

Water Quality Group Report

10 participants

8 countries

Identified Capacity Building Issues

1. Recognition of water quality as an integral component of the water resources management and development
2. Public awareness and education
3. Infrastructure strengthening: monitoring, mapping, coordination and collaboration among governmental and non-governmental organizations.
4. Integration and coordination of agencies; improved cooperation among different sectors of water related issues (floods and droughts can exacerbate pollution and water quality needs to be considered in mitigation; IWRM; etc.).
5. Access to satellite and in-situ data by the stakeholders in country and in the region; creating a regional database.
6. Funding for water quality related activities

1. What factors affect WQ in Asia? How are these factors and their effects on water quality monitored?

- Sanitation, industry, agriculture, floods, transportation and transformation of pollutants, water scarcity and droughts, population, urbanization, poverty lack of awareness about WQ issues.
- No proper monitoring system located in the countries of the participants.

2. What are the consequences of water pollution and how are measurements used to reduce these consequences?

- Consequences:
 - (i) Multidimensional and immense
 - (ii) Water availability, health, agriculture, fisheries, etc.
- As there is no proper monitoring system/agency to do it on a national level the measurements are rarely used to reduce the consequences.

3. Is there a set of standards that are applied to water quality sampling in Asia? Are these data used to enforce any environmental quality legislation or policies? How are the standards maintained.

- Almost all the countries in Asia developed the standards after the WHO guidelines for standards. The values of a few standards vary depending on the capability to measure them.
- There are legislations based on the standards but measurements not used to enforce them on a systematic basis.
- Sometimes: project-based.

4. Most urgent needs for WQ measurements at present? How these problems are presently being addressed?

- Water monitoring mechanism and funding establishment
- Public and organizational education
- Involvement of GO, NGO and academic institutions
- Baseline database including remote sensing and in-situ data
- Skill development (training)
- These needs are being addressed sometimes through sporadic and/or identified problem based projects (e.g. arsenic mitigation water supply project in Bangladesh and India)

5. Are there any difficulties with the current procedures for the collection, analysis and distribution of information on water quality and groundwater in Asia?

- Yes. The current procedures are not complete and/or proper, in addition to the lack of reliability.

6. What groups in Asia are currently archiving and distributing water quality data? Are these groups also distributing groundwater data or are these different groups? If there are different please describe the group.

- Limited WQ data is archived by GEMS
- UNESCO World Water Assessment Program has recently started collecting and archiving data
- There are questions about the validity of the data
- Not adequate parameters are included
- Access to the data is also limited because of lack of technology at the user end.

7. Examples of places where remote sensing could be applied to WQ problems? Please describe the conditions and how remote sensing data could be used to monitor the pollution problem.

- Sedimentation and sediment transport, channel morphology, salt water intrusion, algae blooms, etc. can be monitored in major river basins and catchment areas in Asia such as:
 - Ganges, Meghna, Brahmaputra, Mekong, Mahaweli, Red River, Indus River, Yellow River
- LANDSAT, MODIS, IKONOS data can be used for mapping, estimating water quality parameters to expedite the baseline dataset, identifying the risk zones, anticipating the problems.

8. To what extent can satellite images of coastal water be used to infer factors like salinity, chlorophyll, sediment, temperature, etc. that may be associated with domestic and irrigation water supply and use?

- Remote sensing can help to monitor all the above mentioned parameters at a large spatial scale and for multiple purposes.

9. To what extent can satellite images be used to assess water supply in arsenic and fluoride contaminated groundwater areas.
- It can help to a large extent to identify, manage and develop alternative water sources in arsenic and fluoride affected areas.

10. How can satellite data be used to effectively monitor groundwater losses from aquifers and to estimate recharge?

- Satellite data can be used to monitor soil moisture, changes in groundwater table, etc, to help to monitor ground water losses, understand interconnectivity between surface water and groundwater, etc.

Recommendations

1. This workshop endorses water quality as an integral component of water management and development.
2. Propose and initiate an Asian Water Quality initiative under the GEO framework. The GEO member as well as non-member countries should be encouraged to agree to provide the required support and cooperation.

We Propose:

Asian WQ initiative under the GEO framework

Goal: address the WQ capacity building needs for sustainable management and development

Objectives: (i) develop and establish a proper WQ monitoring mechanism (ii) conduct demonstration projects

Activities and Timeframe

1. Submit one paragraph about the proposed initiative to GEO by Sep.29,2006
2. Form a task team by October 2006. The WQ working group and relevant key stakeholders may become members of the Task team
3. Task Team draft the first concept note (2 pages) and submit it to GEO/GEO Plenary (29 – 30 Nov 2006).
4. The initiative recognized by GEO. GEO inform the countries about the opportunity and about a proposal development workshop by January 2007.
5. The workshop held among the Task Team members by June 2007.
6. Planning, holding the proposal development workshop, final proposal developing, and implementing the demonstration project(s) by 2007
7. The task team submit the final proposal to GEO, participating countries and agencies for approval and mobilization of the funds by end of 2007
8. The initiative approved, funds allocated and implementation started by **early 2008.**