

Countries experiences in contributing to the implementation of the Sustainable Development Goals related to water

Session: Tools of implementation to deal with water quality: Governments' roles and challenges

Session report, 16 January 2015

Introduction

The Post-2015 development goals and targets recently proposed by the Open Working Group on Sustainable Development Goals make clear reference to 'water quality' as an important issue to ensure sustainable development. Governments play a key role in achieving these development goals and targets through setting and implementing water quality policy frameworks and standards, by regulating the discharge of pollutants into the environment, and through wastewater management, recycling and reuse. This session addressed the challenges and tools for water quality from a governance perspective.

The session convened by Jens Liebe, Assistant director, UN-Water Decade Programme on Capacity Development (UNW-DPC) and German Federal Institute of Hydrology, started with an overview presentation on 'Tools of Implementation to Deal with Water Quality' by Thomas Chiramba, Chief of the Fresh Water and Ecosystems Unit, UNEP. He highlighted the fact that water quality has long been neglected, but has finally been recognized and incorporated in several Post-2015 SDG targets, emphasizing on the protection and restoration of water quality; terrestrial, in-land and coastal water-related ecosystems; and the assessment of the environmental impact in cities. The presentation identified better data coverage and reliable water quality indicators as important present challenges to improve water quality. Meanwhile, some national and international efforts to develop tools and indicators, such as GEMStat and AquaStat.

Tools for implementation

Different tools for implementation have been developed. These were discussed by Jong-Ho Ahn, Senior Research Fellow, Planning and Coordination Office, Korea Environment Institute (KEI); Anja Von der Ropp, legal officer at the World Intellectual Property Organization (WIPO); Antonio Felix Domingues, communications coordinator at the Agencia Nacional de Águas - ANA, Brazil. Thomas Chiramba presented the case of the Duero Basin in Spain on behalf of Rosa Huertas, Water Police at the Duero River Basin Authority, Spain, who couldn't attend the conference.



Discussion panel. From left to right: Thomas Chiramba, UNEP; Jong-Ho Ahn, Korea Environment Institute; Anja Von der Ropp, WIPO and Antonio Felix Domingues, ANA.

Cases

Extended degradation of water quality in the Republic of Korea, mainly due to point and non-point pollution, was causing important drinking water supply gaps. In response, the government implemented a series of **measures or tools – a discharge water quality standard and monitoring system** and nonpoint source pollution control - leading to substantial improvements in the status of water quality and ecosystems.

Brazil suffered from important water quality problems as a result of untreated sewage discharges, presence of toxic materials and the lack of water quality monitoring and control systems. This situation prompted the National Water Agency to create a **National Water Quality Evaluation Program**, which included the establishment of a National Water Quality Monitoring Network with over 3,600 sampling points, as well as capacity building campaigns.

In the Duero Basin in Spain many small villages had no connection to wastewater treatment facilities, leading to stream water pollution. The River Basin Authority applied **technological and capacity building strategies** by the creation of 13 pilot **small scale wastewater treatment plants and 'Mayors Schools'** with workshops and field visits to rise awareness on the importance of treating municipal wastewaters.

WIPO has developed the **WIPO GREEN platform**, a marketplace that connects technology and service providers with those seeking innovative solutions. It aims to facilitate technology transfer by connecting different actors in the technology commercialization chain. It has piloting projects on wastewater treatment in Indonesia, Vietnam and Philippines.

Lessons learnt for implementation

Water quality improvements require considerable funding. Transitioning from foreign aid, through recovery mechanisms and public-private partnerships

Korea has experienced that the water sector is important for the transformation of the economy. The government wanted to align economic growth with improvements in water quality and wastewater infrastructure, but considerable funding was required. In this case an option of shared funding was explored, starting with external funds from foreign aid, that were later replaced by own funds obtained through recovery mechanisms and public-private partnerships.

Investments in water treatment infrastructure and a strong water quality monitoring and information system were implemented and reinforced with capacitation on efficient operational management, which is essential to make the system sustainable in the long term. Nonpoint source pollution proved more difficult to track and control than point source pollution, and strategies to deal with it are still being explored.

The experience showed that timely investment in technology and infrastructure is essential to maintain a good water quality status, and it needs to be prompted by regulations on standards and discharges. Shared funding can be a helpful option to obtain the financial capacity, but education and capacitation on efficient operation management and behaviour is essential to ensure the long-term sustainability of the project.

Competition, policies and finance are key issues that can have both a facilitator and an inhibitor effect in the adoption and dissemination of new technologies

Governments have a critical role to play in the dissemination and transfer of technology. Within the technology transfer arena, competition, policies and finance are key issues that can have both a facilitator and an inhibitor effect in the adoption and dissemination of new technologies. The role of governments is not to choose the technologies themselves, but to create the appropriate policies, regulations and targets that guide and facilitate the decisions on the selection of the most suitable and beneficial technologies, as well as creating incentives for companies to invest in the development and adoption of new technological advances. These decisions have to be taken considering the needs and circumstances of the company: local climate, infrastructural settings, financing capacity, human skills and capacities required, among others; and can be facilitated by mapping available technologies, capacities and prices, which will also help to identify and set the limitations. This applies both to private companies and to public companies or entities that intend to adopt a technology. WIPO is working on a platform to provide information on all available technologies to allow for comparisons and evaluations. Meanwhile, they invite both companies and governments to identify and upload their needs in order to develop adequate research lines and give room for the creation of new markets.

However, it is also important to consider the **human aspect**: platforms can help inform, but **technology transfer takes place from person to person** through different mechanisms, i.e., through training. The cultural aspect is also important, as transfer of technologies between different cultures can be extremely difficult. In this sense, the creation of a platform of partners from different sectors and contexts can help share knowledge and provide advice to actors entering new unfamiliar markets.

Water quality data availability built public consciousness and increased interbasin integration

Brazil has implemented a Water Quality Program consisting of the implementation of a monitoring network with over 3,600 sampling points to be increased by another 2,000 points within 6 years. It has been implemented by states on a voluntary basis with support of financial incentives, and has allowed for substantial data gathering and dissemination through a series of reports on the status of regional water quality by states. One key result has been the integration and intercommunication among basins and states, together with the provision of data and international cooperation between countries in the case of transboundary basins.

The financing for the project came from a particular mechanisms existing in Brazil. As hydropower is the major energy source in the country, some 6% of the users' electric fee is destined to the National Water Agency to finance their activities.

This project has contributed to growing public consciousness to water quality, supported by the Law on access to Environmental Information (2003); to establish a National Water Quality Evaluation Program that publishes an Annual National Water Quality Report. There are still nine states with no monitoring networks, especially in the Amazon basin due to logistical hurdles.

Information and awareness is key to engage the communities in the maintenance of water quality

In the Duero river basin the efforts from the Basin Authority to bring wastewater treatment to small villages and create awareness among the small municipalities have reverted into improved water quality. The Duero Basin Authority launched two main initiatives:

- A technological initiative to build 13 pilot small scale wastewater treatment plants to cover for small villages.
- A capacitation and awareness building initiative through the creation of 'Schools for Mayors' where workshops and field visits were organized to make mayors of small villages aware of the impacts of not having wastewater treated.

Positive aspects were the commitment and involvement from Duero Basin Agency managers and technicians and the implication and support from other organizations (NGOs and provincial administration).

Aspects to improve could be a better training in public participation for the Duero Basin Authority technicians and increased promotion and dissemination of the initiative to have more municipalities engaged in the activities.

Conclusions

Political will and determination to address water quality is essential. Governments have an important role in the creation of the appropriate regulatory frameworks, incentives and financial conditions to make water stakeholders aware and encourage the selection of the best technologies that allow for a real change. Water quality measuring and monitoring and data sharing both within and among basins is particularly important: *'you cannot manage what you cannot measure'*. Global tools like GEMStat, AquaStat and the World Water Quality Assessment, as well as national tools like Brazil's National Water Quality Evaluation Program or Korea's Water Quality Monitoring program are encouraging examples. Finally, tools to create human and technical capacities and to build awareness on the value and benefits of keeping a good water quality are an important pillar to allow for the continuity and success of water quality initiatives.