

1. General Briefing

Background

The Special Monitoring and Coastal Environmental Assessment Regional Activity Centre (CEARAC) is one of the four Regional Activity Centres (RACs) to coordinate activities relevant to specific components of the Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Action Plan (NOWPAP). CEARAC was founded in 1999 and is hosted by the Northwest Pacific Region Environmental Cooperation Center (NPEC), which was established in 1998 in Toyama, Japan, under the auspices of the Ministry of the Environment.

Following the Resolution of the 7th Intergovernmental Meeting (IGM) (Vladivostok, Russia, March 2002), which allows NOWPAP to evolve toward a RAC-based rather than an Activity-based structure, the CEARAC Focal Points Meeting (FPM) was established in order to promote smooth and effective implementation of special monitoring and assessment of the marine and coastal environment. The First CEARAC FPM (Toyama, Japan, February 2003) defined the priorities and initial steps of CEARAC activities. Following the decision of the First CEARAC FPM, CEARAC has been working on monitoring and assessing Harmful Algal Blooms (HAB) under Working Group 3 (WG3), and developing new monitoring tools using Remote Sensing (RS) under Working Group 4 (WG4).

Activities of CEARAC in the workplan such as CEARAC Focal Points Meetings, WG3/WG4 meetings, specific activities for WG3/4, and other intersessional work are funded by the NOWPAP Trust Fund and supported by in-kind contribution by NPEC, originated from the Ministry of the Environment, Japan and Toyama Prefectural Government, and operation of CEARAC is financially supported by Toyama Prefectural Government, including the personnel salaries and other miscellaneous costs.

Staff

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2. Major activities of CEARAC carried out since the 6th NOWPAP CEARAC FPM (March 2008)

2.1 The Sixth NOWPAP CEARAC FPM

The Sixth CEARAC FPM was held in Toyama, Japan on the 6th and 8th of March 2008. About 20 experts and authorities including the members of FPM, representatives of NOWPAP RACs and others participated in the meeting.

In the meeting, the workplan and budget of CEARAC activities for the 2008-2009 biennium, which had been approved at the 12th NOWPAP IGM (Xiamen, China, 23-25 October 2007), were explained. The workplan included 7 proposals of new activities: 2 workplans for WG3 (HAB Case Studies, HAB Integrated Website), 2 workplans for WG4 (educational materials for utilization of RS data, training course on RS data analysis), 1 workplan for Joint WG3/4 (procedures for assessment of eutrophication status including land based sources of nutrients), oil spill monitoring and RAP MALI. The meeting agreed the workplan and budget of CEARAC activities for the 2008-2009 biennium with minor modifications.

In line with pursuing mid- and long-term strategies of WG3 and WG4 and uncertainty of future budget situation, the Secretariat introduced CEARAC approaches on how to implement activities in the future during the meeting.

2.2 NOWPAP WG3 and WG4 Joint Meetings

The Fourth NOWPAP WG3 and WG4 Joint Meeting was held on the 10th and 12th of September 2008 in Toyama, Japan. About 20 experts including members of WG3 and WG4, representatives of NOWPAP RACs and others participated in the meeting.

In the meeting, the workplan and budget of CEARAC for the 2008-2009 biennium approved by the 6th FPM of CEARAC were explained and the interim progress of respective activities was reviewed.

Related to WG3, the meeting recommended that the CEARAC website be revised to a new structure which is easier for visitors to find information and materials.

Related to WG4, the meeting encouraged the Secretariat to work closely with other relevant organizations such as YSLME and IOC/WESTPAC.

2.3 Implementation of CEARAC Projects

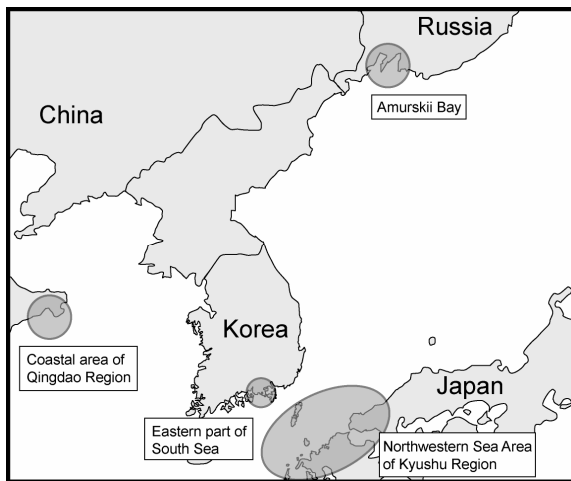
2.3.1 Working Group 3 (WG3)

1) HAB Case Studies

The objective of HAB Case Studies is to establish the most effective and laborsaving

way for sharing HAB-related information. To achieve this objective, each member state selected a target sea area, and experts made HAB Case Studies Reports in each area. The selected sea areas are where HAB occur frequently and HAB monitoring is conducted regularly. These reports introduce who monitors HAB events, what parameters are monitored, and which species is focused, and so on.

Then, CEARAC contracted with experts in each member state to update these reports by adding latest information on HAB in the target sea areas. Through this activity, CEARAC developed the common format and system to continuously share HAB-related information in the NOWPAP region with the member states.



Location of a target sea area for HAB Case Studies in each member state

2) HAB Integrated Website

The objective is to provide and share HAB-related information as a whole in order to enhance activities against HABs in the NOWPAP region. CEARAC contracted with consultants for developing HAB Integrated Website and making rules for updating the website itself and the information in it. The draft website was reviewed by CEARAC FPs and WG3 experts. The official operation will be started in November 2009.

2.3.2 Working Group 4 (WG4)

1) Educational materials for utilization of remote sensing data for coastal environment conservation

The objective of developing educational materials for utilization of remote sensing data for coastal environment conservation is to further promote the use of remote sensing as a marine environment tool. Expected users are students, young researchers and coastal managers in the NOWPAP regions. Web-based prototype of the educational materials was

developed, which enables CEARAC to provide GIS compatible annotated satellite images concerned with the issues of eutrophication, oil spill and red tides in the NOWPAP area. CEARAC completed the development in August.

2) The second NOWPAP training course on remote sensing data analysis

The training course was held at Cheju National University, Jeju, Korea from 1-5 November 2008 with Korea Ocean Research & Development Institute (KORDI) as a co-organizer. It was conducted for 23 selected trainees who are postgraduate students and professional researchers working in the fields of marine sciences, from 7 countries and regions: People's Republic of China, Japan, Republic of Korea, Russian Federation, France, Taiwan and Thailand. 12 lecturers composed of experts from the four NOWPAP countries and from Germany, India and USA were invited and gave lectures on remote sensing applications for monitoring and assessment of the marine and coastal environment in the Northwest Pacific Region. CEARAC plans to continue this activity for the capacity building of the NOWPAP member states in the future.

2.3.3. Joint Activity of WG3 and WG4

- Procedures for assessment of eutrophication including evaluation of land based sources of nutrients for the NOWPAP Region

As a joint activity, NOWPAP WG3 and WG4 developed procedures for assessment of eutrophication status that can be shared among the NOWPAP member states. Draft procedures, developed by the Northwest Pacific Region Environmental Cooperation Center (NPEC), were presented at the 2nd Coastal Environment Assessment Workshop held in Toyama, Japan in September 2008. Then, the draft procedures were reviewed and refined by the nominated experts from each NOWPAP member state in FY 2008, and the results of the works were harmonized to make the common procedures for assessment of eutrophication status for the NOWPAP region in FY 2009. The procedures were finally reviewed by CEARAC FPs and completed in June 2009. The developed procedures are expected to assess the status of eutrophication in each NOWPAP member state.

2.3.4 CEARAC Activities on RAP MALI

- Development of public awareness materials in cooperation with NOWPAP RCU and NPEC

CEARAC will develop a public awareness material to decrease the generation of marine litter using existing outputs of CEARAC and NPEC.

- Compilation and harmonization of marine litter monitoring data on beaches and submission of collected data to DINRAC

CEARAC prepared the monitoring plan sheet and asked National coordinators of each member state to submit the sheet with the monitoring results. The results will be submitted to CEARAC and CEARAC will summarize them and submit to DINRAC.

- Interpretation of results of marine litter monitoring on beaches

CEARAC will interpret monitoring results implemented by NPEC in 2008 and 2009. The result of interpretation will be introduced through marine litter website developed in CEARAC website.

- Development of technical materials and introduction of best practices on solid waste management, including removal of marine litter on beaches

Ministry of Environment, Japan (MOE) implemented Model Survey to understand the current situation and to develop the management method for solid waste including removal marine litter on beaches. MOE made the report of model survey and is making outline of the model survey. CEARAC will make pamphlet using this outline.

2.4 Intersessional Activities

- Website on oil spill monitoring by remote sensing

Website on oil spill monitoring by remote sensing was updated by the end of 2006 based on the proposal from Pacific Oceanological Institute of the Far Eastern Branch of Russian Academy of Sciences. More synthetic aperture radar images of oil spills will be added to the website.

2.5 Regional Cooperation with UNEP, NOWPAP RACs and other organizations

2.5.1 Participation in NOWPAP Partner's Meetings and Workshops

1) NOWPAP IOC/ WESTPAC 7th International Scientific Symposium

CEARAC staff participated in IOC/WESTPAC 7th International Scientific Symposium (Kotakinabalu, Malaysia, 21-25 May 2008) and introduced draft procedures for assessment of eutrophication status including evaluation of land-based sources of nutrient for the NOWPAP region.

2) YSLME Regional Workshop on Assessing Marine Environment Quality of the Yellow Sea

CEARAC staff participated in YSLME Regional Workshop on Assessing Marine

Environment Quality of the Yellow Sea (Shenyang, China, 2-4 June 2008) and introduced draft procedures for assessment of eutrophication status including evaluation of land-based sources of nutrient for the NOWPAP region.

3) PICES 17th Annual Meeting

CEARAC staff participated in PICES 17th Annual Meeting (Dalian, China, 24 October- 2 November 2008) and made a presentation to introduce CEARAC WG3 activities for the 2008-2009 biennium. CEARAC also discussed ways of information sharing and cooperation between NOWPAP and PICES with PICES HAB experts.

4) Workshop on Marine Environment in the East China Sea and its Sound Future

CEARAC staff participated in Workshop on Marine Environment in the East China Sea and its Sound Future (Fukuoka, Japan, 5-6 December 2008) and collected information HAB in East China Sea.

5) PICES workshop on Status and Trends in East Asian Marginal Sea Ecosystems

CEARAC staff participated in PICES workshop on Status and Trends in East Asian Marginal Sea Ecosystems (Busan, Korea, 21-22 April 2009) and made a presentation to introduce CEARAC activities and HAB-related data collected through WG3 activities in order to contribute to construction of the status report in East Asian Marginal Sea Ecosystems by PICES.

2.5.2 Participation in NOWPAP-related and other RACs' Meetings and Events

1) NOWPAP International Coastal Cleanup (ICC)

Dr. Takashi Kusui (Professor of Toyama Prefectural University) participated and made a presentation in NOWPAP ICC held in Dalian, China (11-12 September 2008) on behalf of CEARAC, and CEARAC staff participated in Vladivostok, Russia (26-28 September 2008).

2) RACs Focal Points Meetings

CEARAC has kept a close contact with the other three NOWPAP RACs in order to promote protection and management of the coastal and marine environment in the NOWPAP region. The Director of CEARAC and the staff attended Focal Points Meetings of the other RACs.

2.6 Publication of CEARAC Newsletter

The 5th issue of CEARAC Newsletter was published in December 2008, which

introduces implementation status of CEARAC activities for the 2008-2009 biennium. NOWPAP RCU, some experts of Working Group 3 and 4 and other international organizations kindly contributed articles to this newsletter.

CEARAC Newsletters are distributed free of charge to people who are interested in CEARAC activities and special monitoring and coastal environmental assessment. The 6th issue will be published at the end of 2009.

3 The use of the budget for the 2008-2009 biennium

To meet the strict new budget decided at the 12th NOWPAP IGM, CEARAC decided to reduce budget for organization of meetings by holding them back to back with workshops organized by NPEC. The 6th CEARAC FPM approved revised workplan and budget of CEARAC for the 2008-2009 biennium.

Table 1 shows planned budget, paid expenditure and expected expenditure (including partially paid ones) of CEARAC for the 2008-2009 biennium. Each expenditure was reported to UNEP through NOWPAP RCU in accordance with the Project Document that was signed between UNEP and NPEC.

**Table 1 Workplan and Budget of CEARAC for the 2008-2009 biennium
(as of 30 June, 2009)**

Activity	Time	Planned Budget US\$	Expenditure (expected) US\$
Organization of CEARAC 6 th Focal Points Meeting -organizing the meeting -publishing the meeting report	March 2008	16,000 2,000	15,381 2,535
Organization of CEARAC 7 th Focal Points Meeting -organizing the meeting -publishing the meeting report	September 2009	16,000 2,000	19,549 3,000
Organization of 4 th Meetings of WG3 (HAB) and WG4 (RS) -organizing the meeting -publishing the meeting report	September 2008	25,000 6,000	21,046 4,974
WG3(HAB) -HAB case studies -HAB Integrated Website	Throughout 2008 and 2009	10,000 10,000	10,000 10,000
WG4(RS) -educational materials for utilization of remote sensing data for marine environment conservation - 2nd training course on remote sensing data analysis	Throughout 2008 and 2009	10,000 15,000	10,000 14,515
WG3 and WG4(joint) - procedures for assessment of eutrophication status including evaluation of land based sources of nutrients.for the NOWPAP Region	Throughout 2008 and 2009	10,000	10,000

Intersessional work -Website on oil spill monitoring by remote sensing -Preparing documents for 7th FPM	Throughout 2008 and 2009	2,000 4,000	2,000 4,000
Cooperation, coordination of CEARAC activities -2008 -2009	Throughout 2008 and 2009	4,000 4,000	3,274 4,726
Publication of CEARAC Newsletter -Fifth issue -Sixth issue	Autumn 2008 and 2009	2,000 2,000	2,420 2,580
Sub-total		140,000	140,000
CEARAC activities on RAP MALI -Develop public awareness materials -Compile and harmonize marine litter monitoring data on beaches -Interpret results of marine litter monitoring on beaches - Develop technical materials and introduce best practices on solid waste management, including removal of marine litter on beaches	Throughout 2008 and 2009	2,500 4,000 4,000 in-kind	2,500 4,000 4,000 In-kind
Sub-total		10,500	10,500
TOTAL		150,500	150,500