



UNDP/GEF PROJECT ENTITLED “REDUCING ENVIRONMENTAL STRESS IN THE
YELLOW SEA LARGE MARINE ECOSYSTEM”

STATEMENT OF WORK

“Inter-Calibration Exercise for Organics and Metals in Sediment and Biota”

******Proposal deadline: 15th February 2007******

1. Background

In the approved Implementation Plan of the UNDP/GEF Yellow Sea Project, “Reducing Environmental Stress in the Yellow Sea Large Marine Ecosystem,” one of the activities of the Pollution Component is a regional inter-calibration exercise between select laboratories that monitor and analyse pollution in the Yellow Sea. The variables for inter-calibration were agreed by the members of the Regional Working Group-Pollution (RWG-P) at its first meeting (Qingdao, China, 6-9 April 2005) ([Appendix 1](#)).

The UNDP/GEF Yellow Sea Project, “Reducing Environmental Stress in the Yellow Sea Large Marine Ecosystem,” seeks to organise an “**Inter-Calibration Exercise for Organics and Metals in Sediment and Biota**.” This is one of the agreed activities of the Pollution Component of the Project, and approved by the Project Steering Committee.

Geographic Scope: The Yellow Sea large marine ecosystem is defined in the 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). This latter line separates the Bohai Sea from the Yellow Sea and as a result is not included in this study.

This “Statement of Work” describes the scope of the activity and the required services. **Interested parties may submit proposals detailing how they plan to organise the activity, according to the required services set out below.**

2. Description of Required Services

A consultant/institute will be legally contracted to co-ordinate the full implementation of this inter-calibration activity. The chemical classes for this inter-calibration activity are listed in [Annex 1](#). The activities to complete the task will include:

1. With collaboration from the Project Management Office (PMO), identify and invite appropriate laboratories in the region to participate in the inter-calibration exercise.
2. Obtain the inter-calibration standards and distribute to participating labs.
3. Co-ordinate and monitor the inter-calibration exercises of the participating laboratories.
4. Collect, collate, and synthesise the results of inter-calibration from the laboratories, for submission to the PMO and RWG-P. The report should contain an analysis of the

results and recommendations for improvement and problem solving for future inter-calibration exercises.

Qualifications:

The institution or person selected to carry out this task should have the following qualifications:

- At least 20 years track record in the area of coastal and marine environmental management and/or research.
- Strong natural science background with knowledge of marine environmental pollution analytical techniques.
- Knowledge of regional laboratories working in analysis of pollutants.
- Well-versed in inter-calibration techniques.
- Appropriate academic qualifications and good interpersonal skills to liaise with the participating institutions.

3. Duration and Timing

The commissioned assignment should be carried out during 2007 according to the general schedule set out below:

<u>Task</u>	<u>Deadline</u>
Proposal submission	February 2007
Contract signature	March 2007
Identify and contact labs to participate	March - April 2007
Obtain the inter-calibration standards and distribute to participating labs	April - May 2007
Inter-calibration exercises	May - October 2007
Progress report on status of calibration exercises	31 August 2007
Final report and financial statement submitted to PMO (see sample financial statement in Appendix 2)	31 December 2007

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), copied to Ms. Connie Chiang (connie@yslme.org) at the Yellow Sea PMO. All deliverables should be submitted via e-mail to Ms. Connie Chiang, following the schedule above.

5. Expected Outputs/Results

The final product should be a report following the “suggested table of contents” as listed in below. The reports should be, and submitted to the Yellow Sea Project Management Office.

SUGGESTED FINAL REPORT TABLE OF CONTENTS

- I. Background of assignment
- II. Methods used to carry out assignment
- III. Results of inter-calibration from each laboratory
- IV. Assessment and synthesis of results
- V. Recommendations for any encountered problems and improvements for future inter-calibration exercises

A progress report should be submitted to the PMO by 31 August 2007 to enable both parties to monitor the progress of the task, and assist where necessary, in completing the final task. One copy of the final report and financial statement, prepared in English, should be submitted to the Yellow Sea Project Management Office, via e-mail, by 31 December 2007. The financial statement should be reported according to the budget items listed in [Annex II](#).

6. Contents of the Proposal

Interested parties should submit a detailed proposal to info@yslme.org before the deadline of 15th February 2007.

The proposal should include:

1. Background of the need for such an activity
2. Summary of how the activity will be implemented
3. Objective(s)
4. Detailed methods to implement activity
5. Expected results
6. A detailed budget breakdown in US Dollars, including any co-financing resources
7. Working schedule
8. CV of lead proponent / contact person, and full contact details

Annex 1
Variables for Inter-calibration Exercise

Medium	Target Pollutants
Sediment	Trace metals (Zn, Cd, Pb, Cu, Cr, Hg, As)
	PCBs - see table below
	OCPs - see table below
	PAHs - see table below
Biota (bivalves)	Trace metals (Zn, Cd, Pb, Cu, Cr, Hg, As)
	PCBs - see table below
	OCPs - see table below
	PAHs - see table below

<u>Priority PAHs (16)</u>	<u>OCPs (16)</u>	<u>PCBs (10)</u>
Naphthalene	Aldrin	CB 52
Acenaphthylene	Chlordane	CB 101
Acenaphthene	DDT and metabolites (4)	CB 105
Fluorene	Dieldrin	CB 110
Phenanthrene	Endrin	CB 118
Anthracene	Heptachlor	CB 128
Pyrene	Heptachlor epoxide	CB 138
Benzo[a]anthracene	Hexachlorbenzene	CB 153
Chrysene	Hexachlorocyclohexanes (4)	CB 180
Benzo[b]fluoranthene	Pentachloronitrobenzene	CB 189
Benzo[k]fluoranthene		
Benzo[a]pyrene		
Indeno[1,2,3-cd]anthracene		
Benzo[ghi]perylene		

ANNEX II – BREAKDOWN OF COSTS (USD)

Item	Budget
TOTAL	

Appendix I – Variables for Inter-calibration Exercise

Medium	Target Pollutants	Korea	China	Regional	Priorities		
					Korea	China	Regional
Water	NO2	●	●	●	1	1	1
	NO3	●	●	●	1	1	1
	Ammonia	●	●	●	1	1	1
	Total dissolved N						
	Total particulate N						
	Total dissolved P						
	Phosphate	●	●	●	1	1	1
	Total particulate P						
	Silicates	●	●	●	1	1	1
Sediment	Trace metals	●	●	●	3	2	2
	PCBs	●	●	●	2	2	2
	OCPs	●	●	●	2	2	2
	PAHs	●	●	●	2	2	2
	Organotins	●	○	○	4	4	4
	Phenolic compounds	●	○	○	5	5	5
	PBDEs	●	○	○	6	6	6
	Organic carbon						
	Grain size						
	Oil	●	●				
Biota (bivalves)	Trace metals	●	●	●	3	2	2
	PCBs	●	●	●	2	2	2
	OCPs	●	●	●	2	2	2
	PAHs	●	●	●	2	2	2
	Organotins	●	○	○	4	4	4
	Phenolic compounds						
	PBDEs	●	○	○	5	5	5
	Lipid						

Note

● : Compulsory

○ : Optional

1 = high priority; 6 = low

Appendix 2 - 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)

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

Signed _____

Designation _____

Duly authorized official _____