



giz



On behalf of
Federal Ministry
for Economic Cooperation
and Development



WATER FUTURES
PARTNERSHIP:
WORKING
TOGETHER
FOR A SECURE
WATER FUTURE

2011



WATER FUTURES

**ADDRESSING SHARED WATER
CHALLENGES THROUGH
COLLECTIVE ACTION**

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About this report:

This document has been co-authored and jointly released by SABMiller plc, GIZ and WWF-UK, but this does not imply that the organisations approve of, or support, the activities and/or views that the others may have on other issues outside the scope of this report.

The latest water footprints of partner countries were produced in 2010, based on data relating to 2008/09. All other data relates to the 2010/11 financial year unless otherwise stated.

1.0 PARTNERSHIP LETTER

Dear Stakeholder,

The Water Futures Partnership was first established in 2009 to facilitate local action to address some of the most pressing shared water risks facing SABMiller, surrounding communities and ecosystems. It set out to prove the business case for private sector engagement in promoting sustainable water management.

Over the last two years, SABMiller, GIZ and WWF have worked together in Peru, South Africa, Tanzania and Ukraine, engaging local stakeholders to assess water risks shared by SABMiller's local businesses, and surrounding communities and environment. We are now in the process of finalising local action plans to work with a variety of stakeholders to help improve water security.

In these four countries, the partnership has offered a single voice through which a business, NGO and development agency can engage with policy makers, public sector authorities, and other NGOs and business leaders. This voice has helped create buy-in to the notion of shared water risks, has opened a dialogue on how to tackle these risks and made clear the interests of the private sector in playing a role to help promote sustainable water management. We believe that only by understanding these local issues in detail and taking action in the communities which are at risk, can we protect water resources that are needed, brew beer, and sustain local people's livelihoods, ecosystems and biodiversity.

The Water Futures Partnership is now collaborating with other SABMiller partnership projects, in Colombia, Honduras, India and USA, in the recognition of the similarities and potential for knowledge transfer. As a first step of this process, in February 2011 we held our first Water Futures Forum in South Africa, which brought together project partners from eight countries, plus representatives from other companies, to share their experiences and learning of working on each project. Importantly, the partnership is building the experience to be able to demonstrate which actions a business can take to meaningfully promote better water management both through concrete projects and transparent advocacy. In this way, the partnership offers a potential medium that we hope will inform and inspire the development of other water stewardship partnerships. This report, our third update on progress, provides one of the mechanisms for sharing our learning. We hope you will find it useful and would greatly appreciate your feedback, and any experiences you would like to share.

Finally, if there is one overriding lesson we have learnt, it is that single actors cannot alone effectively mitigate the complex and often deeply embedded causes of water risks. It is for this reason that we are seeking to help the local partnerships expand, to create a critical mass for sustained collective action to improve water management for the benefit of all. If you would like to discuss with us how you might get involved in the partnership, either at a local or a global level, please get in touch (see the contact information at the back of this report).

Over the forthcoming year, we look forward to delivering further benefits in the countries in which the Water Futures Partnership is working, as well as welcoming in new partners, introducing further countries and continuing to strengthen our overall approach.

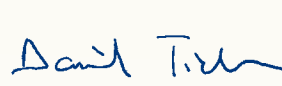
Yours faithfully,



Andy Wales,
Head of Sustainable
Development
SABMiller



Ellen Kallinowsky,
Coordinator for Africa,
Centre for Cooperation
with the Private Sector
GIZ



David Tickner,
Head of Freshwater Programmes,
WWF-UK

WATER FUTURES PARTNERSHIP OVERVIEW



Background

With population growth and economic development accelerating demand, water is becoming a scarcer and scarcer resource. A study published in 2010 by the 2030 Water Resources Group¹, in which both SABMiller and WWF were involved, concluded that competing demands for water resources may lead to an average gap of 40% between global demand and supply by 2030.

Water is not distributed evenly over the globe, with nine countries – Brazil, Russia, China, Canada, Indonesia, USA, India, Columbia and the Democratic Republic of Congo – possessing 60% of the world's available freshwater supply². This means that not only will demand outstrip supply, but also that water will not be available when and where people need it. Furthermore, local variations within countries can also be highly significant as climate gradients, normal seasonal variations, droughts and floods can all contribute to extreme local conditions. This will likely be exacerbated by the impacts of climate change in many places.

Water withdrawals are predicted to increase by 50% in developing countries and 18% in developed countries by 2025³. The Food and Agriculture Organisation of the UN predicts that, by then, 1.8 billion people will be living in countries or regions with absolute water scarcity, and two-thirds of the world population could be living in water-stressed regions⁴.

The consequences of water scarcity are diverse. Not only does water support life, both of communities and ecosystems, it also acts as the life blood of economies. For example, without an adequate and reliable supply of water, growing high quality crops with good yield is difficult. This has implications not only for local and global food security, but also limits the opportunities for growing commercial crops, local enterprise development and puts corporate supply chains at risk.

1. The 2030 Water Resources Group (WRG) was formed in 2008 to contribute new insights to the increasingly critical issue of water resource scarcity. Members include McKinsey & Company and the World Bank Group with a consortium of business partners, including SABMiller. In 2010, WRG published *Charting our Water Future*, which analyses the global water supply-demand gap to 2030 (www.sabmiller.com/sdreporting).

2. WBCSD. *Facts and Trends: Water* (version 2) (2009).

3. United Nations Environment Programme (UNEP). *Global Environment Outlook Report GEO-4* (2007).

4. FAO. *Coping with water scarcity: challenge of the twenty first century* (2007).

SABMiller's approach to water stewardship

For many businesses, issues of water availability and quality are increasingly relevant both on an operational and strategic level. This is particularly so for SABMiller, as water is not only a vital component of beer and soft drinks, but it is also required for the cultivation of crops needed for the production process. As water scarcity becomes more apparent, then so do the risks the business potentially faces – not least competition for resources, higher costs, the effect on water quality, and the possibility that water shortages will limit production. These risks are often shared with the local community in which SABMiller's businesses operate, generating a set of secondary risks as water scarcity increases, tensions concerning the allocation of water may arise, creating reputational risks for industrial water users, even if their proportional water use of the overall resource is small.

In managing these risks, SABMiller has set stretching targets to reduce its own water consumption by 25% per hectolitre of beer brewed by 2015 and has adopted a clear water strategy based on the 5 'R's (pRotect, Reduce, Reuse, Recycle and Redistribute). As a result, the business has reduced its water consumption by 8% per hectolitre of beer since 2008, when the target was first set, and has established a consistent approach across all its operations to make sure that water-related risks are considered throughout the value chain. In doing this, SABMiller has invested significant resources and management time at both a local and group level to understand the challenges of water scarcity, and how these relate to the business.

SABMiller is also a founding signatory of the UN CEO Water Mandate, an initiative to help companies develop, implement and disclose sustainable water practices. Building on this high-level commitment, SABMiller has taken a much more granular approach, recognising that water issues can only really be addressed within the context of a local area and with detailed knowledge and insight about the contributing factors and risks found there.

Risks to SABMiller breweries and bottling plants have been evaluated using a combination of tools including watershed risk assessments, business water risk assessments, the World Business Council for Sustainable Development water risk tool and the business' own water footprinting analyses. This enables each local business to assess its own specific risks and develop tailored strategies and action plans to address them. The development of the Water Futures Partnership has been an important factor in facilitating this process, particularly as many of the water-risks faced by SABMiller cannot be mitigated through solitary action alone and need to be tackled through collective action.

Introducing the Water Futures approach

In November 2009, the Water Futures Partnership was initiated by SABMiller, WWF and GIZ with an aim to prove the business case for private sector engagement in promoting the sustainable management of water resources. This built on work that had previously been undertaken by SABMiller and WWF in Colombia, Czech Republic, El Salvador, Honduras and South Africa.

Each partner has a shared interest in addressing water-related risks. The success of our partnership stems from the fact that each partner brings different skills and competencies to promote water security, despite differing underlying motivations.

Water is a vital component of beer production and so protecting water resources in the areas in which SABMiller operates also protects the company's ability to produce beer and grow its business. In return, the company can leverage its global scale and resources, provide access to a wide range of expertise within the business and utilise the existing relationships it has with policy makers and other stakeholders.

WWF is regarded as one of the foremost NGOs working in this area. It is committed to protecting and managing freshwater habitats for the benefit of people and nature. With a global presence and local operations throughout the world, WWF offers expertise in water resource management, aquatic ecosystem protection and private sector water stewardship, as well as the local insight and relationships that the partnership needs to tackle the often unique challenges it faces. As part of the Water Futures Partnership, WWF can harness the global scale and resources of the collaboration to help meet its overarching conservation aims, as well as using the partnership as a platform to inform the water debate around private sector water stewardship and influence public policy.



WATER FUTURES PARTNERSHIP OVERVIEW CONTINUED

The German International Cooperation Agency (GIZ) recognises the vital role that water plays in the social and economic development of local communities, particularly in the developing world. Its long-term relationships with governments in the countries of the Water Futures Partnership mean that it is well positioned to bring the public, private and civil society actors to the table for open and productive dialogue.

Each partner has the belief that the responsibility for addressing water issues must be shared between the water users (people and businesses) and the water managers (nearly always the public sector). In addition to robust scientific analysis, effective water risk mitigation programmes must be based on a good grasp of local realities, and the buy-in of the different levels of the public sector.

Since its inception, the Partnership has focused on water resources in four countries: Peru, South Africa, Tanzania and Ukraine. Each of these countries has been identified as being at potential risk from issues relating to water availability, water quality or wastewater discharge, and each is facing different challenges, in terms of socio-economic development, governmental effectiveness, climatic conditions and environmental degradation.

In each country a local partnership has been established between the SABMiller subsidiary, GIZ and WWF. The partnership process is the same in each country. It began with water footprint studies and the identification of an area relevant to the local SABMiller business to focus our efforts. This led to a detailed assessment of the water issues specific to that area or watershed. The process of conducting these studies was a basis on which to engage and consult local stakeholders, including government agencies, other companies or NGOs. Following this, a business water risk assessment has been undertaken to evaluate the business case for action and the risk mitigation options. This has formed the basis on which to facilitate collaborative risk mitigation projects between stakeholders. A critical part throughout the partnership has been to share the findings and lessons learned with local stakeholders, while using the overall lessons to influence water stewardship debates and initiatives at the global level.

Water footprinting and business water risk assessment

This process starts with developing a water footprint in each country. A water footprint indicates how much water is consumed to produce SABMiller's products throughout its value chain, from crop cultivation to waste disposal. It also begins to identify the water dependencies, vulnerabilities and risks for SABMiller's business, supply chain, surrounding communities and the environment. This provides the partnership with an early indication of the issues that need to be addressed. In 2008, we published our first report which explained the methodology and how it had been trialed in South Africa and Czech Republic. In 2009/10, further water footprints were undertaken in Peru, Tanzania and Ukraine, and a series of workshops were held. The results of these water footprints and stakeholder risk workshops were published in our second partnership update in 2010.

Over the past year, we have taken the assessment of water risk to the next level in our four partnership countries by carrying out detailed Watershed Risk and Sustainability Assessments (WRSA). These set out: a) the current state of the watershed, groundwater, infrastructure, water management institutions, water policy, supply and demand etc; b) the risks these generate for the business and surrounding communities and ecosystems; and c) how climate and social change may affect these risks over the next 20 years. A more detailed Business Water Risk Assessment (BWRA) was then conducted, trying to establish the costs of the risks to SABMiller's business (considering the likelihood of the risks and the cost of the consequences) and examining, at a high level, the cost-benefit of risk mitigation options. The Water Futures Partnership is very grateful for the help of the consulting firm, Deloitte, in developing and carrying out the BWRAs in Ukraine and Tanzania.

The Water Futures Partnership approach

Phase 1

Water Footprint study.
Assess shared water risk and develop a plan of action at country and local level

Phase 2

Mitigate shared water risk through multi-stakeholder partnerships

Phase 3

Upscale partnerships and spread lessons learned to influence wider change

Assessing the risks from a financial perspective provides the rationale and evidence base for SABMiller's businesses to support interventions in water management beyond their breweries or farms. Water risks might include, for example, regional water shortages resulting in an interruption to the brewery water supply, or a polluted water source requiring more costly water treatment. The WRSAs and BWRAs form the first stage of the development of a business case to address water risks.

While the BWRA prioritises water risks most relevant for the business, many of these are shared by surrounding communities and/or affected ecosystems, opening up potential opportunities for collective action for shared benefit. Furthermore, the fundamental causes of many of the business-specific risks are also the drivers of other risks shared by communities: the capacity/performance of the public sector to manage water resources, water and wastewater services and infrastructure; the lack of regulation of land and water use and pollution discharge; the lack of knowledge of how human actions influence surface and groundwater systems and water quality; climate change; and the behaviour of other water and land users.

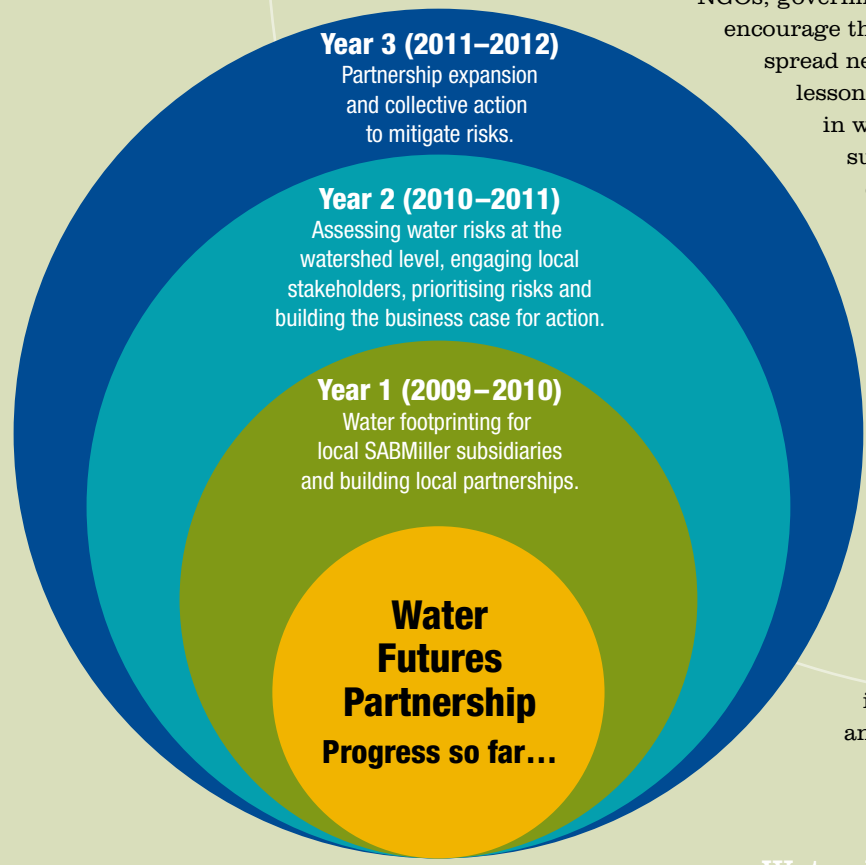
The final stage of the BWRA is to identify mitigation actions which address the priority shared water risks for the business, and which also contribute to the objectives of the other partners and stakeholders. The partnerships hope, that by helping to address the causes of shared water risks facing the business, communities and ecosystems will also benefit.

The Water Futures Partnership is a pathfinder for this kind of approach, as there are very few other examples of how to assess business risks related to water when the risks are shared and the partnership has little direct control over many of the underlying causes. As such, the methodology is being developed as we apply it in turn to each local partnership. The Coca-Cola Company (for whom SABMiller is a large bottler) has also been generous in sharing its experiences and advanced techniques of assessing water risks with the partnership.

Expanding the partnership

Based on these analyses we are in the process of prioritising actions and developing collaborative plans in Peru, South Africa, Tanzania and Ukraine. The assessments also make it very clear that the causes of the problems are so complex and embedded, that the partnership cannot act in isolation. In each country, forming a critical mass of parties with shared interests and the common goal of collective action has become a priority. The Water Futures Partnership is seeking to expand the local partnerships to include other stakeholders so that they can achieve more, have greater influence, and become sustainable entities in their own right, without a reliance on global-level support.

Importantly, the global partnership has also begun the process of expansion, by involving other initiatives under way at SABMiller under the Water Futures umbrella. This includes work in Colombia, Honduras, India and the USA. In the medium to longer term, the aim is to involve more partners – companies, NGOs, governments and other organisations – and to encourage them to collaborate with each other to spread new ideas and approaches, while sharing lessons and challenges. The long-term goals in water stressed regions, are for SABMiller subsidiaries and other collaborating companies/organisations to be collectively engaged in spreading good practice on water use, supporting community access to water, improving water services provided by ecosystems, and supporting good water governance and the public sector in their role as water managers. This, in turn, will lead to the private sector having increased confidence in the ability to continue to operate without water becoming a strategic risk to their investments. This, in itself, will have substantial benefits for the communities and governments which rely on business investment for employment, GDP growth and tax revenues.



PERU



Fact box

Operations:

5 Breweries **3** Bottling plants

Key beer brands:

Cristal, Cusqueña

Average brewery water efficiency

(litres water per litre beer):

3.9 (19% improvement since 2008)

Net water footprint (million litres):

62,600

Net water footprint (litres water per litre of product):

Beer	Carbonated soft drinks	Bottled water
61	122	2

Net footprint breakdown (%):

Cultivation and imports:	Processing:
90%	<1%

Brewing and bottling:	Waste:
9%	<1%

Background

Peru ranks eighth in the world for the volume of renewable water resources available⁵. However, within the country there are very significant differences ranging from “abundant” (Atlantic watershed) to “extreme scarcity” (Pacific and Titicaca watersheds)⁶. Particularly noteworthy is the fact that while the Atlantic watershed accounts for 98% of the available water resources, only a third of the country’s population lives in that area, compared to the 62% who inhabit the Pacific Basin⁷. The coastal Pacific region relies heavily on irrigation and the agricultural sector accounts for approximately 80% of annual water consumption⁸.

SABMiller’s water footprint

The net water footprint of Backus – SABMiller’s Peruvian subsidiary – and its value chain is 62,600 million litres, of which over 90% is attributable to crop cultivation. Brewing and bottling account for the next greatest component of the footprint at 9%.

Priority areas for action

In February 2010, the Water Futures Partners held a workshop in Lima which concluded that the greatest risk to Backus is related to water scarcity within the basins in which its breweries are located, particularly in Lima, but also in Motupe and Arequipa – all of them located on the coast. Based on the workshop results, Water Future’s partners decided to focus on one basin per year, granting priority to those basins affected by water scarcity.

To address the issues within each basin, the partners developed the following strategy, taking into consideration the national context:

- Phase 1: Consolidation of previous studies with the aim of having a greater knowledge of the state of the water resource.
- Phase 2: Analysis of the problems related to the source and identification of measures to be undertaken.
- Phase 3: Relationship with key actors.
- Phase 4: Investment and development of projects related to the improvement of the availability and/or quality of the water source.

5. Pacific Institute. The World’s Water 2008–2009 Data. Table 1: Total Renewable Freshwater Supply, by Country (2006 Update) <http://www.worldwater.org/data.html>

6. WBCSD. Global Water Tool/UN FAO Aquastat Information System

7. Diego Arévalo. Data INEI y PNUD (Oct 2010)

8. WBCSD. Global Water Tool/UN FAO Aquastat Information System.

Watershed and stakeholder mapping in Peru

The company's water management plan, developed in conjunction with and involving key stakeholders in its implementation, aims to optimise water consumption throughout the value chain and increase water resource availability, without compromising the current and future requirements of communities linked to Backus' plants.

Over the next five years, the Peruvian Water Futures partnership will undertake a series of studies, with priority given to those in the most water-stressed areas, examining the ground and surface water resources available in the basins that supply each of the breweries. The first of the studies, covering the Rímac river basin, started in January 2011. As part of the research, the intention is to establish clarity about the aquifer state, and the environmental issues related to the recharge zones and exploitation conditions from consumers in the area influenced by the Ate plant.

The Peruvian partners are also vigorously pursuing a second, complementary, strand of the Water Futures strategy: namely, engaging the interest and support of other stakeholders. The partnership has contacted a wide range of stakeholders to share information about Water Futures and to ascertain whether they would like to play an active role in its work in the future. From these discussions, a stakeholder map has been developed that shows how receptive each organisation is to the possibility of involvement, the importance of water to its activities, its level of consumption, and where it obtains water. This will then be used to guide future engagement activity. In this way, Water Futures aims to demonstrate the benefits that will result when different social groups and local authorities participate in initiatives that have clear objectives.

Based on the study results, the partners created a technical action platform with the aim of promoting aquifer sustainability. The platform has the following three focus areas.

1. Improvement of Aquifer Recharge – this has the aim of increasing water recharge to the aquifer by means of three modules. The first deals with the improvement of existing irrigation channels located in key areas on both banks of the Rímac river. The second relates to construction of recharge water-walls on the river bed, which will promote induced recharge towards the aquifer. The third module aims to protect the river banks and river beds of the Rímac river.
2. Reduction of Ground Water Exploitation – this focuses on the potential re-use of treated water for irrigating public green areas, thereby increasing the amount of water available for drinking.

3. Creation and Development of the Aquifer Monitoring and Evaluation System – this is intended to create a hydraulic observatory for the Rímac river, which will promote relevant, reliable and up-to-date data exchange relating to the aquifer. It will also promote investment projects and will provide valuable input to the formulation of public policy.

A further example of the benefits of a partnership approach is the establishment of Aquafondo, which will fund conservation projects in the Lima basins. The fund will invest in, amongst other things, improvements to ecological infrastructure and rehabilitation; conservation and water protection measures; rural development initiatives; and education and communication projects. Contributors to the fund, which has an initial capital of US\$900,000, include The Nature Conservancy, FONDAM, Grupo GEA and the Peruvian Society of Environmental Law, as well as Backus.

Next steps

The Water Future partners will continue to promote the Rímac River Aquifer Sustainability Program with relevant stakeholders and evaluate their participation level. The partners will identify the most appropriate means for implementing projects, whether through Aquafondo or alternative mechanisms. Towards the end of 2011, the partners hope to have identified at least one project in alliance with other stakeholders.

Further studies of the basins of the Motupe and Chili rivers, which are in areas of high water scarcity, will be undertaken over the next two years. The focus will then switch to the basins around the Cusco and San Juan breweries in 2015–16. In addition to this work, the Water Futures partners will continue to engage with stakeholders to raise awareness of the water risks and, more importantly, secure their active support in managing them.

It is essential to build strong stakeholder relationships, especially with government. In the long term, trust can only be built on delivering mutual benefits through action – this is what we are basing our approach on.

Michael Rosenhauer, Programme Director, Water and Sanitation Programme – PROAGUA, GIZ Peru

SOUTH AFRICA



Fact box

Operations:

7 Breweries **6** Bottling plants

Key beer brands:

Castle Lager, Hansa Pilsener

Average brewery water efficiency

(litres water per litre beer):

4.0 (20% improvement since 2008)

Net water footprint (million litres):

511,100

Net water footprint (litres water per litre of product):

Beer	Carbonated soft drinks	Bottled water
155	70	2

Net footprint breakdown (%):

Cultivation and imports:	Processing:
95%	<1%

Brewing and bottling:	Waste:
5%	<1%

Background

There are significant regional variations in water scarcity within South Africa and it is estimated that, by 2025, some parts of the country will face major challenges whereas others will have plentiful supplies of water⁹. This issue is exacerbated by increasing competition for water resources from both agricultural and industrial users. To address this, the South African government has developed nationwide strategic plans for the management of water resources.

SABMiller's water footprint

The net water footprint for SAB Ltd – SABMiller's South African subsidiary – and its value chain is 511,100 million litres. The most significant part of this relates to water used to cultivate crops, which accounts for over 95% of the total footprint. The next most significant element relates to water used for brewing and soft drink production, accounting for the remaining 5%.

Priority areas for action

The findings of the water footprint assessment identified a number of potential water risks for SAB Ltd, of which two were agreed in February 2010 as priority areas to be addressed:

- Understanding the vulnerabilities in SAB Ltd's agricultural supply chain, particularly the availability of water to hop farms located in the Gouritz watershed in the Western Cape – an area where water availability is precarious. These farms supply SAB Ltd's hop processing plant at George.
- Identifying actions to protect SAB Ltd's brewery at Polokwane against the risks relating to potential water scarcity and water quality arising from its location in the north of the country, which has been identified as being water stressed.

“Although changing climate is likely to lead to further water stress, competition for groundwater resources with urban areas are likely to pose even greater risks.”

Dr Deon Nel, Head of Biodiversity, WWF South Africa

Hops farm risk assessment

Hop growing is a water intensive process requiring, on average, around 10,000 m³ of water per hectare per growing season using drip irrigation. There are approximately 13 commercial hops growers cultivating 483 hectares of hops in the Gouritz watershed, of which a significant proportion is purchased by SAB Ltd. To grow these hops requires about 5 million m³ of water a year, but there is an estimated difference between water demand in the area and the water resources available of 64 million m³, which is predicted to potentially double in the future.

This presents a significant risk to SAB Ltd's value chain and supply of raw materials. As a result, the Water Futures partners agreed to undertake a more detailed evaluation of the factors at play and the partnership's potential role in addressing them, working with the South African Department for Science and Technology (DST) through the Council for Scientific and Industrial Research.

The South African Water Futures partnership conducted a business risk assessment which identified three ultimate drivers of risk to SAB hop farms:

- **Climate change:** The analysis indicated that, between 1960 and 2050, the average temperatures would rise by 0.7–0.8°C over the hop growing season, resulting in increased water loss from plant and soil evaporation. To offset these losses, farmers would need to apply an extra 145,000 m³ from groundwater sources. Over the same time, it is predicted that rainfall will decline (by up to 10% per annum). The projected cost of accessing sufficient quantities of groundwater to address these issues is over US\$200,000 per year.
- **Loss of water:** The spread of water-intensive invasive plants within the watershed will reduce water availability because they consume more water than native species. The research estimated that if non-native trees, such as hakea, pine and black wattle, continued to expand unchecked they would reduce surface water to the major hop farms by 780,000 m³ per annum. To replace this “lost” water would cost over US\$700,000.
- **Competition for water:** Demand from growth of the urban development in the nearby Oudtshoorn municipal area is expected to increase competition for water, with any shortfall needing to be sourced either from groundwater resources or re-allocated from agricultural irrigation, such as that used for hop growing. This demand may be offset by means of accessing a deepwater aquifer, but it remains unclear to what extent the aquifer is hydrologically connected to the groundwater sources that are presently being used by the farmers.

Understanding the risks at Polokwane brewery

Last year's report highlighted the problems SAB Ltd was facing around its Polokwane brewery relating to water quality and supply, and the treatment of effluent by the municipality. As a result, the Water Futures Partnership undertook a more detailed review of the specific water risks it faced.

The analysis established that the municipal effluent plant is, already, operating beyond its planned capacity. There is also a lack of employees with the requisite skills, which has contributed to a maintenance backlog. Both these factors increase the risk of potential pollution if infrastructure fails. Given that the population is predicted to increase by around 6% per annum, significant investment (estimated by the municipal authorities at about US\$23 million) in effluent infrastructure and treatment is required to prevent pollution worsening and possible contamination of the aquifer supply to Polokwane.

Next steps

As a result of the hops farm risk assessment, two strategic responses have been formulated:

- To develop a local co-ordinating body to manage a comprehensive catchment rehabilitation and stewardship programme and safeguard existing water resources, and maintain the integrity of the native ecosystem. Once in place, such a co-ordinating structure could operate over a 10–15 year period and be funded from different sources including significant contributions from SAB Ltd and the Water Futures Partnership.
- To establish a local Water User Association (WUA) to provide robust and credible data about water resources in the area and create a monitoring programme that measures groundwater levels on hop farms. This will draw upon specialist support from the Water Futures Partnership, as well the Department of Water Affairs, catchment management agencies, and local municipalities.

To address the risks at Polokwane brewery, the Water Futures Partnership is working closely with the local authorities and will jointly commission a study by an independent engineering consultant to assess the extent of these problems and prepare a plan setting out how the various issues might be addressed. The partnership will also approach other, private sector, organisations to contribute funding to these solutions.

TANZANIA



Fact box

Operations:

4 Breweries

Key beer brands:

Safari, Kilimanjaro

Average brewery water efficiency
(litres water per litre beer):

6.6 (11% improvement since 2008)

Net water footprint (million litres):

52,180

Net water footprint (litres water per litre of product):

Beer

180

Net footprint breakdown (%):

Cultivation and imports:

92%

Processing:

<1%

Brewing and bottling:

8%

Waste:

<1%

Background

Overall water resources in Tanzania have been estimated at “sufficient”. However, there are many regional variations and some areas of the country are predicted to be subject to extreme water scarcity by 2025, particularly Dar es Salaam, which is the largest city in the country and located on the eastern coast. Nationwide, industrial use of water is very low and irrigation accounts for around 90% of water withdrawn from surface and groundwater sources¹⁰.

SABMiller’s water footprint

The net water footprint for Tanzania Breweries Ltd (TBL) – SABMiller’s subsidiary in Tanzania – and its value chain is 52,180 million litres, of which over 90% is attributable to crop cultivation in the country (rather than being imported). The next most significant element relates to water used in the brewing process.

Priority areas for action

Some of TBL’s operations are situated in areas that are likely to be subject to extreme water scarcity over the coming years. This includes the company’s main brewery in Dar es Salaam. In addition to the impact of climate change, the city’s growing population, contamination of groundwater, intrusion of salt water into the aquifer, and inadequate water supply and sewage infrastructure have combined to cast serious doubts over the ability of available water supplies to meet the needs of the population and commercial activities.

In order to address the water scarcity challenges in Tanzania, the Water Futures Partnership aims to reduce water losses, diminish the number of conflicts between different stakeholders over water, and improve the quantity and quality of water available. On this basis, the partnership’s focus is the Wami Ruvu river basin and Dar es Salaam, and the partnership has been closely collaborating with Coca-Cola Sabco, who have similar interests in the city.

“Water is a cross-cutting issue which means a number of institutions are involved. Every stakeholder has to be made aware of his or her contribution.”

DAWASA – Dar es Salaam Water and Sewage Authority

Working with stakeholders for collaborative action in Dar es Salaam

Following an initial workshop in May 2010, at which the insights from the water footprinting exercise and the concept of shared water risk were discussed with stakeholders, the Tanzanian Water Futures partnership undertook a detailed Watershed Risk and Sustainability Assessment covering both Dar es Salaam and the Wami-Ruvu river basin, which supplies Dar es Salaam with water. The study concluded that the water risks identified – primarily, the shortfall between the demands for water currently and in future, and the available water resources – were likely to have very serious effects not only on TBL's operations but, more broadly, on the country's prosperity, people's health, and aquatic ecosystems.

Specifically, the volume of surface and groundwater abstracted will increase to meet the needs of a growing population. At the same time, groundwater quality – especially in the area around Dar es Salaam – is likely to deteriorate as a result of salt water and untreated sewerage contaminating freshwater resources. Through scenario planning, the partnership has determined that the overall deficit in Tanzania will increase over the next three to eight years.

In response, a second workshop held in November 2010 reviewed these shared water risks and translated them into specific business risks for TBL using the Business Water Risk Assessment (BWRA) process, with the help of consulting firm Deloitte. This enabled the partnership to identify a series of actions that are being implemented during 2011. Actions under way include:

- Working with farmers to improve their use of water by means of an educational campaign, incentive-based schemes to reduce their impacts on water resources, and the introduction of more efficient irrigation techniques and technologies. To date, field visits have been undertaken and the Water Futures Partnership is in the process of developing a pilot programme working with farmers.
- Working with the Wami-Ruvu Basin Office and Japanese International Cooperation Agency (JICA) to monitor groundwater quality and the extent of changes to groundwater levels in the city. In addition, this collaboration is looking to fill back abandoned open wells and boreholes which act as channels for further contamination, and supporting the Wami-Ruvu Basin Office to facilitate the implementation of Integrated Water Resources Management in the river basin.

- Working with Dar es Salaam Municipality to prevent water leakage from the existing infrastructure by developing a mechanism that would incentivise and speed up the rate of leakage detection and reduction in the Dar es Salaam Water and Sewerage Authority network. Part of this work will be to encourage other commercial organisations to support a collaborative initiative for integrated water leakage prevention.
- Undertaking a programme of targeted communication with senior government officials to raise the profile of water resource management issues at a national level. Backed by the Water Futures Partnership, TBL are also seeking to become a member of the Basin Water Board or National Water Board and thereby contribute to their strategic and operational decision-making.
- Establishing a water user group that will provide a unified voice when engaging with water service providers and with senior figures within the government. Through this group the partnership will work with other businesses to help them understand how to reduce their demand for water and discharge of pollutants. At the same time, the group will be able to pool resources in order to undertake more substantial projects within the catchment, and sponsor the better collection and monitoring of data.

Next steps

The Water Futures Partnership has set a clear direction in terms of initiatives under way and good progress is being made against them. The partnership has also successfully managed to engage effectively with local stakeholders, as well as draw on the different skills and capabilities of the partnership in implementing this action plan. On this basis, the partnership has established future targets, in addition to those actions set out previously. They include:

- To undertake a groundwater protection project that will act as an example of good practice and improve monitoring of the quantity and quality of surface water to contribute to a more robust data set.
- To establish a programme and supporting infrastructure to minimise urban groundwater pollution and expedite progress in relation to accessing water supplies in the Kimbiji aquifer, located in Dar es Salaam.
- To support responsible authorities in the establishment of regulations and procedures that improve the Basin Office's insight into and monitoring of groundwater abstraction in the basin.

UKRAINE



Fact box

Operations:

1 Brewery

Key beer brands:

Sarmat, Kozel

Average brewery water efficiency

(litres water per litre beer):

6.2 (11% improvement since 2010)*

*Miller Brands Ukraine was purchased in 2009 and did not participate in benchmarking until 2010.

Net water footprint (million litres):

7,120

Net water footprint (litres water per litre of product):

Beer

62

Net footprint breakdown (%):

Cultivation and imports:

92%

Processing:

1%

Brewing and bottling:

7%

Waste:

<1%

Background

Water resources in Ukraine are described as “sufficient” but this masks widespread regional variations¹¹. In certain areas, such as Donetsk, where the brewery is located, the demands of mining and steel industries have, in the past, placed severe strain on water resources. Pollution from heavy industry has also impacted on the quality of surface and groundwater.

SABMiller’s water footprint

The net water footprint for Miller Brands Ukraine – SABMiller’s Ukrainian subsidiary – and its value chain is 7,120 million litres. Over 90% of this footprint relates to the cultivation of crops, of which almost all are grown in the country. The next most significant element relates to water used for brewing, accounting for 7% of the total.

Priority areas for action

The greatest part of the Miller Brands Ukraine water footprint relates to crop cultivation. These crops are generally grown in areas of Ukraine that are considered to have sufficient water resources to support local communities and agricultures. As a result, the water risks relating to the adequate supply of crops are not significant. Despite this, the business is working with its suppliers to encourage better water stewardship and improve farming practices, so as to improve crop quality and yield, as well as mitigate against any future risks.

Given that crop cultivation represented relatively low risk, the Water Futures Partners decided to focus their attention on the brewery in Donetsk, as it is widely recognised that water supply and wastewater treatment infrastructure requires significant investment throughout Ukraine, which may pose additional risks to production at the Donetsk brewery.



Through the work of the partnership, we can see that business has a range of concerns that align to interests of the public sector, laying a potential path for genuine public-private collective action.

Anton Wirth, GIZ Project Manager, Donetsk Region, Ukraine

Translating water risks to business risks at Donetsk brewery

In May 2011, members of the Water Futures Partnership met to initiate the Business Water Risk Assessment (BWRA) at the Donetsk Brewery. Using the brewery's water footprint and formal BWRA process with the help of Deloitte, the partners evaluated both the likelihood and impact of a series of risks, and what the financial cost to SABMiller's operations might be if they occurred.

Their conclusion was that, for the most part, water quality risks pose little threat to the brewery's continued operations because of mitigating actions already under way or external factors.

In terms of water supply, the brewery receives its water from a local reservoir, which is fed from the highly regulated Severskiy Donets and Donbass canal (which draws directly from the Severskiy Donets river). The canal flow has never stopped in 52 years. This, combined with population and economic decline, and water efficiency improvements in local industry, makes it unlikely that the brewery will experience any shortage of supply in the immediate future. Local management is also seeking to improve water efficiency at the brewery and work is currently under way to build a second water supply main that will, when complete, minimise any interruption of supply.

However, the assessment identified that wastewater from the brewery could represent a greater business risk in terms of brewery operation and reputation. The first priority identified related to the way effluent was discharged from the brewery and the poor infrastructure in place. Treated wastewater from the brewery is discharged to a municipal collector pipe, which then ultimately flows into the Kalmius River. This pipe is in poor condition and occasionally fractures. In such an eventuality, the brewery is required to reduce production with financial consequences for the business, while any pollution incident in the Kalmius river would result in environmental damage and could adversely affect

SABMiller's reputation. In response, the partners have decided to apply for international development/infrastructure funding to overhaul the existing effluent collector, recognising that this is a risk shared with the surrounding neighbourhoods as well as the brewery.

The second priority issue concerned the absence of a storm water treatment facility at the brewery. This is not a significant issue in itself, but the potential combination of a storm and leakage of effluent or pollutants from the brewery could result in pollution to the Kalmius River and bring public censure and regulatory penalties. To avoid this, the partners are keen to develop a wetland between the brewery and the river that will provide a means of filtering or removing any pollution before it reaches the watercourse. If funding can be obtained, it is hoped that this approach will act as a model of best practice, which can be replicated more widely, and inspire a scaling up of the approach to tackle pollution in the Kalmius watershed. As a third priority, the partnership is seeking to join forces with large industries in the area, such as Donetsk Steel, to tackle the industrial pollution in the upper Kalmius River, which affects Donetsk city.

Next steps

The Water Futures Partnership is currently working with the municipal water service provider to formulate detailed plans for the rehabilitation of the effluent collector pipe and scoping a separate project for the establishment of an artificial treatment wetland. The plans will identify relevant stakeholders who need to be involved in the process and an estimate of potential costs. Once complete, approaches will be made to possible funders, both within Ukraine and elsewhere, to finance these infrastructure investments. The partnership is also looking to recruit a local co-ordinator who would play a pivotal role by engaging with national and local government and other stakeholders to bring these proposals to fruition and expand the partnership.

COLOMBIA



Fact box

Operations:

6 Breweries **6** Bottling plants

Key beer brands:

Aguila, Poker

Average brewery water efficiency
(litres water per litre beer):

4.1 (23% improvement since 2008)

Background

Colombia's population has grown rapidly over the last sixty years from around 11.5 million people in 1950 to just over 44 million in 2010¹². The capital, Bogotá, has witnessed an even more dramatic change, with a tenfold increase from around 700,000 people in 1950 to 7.5 million in 2010¹³. Over 50% of the city's water is provided from the Chingaza watershed and a further 7% derives from the Tunjuelo river basin.

Working in partnership to improve water quality

Bavaria – SABMiller's Colombian subsidiary – has taken a keen interest in water-related issues for several years. In 2008, the company signed a co-operation agreement with WWF Colombia with the aim of reducing the impact of its activities on water resources and the natural ecosystems that are used in beer production. As part of this agreement, Bavaria also examined how – in keeping with SABMiller's aim of producing more beer using less water – it could be more efficient in its use of water. From the outset, it was acknowledged that improvements in performance would depend not only on Bavaria's own actions but on harnessing the insights and support of other stakeholders.

In 2009, Bavaria entered into a partnership with The Nature Conservancy, Colombia's National Parks administration, and the Aqueduct and Sewage Company of Bogotá to improve the quality of the drinking water consumed by people in Bogotá, and ecosystem condition, in particular by preventing excessive sediment delivery to the Chingaza and Tunjuelo Sumapaz rivers.



The partnership between the public and private sectors in Colombia for the conservation of forests will help to ensure fresh water supply for 10 million inhabitants in the short, middle and long terms.

Andres Lizarazo – “Agua somos” Water fund Technical Secretary

The partnership has used a combination of conservation and educational initiatives, environmental protection measures, and improvements in the management and sustainable use of ecosystems to achieve its objectives and is supported by the establishment of a collective fund to provide resources for the activities. When completed, the project will have extended across nearly 59,000 hectares and is projected to raise US\$60 million for conservation projects over the next 10 years. Bavaria donated US\$150,000 to start up the fund. As important is the active support and day-to-day involvement of the partners in the project. Guidelines are also being developed for how funds will be dispersed and overseen.

It is expected that the fund will support a diverse array of projects, including adding park rangers, strengthening protection in parks, and helping people who live in sensitive areas to switch to more ecologically sound livelihoods. For example, grants can enable ranching families to switch to ecologically sustainable operations by underwriting the purchase of higher quality cattle and other start-up costs if they commit to long-term conservation agreements to preserve their natural areas. More milk from fewer cows means that ranchers will be less likely to clear forest land for additional grazing fields, resulting in less sedimentation in rivers. Maintaining this forested land acts as a barrier and limits sediment erosion.

Focus on efficiency

Bavaria has also focused its effort on improving its own water efficiency. In 2008, the business used 5.1 litres of water for every litre of beer produced. This figure now stands at 4.1 litres. This improvement has been achieved through a variety of initiatives, including a new water reclamation programme at its Tocancipá Brewery.

The project began in November 2009 and was completed in January 2011. It included a number of innovative ways to reuse some of the brewery’s wastewater by developing water treatment processes which include purification, reverse osmosis and disinfection. Wastewater can now be used in a number of brewery processes such as the washing of crates, the operation of vacuum pumps, evaporative condensers and the cleaning of dirty areas. Since the completion of this project, it is estimated that there has been a reduction of 22,000 m³ of fresh water used per month.



HONDURAS



Background

The Mesoamerican reef, which extends 1,000 km from the Yucatán Peninsula in Mexico to the Bay Islands of Honduras, is the largest reef in the western hemisphere and has been identified as a globally important reef ecosystem¹⁴. The reef contains more than 65 species of coral and is rich in biodiversity, being home to a number of endangered species including sea turtles, the West Indian manatee and various types of crocodile¹⁵. However, this unique environment is under severe natural and human-induced threat, which jeopardises the species present and the food security and livelihoods of the inhabitants who rely on these ecosystems.

Preventing soil erosion to protect water quality

One area that has a major impact on the reef's health is watershed management. In the region bordered by the reef, around 300,000 hectares is used for the production of crops such as bananas, sugar cane, citrus fruits and pineapples, and for mariculture¹⁶. The residues of chemicals used to grow these crops, together with sediment and soil eroded during cultivation, drain through rivers and streams that comprise the watersheds of the region and find their way to the coral reefs.

In 2009, Cervecería Hondureña – SABMiller's Honduran subsidiary – entered into a five year partnership with WWF Honduras, with the aim of addressing this problem. Since then, a series of projects have been undertaken, including those working with local farmers who supply sugar cane that is used in our Coca-Cola plant to help them develop more cost effective and sustainable farming practices. By encouraging better water use, and fertiliser and pesticide application, the farmers have been able to increase their efficiency and the productivity of their land, whilst at the same time making their agricultural practices more environmentally sustainable.

Fact box

Operations:

1 Brewery **1** Bottling plant

Key beer brands:

Barena, Imperial

Average brewery water efficiency

(litres water per litre beer):

4.2 (36% improvement since 2008)

“ WWF believes in the sustainable use of natural resources and avoiding excessive resource use. Working with a business sector that is seriously committed to adopting good practices, which use natural resources in an efficient and sustainable way, is a key part of our work.

Sylvia Marin, Director of WWF in Central America

The success of the partnership depended to a large extent on being able to demonstrate the environmental, social and economic benefits of any specific initiatives. Consequently, in the early stages it was vital that a detailed study was undertaken of the various watersheds to establish which had the greatest impact on the reef. Likewise it was also essential to understand what impact, if any, these initiatives might have on rural livelihoods. With these firm foundations in place, the partners developed a portfolio of projects that offered the greatest benefits both to the reef and to farming communities. Throughout, the partners were keen to engage the active support and involvement of other groups – including, local and national governmental institutions, and private sector organisations.

The concept of partnership extends further than just working with farmers: for example, after the installation of an effluent treatment plant in 2010, Cervecería Hondureña found that though the water they were discharging complied with national regulations, the river itself was polluted, as water discharged from the surrounding residential areas was contaminated. Therefore, the treated water from the effluent plant brought no benefit to the surrounding communities. In response to this, Cervecería Hondureña worked with the local government to remove sewage water from the creek and send it to a treatment plant. In addition, the rubbish that was previously dumped along the road was removed and the road was paved. The area has now become a centre for recreation for the local community and both the fauna and flora have gradually returned to the area.



INDIA



Fact box

Operations:

11 Breweries

Key beer brands:

Haywards 5000, Royal Challenge

Average brewery water efficiency

(litres water per litre beer):

4.7 (32% improvement since 2008)

Background

In India, extraction rates for groundwater are amongst the highest in the world¹⁷ but there is no overarching government policy regulating either the level of extraction or how the resource is used. As a result, agricultural water use across much of the country is highly unsustainable.

Recharging groundwater sources

The Neemrana and Behror watersheds (12,500 and 15,000 hectares respectively) in Rajasthan are almost totally dependent on groundwater and rain water collection tanks for their water supply. The groundwater system is composed of a mixture of a shallow unconfined aquifer (formed of sand and silt); shallow perched aquifers (confined by clay from below); multiple deeper confined aquifers in the alluvium; and a deep aquifer in the bedrock. Surface water capture and storage is mainly through tanks sited on the perched aquifers. The area experiences high levels of water loss from evaporation, the local shallow aquifer is dry and even fairly deep wells (up to 30 m) have run dry.

There is no systematic approach to water conservation and resource management, and traditional water storage structures used to supply domestic and cattle farmers' needs are poorly maintained. Water for both agricultural and industrial consumption is pumped from a deep lying aquifer. Increasing water scarcity poses a serious threat to the livelihoods of small and medium-scale farmers. For SABMiller India, in addition to the challenge of operating in such a water-stressed area, the company also faces a potential reputational risk because there is a perception amongst stakeholders that industry – and particularly brewing – is using a disproportionate amount of available water resources.



There was a major problem of water scarcity in the village. The construction of water harvesting structures construct has enabled me to increase the amount of land under cultivation, as well as my crop yield.

Narsingh Yadav, smallholder farmer

In response to this situation, SABMiller India has established a project spread over the two watersheds (27,500 hectares) involving the Confederation of Indian Industry, with support and input from the Advanced Centre for Water Resource Development and Management (hydrogeological analysis), Gridline Consultancy (which utilises remote sensing and geographic information system technology), and Humana People to People (to co-ordinate and manage community interventions). The project aims to improve the supply of water in the target area by focusing on three activities:

- Exploiting natural recharge areas on the ridges for deep recharge
- Building small water diversion structures in the alluvial plains for diverting water to tube wells for deep recharge
- Improving the efficiency of water use

To date, the efficacy of the first of these initiatives has been demonstrated conclusively with a rise of around 18 metres in local groundwater levels in three recharge structures built on the ridges. The combined storage potential of these three structures is around 50,000 m³ and given that they will refill six times over the year produces a total recharge potential of 300,000 m³. In practical terms, this means that the level of recharge now available is more than the volume of water used in SABMiller India's nearby Rochees brewery.

The project also supported over 60 crop demonstration trials in 2010 that explained the benefits of better farming practices, including nutrient management and more efficient use of irrigation. These fields are used to showcase improved water-efficient plant varieties and irrigation techniques and more water-efficient crops such as millet, cauliflower and okra. The results have been encouraging. Farmers who have taken up some of the improved plant varieties have been able to both decrease their water use and improve their incomes. In the case of millet and okra, farmers have improved their earnings by 114% and 147% respectively. Such has been the success of the trials, an increasing number of farmers are keen to participate in the programme.

A further benefit of the project is that there is now much more robust information on the water balance in the area and, specifically, the apportionment of consumption between agricultural, industrial and domestic users. The research has shown that industry uses only 4% of groundwater, compared to 9% for domestic purposes and 87% for agriculture.

In the coming years, the project will continue to engage farmers and other stakeholders to drive water usage efficiency and the construction of new recharge structures in the region. The tangible success of the project will also provide powerful evidence when engaging with government (at local and national level), community leaders and potential donors to secure their continued support.



USA



Background

MillerCoors is SABMiller's joint venture with Molson Coors Brewing Company. Water is a top priority for the business because of the impact it has on production and the supply of raw materials. Three of the eight major MillerCoors breweries are located in areas that are "water scarce" or "water stressed".

Last year, MillerCoors established its Water Advisory Board: a cross-functional, multi-disciplined advisory team that will provide direction and exercise governance over the safety and quality of the water used by our people and our production processes. MillerCoors also launched a Water Source Risk Assessment project. The project's activities include:

- Forming baseline assessments of watershed risks at each brewery over the next ten years;
- Determining sources of the risks and identifying potential actions to mitigate them; and
- Aggregating knowledge regarding the various brewery watersheds into a system-wide analysis of risks and mitigation opportunities for all of MillerCoors.

The baseline supply assessments for our eight major breweries were completed in 2010, and the business expects to report further on this issue in the years ahead.

Working with farmers in Silver Creek Valley

Some of the farms around the Silver Creek Valley in Idaho are suppliers of barley to MillerCoors. The company has joined with The Nature Conservancy (TNC) to improve habitats and to safeguard the watershed.

Together, TNC and MillerCoors have developed a watershed conservation plan that currently guides restoration, monitoring and project prioritisation throughout the watershed. Projects under way as a result of this plan include: fencing and planting along streams to prevent damage and contamination by livestock and agriculture; coordinating robust monitoring programmes with landowners and stakeholders; and ongoing work on a groundwater/surface water model.

Fact box

Operations:

8 Breweries

Key beer brands:

Miller Lite, Coors Light

Average brewery water efficiency
(litres water per litre beer):

3.9 (maintained the same efficiency since 2008)



We run a business and to make it sustainable that means making changes that are hard to do on our own. Without TNC and MillerCoors, I don't know how we would be doing all the important things we are doing today.

Farmer and Landowner, Silver Creek, Idaho

As part of the larger water conservation effort, funding was also provided to retrofit pivots – the part of an irrigation system that shoots water over a field – with a device that disperses water closer to the ground and at lower pressures. This resulted in saving almost 16,000 hectolitres of water each rotation (every two days) – nearly a 20% reduction in water usage overall. The success of this pilot stimulated a new idea: a model barley farm that would act as a showcase for the best conservation practices both in terms of providing more habitat for wildlife and improving the quality and quantity of water. With retrofits and improvements made to date to existing pivots, an estimated 35–45% in water savings can be realised.

Combining the recommendations from the watershed conservation plan and the best management practices developed on the model barley farm, TNC plans to create a “Landscape Atlas” to help landowners and farmers navigate conservation projects. This resource will include water conservation best management practices transferable to farms throughout the west, while specific recommendations for individual farms and stretches of creek will be included for Silver Creek.

The experience of the collaboration with TNC inspired MillerCoors to commission RTI International (a leading non-profit, independent research and development organisation) to undertake a similar assessment in the Snake River Valley, which is adjacent to Silver Creek and an area that supplies barley to the company.

Engaging with other stakeholders to protect watersheds

As part of the Beverage Industry Environmental Roundtable (BIER), MillerCoors has worked with partners to create an industry approach for water footprinting. The water footprint maps usage and related risks associated with water throughout the value chain. MillerCoors expects to begin assembling its water footprint in 2011 using this approach.

In partnership with Sand County Foundation, MillerCoors is the principal corporate sponsor of the first demonstration site for *Water As A Crop*™ on the Trinity River in Texas, which supplies water for MillerCoors' Fort Worth brewer. The Trinity River basin is prone to flash floods that strip soil from the ground. This degrades the land for agriculture and cattle

ranching, and also reduces water quality downstream. *Water As A Crop*™ has brought together local landowners who collectively hold 1,000 contiguous acres along the river, and is giving them incentives (with support from MillerCoors) to adopt land-use practices that will slow water to prevent erosion, keep riverbanks intact, and reduce flooding. These include cross fencing to enable rotational cattle grazing and installing vegetative buffers below cultivated fields to protect tributary creeks that feed the river. One of the project's most ambitious goals is to scientifically measure improvements in water quality and quantity that result from these practices. This will convince other landowners and water conservationists of the benefits of such initiatives and, hopefully, persuade them to replicate the approach more broadly in the Trinity River Basin and across the country.



SHARED LESSONS AND NEXT STEPS

In the two years since the Water Futures Partnership has been established, good progress has been made in identifying, assessing and beginning to address the shared water risks in watersheds in each of the four countries.

The approach to water footprinting has been refined and this methodology promoted as a basis for developing more detailed watershed assessments. Furthermore, we have utilised a Watershed Risk and Sustainability Assessment (WRSA) and Business Water Risk Assessment (BWRA) approach that has allowed us to identify and analyse the tangible risks that face SABMiller subsidiaries and the surrounding community. Through robust analysis, we have been able to engage with local stakeholders and clearly demonstrate that many of the risks that SABMiller faces are, in fact, shared with the local community and that there is a shared interest in collectively addressing them.

Unsurprisingly, as the factors that affect water availability and quality are localised and unique, so, too, are the risks that have been identified in our partner countries. Consequently, although our approach is common, the priorities for each partner country are not.

In each country we have been able to identify and engage with stakeholders and are working with them to develop detailed action plans for tackling the priority shared water risks identified.

Despite the progress made, there are lessons that have been learned; things that have gone well and things that have not. One of the commitments of the Water Futures Partnership is to share this learning with others in the hope that they will also take an inclusive, multi-stakeholder approach and overcome the challenges such an approach entails.

Technical lessons

Think local:

While reviewing water risk at a regional or even country level is compelling, there is little doubt that a thorough understanding of local issues is essential. For example, there may be specific issues that only become visible when 'on the ground' that may present a significant barrier to progress. These may be cultural, legislative or technical challenges. For this reason, there is demonstrable value in undertaking a preliminary local assessment prior to a detailed risk analysis to better understand the broad water issues, how complex they are and how successful any intervention is likely to be. This will identify any potential barriers to addressing certain risks bring more focus to the business risk assessment.

Quantification quandary:

Using a business risk assessment approach identifies, quantifies and prioritises risks and therefore provides the framework for building a business case for addressing water issues. However, in some cases it has proven difficult to quantify some of the risks, especially less tangible ones (for example, regulatory and reputational risks) or dealing with the uncertainty of climate change models and how hydrology will respond to a changing climate. Nevertheless, a qualitative assessment can be used to identify risks and at least establish the scale of the problem for the business and help prioritise the risks from a business point of view. Our experience has shown that it might be more effective to carry out a brief qualitative risk assessment first to discount risks that are of very little or no importance to the business (or are already being tackled), before carrying out the detailed quantification of risks required for the business case.



Partnership lessons

Assess the capacity gap:

Our work has demonstrated the breadth and variety of different issues each partner country faces in terms of water risk. To address each one requires different skills and capabilities. The Water Futures Partnership was established on the basis of joining together partners with different skills and competencies, however, sometimes even this has not been enough, particularly when addressing specific issues that are local to a particular region or community. Understanding these potential capacity gaps is an important part of the partnership process. It reinforces the importance of developing close relationships with local stakeholders and being able to rectify any capacity gaps by leveraging support from others from both the private and public sectors.

Recognise the long game and take small steps:

Although substantial progress has been made across the partnership countries, our progress has not been quite as rapid as we first envisaged. It has taken time to develop working relationships and build trust, both between the Water Futures Partners and with stakeholders outside the Partnership. External stakeholders may be wary about engaging with government, NGOs and other businesses, and sometimes it has been difficult to find appropriate local partners to engage with. It has taken time to engage others, and it is important to remember that tackling water risks is complex: we must be committed to tackling the issues over the long-term and build robust, long-lasting relationships with stakeholders.

Building the business case:

Water footprinting has enabled the partnership to identify where it should work, but it does not provide the why and how. It is crucial to understand the specific risks and the benefits to the business of intervention, particularly if this sits outside, for example, the gates of the brewery or bottling plant. Using a business risk assessment approach has enabled the partnership to translate the water risks into business risks. It has clarified business priorities for taking action and developed a better understanding of the return on investment available. Addressing water-related risks does require investment – without a defined and robust business case this can be challenging to attain, particularly if wider community or public investment is required.

Recognise the benefits of early engagement:

The commitment and engagement of local stakeholders with whom water risks are shared is vital to the success of any mitigation initiative. Shared ownership and responsibility for action and a common understanding of what is required from each stakeholder must be at

the heart of any action plan. Water issues can rarely be successfully addressed in isolation. We have found that it is important to engage with local stakeholders early, particularly within the public sector, to understand their perceptions and priorities, to set expectations, and see if there is an opportunity to collaborate. Our experience suggests that they will not buy in to studies or partnerships unless they feel they have been adequately involved.

Shared responsibility and local management:

Given the need to involve many stakeholders in tackling shared local water issues, clear leadership and governance arrangements must be demonstrated by the local partnership. This requires that objectives, roles and responsibilities, activities and financial contributions are planned and agreed together. As much of the activity is undertaken at a local level, we have found there is often value in investing in a local management resource to act as a focal point, especially when developing stakeholder relationships and trying to foster collective action.

Next steps for Water Futures

The Water Future Partnership will continue to work in each of the partnership countries over the next twelve months and beyond. We recognise that many of the issues that are faced by communities in which we work cannot be solved easily or simply, and require the investment of time and resources from multiple actors. The commitments that have been made are not short term, and detailed action plans will be in place that will deliver tangible benefits in each country.

We will continue to share the learning from this partnership and our experiences of working both globally and locally. Through this report and sharing information, we hope to influence the debate around the role of business in promoting better water management and corporate water stewardship. Moreover, we will seek to engage with public policy and decision makers at a local and global level to create awareness of the issues around water scarcity and quality, advocating the importance of adopting a multi-sectoral partnership approach.

It is for this reason that we have begun to incorporate other initiatives that are being undertaken across SABMiller, outside the Water Futures Partnership, to strengthen our approach and build momentum for collective action. Furthermore, we have extended an open invitation to other businesses, NGOs and other potential partners to join this initiative. In this way, we hope to build on the success so far and establish a critical mass from which we can learn from each other, share our experiences and resources, and together secure our water future.

INITIATORS OF THE WATER FUTURES PARTNERSHIP



About SABMiller

SABMiller is one of the world's largest brewers, with more than 200 beer brands and some 70,000 employees in over 75 countries. We are also one of the world's largest bottlers of Coca-Cola products.

We've become a global leader by excelling locally – nurturing strong, local brands and building brand portfolios that meet the needs of consumers in each of our markets. Our portfolio of brands includes premium international beers such as Pilsner Urquell, Peroni Nastro Azzurro, Miller Genuine Draft and Grolsch, as well as leading local brands such as Aguila, Castle, Miller Lite and Tyskie.

We've created leading positions in both emerging and developed markets across the world. Our portfolio of businesses spans six regions which, in the year ended 31 March 2011, together sold 218 million hectolitres of lager, and delivered revenues of US\$28,311 million. We've grown through a culture of operational excellence, delivering high quality products, innovation and sustainable growth.

We believe that our business is not separate from society, and that the success of SABMiller is inextricably linked to the well-being of the wider community. Everywhere we operate, we're working to build strong local businesses that contribute to their local economies. That's what makes us global leaders in doing business locally.



About WWF-UK

We're the world's leading independent conservation organisation. We're creating solutions to the most serious conservation challenges facing the planet, building a future where people and nature thrive together.

The sustainable use of freshwater is one such environmental challenge. We want to ensure that water resources and the ecosystems that depend upon them are protected and conserved. We believe that engaging the private sector is key to achieving this. We're therefore developing concepts, tools and approaches for the private sector, so that they can take responsibility for their role in managing freshwater.



About GIZ

The German International Cooperation Agency (GIZ) is a state-owned enterprise operating in many fields such as economic development and employment promotion; democracy; peacebuilding and civil conflict transformation; health and education; resource conservation and climate change mitigation. Most of our work is commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ), but other clients include national governments, the European Commission, World Bank and private companies.

Working efficiently, effectively and in a spirit of partnership, we support people and societies worldwide in creating sustainable living conditions and building better futures. The services we deliver draw on a wealth of regional and technical competence, based on tried and tested management expertise.

We have almost 600 people working on 80 water programmes in 60 countries, including urban and rural water supply and sanitation, transboundary and national water resource management, and water sector reform. Our work is based on long-term partnerships with governments, helping to form and implement good water policy and strengthen governance. This, in combination with our dedicated programme for cooperation with the private sector, makes GIZ a strong partner in the emerging field of Water Stewardship.



For more information on the Water Futures Partnership email info@water-futures.org



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