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Key issues towards guidelines for the use of indicators to monitor sustainable development of aquaculture in the Mediterranean and the Black Sea

Working Group on Sustainability of Aquaculture

WGSA

Pablo Avila Coordinator WGSA

Committee on Aquaculture (CAQ) Eighth Session. Paris, France, 13–15 March 2013

GFCM - Palazzo Blumenstihl, Via Vittoria Colonna 1 - 00193, Rome, Italy - Tel: +390657054055

The WGSA & InDAM project

29th sessions of GFCM

...importance of monitoring the development of sustainable aquaculture through the use of indicators...

31st session of the GFCM
Rome, 9–12 January 2007

...approval of the project...

"Indicators for Sustainable Development of Aquaculture and Guidelines for their use in the Mediterranean (InDAM)"...

Objectives

Provide countries with a **comprehensive decision-support tool** for the development of sustainable aquaculture based on:

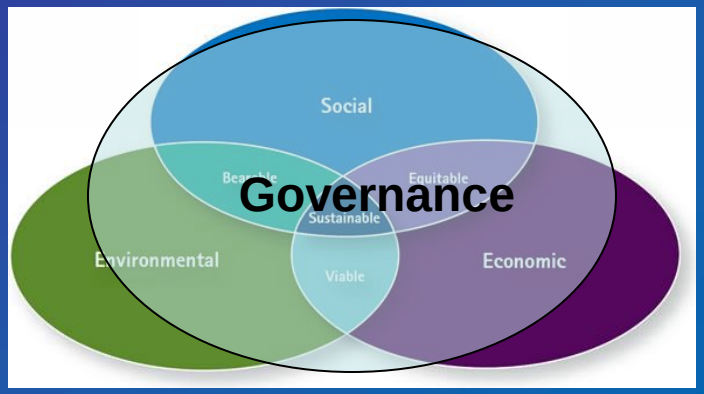
- **Consensus definition** of "**sustainability**".
- **Identification of Indicators of sustainability of aquaculture.**
- **Establishment of a reference system to monitor sustainability.**
- **Guidelines for the use of indicators.**

Strategy & Methodology

Phase I. Methodological

Identification of methodology
PCI approach. **EVAD**

Data Review



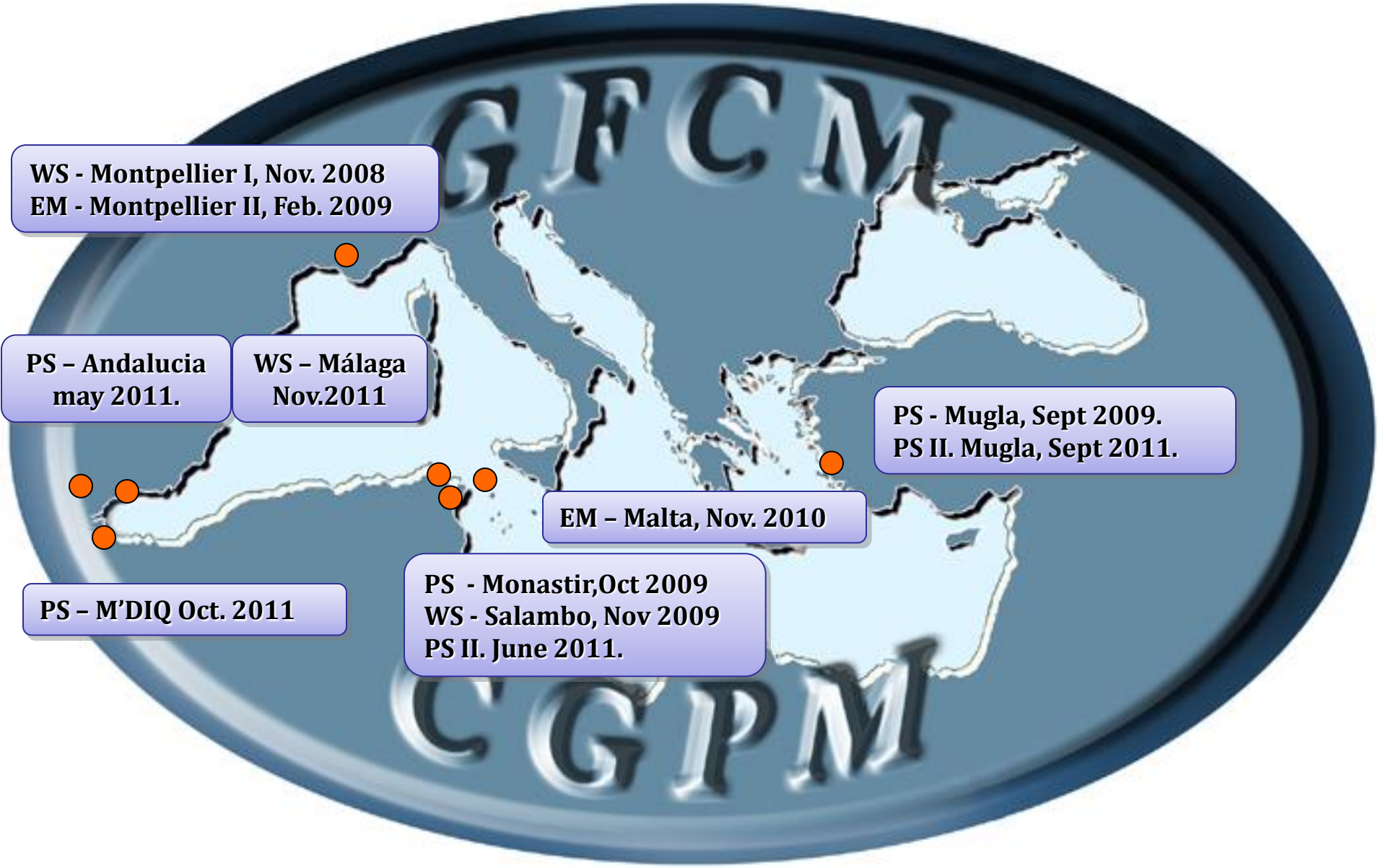
Preliminary list of indicators at Regional level

Experts & Stakeholders meetings and workshops

Assessment of indicators at local level

Phase II. Extension Case Studies

InDAM activities around the Mediterranean



WS - Montpellier I, Nov. 2008
EM - Montpellier II, Feb. 2009

PS – Andalucia may 2011.

WS – Málaga Nov.2011

PS - Mugla, Sept 2009.
PS II. Mugla, Sept 2011.

EM – Malta, Nov. 2010

PS – M'DIQ Oct. 2011

PS - Monastir,Oct 2009
WS - Salambo, Nov 2009
PS II. June 2011.

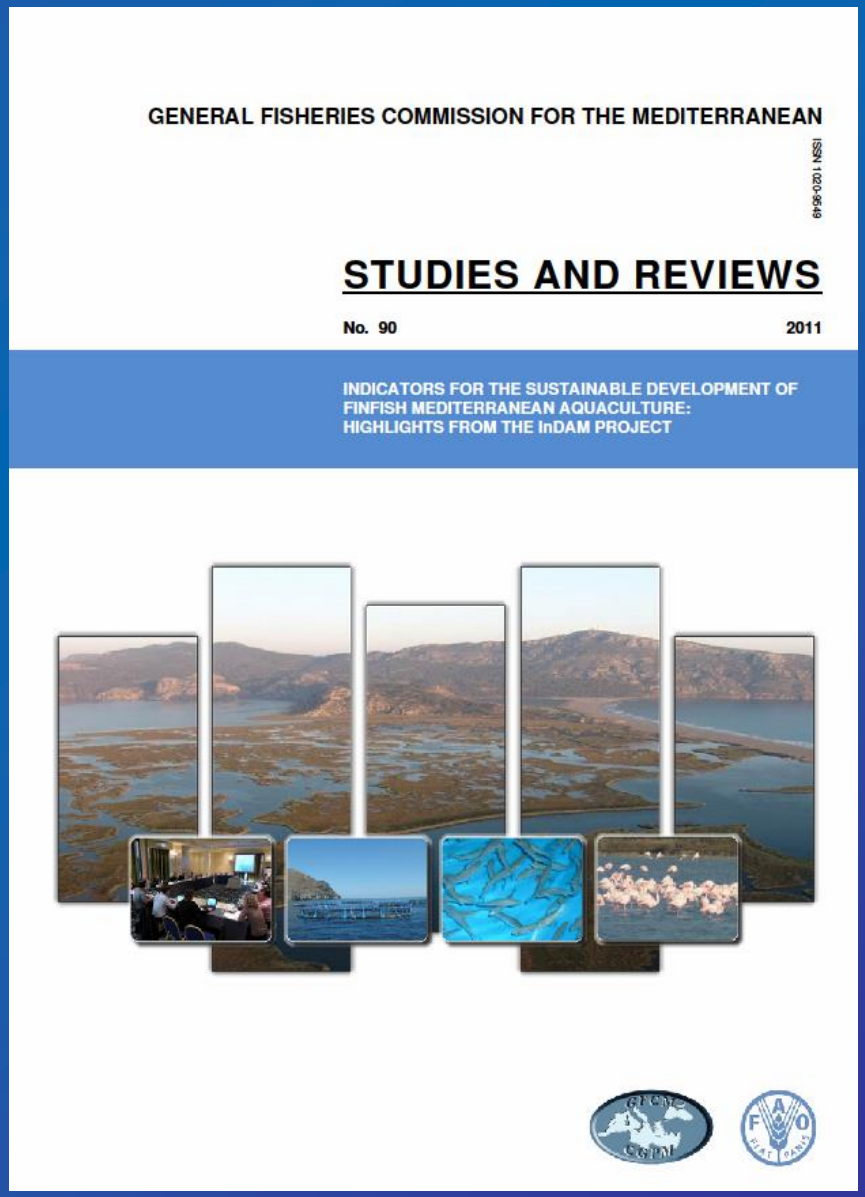
InDAM ACHIEVENTS / INDICATORS

Dimension	Prin.	Crit.	Indic.
Governance	4	19	34
Economic	4	20	52
Social	3	13	18
Environmental	3	15	52

156

21

Dimension	Prin.	Crit.	Indic.
Governance	5	6	6
Economic	5	5	5
Social	3	5	5
Environmental	3	5	5



InDAM ACHIEVENTS / METHODOLOGY

participatory

PCI EVAD

co-construction

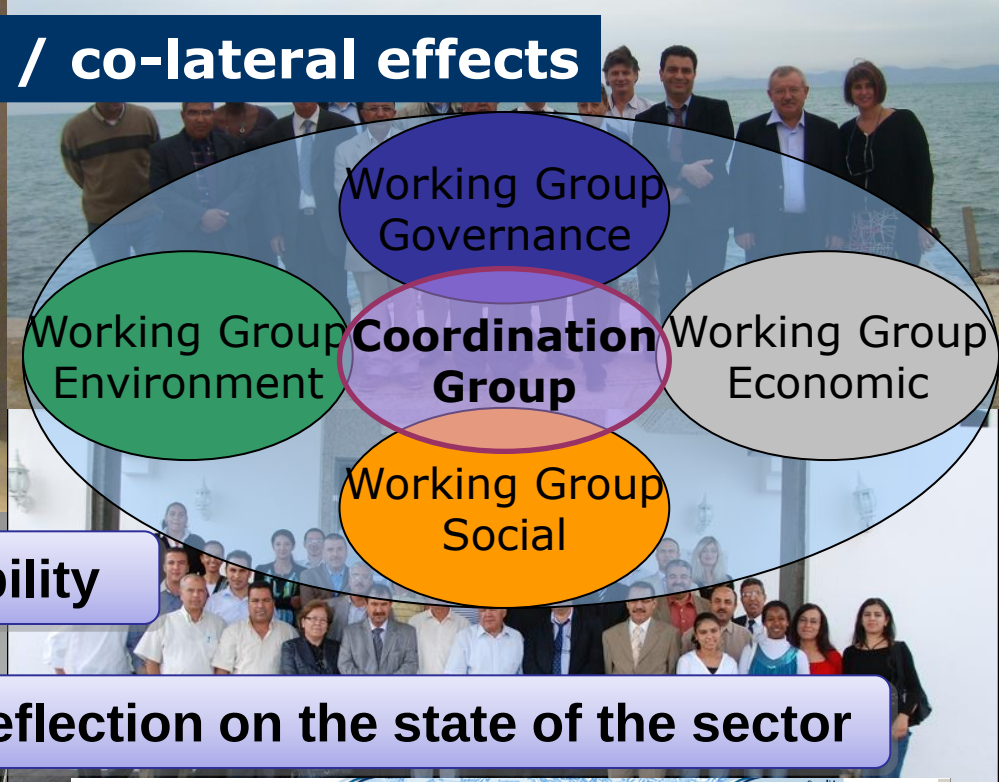
Baja sostenibilidad	Sostenibilidad Media	Alt

INDICADOR	FCR	
2,2	2,0	1,8

INDICADOR	NIVEL DE SOSTENIBILID		
1			
2			
3			
4			
DIMENSIÓN AMBIENTAL		Sostenibilidad Media	

InDAM ACHIEVENTS / co-lateral effects

Stakeholders mobilisation



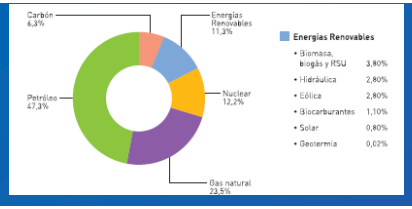
Rise of interest towards sustainability

Starting point towards the global reflection on the state of the sector

Discovery of new issues and needs

Synergies

InDAM Synergies



- Sostenible
- Próximo a la sostenibilidad
- Acercamiento a las sostenibilidad
- Lejos de la sostenibilidad
- Insostenible
- ??? Falta de información o datos
- Situación crítica
- De interés estratégico para España
- Evolución positiva
- Evolución negativa
- Señales de esperanza

INDICADOR	Síntesis	Valoración
DIMENSIÓN ECONÓMICA		
Evolución del precio venta	Su evolución es un factor clave en la estrategia empresarial de la empresa. Positiva en los subsectores de la acuicultura continental y la producción de moluscos, mientras la acuicultura marina presenta valores más inestables. La tendencia es positiva y estable en los últimos años, reforzando la sostenibilidad del sector en la vertiente económica.	
Auto-suficiencia	En el nivel de endeudamiento existe una clara diferencia entre la producción de peces, y la de moluscos, al tener ambas actividades, necesidades de capital muy distintas especulan en el capital circulante. En general el nivel de endeudamiento no es demasiado alto, pero debe focalizarse a su atenuación.	
Número de productos a la venta	Entre los subsectores analizados, la acuicultura marina (incluido moluscos) suele tener más variedad de especies, pero menos de productos, al contrario que la acuicultura continental que produce menos especies, pero una variada gama de productos. Con todo ello, la diversificación de especies y productos es un aspecto siempre deseable debiendo mejorarse el conocimiento del mercado y la evolución de las demandas de los consumidores.	
DIMENSIÓN AMBIENTAL		
Entradas/Salidas	En el caso del cultivo de peces, la eficiencia en los índices de conversión es uno de los aspectos en los que la acuicultura marina debe seguir profundizando, de la mano de la I+D+i. Mientras, en el cultivo de moluscos, estos ratios se refieren sobre todo a la efectividad de la cosecha respecto a la siembra y son más positivos.	
DIMENSIÓN SOCIO-TERRITORIAL		
Calidad en el empleo	La calidad en el empleo a nivel nacional es buena y presenta una tendencia positiva. Esto es fruto de la madurez del sector en cuanto a gestión y gobernanza y del elevado de nivel de reconocimiento y exigencia que presentan las políticas sociales en nuestro país.	
Grado asociacionismo	La acuicultura a nivel nacional y en sus distintos subsectores está bien organizada y representada a nivel sectorial, aspecto que sin duda contribuye a su cohesión y reforzamiento social.	
Existencia de organización sectorial	Desde el punto de vista de la organización sectorial, la acuicultura en sus distintos subsectores presenta valores muy positivos, con un alto grado de dialogo social en el conjunto del sector.	

Recommendations for Aquaculture Management

Aspects Related to the Sustainability of Aquaculture

At the 36th session of the Commission (Marrakech, Morocco, 14–19 May 2012), the CAQ advised that; **regional indicators** for sustainable aquaculture for the governance and for different dimensions of sustainability **should be adopted at regional level** and **should be considered as a tool** at the disposal of GFCM Members **to plan and monitor the progress** of the development of sustainable aquaculture.

The need to promote, enhance and support more sustainable aquaculture (UNCSD or **Rio +20**). Ensure food security, nutrition and provide for the livelihoods of millions of people. Economically viable, while conserving ecosystems and enhancing resilience to climate change and natural disasters.

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Eighth Session
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GFCM:CAQVIII/2013/Inf.10

Recommendations for Aquaculture Management

Aspects Related to the Sustainability of Aquaculture

Key issues towards guidelines for the use of indicators to monitor sustainable development of aquaculture in the Mediterranean and the Black Sea

Within this context, it is envisaged that **a set of guidelines for the use of indicators** will be a much needed **tool to monitor progress towards sustainability** of aquaculture and the implementation of development policies in the GFCM area.

International instruments as well as lessons learnt, best practices, conclusions and recommendations drawn from the experience of implementing InDAM project including the **Guide for the use of indicators**, (see GFCM:CAQ/VIII/2013/Dma.1) could serve as a base for the elaboration of Guidelines.

Guidelines might also applicable to the sustainable development of other systems such as **Coastal lagoons, coastal land-based farms and mariculture and other group of species.**

Recommendations for Aquaculture Management

Aspects Related to the Sustainability of Aquaculture

Key issues towards guidelines for the use of indicators to monitor sustainable development of aquaculture in the Mediterranean and the Black Sea

...it is suggested that a set of guidelines on sustainable indicators to be recommended by CAQ address the following aspects:

- **The sustainability of the aquaculture sector as a potential means to strengthen the public perception of aquaculture, market competitiveness and social acceptability;**
- **The reinforcement and dissemination of the concept of sustainability on aquaculture and the use of indicators, including through specific trainings, outreach sessions and awareness campaigns;**
- **The establishment of a system of indicators at national level together with procedures for its application according to national legislation and agreements among different stakeholders;**
- **The common principles, criteria and related indicators (PCI approach) to describe and monitor the level of aquaculture sustainability in the GFCM area;**

Recommendations for Aquaculture Management

Aspects Related to the Sustainability of Aquaculture

Key issues towards guidelines for the use of indicators to monitor sustainable development of aquaculture in the Mediterranean and the Black Sea

- **The establishment of a regional reference system of aquaculture sustainability by integrating the economic, social, environmental dimensions of sustainable development;**
- **The use of the ecosystem approach to aquaculture (EAA) in the selection of indicators;**
- **The objective for the use of indicators within a regional sustainable reference system;**
- **The objective for which each indicator is identified as adapted to the Mediterranean and Black Sea aquaculture specificities in terms of species reared, technologies and production systems applied;**
- **At national level, multi-stakeholder and consensus-based approach (co-construction) to be mustered during a consultative process to select indicators;**

Recommendations for Aquaculture Management

Aspects Related to the Sustainability of Aquaculture

Key issues towards guidelines for the use of indicators to monitor sustainable development of aquaculture in the Mediterranean and the Black Sea

· **The set of principles, criteria and indicators identified within the framework of the InDAM project that could represent a starting point for further selection processes;**

· **The methodology for the selection of indicators based on qualitative and quantitative tools to assess their applicability and stakeholders consultation for final validation;**

· **The number of selected indicators for each pillar of sustainability balanced among dimensions;**

· **Methodology sheets outlining the geographical level of applicability (i.e. regional, national, local and farm), definitions, methodology to measure the indicator (formula and measurement frequency), the reference values/baselines/standards, and the sources of data and information;**

Recommendations for Aquaculture Management

Aspects Related to the Sustainability of Aquaculture

Key issues towards guidelines for the use of indicators to monitor sustainable development of aquaculture in the Mediterranean and the Black Sea

- **A protocol for the use of indicators, data display (e.g. traffic-light, radar charts), regular revisions of the indicators and associated reference values/baselines/standards;**
- **The adoption and use of a system of indicators at the appropriate level and according to end-users;**
- **Capacity-building measures on the use of indicators targeting the main end-users.**