



Business contribution to managing water quality and water reuse: tools and lessons

Session report, 16 January 2015

Session Structure

The session began with an overview presentation by Jack Moss, Aquafed, the session convener, introducing the main practical challenges, cases, tools and lessons learnt by the business community. The succeeding panel discussion took place around the questions prepared by the convener. The panellists included: Brigitte Dittrich-Kraemer, Dominique Gatel and Jordi Valls. In answering, the panellists made reference to their case study and highlighted those tools related to finance and economic instruments, capacity development, technology, and governance that are innovative/valuable for the SDGs implementation.

1. Outlining the challenge of water quality and pollution prevention

The issues of water quality and pollution prevention are seriously under-rated today, but their importance is gradually becoming recognised. Pollution is largely a preventable problem and much more needs to be done to take it seriously and do something about it. There are broadly three kinds of pollution, natural, point source and diffuse pollution, all need to be recognised and managed appropriately. Polluting pressures are growing at an alarming rate with hugely damaging impacts in all dimensions of sustainable development. It is very urgent to do something about this threat to water resources, yet to most people it is invisible. They do not see their share in causing it or their responsibility for preventing it. Managing water quality has aptly been called the “blind side” of the water cycle.

Pollution should be prevented in the first place. This means not using polluting substances or changing behaviour so that they are used carefully or eliminated thus reducing their polluting impacts. This is not always possible because every use of water changes its state in some way. This means that pollution removal is also necessary to restore water to a good state for discharge to the environment or for subsequent uses. Water treatment today is capable of removing almost all forms of pollution from water. The limitations are firstly the need to concentrate the polluted water in one place and then the costs and operational efficiency of the treatment equipment and processes. These processes are also capable of separating most of the materials that are removed from treated used water and converting them back into things that can be reused.

We summarise this approach in the 3R's - Reducing pollution by preventing emissions (R1), - Removing pollution from used water by treatment (R2) and - Restoring water resources by recycling or re-using the water that has been treated.

2. Implementation challenges for managing water quality

Implementation challenges

Most multinational corporations have stringent water quality controls for their own operations and facilities, and water quality continues to be an area of intense focus, particularly in companies' extensive supply chains.

User-side water quality management

In response, certain industries are including water quality management in their own activities, in supplier codes of conduct, in contracts, as well as through training and capacity building measures with their suppliers. The long-term objectives are to 'pass-down' good practice throughout the supply chain thereby upscaling the reach of these programs. Corporations are also investing in water management and water-reuse technology, as well as finding alternative uses for waste water that benefit the economy and the environment, particularly in areas of high-water stress. Certain companies are developing broad coalitions of different brands to deal with water quality concerns affecting the entire industry by focusing on particular topics such as toxics, or by focusing on particular regions where there is shared interest. Through coordinated action that includes leveraging financial resources across the industry group, developing capacity building and training modules, and implementation of new technologies to monitor water quality issues, companies are working together to tackle concerns over water quality. Examples exist in other sectors, such as agro-food, textile, mining and metals, petro-chemical and even the information technology industries.

Supply-side water quality management

On the 'supply' side, water technology and water services companies are continually developing and innovating with methods, processes and technologies aimed at improving water quality, water productivity and the ability to remove an ever increasing range of polluting substances from used water and at the same time reduce the environmental footprints, make water available for subsequent uses and recover and reuse the resources removed from polluted water.

3. Addressing the challenges: Developing and using tools

There are different tools, guidelines and other resources used by the business community which may be useful to address implementation challenges above and help ensure water quality and availability for all users (and the environment) in the river basins where they operate.

Cases discussed

Governance: Brigitte Dittrich-Kraemer, BASF, Germany

BASF, the German chemical company, has introduced the European Water Stewardship (EWS) voluntary standard at nearly all of its sites located in water stressed regions in Europe to promote sustainable water management and to increase its resilience against risks related to water availability. The EWS standard is a framework to better understand and value water. BASF goal by 2020 is to establish sustainable water management through the application of the EWS standards at all its sites operating in water stressed areas worldwide. BASF has also set the following global corporate goals: 80% reduction for emissions to water of organic substances and nitrogen, and 60% for heavy metals, by 2020 compared to 2002 levels. To avoid unanticipated emissions, BASF is reviewing its water protection plans at all production sites.

Governance: Jordi Valls, Aguas Andinas, Santiago de Chile

Aguas Andinas manages the entire water cycle, from production and distribution of drinking water to collection and treatment of wastewater, in the Metropolitan region of Chile. In 2001 a plan to enhance wastewater treatment in the Metropolitan region and Greater Santiago was launched and accomplished, leading the achievement of a 100% wastewater treatment rate by the end of 2012. Since then, the health statistics of the Chilean population have improved in spite of the adverse drought conditions, particularly around the Mapocho river, which received most of the wastewater generated in the region.

Technology: Dominique Gatel, Veolia

The City of Nagpur, India, decided to provide 24/7 water supply to every home of the 2.7 million inhabitants, including the 800,000 slum dwellers. To achieve this goal, the city of Nagpur decided to upgrade/develop the assets and implement volumetric tariffs, in the frame of a PPP, which was awarded to Veolia-India for 25 years, starting in 2012. A special purpose entity, Orange City Water (OCW), was created in a joint venture with Vishvaraj Environment Ltd., one of India's leading civil engineering and services companies. The tariffs setting include social tariffs for the vulnerable customers, together with transparent communication and social mediation. Veolia-India created the 'Social Welfare Team', as part of the OCW Customer Services. The Social Welfare team focuses on communicating informing the local population about the 24/7 water supply scheme and pro-actively respond to slum inhabitants' questions and requests, as well as engage will local bodies, NGOs and other stakeholders.

Financing: Dominique Gatel, Veolia

Veolia Water and Grameen Health Care Services joined forces in 2008 to create Grameen Veolia Water Ltd., a social business that aims at providing safe drinking water to rural Bangladesh, at an affordable tariff. Grameen Veolia Water operates and maintains a water treatment plant that provides safe drinking water to 6,000 people in Goalmari. Its water treatment plant purifies surface water through rigorous and various stages of treatment. In order to achieve a financial balance, Grameen Veolia Water Ltd launched a 5US Gallon 'Jar Business' in 2011. The water sold is also treated and bottled in Goalmari plant. The jars are then transported to Dhaka and delivered to offices, schools and other locations. Following the 'social business' model, Grameen Veolia Water is a "no-loss, no-dividend" venture. Consequently, profits from this new branch of the social business are reinvested in rural water infrastructure development.

4. Lessons learnt from implementing the tools

During the panel discussion, participants from the business community shared lessons from their experience in utilizing available tools and guidelines that can help ensure water quality and availability for all users (and the environment) under complex, shifting conditions and for the implementation of the post-2015 agenda for water.

Brigitte Dittrich-Kraemer, BASF, highlighted the usefulness of **water stewardship strategies** to support and contribute to Integrated Water Resource Management by all actors and then engage in meaningful individual and collective actions

Jordi Valls, Aguas Andinas, mentioned the important role of **good public governance and regulation** in enabling the private sector to finance and community to benefit. Regulation of pollution was referred to as the 'blindside' of water. This is dependent on the political will,

leadership and capabilities of regulators. There is a need for consistency and measurement of performance. For business, the regulatory environment is part of the business case for corporate stewardship. Where the regulatory environment is inadequate, business can play a leadership role by setting an example and being prepared to share that example with others as a case study of good practice.

Dominique Gatel, Veolia, pointed out the need to move towards a **circular economy**, which will create value for local communities and municipalities, seizing the opportunity to organise local closed loops for water, material and energy recovery. Businesses need to look further into the future, society at large and better protect the environment.

Businesses are recognized for their relevant role in the **effective implementation of the right technology** tools for achieving the SDGs related to water. Industry and business play an important role as technology provider, both for the physical equipment as well as in the **dissemination of the knowledge, techniques and skills** (best practices). For instance, wastewater treatment, being a relative mature technology, allows for a successful development and upscaling of specific treatment solutions. Success rates increase when local people are involved, underlining the importance of capacity building.

5. Issues highlighted during the open discussion

Concentration versus total pollution loads

Carlo Galli, Nestlé, mentioned that in many cases, businesses focus on the concentration of the discharge. It is also essential to look at the **total load on a daily basis**. Dilution is not the solution in many cases. This position was supported by Jack Moss, Aquafed, who explained that a **mass balance approach** needs to be taken that understands the inputs and impacts throughout the water cycle that enables appropriate action to be taken at the right place.

Pollution as a behavioural problem

Jordi Valls, Aguas Andinas, noted that one of the main challenges around water quality is not about only improving the quality of water, but about changing behaviour. For instance, one of the main issues for improving the management of green infrastructures upstream is about behaviour.

6. Conclusions: Advancing with successful knowledge exchanges

Businesses have been actively engaged in the Post-Rio processes and contributed constructively. They are leading the way with actions appropriate to their fields:

- As water users, in the case of businesses “they cannot manage what they do not measure”.
- As technology providers, have to continue to be pioneers in their sectors.
- As technical and operating partners to public authorities, responsible and proactive business engagement in public policy is central.



Jack Moss, Aquafed, delivering the overview presentation.



Dominique Gatel presents the Veolia Water Initiatives.



Panel discussion, from left to right: Jack Moss, Brigitte Dittrich-Kraemer, Dominique Gatel and Jordi Valls.