

HOW TO MANAGE WATER SCARCITY AND COMPETING INDUSTRIAL AND DOMESTIC USE

Framework Step:

STEP 3 – Unlocking opportunities for in-country shared value creation

3.2 Shared Infrastructure

3.2.2 Shared use of water

3.2.2.A. *What can host governments do?*

- Acknowledge that investment in water security drives sustainable growth, and invest in infrastructures, institutions and information to manage water risks.
- Adopt an integrated approach to water resource management that recognises the need for a negotiated process to co-ordinate and adjudicate amongst competing users to ensure sustainable management of water resources.
- Consider non-conventional water sources, such as treated wastewater and desalinated water as alternatives to freshwater, where appropriate from an economic, social and environmental perspective.

3.2.2.B *What can extractives industries do?*

- Engage with local communities and water users, at basin and catchment levels, to understand water-related issues and risks (risk of scarcity, flooding, pollution, and risks to ecosystems) and consider offering solutions. For instance, investments made in multi-purpose infrastructure that support water-related objectives.
- With due regard to anti-competitive concerns, collaborate with other extractives companies from the same basin to devise a common solution for water management and allocation. For example, a collective water treatment infrastructure solution might be less environmentally costly and more cost-effective for all parties than several treatment facilities.

3.2.2.C. *Host governments and extractives industries can work together to:*

- Devise mutually beneficial arrangements. For example, when a company develops water treatment facilities allowing excess capacity to be used by the community. The government and the water utility should be responsible for distribution of the water and collection of associated tariffs.

Tags: *In addition to the Framework step(s) that they fall under, examples will also be tagged by crosscutting issues. Please select all applicable tags.*

- local employment
- local supplier participation and development, including SMEs
- marginalised groups (women, indigenous people)
- skills development and upgrading
- access to credit
- shared infrastructure (transport, water, power)
- technology transfer
- innovation
- economic diversification

X Other: _environmental management and rehabilitation

Problem Statement:

In a water stressed area, mining and community demand for water were putting further pressure on supplies.

Parties Involved:

- Anglo American
- South32 (a base metal and coal mining company based in Perth, Western Australia, spun off from BHP Billiton in 2015)
- Government of South Africa
- Government of Nkangala District Municipality of Mpumalanga province

Common ground:

The mutual recognition of the need to increase community access to potable water in a water stressed mining area with increasing use of water for industrial use, and willingness of all parties to try an unconventional and innovative approach to address environmental risks, balancing the interests of all parties involved.

Actions taken:

The city of eMalahleni is in a water stressed area, with a growing population that puts increased pressure on water reserves. There is substantial mining in the region by South32 and Anglo American, among other companies, and rising levels of water within the mines. To deal with this, excess water was being pumped out of the mines. To ensure that the water being pumped was cleansed to potable standards, Anglo American and South32 collaborated on building the eMalahleni Water Reclamation Plant (EWRP). The EWRP is effectively a joint venture between Anglo American and South 32. This mine water is pumped from underground and requires treatment before it can be released to the catchment or used by a community. The water is treated and tested to meet both South African national standards as well as World Health Organisation Drinking Water Quality Guidelines.

The first step in the consultative process was identifying and engaging with stakeholders at the local, regional, and national levels in a pre-consultative process to discuss water challenges and the solutions that Anglo American could possibly contribute. The main challenges discussed were treating mine impacted water to potable standards and managing perceptions around treated mine water for drinking purposes. Water cannot generally be sold unless it is through a water service provider, and such institutional arrangements needed to be overcome. One solution was to provide it to the Department of Water and Sanitation, which could then contribute it to water constrained municipality.

Although the full water reclamation plant wasn't the only option considered, it became clear during the consultations that to meet the sustainability requirements of the Department of Mineral Resources, the community water security requirements of the Department of Water and Sanitation, and the need to replenish water reserves, as mandated by the Department of Environmental Affairs, a water reclamation plant was the best option for cost-competitive security of water supply under the specific circumstances. In addition, there was also a need in the community to expand the supply of potable water available.

There were the environmental aspects of cleaning up the mine wastewater while ensuring that water went back into the water table, as well as the sanitation aspect of contributing to overall water supplies. Because of the various regulatory requirements imposed by different government bodies, the

consultative process led to the development of an Integrated Regulatory Process (IRP) to manage approvals and identify interdependencies between activities. To implement the IRP and support dialogue among stakeholders, an Authorities Steering Committee (ASC) was formed. The ASC is chaired by an elected official and includes stakeholders from the different federal departments involved, as well as the eMalahleni local government. This helped ensure that the project could obtain its approvals and certifications, and kept the community involved with a highly visible public profile and participation. The project was submitted as part of Anglo American's Social and Labour Plan to the Department of Mineral Resources.

Once the EWRP was operational, an Operations Liaison Committee was established to monitor performance, also providing a venue for continuous stakeholder engagement.

Obstacles:

- Interlocking regulatory requirements of different Departments within the national government, as well as the local government.
- Ensuring that a diverse array of stakeholders was kept informed and in the discussion at all times.
- Coordination between Anglo American and South32
- Potential discomfort with consuming recycled mine wastewater.
- Need to ensure cost-competitive security of water supply

Enabling factors:

- Continuous stakeholder engagement – involving a broad range of actors from the initial stages of the EWRP's development through to its construction and operation ensured that there was local buy-in and engagement with the project, and that it responded to local needs.
- Stakeholders at different levels who invested the time into being involved in coordinating structures which helped facilitate a complex process.
- The willingness of the parties involved, both the government of South Africa as well as Anglo American and South32, to try innovative solutions in a water-stressed region.

Lessons Learned

- A potential obstacle in the success of the EWRP was that residents of eMalahleni would refuse to use the water, as it had once been contaminated. However, the combination of poor perceptions of the quality of the existing municipal supply combined with a promotional "taste test" campaign of distributing bottled water samples from the plant to the community ensured that the EWRP's output was welcomed.
- Infrastructure projects, particularly those around water, regularly touch on multiple different areas of regulation. Navigating overlapping regulatory requirements while also ensuring that the local community was engaged was greatly facilitated by the pre-consultative process, which resulted in the Integrated Regulatory Process, as well as the development of the Authorities Steering Committee to create a platform of continuous engagement between regulators, the operator, and the community.
- The EWRP has helped build the social license to operate, fulfils legislative requirements for mitigation of environmental damage, and contribute to providing more water to the community in a market sensitive manner.
- Innovative projects can catalyse action by other actors to begin to solve issues around other water contaminated reservoirs.