

## Advanced Course

# SUSTAINABILITY ASSESSMENT AND SOCIAL ACCEPTANCE OF AQUACULTURE PRODUCTION

Zaragoza (Spain), 24-28 February 2020

### 1. Objective of the course

Aquaculture development is one of the main pillars of the European Blue Growth Strategy. However, this development is facing many technical, technological, social and economic challenges. Therefore, sustainability is vital for the social acceptance of aquaculture, although its assessment is not well understood by society. Sustainability of aquaculture must be considered in terms of three key areas: people, products and places. Consequently, there is a need for stakeholders to understand the important challenges for better management of environmental interactions, increasing economic performance, and improving social acceptability in the development of aquaculture.

In order to address this multi-dimensional issue, this course takes a holistic approach. It introduces methods for assessing sustainability at production and value chain level in aspects such as environmental assessment, market dynamics, evaluation of production methods, new product development, regulation and governance, and social acceptability.

At the end of the course participants will:

- Identify main trends and bottlenecks to aquaculture development, social acceptability and regulation.
- Be aware of new tools and production methods to improve environmental sustainability of aquaculture and its products.
- Recognize the importance of social acceptability and how it can contribute to sustainable aquaculture.
- Be familiar with economic and market analysis to improve business performance and market behaviour to enhance aquaculture sustainability.
- Identify and apply the most suitable participatory tools and methods to implement them in their professional activities.

### 2. Organisation

The course is jointly organized by the **International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM)**, through the **Mediterranean Agronomic Institute of Zaragoza (IAMZ)**, and the EU H2020 funded projects **MedAID** (Mediterranean Aquaculture Integrated Development. Grant agreement No 727315) and **TAPAS** (Tools for Assessment and Planning of Aquaculture Sustainability. Grant agreement No 678396).

MedAID is a project designed to increase the overall competitiveness and sustainability of the Mediterranean marine fish-farming sector, throughout the whole value chain, and aims to generate innovative knowledge and to develop tools to improve the performance of the production systems, create added value products, and draw up socially responsible business plans. TAPAS is a project designed to investigate the current limits to fish farming, the social interactions, environmental impacts and future risks in an aim to create cost efficient management tools and practices for the aquaculture sector across Europe by supporting transparent and efficient licensing.

The course will be held over a period of 1 week, from 24 to 28 February 2020, in morning and afternoon sessions.

### 3. Admission

The course is designed for 25 participants with a university degree, and is aimed at professionals within public institutions and the aquaculture industry, such as policy makers, aquaculture managers, market analysts, environmentalists, socio-economists, technical advisors, researchers and other stakeholders involved in aquaculture sustainability.

Given the diverse nationalities of the lecturers, knowledge of English, French or Spanish will be valued in the selection of candidates, since they will be the working languages of the course. The Organization will provide simultaneous interpretation of the lectures in these three languages.

### 4. Registration

Candidates must apply online at the following address:  
<http://www.admission.iamz.ciheam.org/en/>

Applications must include the *curriculum vitae* and copy of the supporting documents most related to the subject of the course.

The deadline for the submission of applications is **1 December 2019**. The deadline may be extended for candidates not requiring a visa and not applying for financial support if there are free places available.

Applications from those candidates requiring authorisation to attend the course, may be accepted provisionally.

### 5. Financial support

All participants will be exempt from the payment of registration fees.



A limited number of candidates from Mediterranean countries and from other European countries may receive financial support covering the cost of travel and full board accommodation in the Hall of Residence on the Aula Dei Campus.

Candidates from other countries who require financial support should apply directly to other national or international institutions.

## 6. Insurance

It is compulsory for participants to have medical insurance valid for Spain. Proof of insurance cover must be given at the beginning of the course. Those who so wish may participate in a collective insurance policy taken out by the Organization, upon payment of the stipulated sum.

## 7. Teaching organisation

The course requires personal work and interaction among participants and with lecturers. The international characteristics of the course favour the exchange of experiences and points of view.

The programme includes applied examples and discussions. The course will provide participants with hands-on training in the use of models and tools to assess sustainability and to improve decision-making processes. Participants will also work on participatory methods and tools to engage stakeholders and improve social acceptability of aquaculture development through territorial consultation.

Participants will be asked to prepare, prior to the course, a brief document on the main concerns associated with aquaculture sustainability and acceptance in their countries/regions. These documents will be shared with lecturers and participants.

## 8. Programme

### 1. Introduction – the need for sustainability and social acceptance (2 hours)

- 1.1. Aquaculture development: drivers and bottlenecks/inhibitors to aquaculture development
- 1.2. Integrated carrying capacity (physical and geographical, environmental, production, social)
- 1.3. Need for improved regulation and governance
- 1.4. Public perception and acceptance of aquaculture
  - 1.4.1. Present perception (media, consumers, industry, policy makers) and ways to improve it
  - 1.4.2. Factual information provision
  - 1.4.3. Communication platforms

### 2. Assessing and improving aquaculture sustainability (17 hours)

- 2.1. Social dimension of aquaculture at farm and industry level
  - 2.1.1. Corporate social responsibility
  - 2.1.2. Social responsibility in value chain
- 2.2. Environmental assessment models and tools for improved sustainability in aquaculture
  - 2.2.1. Environmental Impact and Life-Cycle Analysis (LCA)
    - 2.2.1.1. Current situation and problems to solve
    - 2.2.1.2. Analysis and evaluation methods – LCA
    - 2.2.1.3. Improvement opportunities

- 2.2.1.4. Practical work on LCA
- 2.2.2. Modelling site suitability for improved site selection
- 2.3. Business performance and markets
  - 2.3.1. Economics of production and management
    - 2.3.1.1. Economic performance assessment of aquaculture production: the case of seabream and seabass industry
    - 2.3.1.2. Artificial intelligence methodologies applied to the improvement of aquaculture decision-making processes
  - 2.3.2. Markets and price dynamics in seabream and seabass
    - 2.3.2.1. Equilibrium and market dynamics
    - 2.3.2.2. Price transmission in the value chain
  - 2.3.3. Market impact of mass media
- 2.4. A critical assessment of production methods for improving aquaculture sustainability
  - 2.4.1. Integrated Multi-Trophic Aquaculture (IMTA)
  - 2.4.2. Cage farming
  - 2.4.3. Closed containment systems
  - 2.4.4. Recirculating systems
  - 2.4.5. Improved feeding technologies
- 2.5. New product development: potential market and consumer requirements
  - 2.5.1. Aquaculture food products and processing innovations
  - 2.5.2. Consumer involvement

### 3. Assessing and improving aquaculture regulation and governance (4 hours)

- 3.1. Comparative analysis of aquaculture licencing regulation in different countries
- 3.2. Participative decision making and stakeholders' involvement
- 3.3. Environmental assessment and monitoring methods to check regulation compliance
- 3.4. Recommendations and guidelines from TAPAS EU project for best licencing practice
- 3.5. Certification and beyond compliance
  - 3.5.1. Aquaculture certification schemes – who, what and value?
  - 3.5.2. The pros and cons of certification
  - 3.5.3. Beyond compliance for regulation

### 4. Assessing and improving social acceptability of aquaculture development (8 hours)

- 4.1. Concepts and definitions related to social acceptability of aquaculture development
- 4.2. Participatory methods to address and assess social acceptability of aquaculture development
  - 4.2.1. Main issues related to public participation for assessing social acceptability of projects
  - 4.2.2. Analysis of the context before starting a participatory and co-production process
  - 4.2.3. Planning public participation processes
  - 4.2.4. Presentation and testing of participatory tools, methods and settings
  - 4.2.5. Facilitation tools, methods and skills
  - 4.2.6. Evaluation of outcomes
  - 4.2.7. Practical work on participatory methods

## GUEST LECTURERS

M. CIDAD, LCA specialist, Derio (Spain)  
J.M. FERNÁNDEZ POLANCO, Univ. Cantabria, Santander (Spain)  
A. HERRERO, Univ. Cantabria, Santander (Spain)  
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