

Annex V-2

Questionnaire on Activities Concerning NOWPAP WG3 – HAB

Prepared and Submitted by CEARAC Secretariat

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The current status of red tide / HAB occurrences and red tide / HAB-related research as well as countermeasures conducted by NOWPAP Members (China, Korea, Russia, Japan) have been clarified, owing to the National Reports submitted at the First CEARAC Focal Points Meeting held in Toyama, February 2003. We are hoping that the National Reports would be updated and issued on a regular basis.

Although, new data on red tide / HAB occurrences are obtained every year, research on red tide / HAB are often conducted on a long term basis, expanding over several years and therefore newly obtained information can not easily be released on a regular basis. Therefore, it will be hard to incorporate any significant research results, if the reports are to be submitted too frequently. With this in mind, **we would like to hear the opinions of NOWPAP Members on the frequency for submitting the national reports.**

It is a prescribed and important task for WG3 to develop a collaborative HAB monitoring system in the NOWPAP Region. The information on this matter from the National Reports, however, was not consistent and sufficient. Your answers to the Question 2 in the attached questionnaire could be a great help for the secretariat to understand the present situation of the **HAB monitoring system**. You may have many monitoring-executing agencies in your country. Please answer covering agencies as many as possible.

We understand that each NOWPAP Member is involved in a wide range of activities to eliminate or minimize HAB's impacts on fisheries and human health. We also recognize that NOWPAP Members are gaining some positive results. However, since the status of HAB occurrences varies with country, the contents of the HAB-related activities would not be all the same among NOWPAP Members. We intend to cooperate with Members in solving their red tide / HAB problems. In order to integrate needed actions into NOWPAP HAB's future plan, **we would like you as an expert on HAB from your country to report on your country's current activities and necessary future activities** through answering to our attached questionnaire.

We will greatly appreciate if you could send the questionnaire back to us by 3 October 2003.

This questionnaire is sent to the participants of WG3. The results of the questionnaire will be reported on the coming the First Meeting of WG3 in Busan, 28 - 30 October 2003.

Your kind cooperation is most appreciated.

Questionnaire on Activities for WG 3 on HAB

Q.1 How frequently do you think the “Status Report on HAB” should be revised and issued? And why do you think so? Necessity of the revision of the information described in the Report may vary with the character of the content. Please answer by content supposed to be included in the future National Report.

1-1 Situation of HAB Occurrence

- Every year
- Every 2 years
- Every 3 years
- Ad hoc basis upon the discussion and agreement in WG meeting / F.P.M
- Others (Please specify: _____)

[Reason(s)]

1-2 Monitoring Methodology and Results

- Every year
- Every 2 years
- Every 3 years
- Ad hoc basis upon the discussion and agreement in WG meeting / F.P.M
- Others (Please specify: _____)

[Reason(s)]

1-3 Progress of Researches and Studies

- Every year
- Every 2 years
- Every 3 years
- Ad hoc basis upon the discussion and agreement in WG meeting / F.P.M
- Others (Please specify: _____)

[Reason(s)]

1-4 Training Activity

- Every year
- Every 2 years
- Every 3 years
- Ad hoc basis upon the discussion and agreement in WG meeting / F.P.M
- Others (Please specify: _____)

[Reason(s)]

1-5 National Priority for Future Activity

- Every year
- Every 2 years
- Every 3 years
- Ad hoc basis upon the discussion and agreement in WG meeting / F.P.M
- Others (Please specify: _____)

[Reason(s)]

1-6 Suggested Activity for NOWPAP Region

- Every year
- Every 2 years
- Every 3 years
- Ad hoc basis upon the discussion and agreement in WG meeting / F.P.M
- Others (Please specify: _____)

[Reason(s)]

Q.2 Please answer the following questions on the on-going monitoring on HAB

1) Please list up principal agencies that are executing monitoring in your country.

_____, _____, _____,
_____, _____, _____,
_____, _____, _____,

(Please add as many as necessary)

2) How are field measurement and sampling being conducted?

(1) Is the regular (periodical) monitoring on HAB being conducted?

Yes No

If yes, a. how many observation/sampling stations are there in your entire coastal area?

_____ points

(Please provide a map(s) showing the location of observation stations, and/or a table(s) indicating their coordinates)

b. how often are the field measurement and sampling being carried out?

_____ times a year

c. what kind of method are used for the regular monitoring?

- Water sampling
 Buoy and sensor
 Others (Please specify: _____)

d. how many organizations are participating in the regular monitoring?

_____ organizations

(2) Is the trace monitoring (when HAB occurred) on HAB being conducted?

Yes No

If yes, are records of the trace monitoring reported officially?

Yes No

3) Is the remote sensing using aircrafts being conducted for the red tide monitoring?

Yes No

4) Is the satellite imagery being used for the red tide monitoring?

Yes No

5) Do you detect any change in the seawater quality suggesting the eutrophication? If yes,

(1) What parameters indicate the eutrophication?

- COD BOD TOC Transparency
 Total Nitrogen Total Phosphorus Inorganic N Inorganic P
 DO at deep layer Others (Please specify: _____)

(2) Where are the areas of serious eutrophication?

- Coastal areas of _____ , _____ , _____ ,
(Please add as many as necessary)
- Bays of _____ , _____ , _____ ,
(Please add as many as necessary)

Q.3 Please answer the following questions on the on-going and needed activities for the solution of HAB problems in your country.

(): Tick (✓) as appropriate

[]: insert number in order of priority, No. 1 being highest priority

_____ : fill in words to provide additional information as required

3-1 Capacity-building to improve the HAB monitoring in your country

1) What activities are going on for capacity-building concerning HAB monitoring?

- () Institutional enhancement, such as;
 - () Provision of legislative support
 - () Provision of administrative measures
 - () Provision of organization(s) specific for HAB monitoring
 - () Others (Please specify: _____)
- () Technical development on;
 - () Satellite image analysis
 - () Remote sensing using aircraft
 - () Field measurement and sampling on board
 - () Chemical analysis
 - () HAB species identification
 - () Biological analysis
 - () Data processing
 - () Others (Please specify: _____)

2) What activities are needed hereinafter for capacity-building concerning HAB monitoring?

- () Institutional enhancement, such as;
 - [] Provision of legislative support
 - [] Provision of administrative measures
 - [] Provision of organization(s) specific for HAB monitoring
 - [] Others (Please specify: _____)
- () Technical development on;
 - [] Satellite image analysis
 - [] Remote sensing using aircraft
 - [] Field measurement and sampling on board
 - [] Chemical analysis
 - [] HAB species identification
 - [] Biological analysis
 - [] Data processing
 - [] Others (Please specify: _____)

3-2 Practice of inter-calibration or cross-check* for analytical work skills in your country

[Cross-check : Check by other specialist(s) / organization(s) or a second / alternative method.]

1) What kinds of inter-calibration/cross-check practice are going on for improvement of skills for analytical work?

- Measurement of chemical parameters, such as N, P, etc.
- Measurement of chl. *a* concentration
- Identification of HAB species
- Measurement of cell number of HAB species
- Others (Please specify: _____)

2) What kinds of inter-calibration/cross-check practice are needed here in after for improvement of skills for analytical work?

- Measurement of chemical parameters, such as N, P, etc.
- Measurement of chl. *a* concentration
- Identification of HAB species
- Measurement of cell number of HAB species
- Others (Please specify: _____)

3-3 Training for acquisition of advanced technology

1) What types of technologies are being introduced?

- Satellite image analysis
- Remote sensing using aircraft
- Detection of toxic substances in the seawater
- Prediction of HAB occurrence
- Preventive measures from HAB
- Countermeasures against HAB
- Others (Please specify: _____)

2) What types of training are being employed?

- Lectures and/or seminars
- Practices in laboratories and/or the field
- On-the-job-training
- Others (Please specify: _____)

3) What types of technologies are needed hereinafter to improve the HAB monitoring?

- Satellite image analysis
- Remote sensing using aircraft
- Detection of toxic substances in the seawater

- Prediction of HAB occurrence
- Preventive measures from HAB
- Countermeasures against HAB
- Others (Please specify: _____)

4) What types of training are needed hereinafter to improve the HAB monitoring?

- Lectures and/or seminars
- Practices in laboratories and/or the field
- On-the-job training
- Others (Please specify: _____)

3-4 New mitigation measures and their dissemination in your country

1) What measures are being disseminated?

- Imagery exchange network by:
 - Lecture / seminar
 - Practice
 - On-the-job training
 - Information disclosure to the public
 - Others (Please specify: _____)
- Automatic HAB detection apparatus
 - Lecture / seminar
 - Practice
 - On-the-job training
 - Information disclosure to the public
 - Others (Please specify: _____)
- HAB attention/alert system
 - Lecture / seminar
 - Practice
 - On-the-job training
 - Information disclosure to the public
 - Others (Please specify: _____)
- Spray of clayish soil/flocculants
 - Lecture / seminar
 - Practice
 - On-the-job training
 - Information disclosure to the public
 - Others (Please specify: _____)
- Utilization of algicidal virus
 - Lecture / seminar

- Practice
- On-the-job training
- Information disclosure to the public
- Others (Please specify: _____)
- Utilization of diatoms as nutrient-consumer
 - Lecture / seminar
 - Practice
 - On-the-job training
 - Information disclosure to the public
 - Others (Please specify: _____)
- Immunological identification of HAB species
 - Lecture / seminar
 - Practice
 - On-the-job training
 - Information disclosure to the public
 - Others (Please specify: _____)
- Others (Please specify: _____)
 - Lecture / seminar
 - Practice
 - On-the-job training
 - Information disclosure to the public
 - Others (Please specify: _____)

2) What measures are needed hereinafter to be disseminated?

- Imagery exchange network
 - by lecture / seminar, practice, on-the-job training, information disclosure to the public, others: (Please specify: _____)
- Automatic HAB detection apparatus
 - by lecture / seminar, practice, on-the-job training, information disclosure to the public, others: (Please specify: _____)
- HAB attention/alert system
 - by lecture / seminar, practice, on-the-job training, information disclosure to the public, others: (Please specify: _____)
- Spray of clayish soil/flocculants
 - by lecture / seminar, practice, on-the-job training, information disclosure to the public, others: (Please specify: _____)
- Utilization of algicidal virus
 - by lecture / seminar, practice, on-the-job training, information

disclosure to the public, () others: (Please specify: _____)

[] Utilization of diatoms as nutrient-consumer

by () lecture / seminar, () practice, () on-the-job training, () information disclosure to the public, () others: (Please specify: _____)

[] Immunological identification of HAB species

by () lecture / seminar, () practice, () on-the-job training, () information disclosure to the public, () others: (Please specify: _____)

[] Others (Please specify: _____)

by () lecture / seminar, () practice, () on-the-job training, () information disclosure to the public, () others: (Please specify: _____)

3-5 Please number the following items in order of priority to be achieved in your country.

- [] Capacity-building to improve the HAB monitoring
- [] Practice of inter-calibration/cross-check for analytical work skills
- [] Training for acquisition of advanced technology
- [] New mitigation measures and their dissemination

Name of Responder: _____

Job title: _____

Name of Organization: _____

Country: _____

Thank you for your cooperation.