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**Northwest Pacific Action Plan
Special Monitoring and Coastal Environmental Assessment
Regional Activity Centre**

**The Fourth NOWPAP Working Group 3 and 4 Joint Meeting
Toyama, Japan, 10-12 September 2008**

**Report of CEARAC activities in the 2006-2007 biennium
and Workplan and Budget for the 2008-2009 biennium**

Report of the CEARAC Activities in the 2006-2007 biennium and Workplan and Budget for the 2008-2009 biennium

1. Introduction

1.1 At the 3rd CEARAC Focal Points Meeting (FPM) (Toyama, Japan, 15-16 September 2005), the draft workplan and budget for CEARAC 2006-2007 biennium were agreed to be submitted to the 10th IGM (Toyama, Japan, 24-26 November 2005). The total budget of this draft workplan for CEARAC for the 2006-2007 biennium was US\$150,000 (Annex UNEP/NOWPAP/IG.10/4/1).

1.2 The 10th IGM approved the workplan and budget for entire NOWPAP for the 2006-2007 biennium including the allocation of CEARAC budget, US\$150,000 as requested by CEARAC. The IGM also approved the Marine Litter Activity in the NOWPAP Region (MALITA) and approved a total budget, US\$70,000, for this activity. US\$15,000 was allocated to CEARAC for MALITA at the meeting. However, CEARAC's allocation in MALITA increased by US\$19,500 following further discussions after the IGM; therefore, the total amount of CEARAC allocation for the 2006-2007 biennium resulted in US\$169,500.

1.3 The 4th CEARAC FPM (Toyama, Japan, 8-9 March 2006) approved the workplan and budget for CEARAC for this biennium (UNEP/NOWPAP/CEARAC/FPM 4/8). The meeting adopted the draft Terms of Reference (TOR) for CEARAC FPM (UNEP/NOWPAP/CEARAC/FPM 4/5) submitted by CEARAC Secretariat and agreed on submitting it to the 11th IGM of NOWPAP (Moscow, Russia, 20-22 December 2006). In addition to that, the meeting adopted the Terms of Reference (TOR) for NOWPAP WG3 (UNEP/NOWPAP/CEARAC/FPM 4/6) and WG4 (UNEP/NOWPAP/CEARAC/FPM 4/7) with minor changes.

1.4 The 10th and 11th IGMs respectively decided to carry out an evaluation of the RACs' performance during the past two biennia, 2002-2003 and 2004-2005. In this evaluation, documentation provided by RCU and RACs was reviewed and an individual interview to RCU coordinator and RAC directors was held in Beijing on 24-25 May 2007 by the hired consultant. As a result, for activities of CEARAC, the integrated report on HAB and Portal Site on Ocean RS were highly evaluated. In the future, while continuing on-going activities on HAB and RS, CEARAC is expected to develop an environmental assessment method for the NOWPAP region and launch new activities such as on land based sources of pollution (LBS).

1.5 The 5th CEARAC FPM (Toyama, Japan, 18-19 September 2007) reviewed implementation and expenditure of CEARAC activities for the 2006-2007 biennium. As for undecided Intersessional Work, the Secretariat proposed to prepare the documents for the 6th CEARAC FPM. The meeting agreed on the entire report. Regarding the draft workplan including 5 proposals of new activities and budget of CEARAC activities for the 2008-2009 biennium, the meeting requested some changes during the discussion and agreed on submission of them to the 12th NOWPAP IGM. The draft mid- and long-term strategies of CEARAC and goals of NOWPAP WG3 and WG4 were presented based on the request at the 4th CEARAC FPM, and the meeting agreed on the documents in general. The draft guidelines on establishment and disbanding of Working Groups of CEARAC, which had also been requested for its preparation in the 4th CEARAC FPM, were presented. After discussion, the meeting agreed on the draft guidelines. Discussion on the operation of the present WG3 and WG4 will be scheduled for the next biennium.

1.6 The 12th NOWPAP IGM (Xiamen, China, 23-25 October 2007) approved the report of CEARAC on the progress in implementation of NOWPAP during the 2006-2007 biennium. The meeting also approved the presented workplan and revised budget for NOWPAP for the 2008-2009 biennium. In line with the shrink of the total budget of NOWPAP, new budgetary allocation of CEARAC activities during the biennium 2008-2009 was reduced from US\$150,000 to US\$140,000. The meeting also approved in principle the NOWPAP Regional Action Plan on Marine Litter (RAP MALI), a major outcome of the NOWPAP Marine Litter Activity (MALITA) which was implemented for the last two years.

1.7 The 6th NOWPAP CEARAC FPM (Toyama, Japan, 6-8 March 2008) approved the revised workplan and budget for the 2008-2009 biennium, which were made based on decreased budget for entire NOWPAP for this biennium, with minor modifications.

2. Detailed activities for the 2006-2007 activities

Table 1 shows planned budget and paid expenditure of CEARAC for the 2006-2007 biennium. Each expenditure was reported to UNEP through NOWPAP RCU in accordance with the Project Document that was signed between UNEP and NPEC.

Table1 Workplan and Budget of CEARAC for the 2006-2007 Biennium

Activity	Date& Venue	Planned Budget US\$	Expenditure US\$
Organization of CEARAC 4 th Focal Points Meeting -organizing the meeting -publishing the meeting report	March 2006	21,000 2,000	17,560 1,908
Organization of CEARAC 5 th Focal Points Meeting -organizing the meeting -publishing the meeting report	September 2007	21,000 2,000	20,650 2,000
Organization of 3 rd Meetings of WG3 (HAB) and WG4 (RS) -organizing the meeting -publishing the meeting report	July 2006	26,000 4,000	27,679 4,000
WG3(HAB) -Making a Booklet of "Countermeasures against HABs" -Publication of <i>Cochlodinium</i> pamphlet in four languages	Throughout 2006 and 2007	22,000 4,000	22,000 4,245
WG4(RS) -Eutrophication Monitoring guideline by RS - RS training	Throughout 2006 and 2007	15,000 15,000	14,800 16,300
Intersessional work -Website on Oil spill monitoring by remote sensing -Preparing documents for 6th FPM	Throughout 2006 and 2007	3,000 3,000	3,000 3,000
Cooperation, coordination of CEARAC activities -2006 -2007	Throughout 2006 and 2007	4,300 3,700	4,400 4,550

Publication of CEARAC Newsletter -Third issues -Fourth issue	Autumn 2006 and 2007	2,000 2,000	1,908 2,000
Sub-total		150,000	150,000
MALITA -Monitoring Guideline -Tourism Guideline -Pamphlet for the reduction of marine litter -Booklet on recycling of plastic marine litter -Summary of the result of marine litter monitoring	Throughout 2006 and 2007	} 19,500	3,594 6,000 2,906 4,000 3,000
Sub-total		19,500	19,500
TOTAL		169,500	169,500

2.1 Organization of CEARAC FPM

2.1.1 Organization of the 4th CEARAC FPM (Toyama, Japan, 8-9 March 2006)

The main achievements of the meeting were as follows:

- (1) The meeting reviewed implementation of CEARAC activities in 2005 and the expenditure for the 2004-2005 biennium as well as those of WG3 and WG4.
- (2) The meeting adopted workplan and budget for the 2006-2007 biennium which had been adopted by the 10th NOWPAP IGM (Toyama, Japan, 24-26 November 2005)
- (3) The meeting adopted the revised TORs for the CEARAC FPM, WG3 and WG4 with minor changes and agreed to submit them to the 11th NOWPAP IGM (Moscow, Russia, 20-22 December 2006).
- (4) The meeting asked to prepare Guidelines on establishing and disbanding of Working Groups for the 5th CEARAC FPM.
- (5) There was a request that regardless of budget, long-term objectives of CEARAC would be documented in a workplan, and it was decided to discuss this issue in WG meetings and the 5th CEARAC FPM.

2.1.2 Organization of the 5th CEARAC FPM (Toyama, Japan, 18-19 September 2007)

The main achievements of the meeting were as follows:

- (1) The implementation and expenditure of CEARAC activities for the 2006-2007 biennium were reported. As for undecided Intersessional Work, the Secretariat proposed to prepare the documents for the 6th FPM. The meeting approved this proposal and agreed on the entire report.
- (2) The meeting requested some changes on the draft workplan including 5 proposals of new activities and budget of CEARAC activities for the 2008-2009 biennium and agreed on submission of them to the 12th NOWPAP IGM (Xiamen, China, 23-25 October 2007).
- (3) The meeting agreed in general on the draft mid- and long-term strategies of CEARAC and goals of NOWPAP WG3 and WG4.
- (4) The meeting agreed on the draft guidelines on establishment and disbanding of Working Groups of CEARAC.
- (5) Discussion on the operation of the present WG3 and WG4 will be scheduled for the next biennium.

2.2 Organization of the 3rd Meeting of WG3 (HAB) and WG4 (RS) (Toyama, Japan, 6-7 July 2006)

The 3rd WG3 and WG4 Meetings were jointly held for the first time.

The main achievements of the meeting were as follows:

- (1) The meeting reviewed implementation of activities and budget for both WGs for the 2004-2005 biennium as well as the details of new activities for the 2006-2007 biennium.
- (2) Regarding WG3, the meeting decided a change of the title of the booklet to “Countermeasures against HABs” and addition of a new chapter about toxic producing algal blooms. Also, the meeting agreed on publication of *Cochlodinium* pamphlets in four languages (Chinese, Japanese, Korean and Russian).
- (3) Regarding WG4, the meeting agreed on publication of Eutrophication Monitoring Guidelines by RS for the NOWPAP Region through refining “NPEC Eutrophication Monitoring Guideline by RS” by the NOWPAP Members in 2006 and organization of a RS training program on data analysis in 2007.

2.3 Implementation of CEARAC projects

2.3.1 Working Group 3

1) Booklet of Countermeasures against HABs

CEARAC made “the booklet of Countermeasures against HABs in the NOWPAP Region” at the end of 2007 to provide and share information on countermeasures against HABs implemented in the NOWPAP member states, and to contribute to establishment of policies and measures against HABs in stakeholders and related agencies.

The booklet was published in print after approval by CEARAC FPs and WG3 experts and circulated to WG3 experts and HAB related agencies in December 2007. In addition to that, CEARAC made a CD version of the booklet with financial support from NOWPAP RCU for wider dissemination, and circulated the CDs to other regional seas programmes and other international projects.

2) *Cochlodinium* pamphlet

CEARAC made “*Cochlodinium* pamphlet” in 4 languages of the NOWPAP member states, namely Chinese, Japanese, Korean and Russian, targeting general public including fishermen and students as their users. Translation of the pamphlet from English to each language was done by WG3 experts voluntarily.

These pamphlets were published and circulated through WG3 experts to related persons and agencies in March 2007.

2.3.2 Working Group 4

1) Eutrophication Monitoring Guidelines by RS for the NOWPAP Region

Experts of the NOWPAP member states reviewed and refined “NPEC Eutrophication Monitoring Guideline by Remote Sensing.” With these comments and suggestions, CEARAC revised this NPEC guideline with a national consultant and compiled “Draft Eutrophication Monitoring Guidelines by Remote Sensing for the NOWPAP Region”. This draft was reviewed and refined by experts of WG3 and WG4 of each NOWPAP Member State, and was published and circulated through WG4 experts to related persons and agencies in December 2007.

2) RS Training

CEARAC organized the first NEAR-GOOS - NOWPAP Joint Training Course on Remote Sensing Data Analysis at Nagasaki University, Nagasaki, Japan from 3-7 September 2007 jointly with IOC/WESTPAC.

The course consisted of lectures by specialists and hands-on practical sessions on the analysis of satellite data. The course provided an overview of remote sensing with special emphasis on applications of ocean color relevant to the Northwest Pacific region. The course was designed for postgraduate students, professional researchers and local government officers working in the areas of marine sciences and coastal-zone management in the Northwest Pacific region. There were 25 trainees gathered from the NOWPAP member states and adjacent Asian countries.

The materials used at the Training are uploaded onto CEARAC website.

3) Development of RS information network

Several areas in the NOWPAP region were added to marine calendar of Marine Environmental Watch Project website for wide use of the system.

It has also been registered as one of the databases of NEAR-GOOS, which is one of the regional GOOSs (Global Ocean Observing System) sponsored by Intergovernmental Oceanographic Commission of UNESCO (IOC).

2.4 Intersessional Activities

2.4.1 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.

2.4.2 Preparing documents for 6th FPM

With the approval of the 5th CEARAC FPM, CEARAC made a contract with a Japanese consultant to prepare a workplan of HAB case studies and a workplan for the development of procedures for assessment of eutrophication status including evaluation of land based sources of nutrients, which are part of new activities to be implemented for the 2008-2009 biennium.

2.5 Regional Cooperation with UNEP, NOWPAP RACs and other organizations

CEARAC kept contact with NOWPAP RCU, other NOWPAP RACs, UNEP and other relevant regional international organizations in order to promote the protection and management of the coastal and marine environment in the NOWPAP Region and to share and exchange information of CEARAC activities and theirs. Also, under the same purposes, the Director of CEARAC and his representatives participated in meetings and/or workshops held by other RACs and/or other relevant international organizations.

2.5.1 Participation in NOWPAP IGM, Workshop and other RACs FP Meetings

1) NOWPAP Intergovernmental Meeting (IGM)

- 11th IGM

The Director of CEARAC participated in the 11th NOWPAP Intergovernmental Meeting (Moscow, Russia, 20-22 December 2006) and reported implementation of activities for the 2005-2006 biennium as well as revised workplan and budget for CEARAC, as approved by the Fourth CEARAC Focal Points Meeting (Toyama, 8-9 March 2006). CEARAC also submitted the revised Terms of References (TOR) for the NOWPAP CEARAC Focal Points Meeting (FPM) for discussion.

- 12th IGM

CEARAC Director and staff participated in the 12th NOWPAP Intergovernmental Meeting (Xiamen, China, 23-25 October, 2007). At the meeting, the director reported implementation of CEARAC activities for the 2006-2007 biennium and proposed activities for the 2008-2009 biennium.

2) 1st NOWPAP Workshop on Marine Litter and 1st NOWPAP Regional Meeting on Marine Litter

CEARAC staff participated in the 1st NOWPAP Workshop on Marine Litter (Incheon, Korea, 8-9 June 2006) and the 1st NOWPAP Regional Meeting on Marine Litter (Incheon,

Korea, 10 June 2006). At the meeting, CEARAC staff introduced current progress of collection of existing data/information, fundamental concepts of monitoring guidelines and a strategy on integrated management.

3) PICES 15th Annual Meetings

CEARAC staff participated in PICES 15th Annual Meeting (Yokohama, Japan, 13-22 October 2006) and introduced the activities of WG3 and CCG for sharing information not only in the NOWPAP Region but also in the North Pacific region.

4) 4th Korean-Japan Workshop on Ocean Color Remote Sensing

CEARAC staff participated in the 4th Korean-Japan Workshop on Ocean Color Remote Sensing (Cheju, Korea, 19-20 December 2006) and discussed implementation plan of the 1st RS Training Course on data analysis with remote sensing experts from IOC/WESTPAC and YSLME.

5) 1st COBSEA Marine Litter Workshop

CEARAC staff participated in the First COBSEA Marine Litter Workshop (Jakarta, Indonesia, 8-9 May 2007) and made a presentation. He introduced Monitoring survey carried out by Northwest Pacific Region Environmental Cooperation Center (NPEC), a hosting organization of CEARAC, NOWPAP Monitoring Guidelines published in March 2007, and the future prospects for solution of marine litter issues.

6) NOWPAP International Coastal Cleanup (ICC)

CEARAC staff participated in the NOWPAP ICC held in Sakata, Japan (29-30 September 2006) and in Rizhao, China (27-28 June 2007). In Rizhao ICC, CEARAC staff introduced the results of monitoring survey carried by NPEC and NOWPAP Monitoring Guidelines. CEARAC staff also participated in NOWPAP ICC in Busan, Korea (29-30 September 2007).

7) Advances on Satellite Oceanography: Understanding and Monitoring of Asian Marginal Seas (50-th Sputnik Anniversary)

CEARAC staff participated in the conference, "Advances on Satellite Oceanography: Understanding and Monitoring of Asian Marginal Seas (50-th Sputnik Anniversary)" held in Vladivostok, Russia (3-6 October 2007) and introduced the activities of NOWPAP WG4.

8) Focal Points Meetings of other RACs

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.

2.5.2 Cooperation with other RACs and Organizations

1) The 4th International Workshop on Remote Sensing of the Marine Environment in the Northwest Pacific Region

The 4th International Workshop on Remote Sensing of the Marine Environment in the Northwest Pacific Region was co-organized by NPEC and Pukyong National University on 1-2 August 2006 in Busan, Korea, aiming at providing an opportunity for experts to present their latest research results and to exchange information on ocean remote sensing applications.

2) The State of Marine Environment Report in the NOWPAP Region

CEARAC contributed articles such as Harmful Algal Blooms, marine litter and persistent toxic substances in some chapters in the State of Marine Environment Report in the NOWPAP Region under the MoU with POMRAC in the 2006-2007 biennium.

3) Assistance to POMRAC for organizing ICARM

CEARAC assisted POMRAC to smoothly organize the First Meeting of ICARM Working Group (Toyama, Japan, 10-11 July, 2007).

2.6 Publication of CEARAC Newsletter

The 3rd issue of CEARAC Newsletter was published in November 2006, and the 4th issue was published in December 2007. Both issues introduce implementation status of CEARAC activities and future workplan and budget of CEARAC. NOWPAP RCU, some experts of Working Group and some FPs kindly contributed articles to the newsletters.

These newsletters are distributed free of charge to people who are interested in CEARAC activities and special monitoring and coastal environmental assessment.

2.7 CEARAC Activities on Marine Litter (MALITA)

Based on the workplan for MALITA approved in the 10th NOWPAP IGM, activities related to marine litter issues and implementation of the MALITA project by CEARAC were discussed in the 4th CEARAC FPM and approved. CEARAC prioritized related activities and has conducted them in consultation with NOWPAP RCU.

1) Monitoring Guidelines on the Beaches and Shorelines

CEARAC developed “Guidelines for Monitoring Marine Litter on the Beaches and Shorelines of the Northwest Pacific Region” in March 2007, which was designed as a tool for the NOWPAP Member States, including local governments, volunteers and NGOs, to monitor marine litter on their beaches and shorelines.

These guidelines were circulated to related persons and international agencies at an occasion such as a workshop and/or International Coastal Cleanup Campaign.

2) Tourism Guidelines

Taking into consideration of the fact that tourists are one of the sources of marine litter, CEARAC developed tourism guidelines to reduce waste generation targeting tourist themselves and tour designers.

After approval by MALITA FPs and NOWPAP RCU, these guidelines were uploaded onto CEARAC website.

3) The 2nd NOWPAP Workshop on Marine Litter

CEARAC organized the 2nd NOWPAP Workshop on Marine Litter on 28-29 March 2007 with in-kind support from the Ministry of the Environment, Japan. This workshop was held to explore effective countermeasures against marine litter and to contribute towards the establishment of the Regional Action Plan on marine litter management in the NOWPAP region.

The workshop report is uploaded onto CEARAC website (<http://www.cearac-project.org/2ndMLWS/WSweb.htm>)

4) Pamphlet for reduction of marine litter

CEARAC made a pamphlet which promotes reduction of marine litter in August 2007. This pamphlet targets general public including the youth, and aims to raise public awareness and to change their attitudes toward their daily lives.

This pamphlet was circulated to related persons and international agencies at occasions such as a workshop and/or International Coastal Cleanup Campaign.

5) Booklet on recycling of plastic marine litter

CEARAC made a booklet on recycling of plastic marine litter in 2007. This booklet introduces technologies of plastic recycling implemented in Japan, and it is expected to

disseminate useful recycling technologies among the NOWPAP Member States.

This booklet is uploaded onto CEARAC website.

6) Monitoring survey to raise public awareness

CEARAC and NPEC conducted a monitoring survey during the 5th CEARAC FPM (19 September 2007). In order to raise public awareness and promote an educational campaign on marine litter issues, CEARAC FPs and local school students jointly participated in this annual monitoring survey carried out by NPEC.

7) Summary of the results of the marine litter monitoring on the beaches and shorelines of the Northwest Pacific region

Based on a summary of the results of the marine litter monitoring on the beaches and shorelines of the Northwest Pacific region which was developed by Northwest Pacific Region Environmental Cooperation Center (NPEC), a hosting organization of CEARAC, CEARAC made an English version to share the information not only among NOWPAP member states but also among other Regional Seas and organizations.

This summary is uploaded onto CEARAC website.

3. Proposed Activities for the 2008-2009 biennium

To meet the strict new budget decided at the 12th IGM, CEARAC decided to reduce budget for organization of meetings by holding them back-to back with workshops organized by NPEC. On the other hand, organization of the second NOWPAP training course on RS data analysis may need more budget than originally planned, so the budget breakdown was changed. In addition to the CEARAC budget, US\$ 10,500 is allocated for implementing designated activities in RAP MALI. Therefore, the final estimated budget for the 2008-2009 biennium is US\$150,500. The proposed workplan, budget and timetable are shown in Table 2.

Table 2 Workplan and Budget of CEARAC for the 2008-2009 biennium

Activity	Planned Budget (US\$)			Tentative Time
	2008	2009	Total	
Organization of CEARAC Focal Points Meeting	18,000	18,000	36,000	6 th FPM Mar. 2008 7 th FPM Sep. 2009
Organization of WG3 (HAB) and WG4 (RS) Meetings	31,000	-	31,000	Summer 2008
Specific project	39,000	16,000	55,000	
WG3(HAB)				
-HAB case studies	8,000	2,000	10,000	
-HAB Integrated Website	-	10,000	10,000	
WG4(RS)				
-educational materials for utilization of remote sensing data for marine environment conservation	8,000	2,000	10,000	
- 2nd training course on remote sensing data analysis	15,000	-	15,000	
WG3 and WG4(joint)				
- procedures for assessment of eutrophication status including evaluation of land based sources of nutrients for the NOWPAP Region	8,000	2,000	10,000	
Intersessional work	3,000	3,000	6,000	
Cooperation, coordination of CEARAC activities	4,000	4,000	8,000	
Publicity activities	2,000	2,000	4,000	

Sub-total			140,000	
CEARAC activities on RAP MALI	4,500	6,000	10,500	
-Develop public awareness materials	2,500	-	2,500	
-Compile and harmonize marine litter monitoring data on beaches	2,000	2,000	4,000	
-Interpret results of marine litter monitoring on beaches	-	4,000	4,000	
- Develop technical materials and introduce best practices on solid waste management, including removal of marine litter on beaches	In-kind	In-kind		
Sub-total			10,500	
TOTAL			150,500	

3.1 Organization of the CEARAC Focal Points Meetings

The 6th CEARAC Focal Points Meeting was held on 6-8 March 2008 in Toyama, Japan, in order to carry out its designated goals and purposes, which are described in the Terms of Reference (TOR) for the CEARAC FPM.

The 6th CEARAC FPM discussed the finalized budget of CEARAC for the 2008-2009 biennium after the 12th NOWPAP IGM and reviewed the progress in implementation of CEARAC activities including the intersessional activities of NOWPAP WG3 (HAB) and WG4 (RS).

The 7th CEARAC FPM to be held in September 2009 will also review and approve the progress in implementation of the workplan and budget for the 2008-2009 biennium. Other matters related to the special monitoring and coastal environmental assessment and so on may be discussed on recommendation from the CEARAC Focal Points. During the meeting, the frame of workplan for CEARAC for the 2010-2011 biennium will be expected to be presented by the CEARAC Secretariat.

Taking into consideration the limited budget allocated to CEARAC, FPMs are planned to be held back to back with workshops organized by NPEC. In fact, the First

Coastal Environmental Assessment Workshop was held back to back with the 6th CEARAC FPM.

3.2 Organization of the 4th WG3 (HAB) and WG4 (RS) Meetings

The Fourth NOWPAP WG3 (HAB) and WG4 (RS) Meetings are planned to be held simultaneously in Toyama in summer 2008 to exchange information each other in an effective manner because the activities of WG3 (HAB) and WG4 (RS) are closely related and the cost for meetings will be reduced by joint organization.

The meeting will review the outcomes of the intersessional work of WG3 and WG4 adopted at the 6th FPM. Furthermore, the meeting will discuss the detailed workplan for the 2008-2009 biennium.

3.3 Specific Projects -CEARAC Projects

CEARAC will continue to work for implementing activities designated by NOWPAP WG3 (HAB) and WG4 (RS) in cooperation with CEARAC Focal Points, experts of WGs and related regional and international organizations. Especially CEARAC will emphasize implementation of HAB case studies and development of HAB Integrated Website as the intersessional work of WG3 and development of educational materials for utilization of remote sensing data for marine environment conservation, organization of the second NOWPAP training course on remote sensing data analysis as the intersessional work of WG4. Besides respective work of each working group, procedures for assessment of eutrophication status including evaluation of land based sources of nutrients for the NOWPAP Region will be developed as a joint activity of WG3 and WG4.

3.3.1 Implementation of HAB Case Studies

CEARAC plans to implement HAB case studies to establish the most effective and laborsaving way for sharing information on HAB occurrence and oceanographic and meteorological conditions and to summarize common concerned items.

In 2008, CEARAC will select several sea areas in the NOWPAP region, where HAB monitoring has already been implemented. Experts will implement case studies there based on the approved implementation plan, and summarize the outcomes in reports by the end of 2008. In 2009, these reports will be updated by collecting latest information. The information will be also posted on the database of HAB Integrated Website for the purpose of sharing information among the NOWPAP member states and other regional seas and international organizations.

3.3.2 Development of HAB Integrated Website

CEARAC plans to develop a website to provide and share information on HAB occurrences, countermeasures, oceanographic conditions and HAB-related issues in order to enhance activities against HAB in the NOWPAP region.

In 2008, CEARAC will prepare a draft outline of the website. Based on review of the draft outline by WG3 experts and Focal Points, CEARAC will coordinate development of this website with other international organizations such as PICES in 2008.

After that, CEARAC will develop HAB Integrated Website with the rules for data updating. After test operation and enhancement of database, the website will start its operation officially by the end of 2009.

3.3.3 Development of educational materials for utilization of remote sensing data for marine environment conservation

CEARAC plans to develop educational materials for utilization of remote sensing data for marine environment conservation for students, young researchers and coastal managers in the NOWPAP region.

The materials consist of guidance on acquisition, analysis and assessment of remote sensing data for the marine environment depending on the purpose of data use. The educational materials will be constructed based on materials and lectures in the First NEAR-GOOS - NOWPAP Joint Training Course for Remote Sensing Data Analysis and other existing information that can be used for educational purpose.

Experts will develop the educational materials based on the workplan approved by FPs. The materials will be disclosed on CEARAC website for wider dissemination.

3.3.4 Organization of the second NOWPAP training course on remote sensing data analysis

Based on the experiences of the First NEAR-GOOS - NOWPAP Training Course on Remote Sensing Data Analysis, CEARAC plans to conduct the second NOWPAP training course on remote sensing data analysis for students, young researchers and coastal managers to obtain useful skills and knowledge to utilize remote sensing data in monitoring and assessment of marine environment.

3.3.5 Development of procedures for assessment of eutrophication status including evaluation of land based sources of nutrients for the NOWPAP Region

As a joint activity between NOWPAP WG3 and WG4, CEARAC plans to develop useful procedures for assessment of eutrophication status by utilizing remote sensing techniques that can be shared among the NOWPAP member states, based on lessons learned from a pilot study conducted in Toyama Bay.

Experts will review and refine the draft procedures prepared by CEARAC based on the workplan approved by FP. The result of the review and refinement work will be harmonized and compiled into the common procedures for assessment of eutrophication status for the NOWPAP region by a consultant hired by CEARAC.

The developed procedures for assessment of eutrophication status will be used to conduct a case study in each NOWPAP member state in the near future.

3.4 Intersessional Work

CEARAC will conduct activities other than the above mentioned Specific Projects, such as updating and modification of CEARAC website on oil spill monitoring by RS. The budget will be used on other miscellaneous activities in close consultation with Focal Points and WG members.

3.5 Cooperation, coordination of CEARAC activities throughout the 2008-2009 biennium

CEARAC will keep close contact with NOWPAP RCU, other RACs, UNEP and relevant regional and international organizations in order to promote development of Regional Seas Programme and implementation and development of NOWPAP and to share and exchange information of current activities each other. On this purpose, CEARAC staff will participate in meetings and/or workshops of other RACs and/or other relevant international organizations.

3.6 Publicity activities

CEARAC will update and maintain CEARAC website to promote awareness rising for wider public on CEARAC activities and special monitoring and coastal environmental assessment. Publicity activities include publication of reports, and/or leaflets and pamphlets in digital and/or printed format within the budget. Also, CEARAC will strengthen information dissemination through CEARAC website.

3.7 CEARAC activities on RAP MALI

CEARAC prioritized assigned activities in consultation with NOWPAP RCU and decided main tasks for the 2008-2009 biennium: (1) Development of public awareness materials in cooperation with NOWPAP RCU and NPEC; (2) Compilation and harmonization of marine litter monitoring data on beaches, and submission of collected data to DINRAC; (3) Interpretation of results of marine litter monitoring on beaches; and (4) Development of technical materials and introduction of best practices on solid waste management, including removal of marine litter on beaches.