

## STATEMENT OF WORKS

**RAS/00/G31** Reducing Environmental Stress in the Yellow Sea Large Marine Ecosystem

**Objective:** I: Fisheries Component

**Sub-Objective:** A: Stock Assessment

**Activity:** 3: Development joint regional stock assessment methodology.

**TOR Code:** TOROIA1201jointstockassess

**Contract Code:** CONOIA1201jointstockassess\_ [acronym of country]

**Description:** *Developing Methods for Joint Regional Stock Assessment for the Yellow Sea Large Marine Ecosystem.*

### 1. Background

One of the problems common to each country highlighted by a Preliminary Transboundary Analysis of the Yellow Sea Large Marine Ecosystem (Feb, 2000) is the “inadequate capacity to assess the ecosystem and perform basin-scale assessments”. The approved Implementation Plan of the UNDP/GEF Yellow Sea Project, “Reducing Environmental Stress in the Yellow Sea Large Marine Ecosystem (YSLME),” lists one of the activities of the Fisheries Component as ‘developing a common methodology for joint-regional stock assessment for the Yellow Sea’ that will ultimately enable researchers to determine the condition of stocks and manage fisheries into the future.

The development objective of the task is to develop recommendations for future stock assessments for the Yellow Sea for integration into the YSLME Strategic Action Programme (SAP) and National Yellow Sea Action Plans (NYSAPs). It is hoped that this process of joint-regional stock assessment will contribute to continued development of regionally agreed methods for observation, monitoring and sampling of the marine environment in the Yellow Sea, enhanced co-operative mechanism for regional monitoring and observation; upgrading of skills in basin-wide observation and monitoring; a better scientific understanding of the basin-wide marine environment/ecosystem status; and an increased mutual understanding and trust amongst the participating institutions.

The immediate objectives of this task are to collate information on methods currently used for assessing fisheries stocks in the Yellow Sea, comparing them with methods used in other regions and for different aquatic systems, where possible filling gaps and providing improvements and developing a set of best-practice guidelines for stock assessment using adequate tools for assessing the condition of stocks in the Yellow Sea.

The details of this task are described hereunder:

**Geographic Scope:** The Yellow Sea Large Marine Ecosystem is defined in this Project Document as the body of water delineated at the south, by a line connecting the north bank of the mouth of the Chang Jiang (Yangtze River) to the south side of Cheju ; at the east, by a line connecting Cheju Island to Jindo Island along the coast of the ROK; and to the north, a line connecting Dalian to Penglai (on the Shandong Peninsula).

### 2. Description of Required Services

A competent incumbent, selected through the required United Nations bidding procedure, will be contracted to *develop a common methodology for joint regional stock assessment* as per the list of activities (Objective I: Fisheries; Sub-Objective A: Stock Assessment; Activity 3) of the Implementation Plan.

The incumbent shall carry out the following activities:

- 1) Prepare a comprehensive summary of methods used for assessing fisheries stocks in the Yellow Sea. The summary should include:
  - a. A description of the contemporary and historic techniques/methods used to assess and model stocks in this region.
  - b. A description of methods used for regular, multi-species, stock assessment in other large marine ecosystems and/or in other aquatic systems.
  - c. A description of the types of data and information collected, and used in the analysis, for all these methods.
  - d. A description of the analytical and statistical methodology utilised in each model or technique.
  - e. A description of the benefits, drawbacks and difficulties of each method.
  - f. A description of the knowledge gaps in the current method of Yellow Sea stock assessment, and the barriers to obtaining data.
  - g. A recommendation for the most practicable and appropriate method for regular, multi-species, stocks assessment in the Yellow Sea with recommendations on how to fill knowledge/data/information gaps in the future.

This should be done by utilising data and information collected during the YSLME initial data/information collection activities, existing locally and internationally, accomplished through internet searches, telephone interviews, library research, visits to/communication with national fisheries offices, research institutions, government agencies and related NGOs, compare methodologies and fill in gaps in knowledge.

- 2) Prepare recommendations for a comprehensive guideline for annual, multi-species, joint-regional stock assessment for the Yellow Sea comprising of:
  - a. Instructions for jointly-carrying out a reiterative series of multi-species stock assessments for the Yellow Sea;
  - b. Recommendations for the acquisition of data – methodology, type, etc;
  - c. Recommendations for the analysis of data – analytical and statistical models;
  - d. Recommendations for outputs – charting and graphical display of resultant data;
  - e. Recommendations on how data should be archived or managed; and
  - f. Recommendations on where final results should be published, integrated into global databases and how public can access these guidelines.

The guidelines should take into consideration:

- a. Existing national agreements
  - b. Temporal changes in climatic regimes, and
  - c. The geographic parameters of the Yellow Sea Project.
- 3) A Presentation of the results-to-date at the Meeting of the Regional Working Group Meeting-Fisheries, reviewing the preliminary results with all members of the RWG and the Project Management Office.

- 4) Based on the comments and approval of the Regional Working Group, revise the guidelines and provide a comprehensive proposal or list of recommendations for joint-regional stock assessment (highlighting the major barriers to stock assessment, and indicating the species to be assessed) to the next Regional Working Group – Fisheries meeting, for finalisation.

### **Expected Outputs/Results**

The final product (report) should be a set of reports as listed below:

- (i) A comprehensive report on the current techniques used to model carrying capacity both locally and internationally and comparing with other methodologies, describing data types, analytical methods, highlighting the differences, benefits, drawbacks and major barriers;
- (ii) A list of data and information sources to indicate the sources of the data and information collected in item (i), location of these data and information centres, conditions of access to data and information by different users;
- (iii) A recommendation for undertaking an regular, multi-species, joint-regional fisheries stock assessments in the Yellow Sea Large Marine Ecosystem highlighting the suggested frequency of assessments, potential barriers and the species to be assessed;
- (iv) Project progress reports and financial report as provided by the PMO.

### **SUGGESTED FINAL REPORT TABLE OF CONTENTS**

- I. Background of assignment.
- II. Methods used to carry out assignment.
- III. Current methods of assessing fisheries stocks – Regional & International.
- IV. Location of data & info and access to each site by the public.
- V. Regional Stock assessment – Major problems and priorities.
- VI. Suggested methods for reiterative series of joint-regional stock assessment.
- VII. Summary.
- VIII. Progress and Financial Summary Reports.

Annex containing:

Persons / institutions / websites visited or interviewed  
List of References

### Qualifications:

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

- Extensive knowledge of contemporary regional and international fisheries stock assessment methodology and the analysis of relevant data and information.
- Ability to access the necessary fishery stock assessment information through databases, information centres, and other relevant institutions in the country.
- Appropriate academic qualifications and available time.
- Understanding of financial accountability, management and scientific report writing.

### 3. Deliverables and Deadlines

The commissioned assignment will be carried out from November 2005 through July 2007, according to the following schedule:

<u>Task</u>	<u>Deadline</u>
Contract signature	November, 2005
Progress report and interim financial statement submitted to PMO/UNOPS	Feb, 2005
Comprehensive report on existing stock assessment methods for review at 3 <sup>rd</sup> Regional Working Group Meeting;  Suggestions for a comprehensive strategy for joint-regional stock assessment for review at the Regional Working Group Meeting	May, 2006
Revised guidelines for joint-regional stock assessment (based on revisions from 3 <sup>rd</sup> RWG Meeting and completion of first survey);	July, 2006
Final Report and Final financial statement submitted to PMO/(UNOPS	July, 2006

### 4. Monitoring/Progress Control

The 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. Jeff Archer ([jeff@yslme.org](mailto:jeff@yslme.org)) at the Yellow Sea PMO. All deliverables should be submitted to Mr. Jeff Archer. The format of the progress, final and financial reports should follow the templates included in Appendix 2 and the schedule as above.

**ANNEX I – BREAKDOWN OF COSTS (USD)**

There may be travel costs associated with this task, as outlined in the budget below. Travel costs associated with the missions should be included in the fees below. [Name of incumbent(s)] will make its own travel arrangements unless otherwise agreed in advance with the PMO.

<u>Item</u>	<u>Unit Cost (USD)</u>	<u># of Units</u>	<u>Total Cost (USD)</u>
<b>TOTAL AMOUNT REQUESTED</b>			



<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:** \_\_\_\_\_

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