

REPORT OF THE SECOND MEETING OF NOWPAP WORKING GROUP 3 (Qingdao, People's Republic of China, 25-26 November 2004)

Background leading to this meeting

1. The Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP) and three Resolutions were adopted at the First Intergovernmental Meeting (IGM) (Seoul, 14 September 1994 : UNEP(OCA)/NOWPAP/IG.1/5). Resolution 1 identified five areas of priority for implementation of the Action Plan, one of which was NOWPAP/3: Establishment of a collaborative, regional monitoring programme.
2. Following the decision of the 3rd IGM, the responsibility for NOWPAP/3 (Regional Monitoring Programme) was jointly shared by the Special Monitoring and Coastal Environmental Assessment Regional Activity Center (CEARAC) and the Pollution Monitoring Regional Activity Center (POMRAC) to carry out regional activities.
3. Following the results of discussions at the First NOWPAP/3 Meeting (Beijing, China, 21-22 May 2001), the 7th IGM (Vladivostok, 20-22 March 2002) approved the resolution 3 Para.6, "the demarcation of the responsibilities and activities between CEARAC and POMRAC as presented by the Secretariat in document UNEP/NOWPAP IG.7/8". Subsequently CEARAC was allocated with the responsibility to implement activities related to Working Group 3 (WG3) : Harmful Algal Bloom (HAB) including red tides and Working Group 4 (WG4) : Remote Sensing of Marine Environment.
4. At the NOWPAP CEARAC First Focal Points Meeting (FPM) (Toyama, Japan, 25-28 February 2003), the HAB subgroup agreed that WG3 needed to focus on the following issues:
 1. Review of the integrated and national reports with the view to establish a system to update national reporting, construct a metadata base on HAB, and consider environmental parameters.
 2. Identification and prioritization of the needs and capabilities through intercalibration exercises, capacity building, training and dissemination of new techniques.
 3. Identification of important scientific issues within the NOWPAP framework.
 4. Development of information dissemination strategies for the activities of CEARAC about HAB through aquaculture, tourism, or public education.

5. The First WG3 (Busan, Republic of Korea, 28-30 October 2003), finalized the draft Terms of Reference (TOR) for NOWPAP WG3. The meeting also approved that each NOWPAP member makes a national report on HAB in its own country and CEARAC creates an integrated report based on national reports from the member. The establishment of a database on HAB was agreed in the meeting. The database provides information of literatures about HAB mostly in the NOWPAP Region. The meeting proposed the establishment of “the corresponding group on *cochlo dinium*” in order to take concrete action against one of the most concerned harmful species in the NOWPAP Region.
6. The Second FPM (Toyama, Japan, 15-17 March 2004) adopted the TOR for NOWPAP WG3. The meeting also reviewed a short-term workplan and a long-term workplan for NOWPAP WG3.
7. The Second NOWPAP Working Group 3 Meeting reviewed the draft National Reports, and finalize the Guidelines for National Report. The Meeting also reviewed the development of HAB Reference Database and the activities of “the corresponding group on *Cochlo dinium*”. A full list of participants is attached [in Annex I](#) to the present report.

Agenda Item 1. Opening of the meeting

8. The meeting was opened at 9:00 am at the Conference Room of the Institute of Oceanology, Chinese Academy of Science (IOCAS) in Qingdao, People’s Republic of China on the 25th of November 2004 by the Director of CEARAC, Mr. Masanobu Miyazaki. Mr. Miyazaki expressed his gratitude to the staff that made the WG3 meeting in Qingdao possible and wished everyone a good stay.
9. On behalf of the IOCAS, Prof. Yijun Hou, Deputy Director of IOCAS, welcomed everyone to Qingdao and expressed his hopes for the success of the meeting.

Agenda Item 2. Organization of the meeting

2.1 Election of officers

10. The Director of CEARAC explained the previous nomination of the last WG3 meeting and invited the meeting to elect two Chairpersons and a Rapporteur. The meeting unanimously elected Dr. Fukuyo from Japan and Mr. Zhou from China as the Co-Chairpersons and Dr. Shulkin from Russia as a Rapporteur.

2.2 Organization of work

11. The meeting adopted procedural rules. It was suggested that, for purposes of this meeting, the rules be those of the Governing Council of UNEP, adjusted as appropriate to suit the nature of the meeting. English was the working language of the meeting. NOWPAP

CEARAC as the Secretariat of the meeting presented a provisional list of documents as presented in [Annex II](#).

Agenda Item 3. Adoption of the Agenda

12. The Provisional Agenda ([Annex III](#)) was introduced by CEARAC with the Annotated Provisional Agenda ([Annex IV](#)). The CEARAC Secretariat explained the brief history of CEARAC and WG3 and then proposed the meeting the adoption of the Provisional agenda.
13. The meeting adopted the agenda without any changes.

Agenda Item 4. Overview of the WG3 activities and budgets for 2004/2005

14. The Secretariat reported the CEARC activities and budgets for 2002/2003 and planned activities and budget for 2004/2005. In his report he mentioned that due to the budget constraint, there is no WG3 meeting organized in year 2005. He also reported the meeting that NOWPAP RCU offices had just opened. ([Annex V](#)), ([Appendix I](#))
15. Dr. Matsuda from Japan pointed out the importance of working together with WG4 and asked the secretariat if any co-activity with WG4 is planned as inter-sessional work in 2005.
16. The secretariat replied that a workshop on HAB is planned in 2005 and intends to invite WG3 and WG4 members to join this workshop.
17. Dr. Shulkin agreed with Dr. Matsuda's opinion, that working closely together with WG4 is important, and suggested the Secretariat introduce the latest achievement of WG4 to WG3 members. The approach for the integrated report in WG3 and WG4 should be the same.
18. The Chair proposed to discuss the detail planning of the workshop in agenda item 9, since there is no WG3 meeting planned in 2005. The Chair then asked the secretariat to introduce the latest achievement of WG4 before discussing the detail planning of the workshop and the secretariat accepted it.

Agenda Item 5. Review on the preparation of National Reports

5.1 Report on the draft National Report 2004

5.11 Report on the draft National Report of China

19. The Chair invited China to present the report and Dr. Lu, an invited guest from China, presented the draft National Report of China (Annex VI-1), (Appendix II).
20. Dr. Shulkin questioned if the reason for the increase of red tide occurrences is a result of expanding observing stations. Dr. Lu replied that he believes red tide occurrences are increasing because of the increase in coastal effluents and pollution.
21. Dr. Matsuda asked if there are any changes in the nutrient level or the nutrient load from rivers into the Bohai Sea. Dr. Lu replied that nutrient level of the Bohai Sea is increasing after 1990. Therefore, the Chinese government initiated the "Blue Sea Project" to reduce the effluence from coastal areas.
22. Dr. Kim asked Dr. Lu for the status of the Chinese HAB monitoring system. Dr. Lu replied that there are three different data sources such as the ten monitoring station of the State Oceanic Administration (SOA), aquacultural observation system and the monitoring system of SEPA as well as some monitoring activities run by local governments and research projects.
23. Dr. Kim commented that Korea has one national monitoring system and it would be easier to cooperate with one monitoring system in China.
24. Dr. C. K. Lee from Korea asked if there was any mitigation conducted to reduce the red tide damage of aquaculture in the NOWPAP Region. Dr. Lu replied that although not much data is available for the NOWPAP Region in China, some scientists in IOCAS are working on this matter to mitigate the red tide damage in the waters near Qingdao. So far, old methods such as air pumping have been used and there is a need to develop new methods.
25. The Chair encouraged collecting monitoring data of nutrient level changes in the NOWPAP region. The Chair mentioned damage from coastal effluents in river estuaries below river management systems might have already occurred in China, specifically in the Yangtze River delta. Other anthropogenic activities may also change the marine environment, possibly affecting neighboring countries.
26. The Chair mentioned that even though no *Cochlodinium* blooms have been confirmed in the Yellow Sea or Bohai Sea, there might be a possibility of future *Cochlodinium* blooms.

Therefore, the Chair suggested analyzing the possibility and including such information in National Reports in the future.

27. Dr. Matsuda asked if *Heterocapsa circularisquama*, which is a shellfish killer, is recorded in NOWPAP Region in China. Dr. Lu replied that no record is found in the NOWPAP Region in China, but the species has been recorded in the South China Sea.

5.12 Report on the draft National Report of Japan

28. The Chair invited Japan to present the report and Dr. Matsuda presented the draft National Report of Japan ([Annex VI-2](#)), ([Appendix III](#)).
29. Mr. Zhou asked if the data of the marine watch system is open to public or not. The Secretariat replied that it is open to the public with ID and password. ID and password can be obtained after authorization process is done.

5.13 Report on the draft National Report of Korea

30. The Chair invited Korea to present the report and Dr. C. K. Lee presented the draft National Report of Korea ([Annex VI-3](#)).
31. Dr. Lu asked for more information about *Cochlodinium* in west coast of Korea. Dr. Lee replied the bloom mechanism in the West coast was quite different from that of East and South coast blooms.
32. Dr. Matsuda asked if there are any side effects of the clay spraying method to reduce blooms. Dr. Lee replied there are no short-term side effects on the aquatic animal, but long-term studies on the ecosystems are required.
33. The Chair added that in Japan, experiment on the change of sediment quality after spreading clay, the amount of increased sediment was less than 1 mm.

5.14 Report on the draft National Report of Russia

34. The Chair invited Russia to present the report and Dr. Orlova from Russia presented the draft National Report of Russia ([Annex VI-4](#)), ([Appendix IV](#)).
35. The Chair suggested to use ASP instead of DAP. And Dr. Orlova agreed with it.
36. Dr. Matsuda asked what kind of aquaculture is going in Russia. Dr. Orlova replied that mostly scallops are cultured. Dr. Orlova also mentioned that Russia is expecting a significant increase in aquaculture in the next few years.

5.2 Review and Agreement of the Guidelines for National Report

37. In order to keep the National Reports in common among the four countries and to make better use of the National Reports for compiling the Integrated Report, the Secretariat reminded the meeting of the Guidelines for National Reports (Annex VII) and invited the discussion about the adequacy of the Guidelines.
38. Mr. Zhou agreed with the secretariat idea of adding I. INTRODUCTION and II. DATA AND INFORMATION USED. Mr. Zhou then suggested the guideline should be more flexible to help the author write the National Report.
39. Dr. Fukuyo agreed with Mr. Zhou's suggestion of giving more flexibility to the guideline, but mentioned potential difficulties in compiling the Integrated Report.
40. The WG3 members agreed the following revisions: (1) Deleting Annex A, (2) Deleting "Submit a hard copy of ..." in (4), (3) Changing the title of chapter "Monitoring" to "Information of Monitoring", (4) Deleting "Source (a copy of original should also be submitted to CEARAC), (5) Changing description of the guideline.

Agenda Item 6. Discussion about the Contents of Integrated Report

41. The Secretariat explained the draft of the proposed contents of the Integrated Report (Annex VIII), (Appendix V). The meeting discussed the outline to combine the National Reports into the Integrated Report.
42. The Chair asked whether the Integrated Report would be discussed or reviewed in the 3rd FPM. The Secretariat replied that the Integrated Report will be submitted to WG3 members before the 3rd FPM and will be endorsed at the 3rd FPM.
43. The Chair requested the Secretariat to set up some opportunity to discuss the progress of the Integrated Report before the 3rd FPM. The Secretariat expressed their intention to set up some opportunity in the planned HAB workshop next year.
44. The Chair expressed his concern that the Integrated Report should not simply be a cut-and-paste of the contents from each National Report. Mr. Zhou also added that only integrating information is not enough, and that drawing a conclusion for future action is important.

45. The Chair encouraged the WG3 member to enrich the contents of Chapter 6, "Suggested Activities for HAB in the NOWPAP Region", to appeal WG3 and hopefully to obtain more financial support.
46. The Chair emphasized the importance of cooperation with PICES and IOC/WESTPAC. All members agreed with this idea.
47. The proposed contents of the Integrated Report were adopted without change.

Agenda Item 7. Review on the development of HAB Reference Database

48. The Secretariat reported the current progress of CEARAC activities on the development of the HAB Reference Database (Annex IX), (Appendix VI).
49. Dr. Fukuyo proposed revised structure of the HAB Reference (Appendix VII). (Mr. Zhou took over the Chair while Dr. Fukuyo made a presentation.) Dr. Fukuyo stressed that under the current database, there are many literatures that belong to the category of OTHERS, resulting from a lack of available categories for the toxic plankton. Then he questioned who would be responsible for going through all the articles if we need to revise the categories.
50. Dr. C. K. Lee suggested using the key words to solve the problem, but the meeting agreed not to assign a key word to each article in order to save time.
51. Mr. Zhou asked the secretariat who the target user would be. The secretariat replied that this website is targeting not just scientists but also NGOs and other people who are interested or concerned with the red tide issue. The meeting discussed who the main target/users of the database is and agreed whoever the target is; the database should be user friendly.
52. The meeting decided to retain the current six categories, recommending to add toxin category in the future.

Agenda Item 8. Review on the activities of "Cochlodinium Corresponding Group (CCG)"

8.1 Presentation on "Recent Studies on *Cochlodinium polykrikoides* in Korean Waters"
(Appendix VIII)

53. Dr. Kim presented "The Need for the Establishment of Regional Monitoring of *Cochlodinium* Bloom in NOWPAP Area".

54. Dr. Fukuyo mentioned the situation of *Cochlodinium* in South East Asia. He explained that the cyst mapping and gene characterization teams sponsored by IOC/WESTPAC and ORI/JSPS include *Cochlodinium* as one of the target organisms.

8.2 Presentation on “Cochlodinium – Biology and Ecophysiology–” (Appendix IX)

55. Dr. Fukuyo explained the biological and ecophysiological characteristics of *Cochlodinium*.
56. The meeting discussed scientific research about cysts, germination, and its environmental condition.

8.3 The Secretariat presentation on the activities of “Cochlodinium Corresponding Group (CCG)”

57. The Secretariat reported the current progress of CCG activities, introducing the member of the group, the output of the activities for the next year, and the contents of the website (Annex X), (Appendix X).
58. Dr. Kim acknowledged the importance of CCG activities and announced that Korea is working for the 2nd symposium in December 2004. He also mentioned the importance of the network between the NOWPAP countries.
59. Dr. C. K. Lee proposed that the research subject to assign to each country should be found for promoting cooperative work.
60. The Secretariat mentioned CCG activities are expected to grow larger to promote cooperative work between NOWPAP countries in the future.

Agenda Item 9. Others

9.1 The Secretariat Presentation on “Work Group 4 activities (on Remote Sensing)” (Appendix XI)

61. The Secretariat presented the latest achievements of the WG4 as for the request from WG3 members.
62. Dr. C. K. Lee found it interesting that CEARAC is working on the website on oil spills and wondered if MERRAC is acting on the same issue. The Secretariat replied that CEARAC is working together with MERRAC and asked MERRAC its opinion on establishing this website. Then the Secretariat added that the website on oil spills is only focusing on oil spill detection by RS.

63. Dr. Kim asked if WG4 has any commitment to WG3 activities. The secretariat replied that they will invite WG4 members to the workshop on HAB next year and this would be a possible commitment.
64. The Chair asked how WG3 members could access to the websites presented. The secretariat replied that information would be sent to all WG3 members after the meeting.

9.2 The Secretariat Presentation on “the International Workshop on HAB” (Appendix XII)

65. The Chair asked if this workshop targets only NOWPAP area or not. The Secretariat replied that the NOWPAP Region should be the primary target but will accept information from other areas as well.
66. Dr. Fukuyo asked the Secretariat who would be responsible for organizing this workshop. He also questioned if WG3 members should contribute to consider its program. The Secretariat expressed their will to ask opinions of WG3 members about the program. The Secretariat added that the detail planning of the workshop is under consideration, therefore, will ask future assistance with WG3 members.
67. The Chair summarized that: 1] WG3 member experts requested WG4 to provide access to the website data of the remote sensing. 2] WG3 members considered how to best organize next year’s workshop 3] the NOWPAP Region is the focus area but information from other areas is welcome 4] The National Report should be improved and submitted on time.

Agenda Item 10. Adoption of the report of the meeting

68. A draft report of the meeting was prepared by the Rapporteur for consideration and adoption.
69. The meeting adopted the report with modifications.

Agenda Item 11. Closure of the meeting

70. The Chairman declared the meeting closed at 16:33 on November 26, 2004.