GEF

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Yellow Sea

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

**Second Meeting of the Regional Working Group
for the Investment Component**
Jeju, Korea, 14-17 November 2005

Progress Report on Database Management

**PROGRESS REPORT ON ESTABLISHMENT OF
THE REGIONAL GIS DATABASE AND META DATABASE FOR
THE UNDP/GEF PROJECT ENTITLED:
*"REDUCING ENVIRONMENTAL STRESS IN
THE YELLOW SEA LARGER MARINE ECOSYSTEM"***

**Prepared by the China-Korea Joint Ocean Research Centre
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1   BACKGROUND

The requirement of establishing a GIS database and a meta database for the UNDP/GEF project entitled: *Reducing Environmental Stress in the Yellow Sea Larger Marine Ecosystem (YSLME)* was identified during the PDF-B phase, and subsequently approved by the GEF Council together with the Project Document. During the inception phase of the project, further discussion among the participating countries concluded an agreement at the First Meeting of the Regional Scientific and Technical Panel (RSTP).   The China-Korea Joint Research Centre was charged the tasks to establishing and maintaining the databases for the project.

After careful consultation with the experts concerned the CKJORC propose following actions in establish the GIS database and meta database.

2   TECHNICAL CONSIDERATION

2.1   YSLME project region

Based on the region that YSLME project concern, the location (longitude and latitude) and coverage of GIS database should be defined suitably according to the approved Project Document.

2.2   Costal lines/shorelines

It is suggested that the World Vector Shoreline to be used as basic source of data, considering:

- Original source of data: Defence Mapping Agency now National Imagery and Mapping Agency (NIMA)
- Digitalize the concern region of YSLME project, which can be extend to World-wide coverage
- Suitable for scales close to 1:250,000
- Accuracy; requirement for this data is that 90% of all identifiable shoreline features be located within 500 meters (2.0mm at 1:250,000) circular error of their true geographic positions with respect to the preferred datum (WGS 84)

As the WVS may have some mistakes in the shorelines of the Yellow Sea areas, due to its resolution and changes of the coastal area. Verifications need to be carried out

to form final digital map to be used for the base map of the GIS database. The following actions will be taken:

(i)   Download the WVS (Yellow Sea and adjunction region;
(ii)   Verify the WVS by the participating countries. The CKJRC will co-ordinate the activities of the verifications in China and Korea respectively; and
(iii)   Finalised the shoreline map

2.3   Administrative units and boundary

Considering the administrative units will be necessary for certain parameters, such as fish landing, it would be useful to define the administrative unit for the database. In this regard, it should be noted that the administrative units between China and Korea are different in areas, and different in the levels of population, it is suggested the administrative unit to be used in the database would be to be "county" in China, and in Korea, "province".

2.4   Base GIS map

Based on the 2.1 and 2.2 above, a base GIS map of the Yellow Sea will be prepared, including the information of:

- Shoreline
- Administration units
- Rivers

2.5   Attribute for the data generated by the Project component

The GIS database will serve the project components as primary objective, including the data collected by the project on the following component:

      Fisheries
      Biodiversity
      Ecosystem
      Pollution
      Other Environmental data

The preparation of the database will based on the reports of the 1st meetings of the Regional Working Groups, regarding the data requirements and formats identified by the RWGs. As the social economic data have not be identified yet, the GIS database will be prepared initially with the nature data and information identified above. The social economic data would be added after the types of data and data formats be identified and finally agreed by the project.

Regarding the data sharing policy, the preparation of database will consider to divided the users to different categories. However, the final inclusion of this technical element will be taken after final decision made by the Project Steering Committee (PSC).

2.6 Software of the GIS database

Consider the technical requirements of the GIS database, and the currently available GIS software commonly available, there are two options could be considered by the project:

Option1. Use ArcIMS and ArcEngine; and
Option 2. MapInfo.

Consider further that

(i) the biodiversity GIS database in the Yellow Sea developed by the YSEPP is using the Arc GIS;
(ii) the comparison and compatiblity of with other relevant GIS databases,
(iii) development of the database should meet the demands of users, which possibly will change in the deferent phases during project period. ArcIMS would provide flexibility to accommodate the necessary changes.

It is proposed that the ArcIMS and ArcEngine would be used for the GIS database of the project.

3 Activities for preparation of the GIS database

Step 1. To establish the regionally consistent GIS basemap that contain geographic unit for data reporting;

Step 2. To construct the database according to the structure of the project component, and develop GIS interface to allow the assessment of users through internet.

(i) Preparation of the proposal. The proposal to develop the regional GIS database will be prepared in consultation with the experts from the regional working groups and the staff from the Project Management Office (PMO). The proposal will be submitted to the PMO for comments and improvement.

(ii) With agreement of the PMO a contract to carry out this task should be prepared by the PMO, negotiated and agree up.

(iii) Necessary equipment & software for the development of the GIS database and meta database should be purchased;

(iv) A base map for the GIS database should be prepared consisting of (i) verified shorelines of the Yellow Sea; (ii) administrative units of the coastal areas of the Yellow Sea; and (iii) rivers that discharge to the Yellow Sea.

(v) The database will be constructed using the MS SQL Server as the software, considering all the components of the project. For the social economic data and information, the necessary elements will be added when the final data types and formats identified.

(vi) The preliminary result of the database will be introduced to a regional GIS Workshop for discussion and improvement.

(vii)   Based on the comments and suggestions made by the regional GIS workshop, the regional GIS database will be finalized.

(viii)   A technical report and financial statement for the development and preparation of the regional GIS database will be submitted to the PMO.

4   Activities for preparation of the Meta database

Following the decision on the RSTP, a regional meta database will also be constructed. The following activities would be taken:

(i)   To prepare a questionnaire and circulate, with assistance of the PMO, to the national institutions and projects to get the necessary information on the database;

(ii)   To prepare a preliminary meta database to store the metadata collected through the questionnaires circulated;

(iii)   To input data and information collected into the meta database;

(iv)   Present the preliminary meta database to the regional GIS database for consideration and improvement;

(v)   Based on the comments and suggestion made by the regional workshop the meta database will be finalised.

(vi)   A technical report and financial statement for the development and preparation of the regional meta database will be submitted to the PMO.

5   Workplan

Action	Dates
Preparation of the proposal	26/10/05
sign contract	15/11/05
Purchase equipment & software	10/12/05
preparation of base map (WVS)	20/10/05
verify the WVS	15/12/05
finalise base map	15/12/05
construction of the database	20 /11/05
GIS Workshop	28/02/06
Improve the database	30/04/06
submit final report	30/06/06