

## STATEMENT OF WORKS

<b>Description:</b>	<i>Development of a joint applied research programme for sustainable Mariculture in the Yellow Sea Large Marine Ecosystem.</i>
<b>RAS/00/G31</b>	Reducing Environmental Stress in the Yellow Sea Large Marine Ecosystem
<b>Objective:</b>	I - Fisheries Component
<b>Sub-Objective:</b>	C – Mariculture Production
<b>TOR Code:</b>	TORO1C3202marcult
<b>Contract Code:</b>	F-7-ROK-susmaricult-3202

### 1. Background

As populations of adjacent countries and the world increase, the demand for marine products also increases and more reliance is placed on the aquaculture industry to provide for the nutritional needs of the growing population. As a direct result, Mariculture is an important activity in virtually all coastal areas around the Yellow Sea.

As more mariculture facilities spring up along the respective coastlines, the potential for impact to the environment has increased, and some believe, has reached a point where the carrying capacity of the ecosystem has been impacted beyond the abilities of the ecosystem to cope - a point where mariculture is considered 'unsustainable'. Amongst some of the problems associated with unsustainable mariculture is a reduction in environmental quality, loss or modification of coastal habitats, pollution from mariculture activities, and the spread of pathogens and disease.

In the approved Implementation Plan of the UNDP/GEF Yellow Sea Project, "Reducing Environmental Stress in the Yellow Sea Large Marine Ecosystem (YSLME)," one of the activities of the Fisheries Component is to develop action programmes to encourage sustainable mariculture to mitigate the mariculture-related problems of the Yellow Sea.

Mariculture is defined here as 'The cultivation of marine organisms under controlled conditions, either in their natural environment or in ponds, pens, tanks, or other containers, and/or when feed is used (A hatchery is also considered as mariculture even if fish are released before harvest size is reached; A synonym for marine aquaculture; Mariculture is a marine (ocean) subset of aquaculture'.

The development objective of this task is the upgrading of knowledge and knowledge exchange on the subject of sustainable mariculture between participating countries.

The immediate objectives of this task are to develop and organise a training course/workshop on sustainable Mariculture techniques. The workshop will help improve capacity in, and understanding of the benefits of sustainable mariculture practices around the Yellow Sea. The workshop should highlight **not only the environmental benefits** but also **the financial benefits** and the role of sustainability in securing the long term future for generation to come.

The details of this task are described hereunder:

## 2. Description of Required Services

A competent incumbent, selected through the required United Nations bidding procedure (and based on the Breakdown of Costs given by the incumbent in Annex I), will be contracted to develop a regional training course on sustainable mariculture practice in the Yellow Sea as per the list of activities of the Implementation Plan. The incumbent shall carry out the following activities:

- 1) Prepare a draft plan for the workshop schedule with a list of topics to be covered ideally this would incorporate different culture systems including:
  - a) Integrated Multi-trophic Aquaculture or Polyculture in embayments and ponds
  - b) Recirculating Tank Production System
  - c) Reduced water exchange technologies (heterotrophic systems)
  - d) Open-Sea Mariculture (= Offshore aquaculture)
- 2) The work shop should also include the use of:
  - a) Best management practices (for disease control)
  - b) Limiting use of prophylactic treatments and chemical use
  - c) Growth/survival optimization through stress reduction (density)
  - d) Optimization of water quality through improved feeding and nutrient management techniques.
- 3) The work shop should provide examples from around the world that emphasize both the environmental and financial advantages of sustainable culture techniques in securing the long term future of mariculture in the Yellow Sea.
- 4) The presentations should be in English but if possible the training materials should be trilingual (Korean, Chinese and English). The training material should be in sufficient detail as to provide a useful reference for the future.

### Qualifications:

The incumbent selected to carry out this task should have the following qualifications:

- At least 10 years experience with the Mariculture industry or in the field of aquaculture research in the Yellow Sea.
- Global knowledge of contemporary and sustainable Mariculture methodology and the management of diseases in aquaculture.
- Experience in organising mariculture workshops.
- Appropriate qualifications and available time.
- Knowledge of financial accountability and report writing.

### 3. Deliverables and Deadlines

The workshop should be organized during 2007, according to the milestones listed in the table below.

<u>Action</u>	<u>Deadline</u>
Submit a progress report	At least one month before the start of the workshop
Submit a draft workshop programme	at least 2 weeks before the start of the workshop
Convening of workshop	before November 2007
Submit final report	within one month after the end of the workshop

### 4. Monitoring/Progress Control

The Project Management Office (PMO) will assume overall supervision and co-ordination of this task. Programmatic guidance should be sought from the Project Manager, Mr Yihang Jiang ([yihang@yslme.org](mailto:yihang@yslme.org)), copied to Mr Mark Walton ([mark@yslme.org](mailto:mark@yslme.org)) at the Yellow Sea PMO. All deliverables should be submitted to Mr Mark Walton.

### 5. Expected Outputs/Results

The final product should be a workshop report following the suggested table of contents format listed below.

- I. Introduction describing the needs for having the workshop
- II. Proceedings of the workshop, e.g. including abstracts, presentations, training materials, discussion summaries, recommendations
- III. List of Participants

The workshop report should be prepared in English, and submitted to the Yellow Sea Project Management Office.

### 6. Contents of the Proposal

Interested parties should submit a detailed proposal to [info@yslme.org](mailto:info@yslme.org) before the deadline of 18<sup>th</sup> May 2007.

The proposal should include:

1. Background of the need for such a workshop
2. Summary of how the workshop will be organised
3. Workshop objective(s)
4. Topics
5. Draft programme
6. Target type and number of participants

7. Collaboration with other projects/programmes
8. Size, duration, approximate dates, and venue
9. A detailed budget breakdown in US Dollars, including any co-financing resources
10. Workplan
11. CV of lead proponent / contact person, and full contact details

**PROPOSED BREAKDOWN OF COSTS (USD)**

<u>Item</u>	<u>Unit Cost (USD)</u>	<u># of Units</u>	<u>Total Cost (USD)</u>
1....			
2....			
3....			
Etc.			
<b>TOTAL AMOUNT REQUESTED</b>			

## Annex II: Report Formats

### PROGRESS REPORT

#### SECTION 1: BACKGROUND INFORMATION

- 1.1 **PROJECT TITLE:** \_\_\_\_\_ *REDUCING ENVIRONMENTAL STRESS IN THE YELLOW SEA LARGE MARINE ECOSYSTEM* \_\_\_\_\_
- 1.2 **CONTRACT NUMBER:** \_\_\_\_\_
- 1.3 **RESPONSIBLE OFFICE:** \_\_\_\_\_ Yellow Sea Project Management Office, Ansan, Korea \_\_\_\_\_
- 1.4 **CONTRACTOR (SUPPORTING ORGANIZATION):** \_\_\_\_\_
- 1.5 **REPORTING PERIOD:** (The number of months covered by this report) \_\_\_\_\_
- 1.6 **FOCAL POINT NAME:** \_\_\_\_\_

#### SECTION 2: PROJECT STATUS

**2.1 Status of the Implementation of the Activities and Outputs Listed Under the Workplan**  
(check appropriate box)

- Project activities and outputs listed in the Project Workplan for the reporting period has been completed and the Consultant is satisfied that the project will be fully completed on time (give reasons for minor variations as Section 3 below).
- Project activities and outputs listed in the Project Workplan for the reporting period have been altered (give reasons for alterations: lack of finance; project reformulated; project revisions; other at Section 3 below).
- Project activities and outputs listed in the Project Workplan for the reporting period have not been fully completed and delays in project delivery are expected (give reasons for variations as Section 3.1 and new completion date in Section 3.2 below).
- Insufficient detail provided in the Project Workplan.

**2.2 List Actual Activities/Outputs Achieved in the Reporting Period:** (check appropriate box)

**(a) Meetings (duplicate this box for each meeting individually)**

<input type="checkbox"/> Inter-ministry Mtg	<input type="checkbox"/> Expert Group Mtg	<input type="checkbox"/> Training Seminar/Workshop	<input type="checkbox"/> Others
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Title: \_\_\_\_\_  
 Venue and Dates: \_\_\_\_\_  
 Covered By: \_\_\_\_\_  
 Organized by: \_\_\_\_\_  
 Report issued as doc. No./Symbol \_\_\_\_\_  
 Languages \_\_\_\_\_ Dated: \_\_\_\_\_  
 For training seminar/workshop, please indicate: No. participants \_\_\_\_\_ and attach **annex**  
 Giving names and nationalities of participants.

(b) **PRINTED MATERIALS** (Duplicate this box for each printed item)

Report to IG Mtg.       Technical Publication    Technical Report    Others

Title: \_\_\_\_\_  
 \_\_\_\_\_

Author(s)/Editor(s)  
 \_\_\_\_\_

Publisher  
 \_\_\_\_\_

Symbol (UN/UNEP/ISBN/ISSN)  
 \_\_\_\_\_

Date of Publication  
 \_\_\_\_\_

(when technical reports/publications have been distributed, **attach distribution list**)

(c)  **TECHNICAL INFORMATION**       **PUBLIC INFORMATION** (Posters, leaflets, broadcasts, etc)

Description:  
 \_\_\_\_\_

Dates: \_\_\_\_\_

(d) **SERVICES**

Description:  
 \_\_\_\_\_

Dates \_\_\_\_\_

(e) **OTHER OUTPUTS**

**SECTION 3: PROJECT STATUS**

**3.1 Summary of the Problems Encountered in Project Delivery (if any)**

**3.2 Actions Taken or Required to Solve the Problems (identified in Section 3.1 above)**

**Signed:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Designation:** \_\_\_\_\_

**Annex III**

**PROJECT EXPENDITURE REPORT**

Project statement of allocation (budget), expenditure and balance (Expressed in USD) covering the period:

**From**.....**To**.....

**Supporting Organization**...UNDP/GEF.....

**Project Title**...*Reducing Environmental Stress in the Yellow Sea Large Marine Ecosystem*...

**Project Commencing**..... (Date)

**Project Ending**..... (Date)

<b>Object of Expenditure</b>	<b>Project Budget Allocation Amount (1)</b>	<b>Expenditure incurred from ... to .... Amount (2)</b>	<b>Unspent balance of budget Amount (3)</b>
<p>..... ..... ..... .....</p> <p>(USE ITEMS ACCORDING TO THE BUDGET CATEGORIES IN ACCORDANCE WITH THE SIGNED MEMORANDUM OF UNDERSTANDING OR CONTRACT)</p>			
<b>GRAND TOTAL</b>			

**Signed**\_\_\_\_\_

**Designation**\_\_\_\_\_

**Duly authorized official**\_\_\_\_\_