



SUMMARY OF CONCLUSIONS OF THE CWC WORKSHOP JOINT MONITORING AND ASSESSMENT OF SHARED WATER BASINS, INCLUDING EARLY WARNING AND ALARM SYSTEMS

Tbilisi, Georgia, 31 October-2 November 2005

This summary is based on the lectures presented, the outcome of the discussion in the working group, and the general debate in plenary.

These conclusions do not necessarily apply to all EECCA countries, given the specificity of the countries' environmental and socio-economic conditions, the diversity of applicable legislation, the variety of institutional arrangements, and the level of progress achieved, individually and jointly, in monitoring and assessment of transboundary waters.

The order of presentation of these general conclusions follows the outline of the background document: "Strategies for monitoring and assessment of transboundary watercourses", rather than a priority ranking.

Generally speaking, the workshop participants underlined the timeliness and the right format of this document, which helps decision makers and planners. However, they also underlined that a number of issues should be dealt with more specifically. Examples, which illustrate good practice, should also be given in that document. And there was a need for guidance on very technical aspects related to specific monitoring and assessment practices, including biological monitoring, laboratory work and network automation. These proposals will be taken into account, and incorporated, as appropriate, in a revised text of this paper and discussed in the next meeting of the Convention's Working Group on Monitoring and Assessment, in particular with regard to its future work plan.

In the final workshop report, these conclusions will be supplemented with more detailed information reflecting differences between EECCA countries.

General principles and approaches

- There are only some countries which currently apply the principles and approaches of integrated water resources management (IWRM), mainly due to inappropriate legislation or inadequate institutional capacity. Thus, water management is not always based on river basins.
- There is still the tendency that monitoring focuses on surface waters (rivers, lakes, reservoirs). Given the countries' national administrative set up, groundwater monitoring is often not part of the monitoring responsibilities of environmental authorities. This is a challenge for cooperative arrangements with the national Geological Surveys.
- A holistic approach to monitoring includes also data and information about hydrometeorology (e.g. weather forecasts, quantity and quality of precipitation, snow and ice cover, hydrological regime of glaciers, water level and run-off) as well as the state of, and impact on, forests, wetlands, soils, fauna and flora as well as human health and safety. Background concentrations should also be taken into account.

- Health-related monitoring will continue to be the domain of health ministries and agencies; however, understanding the outcome of such surveillance and monitoring requires appropriate knowledge and capacity in the water sector and arrangements for cooperation between both sectors.
- Early warning has two important features: warning for hydrological extreme events and warning/alarming in case of pollution incidents (e.g. industrial accidents). It is necessary to further elaborate both components;
- The importance of prevention of accident needs to be highlighted. This includes the identification of hot spots considering state and technology of production facilities and the exchange of relevant information. Good practice is being applied in the German assistance projects for the Kura River and rivers in Eastern Europe. In the long term, monitoring and early warning systems should be integrated.

Laws and regulations

- Although international agreements as well as UNECE Conventions and Protocols (e.g. Aarhus Convention, Industrial Accidents Convention, EIA Convention, Protocol on Water and Health, Protocol on Civil Liability) and Decisions of the WMO Congress are a driver for monitoring and assessment, both nationally and in a transboundary context, there is still a weak knowledge about specific provisions of these instruments regarding access to information, the requirement to exchange available information free-of-charge and data confidentiality.
- Bilateral agreement are usually drafted in a general way; specific provisions regarding water-quantity and quality management and the resulting requirements for monitoring and assessments should be laid down in specific protocols or other jointly agreed rules.
- National legislation in EECCA tends to refer to “maximum allowable concentrations of pollutants for a specific water use”, whereas the many different water uses in river basins call for the adoption of water-quality objectives or even ecologically based objectives (e.g. EU WFD requirements). It is a challenge for transboundary cooperation to embark on the latter, together with reaching an agreement on assessment methods to be used jointly within the transboundary basin, or individually in the countries.

Institutions

- The ongoing reform process of ministerial environmental departments and water agencies is an opportunity for harmonizing responsibilities in water management and improving cooperation among entities involved in monitoring and assessment, including new partners (e.g. the research community and academia), and designating the right institutions to supervise, guide and contribute to monitoring and assessment. For instance, the re-organization of the Ministry of Environment in Belarus was an opportunity for cooperation among the essential partners for monitoring. At the same time, continuous reform of institutions and changes in responsibilities and assignments has hampered continuity and sustainability of cooperation.
- Despite a decrease in network density over a period of two decades, the Hydrometeorological Services in EECCA, contrary to water agencies, operate reasonably functioning national monitoring systems, including systems for exchange of data among the

Services of other countries. This was mainly due to the high importance of hydrometeorological information for national economy. The continued involvement of these countries in activities of the World Meteorological Organization was another reason.

- Although joint bodies tend to have a limited mandate and restricted opportunities of participation in decision-making, there are promising developments as regards monitoring and assessment. Examples include the draft agreement on the Dnieper developed under the GEF project which includes a specific annex on monitoring and assessment. The Finnish-Russian Commission, a body that existed for some 40 years, also provides good practice.
- Good practice to strengthen the work of joint bodies is the establishment of permanent working groups, where experts from different disciplines are regularly meeting. It is also important to clearly define the role and functions of ministerial/agencies' staff, servicing joint bodies, as well as their competences in the national context and for transboundary cooperation. The setting up of permanent secretariats for joint bodies could be an asset but is not a requirement.

Funding

- In many countries, monitoring activities still seem to be under funded. But in some countries (for instance in Armenia), there are some promising trends of increasing funds for monitoring activities.
- The poor situation regarding financing has also an adverse effect on the staffing of monitoring agencies, where educated and trained staff is leaving for better-paid jobs in the private sector. Senior managers need to be able to make a funding case that sets out both the benefits of monitoring for management of water resources and water quality, and the possible costs in environmental degradation and other impacts of not monitoring.
- Often, labour and operating costs of sample collection and field analysis, laboratory analyses as well as data processing, interpretation, reporting and production of outputs are underestimated. Ignorance or inadequate assessments of these costs were reasons for the disruption of activities after the finalization of international assistance projects. It is, therefore, important that such international assistance projects are well embedded in the national plans and that the systems requirement are adapted to countries resources so that operation can continue after the finalization of the project. At the same time, provision of adequate resources from national budget is crucial to ensure the needed sustainability for monitoring and assessment activities.
- Furthermore, there have been cases in which international projects had overlapping objectives, duplicated work and did not involve the right actors, thus wasting resources and not improving monitoring and assessment. It is a responsibility of recipient countries to streamline donors' efforts and avoid duplications and waste. At the same time, donors should respect recipient countries' priorities and indications.

Step-by-step approaches

- Limitation of human and financial resources and the need to set priorities accordingly usually call for step-wise approaches to monitoring and assessment, both in countries with market economies and countries with economies in transition.

- Step-wise approaches are also useful to ensure progressive building of trust and consolidation of cooperation. At an early stage of transboundary cooperation, riparian countries may focus activities on a particular issue of common interest, such as monitoring and forecasting the hydrological regime in rivers, and include more complex tasks, such as monitoring for joint groundwater management (or vice versa) at a later stage.
- Therefore, the step-by-step approach, proposed in the strategic guidelines, should be seen as a roadmap to achieve a final goal. It is a “modular” approach, starting with tasks that are easily to accomplish in a given situation, and tasks that could be performed in case of increased human/financial resources, better knowledge and understanding or otherwise improved conditions.

Monitoring

- Undoubtedly, in EECCA there are less measuring stations (both water quantity and quality, including automated stations) in operation than at the beginning of the 1990s. Often, this results in unreasonable suggestions to re-establish formerly existing networks. Unless a thorough analysis of information needs is made, which is the most basic requirement for a decision on the number of stations, their location, parameters and frequency of measurement, an informed decision cannot be taken. There is a need for setting priorities (see above on step-wise approaches), agree upon with the major actors, both nationally and in the transboundary context.
- Established formalities for border crossing of people and goods seems to hamper joint sampling near the border line, the transport of samples across the boarder, and timely delivery to laboratories in the riparian countries. Good practice is reported from the Finnish-Russian Commission where Border Guards are represented in the Commission and can provide support on practical issues.
- Hydrobiological monitoring, although used in the former Soviet Union for many big rivers and reservoirs, is only occasionally applied for transboundary waters in EECCA. Such a system should be gradually re-established. There is also a need for rapid biotests, using fish or bacteria to screen or warn for hazardous substances. Lack of knowledge on appropriate methodologies and inadequately trained staff are reasons that impede inclusion of biological monitoring methods in common monitoring practice. As a first step, guidance developed under the Water Convention should be studied and used.
- There is generally a lack of experience on how to monitor and assess the impact of diffuse pollution sources on the status of water bodies. As a first step, guidance developed under the Water Convention could be used.
- Automatic water-quality measuring stations are believed to be an indispensable part of immission monitoring, including monitoring in remote areas. Such a belief disregards the costs for establishment, operation and maintenance of such stations. Automatic stations are, however, an efficient component of early warning systems as it is demonstrated for such river basins as the Rhine and the Elbe. The same applies for sensors used in self-monitoring.
- Technical guidance is therefore needed regarding network design and the use of conventional methods and automatic devices for immission and emission monitoring, including self-monitoring. Such guidance should also include advise on automation of water level and run-off measurements.

- Self-monitoring is a mean to check compliance with permits. Small and medium enterprises have the biggest difficulties in implementing self-monitoring.

Data management, reporting and use of information

- In general, guidance is needed to understand laboratory quality management. Laboratory managers need also guidance to design or upgrade water laboratories and to obtain accreditation. Good practice for laboratory management, testing, intercalibration and accreditation is applied in Belarus, where law requires laboratory quality management. Sharing of experience among countries, particularly riparian countries, and intercalibration among laboratories in these countries is a challenge for cooperation.
- To safeguard the future uses of the data that have been collected, the various steps in data management need to be better understood. This includes data validation before data are being made accessible to users. Data and information should be stored for future use. Data storage is the weakest point of all; in many instances, water agencies rely on hardcopies of data.
- Data exchange should be facilitated among the institutions undertaking the monitoring and assessment, including joint bodies. Good practice for data storage is provided by Uzbekistan, where the State Committee for Environmental Protection is responsible for a joint database for Central Asia. There are also attempts to establish, in the long run, information centres in the region.
- Access to information by the public is still a challenge in many countries.
- Reporting and the use of information for various purposes is another essential step. Still there is the tendency of putting data together rather than striving for reports targeted to the needs of the recipient, such as joint bodies, national water/health/environment agencies and administrations, scientific institutions and the public.