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

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**Fifth Meeting of the Regional Scientific and Technical Panel  
for the UNDP/GEF Yellow Sea Project**  
*Shanghai, China, 25-26 November 2008*

**Report  
On Implementation of  
Regional Working Group for Fisheries**

**by**

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## 1. Stock Assessment

1.1 First Stock Assessment Workshop, held in Qingdao, China, 14-16 April 2008.

A number of issues regarding the 1<sup>st</sup> Regional Joint Stock Assessment Survey were discussed, including:

- Survey Aims
- Boat data
- Survey data
- Net Data
- Target species
- Catch sampling
- Biological Data
- Environmental data
- Data sharing
- Data recording
- Data Calibration
- Models
- Proposed schedule

1.2 The 1<sup>st</sup> Regional Joint Stock Assessment Survey

China conducted the survey in May by R/V Beidou, and Korea conducted by R/V Tamgu-8, trawling at 12 stations in the Yellow Sea on the side of Chinese and Korean coastal waters. Information on target species of catch, biological data, ichthyoplankton and environmental data were collected and analyzed.

1.3 Workshop of stomach contents analysis and comparing

The stomach contents analysis was held in Qingdao, China, during July 6-12. Three experts from Korea have jointly examined and compared 100 frozen small yellow croaker and 100 anchovy from both country's samples with Chinese scientists.

1.4 Workshop of otolith aging and comparing

The otolith aging workshop was held in Incheon, Korea during July 22-26, Two experts from China have examined and compared 20 otoliths of small yellow croaker and 20 otoliths anchovy from both country's samples with Korean scientists.

1.5 2<sup>nd</sup> stock assessment workshop, held in Incheon, Korea, 19-21 August 2008.

Results of the spring survey and the two calibration workshops were exchanged. A number of topics were discussed, including:

- Results of the spring survey
- Harmonized stomach content analysis methods
- Harmonized aging and analysis methods using fish otolith
- Calibration of Catchability
- Discuss on population calculated by calibrated catchability
- Ichthyoplankton survey results
- Bycatch analysis
- Environmental data
- Data sharing for the 1st survey (small yellow croaker, anchovy, pomfret, yellow goosefish, and chub mackerel)

- Data calibration
- 2nd Stock assess survey
- Additional items for 2nd survey

#### 1.6 Fifth Meeting of the Regional Working Group

The RWG for the Fisheries Component was held in Shanghai, China, 23-25 September 2008.

#### 1.7 The second Regional Joint Stock Assessment Survey

China conducted the survey in October by R/V Beidou, and Korea in September conducted by R/V Tamgu-8, trawling at 12 stations in the Yellow Sea on the side of Chinese and Korean costal waters. Information on target species of catch, biological data, ichthyoplankton and environmental data were collected and analyzed.

#### 1.8 Demonstration Activities of Strategic Action Programme

The following three demonstration activities related to stock assessment were signed and on-going according to the term of references:

- Demonstration Activity for Effectiveness of Fisheries Stock Enhancement
- Demonstration Activity for Effectiveness of Assessments of Improvements in Fisheries Management
- Demonstration activity for Effectiveness of closed seasons/areas

## 2. Mariculture

#### 2.1 Special session on “Reducing the environmental impacts of mariculture” during the World Aquaculture Conference

The World Aquaculture Society (WAS) had their annual meeting in BEXCO, Busan City, Republic of Korea, 20-23 May 2008, attended by more than a thousand people from 95 countries around the world. During the meeting, YSLME project organised a special session on the Friday morning, chaired by Dr. Mark Walton and Dr. In Kwon Jang, titled “Reducing the environmental impacts of mariculture in the Yellow Sea”. Participants from China and R. Korea presented 10 papers on innovative methods of reducing the release of nutrients, disease causing pathogens, chemicals from mariculture establishments in the region. Talks covered heterotrophic shrimp culture, shellfish disease, dietary improvements, bioremediation using macro-algae and Integrated Multi-trophic Aquaculture (IMTA).

#### 2.2 Demonstration activity on Integrated Multi-Trophic Aquaculture (IMTA)

Two areas were being studied: a long line area in the north of Sanggou Bay; and a sea ranching area in Chudao Island in the south of Sanggou Bay. A number of studies had partially been completed in the Chudao Island including:

- i) The distribution & biomass of eel grass (seagrass)
- ii) The densities of abalone, sea cucumber, clams & sea urchin
- iii) The survival of released animals (abalone & sea cucumber)
- iv) The environmental factors
- v) The carrying capacity of the area for sea ranching
- vi) The economic analysis of sea ranching

### 2.3 Demonstration activity of heterotrophic shrimp culture

Several trials were in progress at the moment including those in outdoor ponds and indoor experimental raceways. Previous results had shown that the biomass at harvest using this bio-floc system was almost 10 times higher than that of conventional semi-intensive rearing systems.

### 2.4 Regional Mariculture Conference

The conference was organized at the Yellow Sea Fisheries Research Institute during Sept. 9-11, 2008. More than 40 participants attended the conference with 30 presentations.