



**GREEK REPUBLIC
MINISTRY OF RURAL DEVELOPMENT AND FOOD
FISHERIES PROGRAM 2007 - 2013**

ACTION 3.5

«PILOTIC PROPOSALS»

SAMPLE 1

SUBMISSION FORM



TITLE OF THE PROPOSAL

**«Innovative practices
For a Sustainable and Environmental friendly Musselculture»**

**«Alexander Technological Educational Institute of Thessaloniki
(A.T.E.I.Th. – Fisheries & Aquaculture Technology Deptm.)»**



1. GENERAL INFORMATION

TITLE OF THE PILOTIC PLAN :	«INNOVATIVE PRACTICES FOR A SUSTAINABLE AND ENVIRONMENTAL FRIENDLY AQUACULTURE»
INSTITUTE :	Alexander Technological Educational Institute of Thessaloniki (ATEITH) – Department of Fisheries and Aquaculture Technology
LEGAL REPRESENTATIVE :	Dr Konstantinos Varsamidis, Professor, President of ATEITH
Coordinator	Dr. Sofia Galinou-Mitsoudi, Professor
Scientific Responsible	Dr. Sofia Galinou-Mitsoudi, Professor

2. The Institute (ATEITH)

2.1 General Information of the Institute (field of activities, structure, staff)

A. The Institute: www.teithe.gr

The Department: www.aqua.teithe.gr (Amalia Moriki, Yannis Savvidis)

B. Participants

B1: www.food.teithe.gr (Anastasios Zotos, Dimitrios Petridis)

B2: [HCMR \(Antonia Giannakourou\)](#)

3. The proposal

3.1

I) Short description of the proposal

- ▶ Documentation of the problems in mussel culture from either lack of information or from the use of incorrect management practices (e.g. denser socks but the proper distance of socks is unknown).
- ▶ Objectives. The deterioration or even the elimination of problems (e.g. finding the optimal distance between the socks, significant improvement of the environment) with multi-factorial documentation of results, using environmental friendly consumables in the economic evaluation, prevention of waste discarded materials, such as shells from the mussels by their reclamation and reuse in innovative techniques, development of models as prediction tools for the mussel culture.



- ▶ Innovation. Intergraded actions and study of the variable factors that may enable best practices and techniques resulting in the best available results (finding the optimal management action to improve quality mussel in parallel with improving environmental quality), documentation of good practice and validation of the results, using new environmentally friendly materials, new monitoring tools, re-use of waste materials and creating new job prospects in the environmental sector and enables the writing up of Good Practice Guidance in the mussel farming sector.
- ▶ Utility. Immediate results in implementation, significant recovery product competitiveness, environmental protection during the production of mussels (process and materials) and local industry enhancement by the separation of mussel body from valves, opportunities for new jobs from use disposable products (shells), the results can become educational tools.
- ▶ Stakeholders. The mussel industry as a whole, farmers, authorities, and educational sector (all levels).
- ▶ The deliverables. Three (3) Technical Reports, 'Guide of Best Practices in musselculture, the bilingual text "Shellfish culture in the World", two (2) meetings for announcements of results/conclusions, information brochures, two (2) at least papers in Greek/international conferences and two (2) papers preparation for submission to international journals and the project website will be created.
- ▶ The duration. Twenty (22) months.
- ▶ The Project (implementation phases and work packages). The project implementation consists of five phases (Φ1-Φ5), each of which includes simple or complex work packages and their structure is as follows:

P1: Preparation (Period 03/2014 to 05/2014)
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P1/1: Official papers (administrative documents, decisions, supply of consumables)

P1/2: Introduced materials (bibliography, work for the market/industry performed by Dan Barth, nets etc.)

Dan Barth's work will include the available models for shellfish production process, the international practice for sustainable musselculture, research in the international market for innovative green/recycling/ecological supplies for the farm with the assistance of the foreign experts in shell culture (from the design of a farm and harvest to marketing of the product).

Duration

5 months

Deliverables

Report for the existed ecological supplies in the international market and the proposed supplies for the project. The text will be included in the 1st intermediate Technical Report.



P1/3: Equipments (preparation/service of instruments, equipment)

P2: Experimental handling practices in situ (Period 04/2014-12/2014)

P2/1: Sea water quality

P2/1.A. Hydrodynamics, Temperature, Salinity

P2/1.B. Dissolved Oxygen and Inorganic total N and P

P2/1.C. Food availability TPM/IPM, POM, DOM, Chl_a, phytoplankton of <20-30 µm and >20-30 µm.

P2/1.D. Ecotoxicological analysis of sea water using Microtox

P2/2: Sedimentation and sediment analysis (grain size)

P2/3: Mussels quality

P/2.A. Condition

- a) Gonadosomatic index
- b) Condition index
- c) Stomach completion index

P2/2.B. Biochemical analysis of the mussel body

P2/2.C. Ecotoxicological assessment of mussel quality

- a) Neutral red retention
- b) Filtration Rate
- c) Microtox bioassay

P2/4. Epibionts

Species, weights, temporal fluctuation

P2/5. Musselculture models

- a) Hydrodynamic
- b) Bio-Economic

P2/6. Financial estimation of practices

P2/7: Administrative and official process

P3. Validation of the best practice of musselculture assessed within the study considering all the studied parameters (Period 10/2014-06/2015)

P4. Investigation for utilization of musselculture discards (Period 04/2014-06/2015)

- a) Adsorption experiments (methylene blue, cadmium and hexavalent chromium)
- b) Experiments phytotoxicity

P5. Dissemination of Information (results), Writing of the Final Deliverables & Administrative papers (Period 01/2014-09/2015)

