

## **1. Background**

The 14th NOWPAP IGM (Toyama, Japan, 8-10 December 2009) approved CEARAC workplan for the 2010-2011 biennium. This activity is implemented with in-kind support by Northwest Pacific Region Environmental Cooperation Center (NPEC) and the Ministry of Environment, Japan (MOE).

## **2. Objective**

Objective of this activity is to develop the draft coastal environmental assessment method focusing on marine biodiversity, which can be shared among the NOWPAP member states, based on lessons learned from the pilot study conducted in Toyama Bay.

## **3. Main tasks**

CEARAC will develop the new assessment method focusing on marine biodiversity which can be shared among NOWPAP member states as common assessment method. To develop the assessment method, CEARAC will conduct following tasks in this biennium.

### **3.1 Pilot study in Toyama Bay for development of the methodology for the coastal environmental assessment focusing on marine biodiversity**

NPEC/CEARAC has started the new activity on marine biodiversity from 2009. In the last year, NPEC/CEARAC collected the information on the activities for marine biodiversity conservation conducted by other international organizations and Japanese government. Helsinki Commission (HELCOM) is one of the pioneering organizations which develop the assessment method for marine biodiversity. In addition, they conducted the test assessments in several sites in the Baltic Sea. For the reason, we referred their method (HELCOM Biodiversity Assessment Tool (BEAT)) for Pilot Study in Toyama Bay.

In 2010, NPEC/CEARAC conducts the pilot study to develop the methodology for the coastal environmental assessment using parameters which related to the marine biodiversity. In this pilot study, the assessment of current situation in Toyama Bay using recent data, such as information on the coastal environment, information on marine environmental conditions and information on communities and species in Toyama Bay, will be done. The indicators are selected based on the HELCOM's assessment method and NOWPAP Procedure for eutrophication status assessment. The list of indicators is shown in Annex.

In the BEAT, HELCOM establish the desired status of the environment for Baltic Sea which called "Ecological Objectives (EcoOs)". In a similar way, NPEC/CEARAC will

implement the assessment against future vision which is desired by involved persons based on the questionnaire investigation and council of advisers in the Pilot study.

### 3.2 Development of the draft assessment method for the NOWPAP region

CEARAC develops the draft assessment method based on the pilot study in Toyama Bay. This draft method will be reviewed by CEARAC FPs and marine biodiversity experts.

## **4. Expected outcome**

A new assessment method for the NOWPAP region which can be shared among NOWPAP member states, based on the review of the draft assessment method by each member state, will be developed by the end of 2011. This method is expected to be tested in each member state in the 2012-2013 biennium.

After understanding the useful through test operation, NOWPAP member states can assess the coastal environment comprehensively by using two assessment tools developed by CEARAC; Procedures for assessment of eutrophication status for the NOWPAP region and the new assessment tool focusing on marine biodiversity. NOWPAP member states can share information on the current coastal environmental situation and the result of these assessments will contribute to the countermeasures for conservation of marine environment in this region.

## **5. Potential partners**

This new assessment tool will be developed based on the existing assessment methods developed by other international organizations such as HELCOM and Large Marine Ecosystem (LME) approach. CEARAC will contact several other international organizations and projects and learn the know-how on marine biodiversity assessments from them and share the information of the NOWPAP region with them.

## 6. Schedule

Schedule of this activity and main body are as follows:

Time		Actions	Main body
2010	All year	Implementation of Pilot Study in Toyama Bay	CEARAC and NPEC
	Summer (8th CEARAC FPM back-to-back with Expert Meeting)	Progress report of the pilot study	CEARAC
2011	All year	Development of the draft assessment method	CEARAC and NPEC
	Q3 (9th CEARAC FPM back-to-back with Expert Meeting)	Review of the draft assessment method	CEARAC, CEARAC FPs and Experts on biodiversity
	Q4	Draft assessment method	CEARAC and NPEC

## 7. Budget

This activity will be implemented with in-kind support by NPEC and MOE.

Annex

Potential indicators to be used in the pilot study

Categories	Indicators
Category I (Background information on coastal area)	Change of human population in the surrounding areas Construction of sewerage system Situation of land use Situation of major rivers (river inputs) and dams Situation on use of fertilizer
Category II (General information on coastal area)	Water Temperature Seashore condition (natural, artificial) Seagrass/seaweed bed Condition of sea bed Eutrophication Ocean pollution by harmful substances Over fishing Invasive species (ballast water) Red tide
Category III (Communities and species information)	Phytoplankton Zooplankton Benthos Seaweed Fish Catch (Marine Trophic Index*, index of diversity)

\* Marine Trophic Index is a parameter which is considered to be measure of overall ecosystem health and stability, but also serves as a proxy measure for overfishing.