



GENERAL FISHERIES COMMISSION  
FOR THE MEDITERRANEAN  
COMMISSION GÉNÉRALE DES PÊCHES  
POUR LA MÉDITERRANÉE



**GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN**

**Thirty-first Session**

**Rome, Italy, 9-12 January 2007**

**REPORT OF THE CAQ COORDINATING MEETING OF THE  
WORKING GROUPS (CMWG)\*  
Rome, Italy, 6-7 November 2006**

**DRAFT**

\*AVAILABLE ONLY IN ENGLISH

## Opening of the meeting

1. Following the deliberations of the GFCM Committee on Aquaculture (CAQ) at its Fifth session (5–7 June 2006, Santiago de Compostela, Spain), the first Coordinating Meeting of the ad hoc Working Groups (CMWG) was held at the FAO Headquarters, from 6 to 7 November 2006. In total, 17 experts and 5 officers from the Secretariat participated. The list of participants is attached hereto as Appendix B to this report.

2. Mr Salem Hadj Ali (Tunisia), Chairperson of the GFCM, and Mr Spryos Klaudatos (Greece), Chairperson of the CAQ, opened and welcomed the experts to the meeting. The apologies of the CAQ Technical Secretary, who was unable to attend, were conveyed. The Agenda was adopted and is attached as Appendix A to this report.

## Background and main activities of the CMWG

3. The GFCM Executive Secretary presented an overview of the decisions taken at the Fifth session of the Committee on Aquaculture and in particular reviewed the scope and the Terms of Reference of the Coordinating Meeting of the ad hoc Working Groups in question.

4. The main objective of the CMWG was to re-organize, prioritize, streamline and reschedule, with an appropriate budget proposal, the various project proposals and activities identified through the Experts Meeting on the re-establishment of the Network on Environment and Aquaculture in the Mediterranean (EAM) (Rome, Italy, 7–9 December 2005) and Expert Meeting to identify the needs of a subsidiary body on the technical and socio-economic aspects of aquaculture in the Mediterranean (Santiago de Compostela, Spain, 2–3 June 2006) for which a number of project briefs were distributed to the experts prior to the meeting. The Secretariat clarified that the project briefs were to be used only as examples in order to develop the work plan of the Committee.

5. Based on the aforementioned, the experts, based on their expertise and background, gathered in three separate groups to discuss the topics under each of the ad hoc Working Groups as indicated below. A coordinator was chosen for each Working Group. The list of experts in each of the Working Groups is attached hereto as Appendix C. Guidelines were issued to the Working Groups on the tasks to be undertaken which *inter alia* called for consideration to be given to the CONSENSUS Project and sustainability guidelines recently discussed by IUCN.

### *Ad hoc Working Group on Marketing*

The main issues discussed included:

- fish transportation, commercialization and producers–distributors relation;
- image of the aquaculture sector and its products; and
- market synergies with fish from the capture sector.

### *Ad hoc Working Group on Sustainability*

The main issues discussed included:

- the ecosystem (holistic) approach;
- definition and usage of appropriate indicators and monitoring measures;
- interaction between aquaculture and the environment and other coastal activities;
- aquatic animal health and welfare through best available practices; and
- bio-security concepts.

### *Ad hoc Working Group on Siting and Carrying Capacity*

The main issues discussed included:

- integration of aquaculture with other coastal management issues;

- carrying capacity assessment;
- interaction with current national legal frameworks; and
- proposal for harmonizing regional guidelines for aquaculture site allocations and management.

6. Ms Soto of the Secretariat provided a short description of the project-activity funding process. She indicated that, should GFCM consider some of the proposed activities to be relevant, approval and funding may be provided directly by the GFCM and/or some Member countries, whilst funding for larger projects would require contributions from one or more donors.

### **Working Groups discussions**

7. The Ad hoc Working Group on Marketing proposed that in order to promote the aquaculture image, a series of surveys on production business and marketing issues are carried out. It was further suggested that country reports be prepared to produce an assessment on the present market situation of each country and that recommendations for future action be provided. Such surveys should include both managerial and marketing needs focusing on the role of the producer associations. The panel of experts called upon the Working Group to take into consideration the multi-dimensional concept of aquaculture.

8. The experts noted that the current data and information provided by SIPAM was insufficient and did not fulfil the requirements of the Working Group. It was proposed that additional data be sought from SIPAM in order to meet the immediate objectives of the Working Group. Attention was also raised to the obstacles encountered when obtaining such data from SIPAM.

9. The Ad hoc Working Group on Sustainability raised the issue of defining sustainability in aquaculture and outlined their work plan pertaining to the development of aquaculture sustainability indices and their value within the framework of an ecosystem approach to aquaculture. The panel of experts suggested that as the Working Group on Marketing and the one on Siting and Carrying Capacity formulate part of the sustainability realm or framework. Interaction amongst the three groups would be most productive. In conclusion, it was noted that sustainable indicators are indeed meaningful for farmers and that there is a need for more emphasis on sustainability and society rather than only on environment sustainability.

10. The Ad hoc Working Group on Siting and Carrying Capacity focused, in particular, on the possibility of developing aquaculture zones owned by local regional/country governing authorities and also the need for common tools in order to estimate the best siting and holding capacity. In this regard, the panel of experts proposed that the Working Group focuses more on the development of tools for decision making.

### **Plenary discussion of the work plans, timeframe, operational and budget requirements**

12. The draft work plans / project briefs of each Working Group are attached in appendix to this report.

13. The ad hoc Working Group on Marketing presented their proposal which consisted of two activities/projects, as follows (see Appendices D/1, D/2 and D/3):

**Project title:** *Development of a strategy for marketing and promotion of Mediterranean aquaculture products*

14. According to the Working Group such activities are aimed at obtaining a better understanding of Mediterranean aquaculture. This would be achieved by providing quantitative and qualitative information on market and marketing trends and in turn formulate market recommendations for further development of the sector. The project total would be in the region of €68 000 and would be executed

over a period of 14 months. In order to carry out the project a survey would need to be carried out along with an expert meeting.

**Project title:** *Image building in Mediterranean aquaculture*

15. This activity aims at promoting the image of aquaculture by increasing awareness amongst aquaculture stakeholders through training and developing communication tools. Practical actions must target producers, decision-makers and consumers. The project would be executed over a period of 14 months and would involve surveys, experts meetings, training and dissemination activities. The total cost of the project would amount to €30 000.

16. The ad hoc Working Group on Sustainability presented the following proposal and work plan (see Appendix E):

**Project title:** *Employing the ecosystem approach in selection of INDicators for sustainable Development of Aquaculture and guidelines for their use in the Mediterranean (INDAM)*

17. The work plan proposed by the Working Group intends to focus on the practical use of the indicators provided by stakeholders, at all levels, and subsequently be applied directly to the Mediterranean. Activities would include surveys of indicators, adaptation of the most appropriate ones to the Mediterranean (through pilot studies) and development of appropriate guidelines. This would be a 3/4-year programme split into two phases. Phase one, could consist of two sub-phases, budgeted at €65 000 each; the second phase was estimated at €470 000. An allocation for the coordinator is also included in the budget proposal.

18. Concern was raised with regard to the interaction of the farmers and of alternative initiatives which have, apparently, already been implemented, for e.g. the indicators developed by CONSENSUS have already been implemented by FEAP. A most important factor which was raised during the discussions was that such a programme should also consider a certification or eco-labelling scheme as a medium/long-term objective; hence farmers would find the scheme more meaningful and profitable.

19. The ad hoc Working Group on Siting and Carrying Capacity presented the following proposal (see Appendix F):

**Project title:** *Developing siting and carrying capacity guidelines for Mediterranean aquaculture within aquaculture appropriate areas (SHOC MED)*

20. Considering that there is considerable variability in currently used procedures and standards amongst Mediterranean countries, this project aims to develop common procedures across countries in order to ensure fair competition and minimal environmental damage, but also to enhance aquaculture growth. The project proposes to explore the potential for using Allocated Zones for Aquaculture (AZA) as a means for improving sustainable growth of the sector and would explore the consequences of site selection and holding capacity under increasing production scenarios as well as identify bottlenecks for production related to siting. The project would also carry out surveys, expert meetings and procedural testing of guidelines through case studies. The project would amount to €870 000 over a period of 40 months.

21. It may be noted that all the proposed activities of the three Working Groups entail initial activities (with duration of approximately 12 months and a defined budget) which would, of course, also require a full project proposal in order to fund a substantial part of the activities.

22. In conclusion, the experts agreed that the recommendations of the Working Groups should in fact be developed further and the Coordinators were requested to prepare a work plan. The question of funding was raised and it was agreed that the GFCM/CAQ should seek to provide minimum funding in order for the coordinators to carry out such activities.

23. The overall consensus was that programme of work proposed by each Working Group was concrete and that the proposed budget, although high is in fact justified. It was agreed that the Working Groups would prepare their respective work plans and budget expenditures on an annual basis. The proposed Coordinators of the Working Groups were identified as follows: Mr Rad (Marketing), Mr Angel or Mr René (Sustainability) and Mr Karakassis (Siting and Carrying Capacity), agreed to submit the revised proposals to the Secretariat by mid November 2006.

24. The Secretariat outlined the terms of reference of the CAQ (Rule X), which were subsequently discussed by a small team during the meeting (Appendix G). Such TORs were revised and proposed to the plenary and subsequently adopted.

**Appendix A****AGENDA**

1. Opening of the meeting
2. Adoption of the Agenda
3. Overview of the decisions taken at the Fifth session of the Committee on Aquaculture (CAQ)
4. Meeting procedure and working groups arrangements
5. Working Group discussions on the medium-term work plans for the three ad hoc Working Groups
6. Presentation of the Working Group discussions and proposal of draft medium-term work plans
7. Plenary discussion of the work plans, timeframe, operational and budget requirements
8. Finalization of medium-term work plan in plenary
9. Impact on SIPAM databases and activities
10. Terms of Reference of the Committee on Aquaculture
11. Preparation of an executive summary of the meeting
12. Closure of the meeting

## Appendix B

## LIST OF PARTICIPANTS

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## Appendix C

**LIST OF EXPERTS IN EACH OF THE AD HOC WORKING GROUPS**

<b><i>MARKETING GROUP</i></b>		
Ferit Rad	Turkey	<b>Group Coordinator</b>
Courtney Hough	Belgium / <b>FEAP</b>	
Ann-Mari Haram (Ms)	Denmark / <b>EUROFISH</b>	
Raymon Van Anrooy	FAO	
Salem Hadj Ali	GFCM SIPAM	
<b><i>SUSTAINABILITY GROUP</i></b>		
Dror Angel	Israel	<b>Group Co-Coordinator</b>
Donatella Crosetti (Ms)	FAO	<b>Group Co-Coordinator</b>
François Simard	Spain / <b>IUCN</b>	<b>Group Co-Coordinator</b>
Spyros Klaudatos	CAQ Chair	
Hayri Deniz	CAQ 1 <sup>st</sup> Vice Chair	
Eduardo Chiá	France	
Fabio Massa	ADRIAMED Project	
François René	CAQ 2 <sup>nd</sup> Vice Chair	
<b><i>SITING &amp; CARRYING CAPACITY GROUP</i></b>		
Yannis Karakassis	Greece	<b>Group Coordinator</b>
Joseph Borg	Malta	
Jean-Claude Cueff		
Pablo Sanchez	Spain	
Doris Soto (Ms)	FAO	
Ibrahim Okumus	Turkey	
Lorenzo Venzi	Italy	

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**Appendix D/1**

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**Project title:** *Development of a strategy for marketing and promotion of Mediterranean aquaculture products*

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**Justification**

Globalization and worldwide liberalization of trade including seafood trade have created opportunities and benefits for aquaculture industry, but have also led to hard competition in world seafood markets. Competing in the present trade environment requires a shift from a production-oriented approach to a market-oriented production strategy addressing the emerging issues such as product quality and safety, economic efficiency and market promotion. To this end, planning and formulation of development strategies for promotion of a market-oriented, competitive and proactive aquaculture industry in the Mediterranean requires a clear understating of the present situation based on quantitative market data, qualitative assessments of comparative advantages and constraints.

**Objectives**

- To contribute to a better understanding of the present situation in the Mediterranean aquaculture by providing quantitative market data and qualitative assessments of comparative advantages and constraints.
- To develop a common methodology and template for collection of market information for the Mediterranean by the SIPAM Network in the future.
- To formulate market recommendations for the development of the Mediterranean aquaculture industry and its products.

**Main Activities to be undertaken (stages: S<sub>1</sub>.....)**

- S1 - Contracting the Lead Institution to carry out the project
- S2 - Establishment of Expert Group by Lead Institution
- S3 - Review of existing information to identify gaps by Lead Institution
- S4 - Expert Group meeting to formulate the common methodology and template for national reports
- S5 - Arrangement of the contracts for implementation of the concerted action at national level
- S6 - Preparation of national reports and validation procedures for submission of draft final document to ad hoc Working Group on Market
- S7 - Finalization of the final report by Lead Institution
- S8 - Organization of a meeting to disseminate and discuss findings and recommendations
- S9 - Presentation of the results for endorsement by Sixth session of CAQ
- S10 - Editing and publication of final document

**Ongoing Activities**

Aquaculture reviews of FAO  
Eurofish-Infosamak  
MedAqua (FEAP)

**Responsible Agencies**

Eurofish will be the Lead Institution

### **Supporting Agencies/Networks**

SIPAM  
 MedAqua (FEAP)  
 GFCM  
 University of Mersin

### **Prior activities required**

None

### **Timetable**

Starting in March 2007  
 Ending in May 2008

### **Indicators of Achievements**

Increase awareness among decision-makers  
 Increase awareness among producers  
 Reflection of recommendations into national aquaculture strategies of GFCM Member countries

### **Means of Verification**

Proposed methodology for national reports  
 Reporting template  
 Final report

### **Assumptions and Risks**

Poor motivation and contribution from contact points at national levels  
 Lack of data at national levels

### **Outputs**

- Country reports:
  - Review of aquaculture in each Mediterranean country with focus on markets and marketing
  - Market recommendation
- Final document:
  - Country reports
  - Market recommendations for the Mediterranean aquaculture
  - Common methodology and template for market reports to be used by SIPAM

### **Estimated Budget**

- |   |         |
|---|---------|
| • Administrative, operational and technical assistance costs: | €15 000 |
| • Meeting of expert group:                                    | € 8 000 |
| • Preparation of national reports:                            | €30 000 |
| • Organization of back to back meeting:                       | €10 000 |
| • Editing and publication of final document:                  | € 5 000 |

**Total: €68 000**

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**Appendix D/2**


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**Project title:** *Image building in Mediterranean aquaculture*

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### **Justification**

The issue of “image” is a crucial issue for further development of aquaculture industry. In many cases and countries aquaculture sector has shown to be reactive rather than proactive in addressing the issues associated with aquaculture image. Aquaculture industry needs to adopt a proactive approach in promotion of its image and has to increase awareness among aquaculture stakeholders through training and developing communication tools. To this end the training requirements and communication tools along with practical actions targeting producers, decision-makers and consumers must be identified.

### **Objectives**

#### *Improving competences/Capacity Building*

- To contribute to image building in Mediterranean aquaculture by identifying the training needs for improved managerial/marketing skills in the sector
- Promote the incorporation of best management practices
- Identify the means needed for implementation of the objectives and outcomes of the surveys

#### *Communication for Image Building*

- Promote the involvement of Producers’ Associations in image building activities
- Identify the best communication tools for improving the image of aquaculture
- Promote the skills of Producers’ Association in crisis management
- Identify the means needed for implementation of the objectives

### **Main Activities to be undertaken (Stages: S1....)**

- S1 - Contracting the Lead Institution to carry out the project
- S2 - Establishment of expert group
- S3 - Review of existing information and ongoing projects to identify gaps
- S4 - Expert Group meeting to formulate the methodology for surveys on identification of training needs and communication tools
- S5 - Arrangement of contracts for implementation of the two separate surveys for identification of training needs and communication tools
- S6 - Preparation of draft document and validation procedures for submission of draft final document to the ad hoc Working Group
- S7 - Finalization of the final report by Lead Institution
- S8 - Organization of a meeting to disseminate and discuss findings and recommendation
- S9 - Preparation of a follow up project for implementation of recommendation for skill improvement and communicating tools
- S10 - Presentation of the results for endorsement by Sixth session of CAQ
- S11 - Editing and publication of final document
- S12 - Dissemination of results in the existing websites

### **Ongoing Activities**

Wave-AquaTT  
MedAqua (FEAP)/Marketing

Various FAO projects

**Responsible Agencies**

FEAP is proposed as the lead institute to carry out the project.

**Supporting Bodies**

AquaTT  
SIPAM  
University of Mersin  
GFCM  
CIHEAM  
Eurofish  
EAS

**Prior Activities required**

None

**Timetable**

Starting in March 2007  
Ending in May 2008

**Indicators of achievements**

Highlight priority training needs  
Recommendation for improving communication tools  
Recommendations for better crisis management in the sector

**Means of verification**

Survey methodology (sample size and allocation)  
Reporting template  
Workshop report

**Assumptions and risks**

Poor motivation and contribution from contact points  
Delay in delivering of the reports by contractors  
Expertise for face to face interviews  
Lack of cooperation from producers

**Outputs**

- Country reports:
  - Results of surveys on identification of training needs which will improve managerial skills to improve aquaculture image
  - Results of surveys on identification of communication tools for improving the image of aquaculture
- Final document:
  - Country reports
  - Recommendations for image buildings
    - Training needs for improving managerial and marketing skills

- Communication tools
  - Crisis management
  - Best management practices
- Provide some insights for the role SIPAM can play in image promotion of aquaculture in the Mediterranean
  - Follow-up project for implementation of the recommendations for image building

**Estimated Budget**

- Administrative , operational and technical assistance costs: €25 000
- Meeting of expert group: €10 000
- Two Surveys(face to face): €50 000
- Workshop on dissemination of results: €30 000
- Editing and publication of final document: € 5 000
- Dissemination of results in the existing websites: €10 000

**Total: €130 000**

## Appendix D/3

Draft work schedule for two concerted actions proposed by ad hoc Working Group on Marketing (see Appendices D/1 and D/2).

Actions to be taken (Stages)	Concerted Actions						Costs (€)
	PROJECT on: Market survey and recommendations			PROJECT on: Image building			
	Code	Cost (€)	Timing	Code	Cost (€)	Timing	
Contracting Lead Institute (1 <sup>st</sup> payment)	S <sub>1</sub>	7 500	March 2007	S <sub>1</sub>	12 500	March 2007	20 000
Establishment of Expert Group	S <sub>2</sub>	-	April 2007	S <sub>2</sub>	-	April 2007	-
Review of existing information and projects	S <sub>3</sub>	-	May-June 2007	S <sub>3</sub>	-	May-June 2007	-
Expert Group meeting to develop a common methodology	S <sub>4</sub>	8 000	July 2008	S <sub>4</sub>	10 000	July 2007	18 000
Preparation of National reports/ Implementation of 2 Surveys	S <sub>5</sub>	30 000	August- November 2007	S <sub>5</sub>	50 000	August- December 2007	80 000
Submission of draft final documents by Lead Institutes to Working Group/Validation procedures	S <sub>6</sub>	-	January 2008	S <sub>6</sub>	-	March 2008	-
Finalization of final report by Lead Institute (2 <sup>nd</sup> payment)	S <sub>7</sub>	7 500	March 2008	S <sub>7</sub>	12 500	May 2008	20 000
Organization of workshop for discussion and dissemination of results	S <sub>8</sub>	10 000	April 2008	S <sub>8</sub>	20 000	June 2008	30 000
Preparation of a follow up project for implementation of recommendations for image building	-	-	-	S <sub>9</sub>	10 000	July- August 2008	10 000
Presentation of results for endorsement by Sixth Session of CAQ	S <sub>9</sub>	-	June 2008	S <sub>10</sub>	-	September 2008	-
Editing and publication of final document	S <sub>10</sub>	5 000		S <sub>11</sub>	5 000		10 000
Dissemination of results in the existing websites	-	-	-	S <sub>12</sub>	10 000		10 000
<b>Estimated Total Budget (Excluding coordinating costs)</b>	-	<b>68 000</b>	<b>2007-2008</b>	-	<b>13 000</b>	<b>2007-2008</b>	<b>198 000</b>
Coordinating costs		5 000			10 000		15 000
<b>Total Estimated Budget (Including coordinating costs)</b>		<b>73 000</b>			<b>140 000</b>		<b>213 000</b>

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## Appendix E

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**Project title:** *Employing the ecosystem approach in selection of INdicators for sustainable Development of Aquaculture and guidelines for their use in the Mediterranean (INDAM)*

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The following is a proposal for a preliminary study focusing on the selection of indicators for sustainable aquaculture. This study should serve as the initial phase of a larger, multi-annual project (see below) where candidate indicators will be evaluated and refined, in an iterative process, by teams of stakeholders and representatives of the aquaculture industry.

### Objectives

- Production of a list of suitable indicators for Mediterranean aquaculture, as a basis for actions to enhance sustainability of this industry.
- Providing policy makers with a comprehensive decision support tool (composed of indicators) regarding sustainable aquaculture development in the Mediterranean.

### Justification

- Previous work (e.g. CONSENSUS and other projects) has focused on establishing comprehensive lists of indicators; this project will focus on the practical use of the indicators (e.g. indicators for eco-labeling) by stakeholders (farmers, users of coastal zone, decision makers, NGOs, etc.) at all levels.

### Activities

- Definition of “sustainability” (carry on this work, using existing documents and ongoing projects, e.g. EVAD, CONSENSUS) for all stakeholders, in an effort to establish a consensus definition.
- Establishment of annotated bibliography summarizing all existing documents and projects (past, present, future) related to sustainable development of aquaculture (and environmental interactions of aquaculture) in order to define potential synergies with this project.
- Definition of “ecosystem approach” to serve the purpose of the project.
- Establish a survey of all regional and national R&D programs to understand and monitor aquaculture-environment interactions in the Mediterranean region. For national programs, information could be gathered by SIPAM, through the coordination of its National Coordinators; if all GFCM countries become SIPAM members, we would have much more comprehensive information.
- Carry out a census of all published indicators on aquaculture – sustainability (building on existing work, such as CONSENSUS and IUCN - Montpellier University document).
- Refine and adapt the list of indicators to include only those that are suitable to Mediterranean aquaculture (focusing on species, environments, culture techniques, socio-economic factors, etc.).
- Develop a weighting system for indicators for different audiences and different aquaculture systems.
- Establish guidelines for use of the indicators, including feasibility, practicality, expertise-requirements, cost-effectiveness, etc.

### Work plan and budget

- Coordination (coordinator + assistant – 4 months – 20K).
- Annotated bibliography of existing literature and projects on sustainable aquaculture (2 months – 6K).
- Census of all published indicators for sustainable aquaculture (2 months – 6K).

- Meeting to discuss the meaning of “sustainability” & “ecosystem approach”, to review indicators in order to establish a short-list of indicators for Mediterranean aquaculture & to discuss sources of funding for a larger project (10 participants – 3 days – 20K).

Total cost €2 000

## **MULTI-ANNUAL PROJECT PROPOSAL**

### **Objectives**

- Definition of “ecosystem approach” to serve our purpose
- Definition of the target audience that will use the indicators and development of a weighting system for different audiences and different aquaculture systems
- Establish a list of all existing documents and projects (past, present, future) related to sustainable development of aquaculture in order to define potential synergies with this working group
- To establish an all-inclusive list of indicators applicable to Mediterranean aquaculture
- To create a list of the most suitable indicators for Mediterranean aquaculture, on the basis of expert input and feedback from stakeholders
- To provide policy makers with a comprehensive decision support tool (indicators) regarding sustainable aquaculture development

### **Justification/Innovation**

- Previous work on indicators for aquaculture (e.g. CONSENSUS) focused primarily on cold water environments and cold-water finfish species; this group will focus on Mediterranean finfish and shellfish species, conditions and environments
- Previous work has focused primarily on establishing meaningful indicators; our efforts will focus on the practical use of the indicators by stakeholders at all levels
- Involvement of stakeholders in the process of screening and selecting the indicators (bottom-up process)

### **Ongoing Activities**

- List ongoing EU, national, regional, FAO and other projects on same topic

### **Responsible Agency**

- Scientific?
- Administrative?

### **Supporting Agencies**

- GFCM
- FAO
- IUCN
- EU
- Ifremer
- Other national sources

### **Timetable**

- Start date 2/2007
- Duration 48 months
- 2 phases

### **Phase I – year 1 (172K)**

- Coordination: coordinator (25K) + coordination costs (15K)
- Clarify meaning of sustainability (ongoing)
- Revise “Montpellier” document (indicators) and refine list of indicators (3 months – 12K)
- Meeting to discuss indicators and design case studies (3 days, 3/4 countries, 20 people – 25K)
- Development of pilot case study (see below) – 6 months (50K)
- Meeting to discuss outcome of pilot case study and plan additional phase I case studies (30K)
- Communication & publications (5K)

#### **Pilot Case Study (50K)**

- Local coordinator 6 months (20K)
- Select suitable area
- Select stakeholders
  - Design & conduct questionnaires, interviews, surveys (6K)
- 4 local meetings:
  - 1) introductory meeting with all stakeholders (10K)
  - 2) specific group (2K)
  - 3) specific group (2K)
  - 4) plenary; interim summary (10K)

#### **Phase I – year 2 (165K)**

- Coordination (40K)
- 2 Case studies (80K)
- Communication (5K)
- Workshop to discuss case study methodology and prepare phase II activities and draft guidelines for use of indicators (40K)

#### **Phase II – years 3,4 (470K)**

- Coordination (100K)
- 15 test sites, to be completed by month 18 (@15K each = 225K)
- Working group meeting to discuss results from tests sites and prepare final conference, month 20 (40K)
- Final conference, month 23 (40K)
- Communication publication/translation (50K)

#### **Estimated Budget**

• Phase I	
– Year 1 -	172 000
– Year 2 -	165 000
• Phase II	
– Year 3 -	170 000
– Year 4 -	300 000
• <b>Total</b>	<b>807 000 €</b>

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**Appendix F**

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**Project title:** *Developing siting and carrying capacity guidelines for Mediterranean aquaculture within aquaculture appropriate areas (SHOC MED)*

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The overall objectives of the SHOC MED project are: (i) to produce criteria for enhancing the integration of aquaculture in CZM by improving site selection and holding capacity standards, (ii) to provide a basis for harmonization of standards across the Mediterranean ensuring equal terms of market competition and minimal environmental damage, (iii) to know what are the consequences of site selection and holding capacity under a shift in production scale in Aquaculture and (iv) to explore the potential for using Allocated Zones for Aquaculture (AZA) as a means to improve management for a growing aquaculture. The proposed work programme involves the following actions/deliverables:

**(A)** A preliminary study to design the best strategy for a consensus on site selection and establishment of Mediterranean standards for carrying/holding capacity of aquaculture farms. This study should identify (i) list of issues that need to be addressed (e.g. sensitive habitats, uses of the coastal zone, environmental peculiarities of Mediterranean marine ecosystems etc); (ii) sources of relevant information and scientific evidence for thresholds related to major environmental changes; (iii) identification of major gaps in regulation, reporting and communication of results of existing monitoring programmes; (iv) refinement of the SHOC MED strategy in terms of data gathering and analysis process as well as in overall procedures.

**(B)** Site selection: (1) Review of existing procedures for site selection used across the Mediterranean and evaluation of the affectivity of regulatory schemes and EIA procedures. (2) Review of general issues: (a) aquaculture – environment interactions and exclusion criteria for site selection taking into account recent research findings (including biodiversity, escapees, effects on wildlife etc.), (b) safety (staff, stocks, third parties) and risk analysis, (c) infrastructural needs (harbors, transport, etc), (d) interactions with other uses of the coastal zone (including sensitive habitats and fisheries). (3) Workshop on the use of models and GIS-based tools for characterizing the site and defining AZA locations. (4) Survey of case studies involving several Med countries using the tools and recommendations developed in the above workshop, (5) Guidelines for monitoring standards in relation to sensitivity of the environment and production size (including variables, frequency, protocols, number and distribution of samples etc), (6) list of site-specific mitigation measures for all major negative effects of aquaculture.

**(C)** Carrying capacity: (1) Identification of bottlenecks for aquaculture production in the Mediterranean (environmental, social, economic) with reference to siting, (2) Review of the existing procedures and regulatory schemes for determining carrying capacity across the Mediterranean countries, (3) Identification of environmental attributes affected by and affecting aquaculture with particular reference to Mediterranean marine ecosystems, (4) Identification of new procedures (including models) for reaching standards on holding capacity (e.g. as a function of depth, distance from shore, current regime etc), (5) Experimental surveys on target variables, (6) Workshop with stakeholders (producers, regulators, policy makers) to explore applicability of new procedures and standards for holding capacity.

Estimated cost for the second phase (largely depending on the results of the workshop of the first year) is estimated at €750 000.

## MULTI-ANNUAL PROJECT PROPOSAL

The proposed project reflects the views of the present Working Group as well as the input of the participants of the CMWG held in Rome (November 2006) focusing in particular on aspects related to the environmental interactions of aquaculture.

### Justification

- Production in the Mediterranean has expanded considerably during the last 20 years and it is expected to continue expanding even more.
- There has been a considerable improvement in the knowledge of ecological processes regarding aquaculture-environment interactions through EU funded and other national and international research projects which have resulted in numerous high quality scientific publications. Some of this information has been used in very successful CIHEAM courses.
- There is an increasing interest of the public and the media on environmental impacts of aquaculture throughout the Mediterranean.
- There is considerable variability in currently used procedures and standards amongst Mediterranean countries.
- There is a need for common standards across the Mediterranean and a common minimum regulatory framework to ensure fair competition and minimal environmental damage.

### Objectives

- To produce criteria for enhancing the integration of aquaculture in CZM by improving site selection and holding capacity standards.
- To provide a basis for harmonization of standards across the Mediterranean as a means for ensuring equal terms of market competition and minimal environmental damage.
- To know what are the consequences on site selection and holding capacity under a shift in production scale in Aquaculture which is likely to occur in the near future.
- To explore the potential for using Allocated Zones for Aquaculture (AZA) as a means for improving management for aquaculture aiming at (a) increase in production, (b) reducing conflicts and (c) reducing environmental impacts.

### Site selection

- Review of existing procedures for site selection used across the Mediterranean and evaluation of the effectivity of regulatory schemes and EIA procedures.
- Review of general issues:
  - Aquaculture/environment interactions and exclusion criteria for site selection taking into account recent findings of EU funded and national research projects (including biodiversity, escapees, effects on wildlife, etc.)
  - Safety (staff, stocks, third parties) and risk assessment
  - Infrastructural needs (harbors, transport, etc.)
  - Interactions with other uses of the coastal zone (including fisheries)
- Workshop on the use of models and GIS-based tools for characterizing the site and defining AZA locations. Assessment of data availability, identification gaps and priorities. Providing structure for a GIS-accessible database.
- Survey of case studies involving several Mediterranean countries using the tools and recommendations developed in the above workshop.
- Guidelines for monitoring standards in relation to sensitivity of the environment and production size (including variables, frequency, protocols, number/distribution of samples).
- List of site-specific mitigation measures for all major negative effects of aquaculture.

### Carrying capacity

- Identify bottlenecks for aquaculture production in the Mediterranean (environmental, social, and economic) with reference to siting.

- To review the existing procedures and regulatory schemes for determining holding capacity across Mediterranean countries.
- To identify sensitive/protected habitats that can be affected by aquaculture.
- To identify environmental attributes affected by and affecting aquaculture with particular reference to Mediterranean marine ecosystems.
- Identify new procedures (including models) for reaching standards on holding capacity (e.g. as a function of depth, distance from shore, current regime).
- Experimental surveys on target variables.
- Workshop with stakeholders (producers, regulators, policy makers) to explore applicability of new procedures and standards for holding capacity.

#### Timetable and costs

• Planning meeting	@ month 3	9 000 €
• Data collection	(6 months)	40 000 €
• Workshop and reviews	@ month 12	30 000 €
• Surveys	(18 months)	700 000 €
• Workshop on data analysis	@month 34	30 000 €
• Workshop with stockholders	@month 36	60 000 €
• Final report	@ month 40	2 000 €

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**TOTAL (plus administrative costs)**

**871 000 €**

**Appendix G****Terms of Reference of CAQ and SAC****RULE X****Committees**

1. There shall be established a Committee on Aquaculture (CAQ) which shall monitor trends and promote the sustainable development and responsible management of marine and brackish water aquaculture in the region.
2. The Committee shall provide independent advice on the technical, socio-economic, legal and environmental bases for common standards, norms and guidelines and decisions for consideration by the to the Commission;
3. The Committee shall be open to all members of the Commission. Each Member of the Commission may designate a member of the Committee, and a member may be accompanied by experts;
4. The Committee may establish working groups to analyze scientific and technical data and information and to advise the Committee on issues related to aquaculture sustainability, markets, environmental impacts and the integration of mariculture into coastal area management, and ensure their coordination through a Coordinating Meeting of the Working groups (CMWG). The Committee shall in particular:
  - (1) assess information provided by Members and relevant aquaculture related stakeholders or programmes on production statistics, market data, systems of culture, technologies used, farmed species, and maintain related databases, including on relevant socio-economic, environmental, biotic and abiotic indicators;
  - (2) promote the formulation of common standards and guidelines for the Commission, on sustainable development and responsible management of aquaculture;
  - (3) identify cooperative research programmes and coordinate their implementation; and
  - (4) carry out other duties, functions or responsibilities related to aquaculture promotion, sustainable development and management that may be conferred to it by the Commission.
5. Members have an obligation to provide information on production and other data relevant to the functions of the Committee in such a way as to enable the Committee to fulfil its responsibilities under this paragraph.