (Asociación Empresarial de Productores de Cultivos Marinos) como punto focal del acuerdo

October 2008 Barcelona



What have we been doing?

June 2005, Algiers

Workshop on Sustainable Development of Mediterranean Aquaculture

- 1-Fundamental principles
- 2-Strategies
- 3-Integrated approach
- 4-Tools





What have we been doing?

December 2005, Barcelona

Meeting of the Working Group:
Defining projects and work plans

Coordination with the General Fisheries Commission for the Mediterranean GFCM

December 2005, Roma

Expert meeting for the Environment Aquaculture
Mediterranean EAM network of GFCM

May 2006, Santiago de Compostela

Experts meeting for the Technology and Socio-
Economical Networks of GFCM

November 2006, Roma

Coordination meeting for the Experts Groups of the
GFCM Commission on Aquaculture





**CONVENIO DE COLABORACIÓN
ENTRE EL MINISTERIO DE
AGRICULTURA, PESCA Y
ALIMENTACIÓN (M.A.P.A.) Y EL
CENTRO DE COOPERACIÓN
DEL MEDITERRÁNEO DE LA
UNIÓN MUNDIAL PARA LA
NATURALEZA (U.I.C.N.-MED)**

EL SECRETARIO GENERAL
DE PESCA MARÍTIMA
Juan Carlos Martín Fragueiro

EL DIRECTOR DEL CENTRO DE
COOPERACIÓN DEL
MEDITERRÁNEO DE LA UNIÓN
MUNDIAL PARA LA NATURALEZA
Jaime Russell Skinner

Proyecto: *Líneas directrices para el desarrollo sostenible de la acuicultura marina* 2006-2008

Ministerio de Agricultura, Pesca y Alimentación MAPYA

**LÍNEA DIRECTRIZ 1: *Interacción medio ambiente-acuicultura*
*Las Palmas de Gran Canarias***

Universidad de Las Palmas – BIOGES

Cabildo de Gran Canarias

-Federación de Productores Europeos de Acuicultura FEAP
-Asociación Empresarial de Productores de Acuicultura de España APROMAR

-IEO
-IFREMER
-INRH
Universidades e Institutos

-Comisión General de Pesca para el Mediterráneo CGPM
-CAR/ASP



LAS PALMAS, Avril 2006

Guidelines for the Sustainable development of Mediterranean Aquaculture 2006

With the support of:

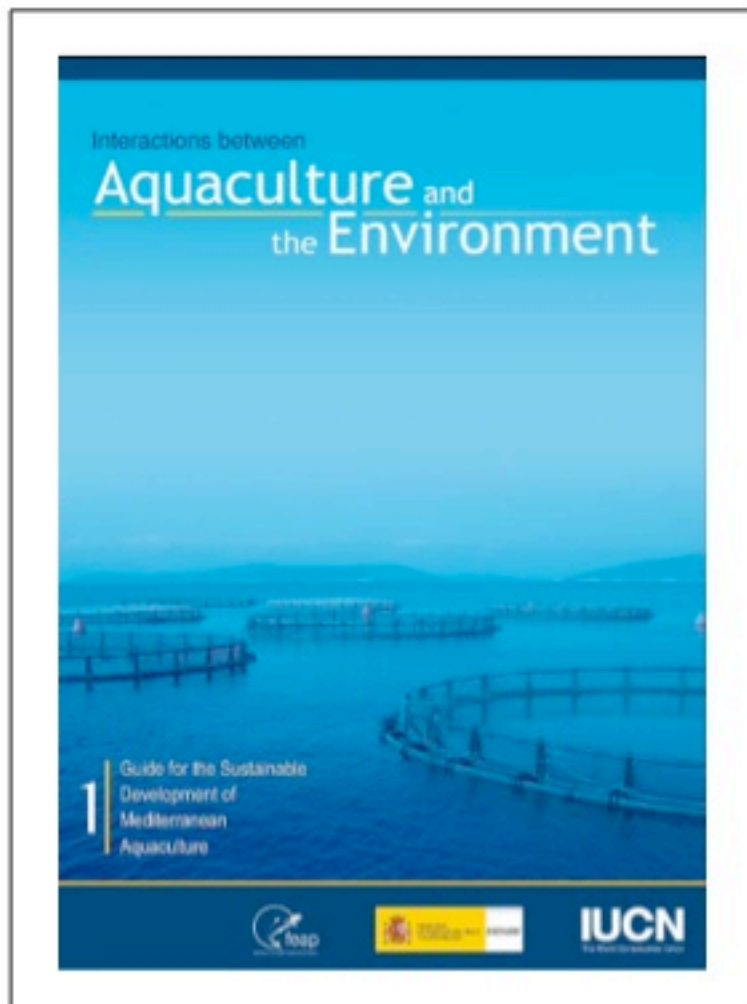
**Ministry of Agriculture, Fisheries and Food of Spain
MAPA**

Guideline 1: Interaction between Aquaculture and the Environment

University of Las Palmas de Gran Canaria – BIOGES
Cabildo de Gran Canaria

- IUCN Centre for Mediterranean Cooperation / Global Marine Programme
- Federation of European Aquaculture Producers FEAP
- Asociación Empresarial de Productores de Acuicultura de España APROMAR
- Spanish Institute of Oceanography IEO
- French Institute for the Sea IFREMER
- Moroccan National Institute of Fisheries INRH
- Lebanon Institute of Oceanography and Fisheries IOF
- Universities (Madrid, Annaba, Mersin, Izmir, Haifa, Montpellier)
- Consultants (Greece, Egypt, Belgium)

- MAP-RAC/SPA
- General Fisheries Commission for the Mediterranean CGPM



Guide A: Domestication

Guide B: Introduced Marine Species

Guide C: Capture of Wild Stocks for Aquaculture Needs

Guide D: Feed Ingredients

Guide E: Organic Matter in the Effluents

Guide F: Pathogen Transfer

Guide G: Therapeutic and other Products

Guide H: Antifouling Products

Guide I: Effects on Local Flora and Fauna





Guide A: The importance of knowledge

Guide B: The participatory approach

Guide C: Social acceptability

Guide D: The precautionary principle

Guide E: The scale approach

Guide F: The adaptive approach

Guide G: Economic aspects



Frameworks

Guide H: The importance of governance

Guide I: The legal framework

Guide J: Administrative procedures

Guide K: Sectoral planning

Guide L: Private sector organizations



Methods

Guide M: Integrated coastal zone management (ICZM)

Guide N: The site selection process

Guide O: The ecosystem approach

Tools

Guide P: Carrying capacity, indicators and models

Guide Q: Environmental impact assessment (EIA)

Guide R: Environmental monitoring programme (EMP)

Guide S: Geographical information systems (GIS)



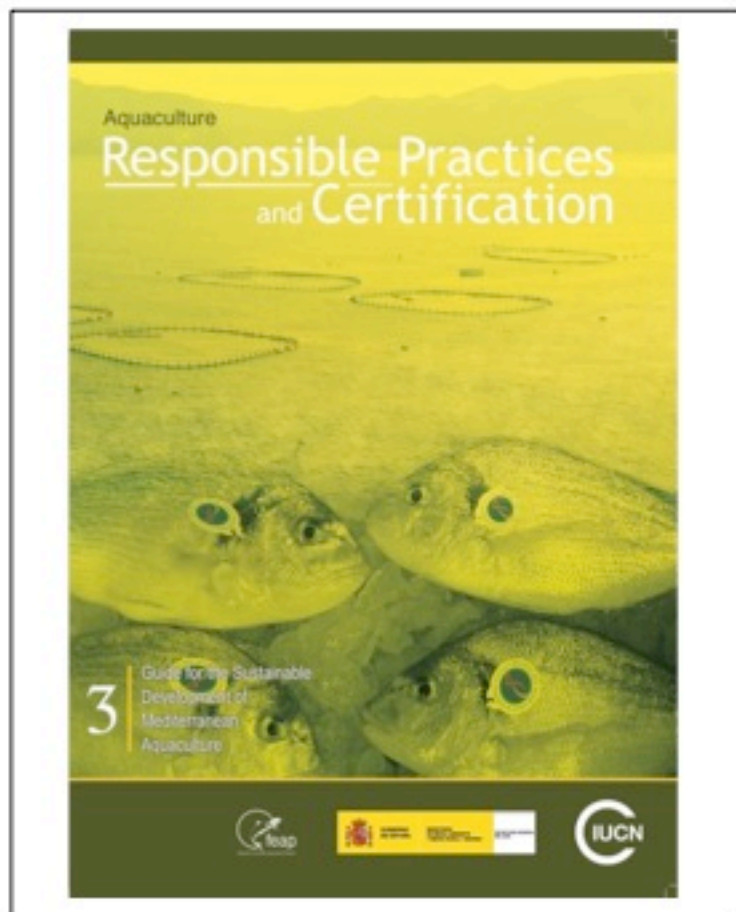
ISTAMBUL, Octobre 2007

ALICANTE, Février 2008



SPLIT, Mars 2008





Guide A. Codes de conduite et bonnes pratiques d'aquaculture

Guide B. Bases pour les programmes de certification

Guide C. Types de programmes de certification

Guide D. Certification de la durabilité

HAMMAMET, Mai 2008



ROME, Septembre 2008



<i>Definition</i>	<i>IUCN/FEAP</i>	<i>example</i>
<i>Impact</i>	The problem we want to minimize	Water pollution
<i>Principle</i>	The guiding principle for addressing the impact IDAqua +	Conserve and protect water resources
<i>Criteria</i>	The area to focus on to address the impact	Effluents
<i>Indicator</i>	What to measure in order to determine the extent of the impact IUCN-OESA	Nitrogen concentration in the effluent
<i>Standard</i>	The number and/or performance level that must be reached to determine if the impact is being minimized CONSENSUS	4 mg/L total nitrogen in effluent ECASA

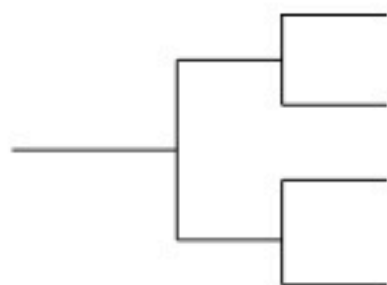
EVAD ↓

WWF

Sustainability indicators

- Comprehensive and consistent with the basis of the sustainable development (economical, social, environmental)
- Reported to agreed norms / standards
- Easy to measure (or Y/N) / User friendly
- Allowing a diagnostic
- Hierarchy, sequential
- Adaptable / usable at various scales

Territories, governance



Site, local, national, regional...